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WORLD MARITIME UNIVERSITY
MALMÖ, SWEDEN

ESTABLISHMENT OF MARITIME ACADEMY
IN DEVELOPING COUNTRIES

by

AHIMON OKON JOEL

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A paper submitted to the Faculty of the WORLD MARITIME UNIVERSITY
in partial satisfaction of the requirements of the MARITIME
EDUCATION (ENGINEERING) COURSE.

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

Signature: 

15 APRIL 1985

Paper directed by
CHARLES E. MATHIEU
Professor WORLD MARITIME UNIVERSITY

Approved by:



E N D P R O J E C T O F M A R I T I M E S T U D I E S

MASTER DEGREE OF SCIENCE

Theme:

ESTABLISHMENT OF MARITIME ACADEMY
IN DEVELOPING COUNTRIES

BY:

AHIMON OKON JOEL

- GRADUATE OF L'ECOLE NATIONALE
DE LA MARINE MARCHANDE DU HAVRE

- CAPITAINE DE 1^{ère} CLASSE
DE LA NAVIGATION MARITIME

TO MY BELOVED WIFE.

| | |
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P R E F A C E
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The aim of this report is to reveal the major aspects of the seemingly unbearable obstacles confronting developing countries (abbreviated D.C.) planning to provide themselves with a school, an institution or on planning where to train highly qualified marine managers; knowing the appreciably important part played by the maritime trade in the economic development of a country.

But to arrive at this objective I have judged it convenient to begin my work by giving general considerations to D.C. In reality, how can the problems created be understood without any good knowledge of the prevailing conditions in the D.C.? They can be understood only with an appreciable knowledge of what the D.C. are. That is why, in the first chapter of my writing I have exposed the conditions such as they are experienced by the D.C. of our days. Even if this nature is to the disadvantage of some of these D.C.; others are relatively as potentially rich as the developed countries. So what sort of explanation can we provide of such a situation which can only be found in countries of the Third World? In fact, satisfactory answers can be found for these sorts of things by any kind of historical handbook which refers to the beginning of mankind. My purpose here is to bring to light the impact exerted by the negative aspects of the fundamental factors governing a country on the creation of a maritime academy in the developing countries.

In the second chapter, I chose the country I know best and which is a prototype of a developing country, as a support and a concret reference for my discussion, and as exact examples of my assertions: I cited Ivory Coast. In the said chapter, I was concerned without any impulsion, with the general education and the maritime administration, in order to know Ivory Coast better in that domain: since they are the two important factors conditioning maritime activities of a country.

These two phenomenas (general Education and Maritime Administration) served me as tools throughout the treatment of the subject matter in the third chapter.

The report as a whole is not detailed study of the circumstances identifying countries said "to be developing" and solutions to problems created. It is really a catalogue of accepted facts which, I hope will serve as a source of fruitful informations for our readers wishing to know more about the D.C. in general and particularly Ivory Coast, in a rather restricted domain covering only Education and a part of maritime sector. The maritime branch of the U.N. has been existing for a very long time under the name of International maritime organization (I.M.O.). Through the efforts of the I.M.O. under the leadership of its general Secretary, Mr C.P. SRIVASTAVA, was built the world maritime University of Malmö (Sweden) whose only pioneers are the citizens from developing countries and which, in the near future, will receive students from developed countries too so as to deserve its appellation "UNIVERSAL", this fusion should serve as an opportunity for each of the students from all the nations of the Globe known to be equiped with a pre-maritime training at the various levels to exhibit, through his knowledge, the competency of his country so that the World Maritime University, may be able to set up some sort of harmony among its professors and its teaching. My intention is not only to make Ivory Coast known to the rest of the world but my ambition is to present through this writing, some characteristics of the developing countries to the citizens of the developed countries to which we appeal for help.

The contents of this memory is the total lessons received at the Maritime University of Malmö, the experiences obtained as professional seaman on study travels in many parts of the world in frame work of my study at Maritime University of Malmö, the various informations obtained through documents and summary of my personal reflexions. Therefore my readers should not consider this writing as the work of a specialist.

.../...

I choose personal pronoun "We" instead of "I". Personally I find the use of "I" as an egoist. May, my readers forgive me if this is not their view. In other hand, some forms of expressions are difficult in translation my french into english, as french and english speaking education system is not identical. I wish to inform my readers that the original version in french of this my memory is also available.

Finally, I wish to express my sincere thanks to the following:

- Abidjan maritime administrative staff, particularly, Mr KONE KARIM, Director of reglementation and personnels affairs.
- Mr BLAVEC, Inspector general of maritime instruction in Ivory Coast.
- Mrs COLETTE SOUMAHORO, SITRAM'S Principal secretary, who kindly helps in this report.
- Mr SOULEYMANE SOGODOGO, General Manager of G.E.M.M.A. in Abidjan from whom I obtained various documents. And mainly Mr C.E. MATHIEU, my teaching professor who guides me in preparing of this text.

I shall be very pleased if my readers find this my humble text clearly on the developing countries problems in establishing of Maritime Academy.

The autor:

J. O. AHIMON

D E V E L O P I N G C O U N T R I E S

I - INTRODUCTION

II - CHARACTERISTICS OF D.C.

- 1- Demographic factors
- 2- Social factors
- 3- Economical factors
- 4- Political factors

III - NECESSITY OF EDUCATIONAL SYSTEM IN D.C.

IV - COMMODITY OF ECONOMICAL INFRASTRUCTURES IN D.C.

- 1- Marine's economical development privileged tool
- 2- Merchant marine in strategic commercial conquest
of international markets and economic independence
consolidation in commercial branch
- 3- Marine trade strategic industrial development
consolidation in industrial economic
- 4- National merchant marine in strategic consolidation
of international balance of payment

CHAPTER ONE

DEVELOPING COUNTRIES

I - INTRODUCTION

The world is divided actually into two categories of living condition :

- THE DEVELOPED COUNTRIES, often called the "well-off" where the social, political, economic as well as cultural structures gave them material favoured life.

- THE DEVELOPING COUNTRIES or D.C. where industrial, social, economic and political infrastructures are completely insufficient which is the handicap for a high effecting development in the international field.

The consequences of this increasing gap being that if the developed countries succeed in maintaining their standard of living continue to rise, on the other hand D.C. become poorer with high deficit balance of payment costing their already hopeless situation. In this condition the international crises took an unsusposed dimensions in certains D.C.

But, in brief, what are the factors which characterise a D.C.?

II - CHARACTERISTICS OF A D.C.

The D.C. themselves can be classified into two categories:

- The FIRST GROUP consists of the countries naturally defavorised by the nature or geographical situation which determined their climatical conditions: drought and desert are the result of these climate conditions;

- The SECOND GROUP are those potentially rich on the surface and the underground contains unexploited resources. We could say that they sleep on gold and live on hay. However they are easily indentified on each continent of the world. But the D.C. either classified on the first or on the second group present the same characteristics factors as follow:

Demographic factors

- high population ;
- high death rate (especially infantile unequivalent by the birth) ;
- short life: 65 years ;

Social factors

- weak or poor educational average ;
- high unemployment average. The international economic crises in world unemployment average took a relatively high proportion. But this essential difference is either in developed or in D.C. An unemployed worker in developed country has a speciality before searching for work. But in D.C. the unemployment worker goes in search of employment without any speciality.
- insufficiency of specialist in many economical branches ;
- hygiencal deficiency ;
- lack of medical treatment
- insufficient feeding ;
- high rural exodus.

Economical factors

- mainly agricultural countries used rudimentary agricultural technics ;
- raw materials export countries and manufactural products importers ;
- essential agricultural products exportation based on rain fall ;
- huge unused spaces for the lack of financial and technical assistance ;

- insufficient industrial infrastructures for the creation of employment ;
- economic weakness at all level ;
 - . Bad state management
 - . undeveloped means of communication problems
 - . lack of inter-subregional and regional cooperation.

4 - political factors

- 19 - Political instability due to the social-economic factors;
 - ' - multiplicity of political parties (sects) these caused the development weakness.
- for instance :

- . war (hostility) inter-tribals
- . regionalism
- . political ambition
- . misused or dilapidation of State's properties.

The consequences of all these are the weakness of the political regim in power.

- incapacity of politicians in power to appreciate and analyse the real values, the countries economic properties;
- lack of political cooperation in regional and sub-regional level.

These, briefly brushed the four essential factors which determined a country's structures in general as their aspects, particularity in D.C.

III - NECESSITY OF EDUCATIONAL SYSTEM IN D.C.

The first step to remedy to this "calamity" for which the Third World is suffering for its development is to adopt a better educational system. This would have principal objectives of raising the intellectual level to assure competency of efficiency at all working fields. Knowledge is an important arm in every one daily life. For these reasons it becomes an obligation up to certain age of all citizen in many countries.

Education in general offers:

- evaluation
- judgement
- and decision making

But the training of a Doctor who obtained his degree, Engineer with diploma, a Politician with diploma in political science, a Doctor of physical Nuclear, to state only a few as example should this be sufficient to garanty from the evil an under developing country. However, is the general education followed by an appropriate training of all citizens in a country sufficient to develop a country?

The reply is evidently negative. That's why the necessity of political and social infrastructures and in this branch which interests us more the necessity of economic infrastructures is necessary. This can offer a trained citizen in a specified branch, to bring over this training in a positive work for the development of his country. Thus a Doctor of Medecine would need a center for his medical research, an Engineer, in the branch of his speciality and the Nuclear Physician, of researching center for their industrial needs.

COMMODITY OF ECONOMICAL INFRASTRUCTURES IN D.C.

Efforts had been made in every developing countries and at each level to redress the imperfections issued from the four principal factors as stated to improve the population's living conditions. Particularly, economical problems have been treated in several ways and a lot of instruments are used to flourish the country economy including marine.

Why does merchant marine play an important role in the economy of a country?

Marine's economical development privileged tool

During the period between the two wars, many countries most already maritime group thought better to possess their own maritime services because according to the vesseless caused by the war. At the end of second war, many countries face crescent development difficulties and have tried to promote their international trade thinking that owning a merchant fleet would help them in speeding their pace for development. Later on coastal developing countries free from the colonial domination, judged necessary to use their own marine as a motor for economical expansion. This is the idea of Mr F. HOUPHOUET BOIGNY ; President of the Republic of Ivory Coast when he declared: "The economical liberation of a country depends on the sea".

.../...

During the conference at BOUAKE on the 19th March 1977 Mr Lamine PADIKA, Minister of Marine of the Republic of Ivory Coast said: "The essential important role of merchant marine in a nation's economic development and obtained solidation research of an economical independence, is illustrated at present epoch by economic major efforts deployed by great power countries certifying to seat well of significative and durable presence on sea".

After an historical analyse on marine impact taking off an economical independence of the passed Nations, Mr Lamine FAIDKA continues to show the permanent impact on nation's modern economy , in respect to essential level of economical sector. The principal ideas are the following :

2 - Merchant marine in strategic commercial conquest of international markets and economic independence consolidation in commercial branch

- dynamic marine is an open door on the external world ;
- marine continues its old vocation to search for new markets and efficient means of orientation and products for exports ;
- marine, primordial factors of commercial expansion by optimization of the competitive capacity of the f trade for the promotion of national products through exports ;
- sufficient and efficient natioanl marine, source of commercial and economical action, thus a factor of economical independence.

3 - Marine trade strategic industrial development consolidation in industrial economic

- defavorable incidences in insufficient natioanl maritime services on a young political industrial development.

4 - National merchant marine in strategic consolidation of international balance of payment

In present monetary strategy, it is clear that a confirmed assistance of capacity optimization of a nation, the merchant marine participated indirectly, but not less intensively in consolidating its international balance of payment in consolidation of its money.

However, we can say maritime transport in 100% exporting activity contributed strongly to balancing in external payment.

To summarize, we'll note that:

The four principal factors (demographic, social, economic and politic) which determine a nation situation as we observe in the developing countries are full of imperfections.

The general education is essentially first step as remedy to be provided. Further more in the light of consideration mentioned above, we show the necessity of the economical infrastructure in developing country and the highly important part played by the national merchant marine in nation's economy. Therefore, most countries, especially developing countries are now trying to use Japanese system as sample.

But, strong economic structure and mostly the marine however efficient it may be, cannot work without men and whoever speaks of men, speaks of their training.

The marine staffs can only be trained in a special marine institutions, otherwise, in maritime academy. It is why establishment of maritime academy is necessary for the coastal countries in developing, who want to use marine as economical instrument.

Ivory Coast is a coastal country and an indicated model in developing countries. It is therefore, referring myself frequently to this country to give concret support to my different arguments. It even, then necessary to make a previous knowledge with this country.

CHAPTER 2

IVORY COAST: AN EXAMPLE OF D.C.

I - INTRODUCTION OF IVORY COAST

A - Physical aspect

- 1- Geographical situation
- 2- Relief
- 3- Climat
- 4- Vegetation
- 5- Hydrographic

B - Personal aspect

- 1- Population
- 2- Ethnical composition
- 3- Religions
- 4- Languages

C - Economical aspect

- 1- Social and economical development plan
- 2- Balance of payment
- 3- Public finance and productive sector
- 4- Ivory Coast and other great organizations

II - NATIONAL EDUCATION SYSTEM

A - General education

- 1- Nursery school
- 2- Primary education
- 3- Secondary school
- 4- Higher institution

B - Technical institution

- 1- Technical grammar school

III - GENERAL MARITIME ADMINISTRATION

A - List and description of functions

- 1- Minister's cabinet
- 2- Division of navigation head office and national maritime affairs
- 3- Division of desert and international maritime affairs
- 4- Division of industrial and port affairs

- 5- Direction of regulations and human affairs
- 6- Inspector-General of maritime education and training

B - Staff training and qualification

- 1- General maritime administrators and officers
- 2- Subordinate staff
- 3- Navigation police agents

CHAPTER TWO

IVORY COAST : AN EXAMPLE OF DEVELOPING COUNTRIES

I - INTRODUCTION OF IVORY COAST

A - Physical aspect

1 - Geographical situation

Ivory coast is country in west Africa. With sensible square form (with 650 km approximatly from the north to south, and East to west). It covers a surface area of 322 463 sq km. It is situated between latitude $4^{\circ} 30$ and $10^{\circ} 30$ north and between west longitude $2^{\circ} 30$ and $8^{\circ} 30$; It faces south of Atlantic ocean by the Golf of Guinea and is limited in west by the republics of Liberia and Guinea in north by the republics of Mali and Bourkina Passo, and East by the republic of Ghana.

2 - Relief

Country generally flat with a relief more strongly marked in the west and north-west; culminant point: Nimba Mount (north-west) with 1,752 m.

3 - Climat

Tropical humid with four principal climatological zones :

- sub-equatorial climat in the south, with variant temperatures between 21°C and 33°C and abundant raining and high level of humidity (80 to 90 %) ;
- humid tropical zone in center whom's temperatures varied between 14°C and 33°C , precipitations echelon of 1,000 to 2,500 mm and humidity average of 70% ;
- soudanes climat in the north with maximum raining season in August; dry season with remarkable harmattan ; dry and fresh wind in December to February.

- Mounting zone in west : with more rain than tropical humid zone with the same altitude.

4 - Vegetation

In addition to a cordon litoral alluvial essentially planted with cocotrees, banana trees, palm-oil trees and rubber trees, we distinguish two vast vegetation zones :

- landscape forest belongs to "Guinease's domain" covered the half of the southern country. It is the big industrial cultures zones (coffee, cocoa, palm-oil, coconut, banana, and pineapple) with big arborescent spaces (acajou, bété, Iroko, framiré, fromager and makoré) :

- landscape of savana belongs to "Soudanese domain" occupied the half of the northern territory. The savana flora zone is essentially constituted with block woody and herby.

5 - Hydrographic

Ivory Coast is blessed with four principal rivers sprinkled from the north to south and from east to west :

- Comoe, 900 km long sourcing from Bourkina Fasso ;
- Bandama, 950 km long : Its total basin is in Ivory Coast
- Sassandra, 650 km heading from Guinea;
- Cavally, 600 km long : Its flow fixes partially the border of Ivory Coast and Liberia.

B - P e r s o n a l a s p e c t

1 - Population

As most other African countries Ivory Coast is widely underpopulated. We evaluate its population near of 8.6 millions inhabitants (1984)whom a high contingent of foreigners, africans or not.

- population density : 24 habitants sq KM
- annual increase rate : 4 %
- 50 % of the population are less than 20 years.

.../...

- urban population : 1/3 of the total population. Urbanisation is rapidly increasing ; the population of Abidjan, the capital, is over 1 million inhabitants.

- principal towns : Abijan (economical capital) ; Yamoussoukro (political capital since 1983) ; Bouaké ; Daloa ; Korhogo and Man.

- Number of wage earners : 350.000 to 400.000 with an annual increase rate of 6 % - agriculture is the major activities of the majority population.

2 - Ethnical composition

Ivory Coast is a veritable personal mozaic, which consists of more than 70 different ethnics, which we can classify into four groups themselves, divided into sub-groups. These groups are :

- AKAN and Lagoonal group : Abrons, Abés, Agnis, Attiés, Abidjis, Adiokrous, Allandjans, Baoulés, Ebriés,... M'battos (in which I belong) ;
- KROU group : Guerés, Ouobés, Bétés, Didas, Godiés ;
- Mande group : Malinkés, Bambaras, Dans, Dioulas, Gouros, Gagous, Touras ;
- VOTAIC group : Senoufo, Koulangos, Lobis,... etc.

3 - Religions

We estimate that 60 % of Ivorians are animist, muslims 25 % and christians 15 % (Catholics and Protestants in essentially).

4 - Languages

The French is the official language. Every ethnic possesses its own language, there is no national languages however we can retain vehicular languages as Baoulé and Dioula.

C - E c o n o m i c a l a s p e c t s

Ivory Coast practises an economical politic of liberal conception, made of pragmatism and backed up by a large opening toward the outside world.

.../...

1 - Social and economical development plan

The country's economical orientations are the following :

- regional equilbral agriculture diversification ;
- development of secondary sector ;
- better commercial control system ;
- progressive ivorianisation of capital and management and maintaining the open door for foreign capital and technics ;
- maintaining the liberal and initiative private system, government played an important role of provisional support, coordinating and stimulation for five years plan.

2 - Balance of payment

Ivory Coast balance of payment presents the following significant structure :

- commercial balance exdentary in which fructuation is still due to the preponderant of raw materials ;
- deficit gravity due to services transferts balances ;
- entries of private and public capital which compensed (or not) the deficit in the current balance .

3 - Public financial and productive sector

Ivory Coast practises a productive economical open door policies. Though, this does not prevent the Government to intervene indirectly in different manner of national activities in many forms :

- creation of state companies and bringing together means allocated in divers sectors, whether its maritime transportation (SITRAM), agriculture production (CSSPPA) external trading (CICE) or regional management (AVB) ;
- taking majority participation in limited companies whose existence is necessary for the fast expansion in its vital activity sectors, such as maritime consignation (SISA), air transport (AIR IVOIRE), electricity (EECI) , agriculture (BNDA) or the tourism (ICTA) .

- creation of public industrial and economical establishment with the objectives : harbour management (PAA and PASP) ; maritime studies and researches (IDREM), private industrial investment promotion (BDI) or professional training (ONFP).

4 - Ivory Coast and other great organizations

a - Franc zone

Ivory Coast is a member of the Franc zone and a partner of west Africa monetary Union (UMOA), which other member countries are : Bourkina Fasso, Niger, Senegal, Togo, and Benin.

- Communal monetary unit : CFA franc (African Financial Community) which benefits its free transfer among UMOA group;
- Institute of Communal Creation : BCEAO (Central bank of West Africa States) which head office is in Dakar (Senegal);
- free convertibility without limitation of CFA Franc and French Franc as parity fixed : 1 F CFA = 0.02 FF (French Franc).

b - Entente councils

Created in May 1953 it comprises 5 member countries : Ivory Coast, Bourkina Fasso, Niger, Benin and Togo.

- object : to harmonize and to reinforce economical and political strengthening among the member States.

c - Economical community of West Africa States (ECOWAS)

Instituted in May 1975 in Lagos, consists of fifteen member States : among the six CEAO member States in addition with Togo, Benin, Guinea-Bissao and Nigeria.

These are very succintly summarized the tree aspects in which Ivory Coast is interest in the exposed subject.

But the knowledge of Ivory Coast cannot be completed if her educational system is not mentioned. Education, as we know, is the first step for the remedy of every country general development even if Ivory Coast education is not yet compulsory for the reason of high effective level in primary schools.

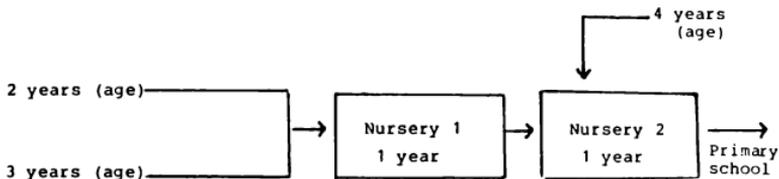
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II - NATIONAL EDUCATION SYSTEM

B - General education

1 - Nursery school

In Ivory Coast, Nursery school begins at 3 years of age with a duration of two years as following plan :



the nursery schools are payable

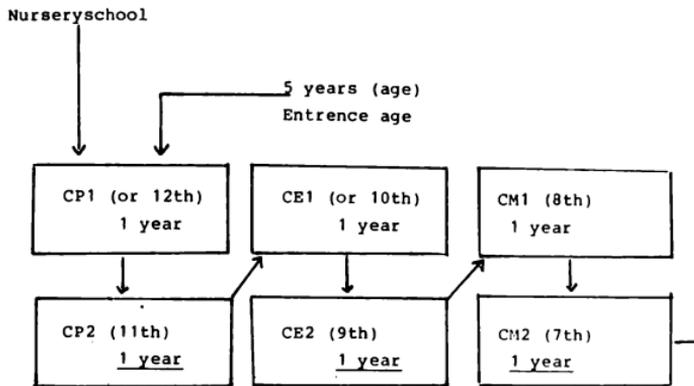
2 - Primary Education

It comprises 3 cycles of two years each : after nursery school the children enter the primary school. But the children of five years and over who cannot go to nursery school, enter primary school directly. This second alternative system concerns firstly the children in city whose parents have not sufficient financial means to pay nursery school fees, in other hand, children living in villages where nursery schools were not available.

The child used six primary school years, 2 years preparatory cours (CP), 2 years in elementary (CE) and two last years in middle course (CM). At primary school, the child is called "Pupil"; in second middle school year (CM2) he seats for two exams :

- the first exam, in case of success, enters secondary school for continuation of study ;
- Elementary school certificate examination (CEPE) ends the child's primary education in case of success, this certificate of education shall be granted to him if he decides to abandon the study and to enter his active life.

The following diagrams shows the primary education system :



1 year : years passed in the different courses .

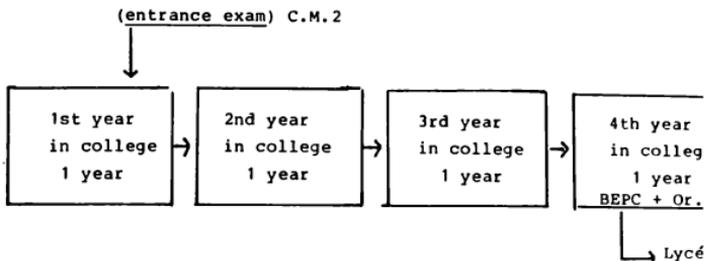
secondary
school

3 - Secondary school

Completing the primary education and preparation for high education, the secondary education dispensed Junior and high schools based on two existant cycles : the first and second cycle in secondary education.

a - Junior high school

Entering the junior high school, the child is no longer felt as a pupil but consider himself as young man proud with title of student who attending a secondary school as diagram :



In fact, the principal differences between Junior high and primary school or between the secondary and primary studies, are the additional foreign language. Primary school, the children study almost all subjects in French as official language. But in Junior high they study other foreign language, mostly English, Spanish or German in which they are very happy to learn.

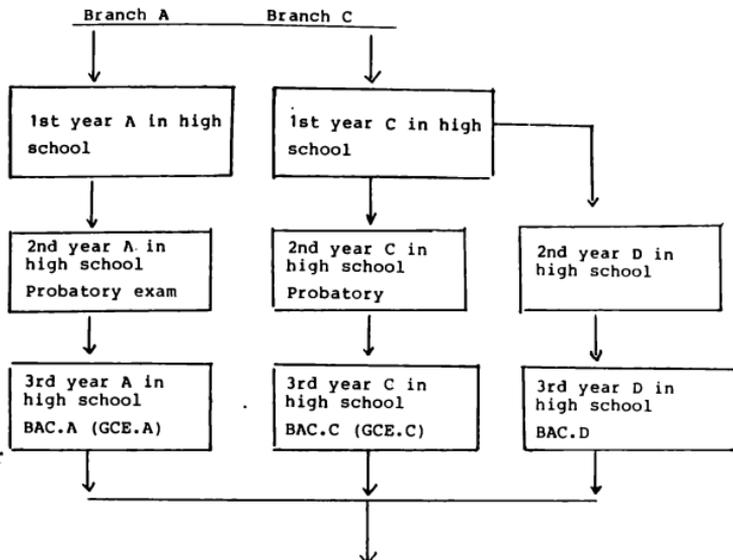
At the end of the four years in Junior high, they seat for an exam when succeed they obtain BEPC (secondary leaving school certificate) and would be oriented according to the working average to the high school.

b - Grammar school or Lycée

The duration of secondary school is three years which is performed in modern grammar school in classifying 2nd, 1st and last year with sanction by a general certificate of education (Baccalaureat, which is denoted by BAC A, C or D. It is recognized for general and technical education.

Refer to diagram :

.../...



Higher studies (UNIVERSITY - higher Institutions)

- principal subjects of BAC (GCE) "A" : Philosophy - education:
 - principal subjects of BAC (GCE) "C" : Mathematics - physics:
 - principal subjects of BAC (GCE) "D" : Mathematics - natural Sciences
- National orientation commission (CNO) classify students according to the education program (ex. 3rd year baccalaureat; general certificate of education : GCE) between grammar high schools, colleges junior high schools and higher institutions according to their level.

4 - Higher institution

Higher studies are ensured from the above institutions where the young students are pleased to be called high school students.

a - University

Created in 1963, the university of Abidjan received the high school students for the faculty of education, law, sciences, medicine and agriculture.

b - National higher institution of technical education

Abbreviated INSET, the national higher institute of technical education trained technicians on the higher level at the institute of industrial technology (ITI) or engineers at engineering higher school in Abidjan (ENSA).

I T I Branch

- . Admission : GEC "E" "F" or secondary leaving certificate (Brevet) "BT" + exam + proposition from C N O ;
- . Duration of training : 2 years ;
- . Diploma : diploma of technology (DUT) .

ENSIA Branch

- . Admission : GEC "C" or "E" + proposition from C N O ;
- . Duration of training : 6 years whom 1 year is probationary period ;
- . Diploma : Engineering diploma from national higher institute of Abidjan.

C - T e c h n i c a l i n s t i t u t i o n

1 - Technical grammar school

Technical education functions partially on secondary education level in the grammar technical school which is divided into three sections :

a - Basis professional training center (CFP)

This center prepared students for the qualification of professional certificate and those entering active life..

- . Admission : CEPE Level minimum + exam ;
- . Duration : 2 years + 6 monthes probationary period in an enterprise / company ;
- . Diploma : Professional certificate diploma (C.Q.P.).

.../...

b - Industrial and technical education college (CETI)

Prepare students for professional aptitude certificate (CAP) or professional school leaving certificate (BEP) according to their admission level.

C A P Branch

- . Admission : 2 years junior high level + exam ;
- . Duration : 3 years ;
- . Diploma : CAP.

The training is mostly practical and specialized; it leads to the exercise of well determined jobs such as general engineering (machined works, fitting, maintenance and repairing), car engineering and metallic construction.

B E P Branch

- . Admission : four years in high school level + exam ;
- . Duration : 2 years ;
- . Diploma : BEP.

The BEP diploma sanctioned professional training and deep knowledge which permits to adopt together relative activities in some professional sector : building, fitting.

C A P and B E P diploma help to obtain employment as qualified workers.

c - Professional technical grammar school and technical grammar school

Professional technical grammar school prepare students for probational technical certificate (BT) and so for active life.

- . Admission : fourth year + Proposition from CNO ;
- . Duration : 3 years ;
- . Diploma : B T.

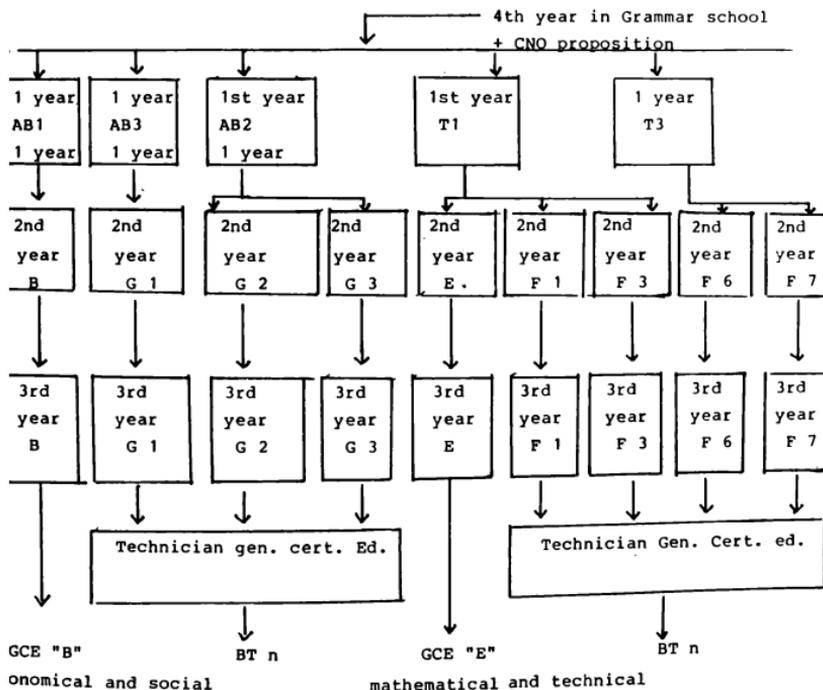
The BT diploma sanctions most specialist technical qualification in professional sector (building, chemistry, electronics,

mechanical fabrication, maintenance, electro-mechanics). It differs from technical certificate which gives more general knowledge.

BT diploma permits to enter working life with capacity of technician or assistant technician.

Technical grammar schools

Technical grammar schools prepare students for higher education on active life. Students are divided in many sections of the preparation of the general certificate of education "B", "E" or technical diploma "F", "G" as diagram shown below :



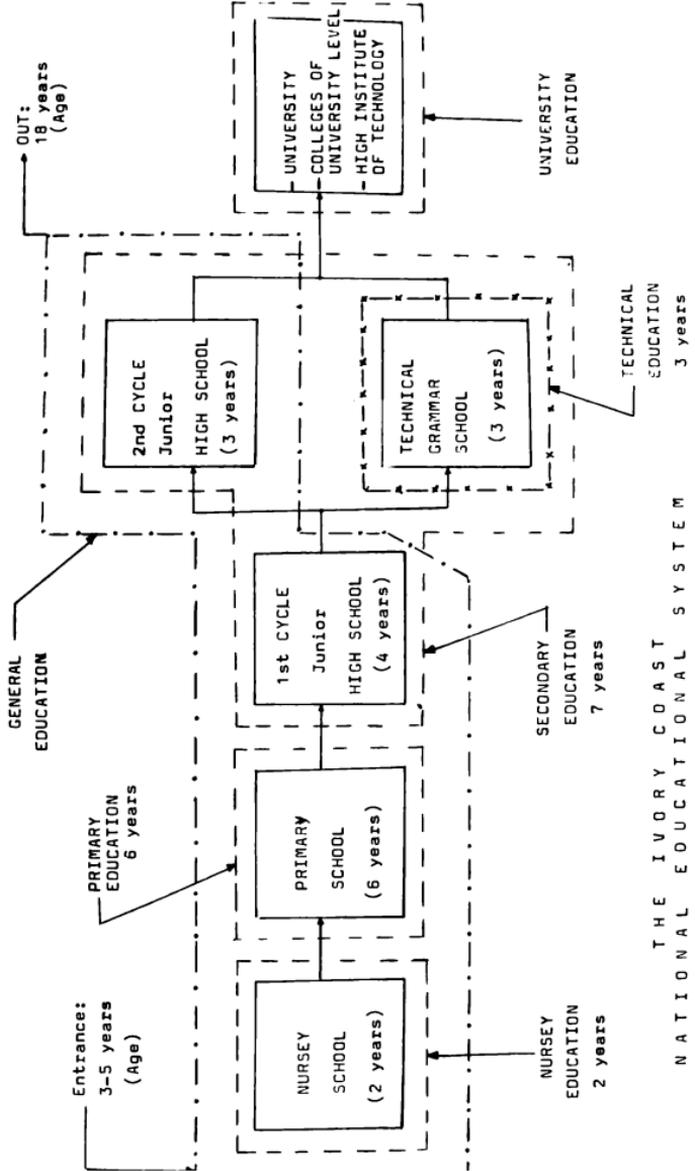
- . Admission : 4th year in junior high school level +
CNO proposition ;
- . Duration : 3 years ;
- . Diploma : Baccalaureat "B" or "E" or technical certificate
"F" or "G".

Speciality branches

- B - social and economic
- E - technical and mathematics
- F1- mechanical construction
- F3- electronics
- F6- Chemistry
- F7- sciences and biology
- G1- administration technics
- G2- qualitative and account technics
- G3- commercial technics

In summary a child who enters nursery school at the age of 3 years, shall be ready after 15 years to face high studies, after passing through the following steps according to the diagram :

.../...



THE IVORY COAST NATIONAL EDUCATIONAL SYSTEM

The main ideas in this paragraph may be summarized as following :

Nursery, primary, secondary and high schools are the steps which every person in age of learning has to follow to obtain the three faculties namely : faculty of value, judgement and appropriate decision making in a given situation as necessary arms in our daily life.

In general education, for fifteen years, a child receive an education before entering university or active life. That is why, Ivory Coast is not envy against any other country either developed or developing countries. The diplomas obtained after studies were judged as high level. In fact, in this sector where the theory played a prepotent role , the shortage of equipment in any institute of these vocations is not primordial other sector of education.

The quality of results obtained depending on competence of the primary teacher, secondary and high school instructors stem with intelligent and working means of the school children, pupils and students : this is not lack in Ivory Coast.

In technical education as mentioned above, can be made this point to it. It is not the lack of instruments which hampered some times good working of the technological institute. The disadvantage, if there is any, is the cause of delay in acquisition of adequat material in opportune moment. This disadvantage is due to the heavy administration decision. Consequently, some of the school doesn't receive supply of material in time.

Technical education as well as general teaching dispense a high quality training and had no equipment problem as we might judge it and we will study that more, in maritime academy In the meantimes, viewing what maritime administration shall be as Ivory Coast is a maritime country.

III - GENERAL MARITIME ADMINISTRATION

In Ivory Coast, there is only one marine, or rather there is only one ministry responsible for the marine.

.../...

The marine ministry is responsible under the authority of the President of the Republic, of maritime policy, and national port. With this title, he is also responsible of elaborating and conduct of studies actions, promotion, animation, orientation, reglementation, teaching, development, coordination, and government control of maritime activities and port sector.

The Ministry of marine is also responsible under the authority of the President of the Republic, national military politic and naval matters. He is in this regard particularly in charge of :

- Organization, management, security, disponibility, preparation and mobilization of Navy forces, bases, unit and services of military navy and their infrastructures material supply and other means of defending national and maritime security, civil protection and maritime supervision on open sea and coastline ;

- Protection of national sea production, security for the approaching foreign vessels to the country, protection of maritime facade of safety points, and naval control ;

- Maritime and lagoonal environment protection, prevention against pollution of marine environment and lagoonal ;

- General administration on seamen and defending material and moral interest, orientation, development, and control of sea profession ;

- Employment and national port development system, as well as industrial activities and also reparation and naval construction ;

- Elaborating in preparing adequate juridical text and applicable reglementation of maritime objects particularly maritime laws and merchant marine code ;

- Organization and maritime training ;

- Research studies and development of maritime affairs and their utilization, particularly in maritime transport, navigation, and general exploitation activities and the use of sea ;

- Government authority exercises together with public and private enterprises, para-maritime and national maritime sector.

A - List and description of functions

Not to escape the principal subjects on this text, we are only interested in civilian's work and overlooked military attributions in maritime administration.

The maritime administration in Ivory Coast comprises the following :

1 - Minister's cabinet

Following were attached :

- Marine secretary General
- General inspection of marine training
- Marine health center and sea protection
- Office of communal affairs/matters

2 - Division of navigation head office and national maritime affairs

The division in charge of navigation affairs and maritime safety, secondly, is in charge of maritime transport, administration and auxiliary with two sub-divisions :

a - Sub-division for navigation and maritime safety

- Make to assure the respect on navigation and maritime reglementation in court ;
- . Observe to respect or respect the maritime investigations ,
- . Instruct and to set up the verbal proces on infractions to the administrative police on commercial sailing or yachting and lagoonal navigation,
- . Control the application on prevention and pollution warfare of rulls by sea and lagoonal vessels and devices,
- . Administrate shipping derilicts,
- . Establish and to apply the technical reglementation concerning special devices (expection fluvial and lagoonal ferryboat), artificial iles and drilling platforms,

.../...

- . Deliver navigation licences, control of reglementary documents on board ,
- . Control the use of safety regulations ,
- Make to respect applicable reglementation on classifying companies and vessels technical standards, naval equipment and safety materials confirmation ,
- . Keeping a daily technical information card particularly on historical repairs and maintenance on vessels using Ivorian pavilion ,
- . Immatriculation of commercial and fishing vessels, yachting, special vessels and sea and lagoonal devices ; carry out administrative Ivorianization of ships,
- . Controlling and studing of purchase and sales documents, vessels chartering of any sort by public servants and private Ivorians , .
- . Participating in the design and the setting up of naval control as well as implementation of instructions given by the Minister .
- . Practising assistance and rescue operations from coast

b - Sub-division of Maritime transport and subsidiary shipping

- qualitatively and quantitatively evaluating, determining national needs in matter of national merchant fleet :
- . Watching the permanent optimization on uses of national merchant fleet ;
- . Keeping a daily economical record-car on national merchant fleet, registering and daily keeping merchant vessels movements serving Ivory Coast ;
- . Preparing if necessary, control plan on commercial and chartering guaranty and difficulties which might arise in case of crises on country's necessary shipment.

3 - Division of desert and international maritime affairs

In charge of management and rationalization and maritime transport development in general and consequently on shipping coordination actions in all nature, regional and international, according to the government specification directives. It constituted subdivisions :

a - Sub-division of management and maritime desert

- . Establishing and maintaining national maritime desert notice board ; controlling in particular the balance on shipping freight, this by traffic zone, line and country, the armament conference and freight of ship loading,
- . Permanent analyses of the real cost of maritime transport in Ivory Coast,
- . Watch the equilibril and repartition on maritime traffic according to International maritime convention and maritime agreements in which the country is registred,
- . Determine qualitatively and quantitatively appropriate maritime desert need of national economy.

b - Sub-division of maritime cooperation sub-regional and international

- . Prepare in all level, in view of rationalization and optimization on national maritime desert in sub-regional and international plan,
- . Analyse, studies and evaluating the permanent agreement and international conventions concerning maritime transports and sea usage,
- . Preparing meeting, conventions, maritime seminars, on subregional and international levels, prepare national position on technical bases ; cooperation With competence works : elaborating national actions on technical bases as follows ;
- . Centralize, organizing and observating the work of regional maritime cooperation and treat all affecting practical problems, such as those concern training and maritime studies, including selection of foreign maritime personnels, and management of foreign students in contact with maritime school inspector general.

4 - Division of Industrial and port affairs

This division is in charge of Ivorian port management system, elaboration on application on global increase and to develop the system according to the need of maritime desert and the country's economic.

a - Sub-division of portual affairs

- . Controlling exploitation activities on port ,
- . make to observe the applicable reglementation on portual matters ,
- . Coordinate the activities and portual exploitation ,
- . Arrange towing and pilotage of ships
- . Elaborate in fixation of portual taxes
- . Control harbour taxes in contact with ministries of commerce, economy, finance and plan,
- . Elaborate and defines the needs of portual equipments and infrastructures ,
- . Establish the needs of port management and qualify technical personnels, specially those who have to be sent by ministries of public works; transport, construction and urbanism.

b - The department of industrial affairs

- . Elaborate and prepare promotional publicity activities and development of marine industries connected in Ivory Coast in lissason with the Ministry of Finance, Economy and plan (industrial activities) ; particularly the repairing industry and naval constructions and shipyards works that participe to it ;
- . Establish a permanent result of capacities and national technical and financial performances in this area ,
- . Evaluate the rational requirements in management and technical staff of naval industries.

5 - Direction of regulations and human affairs

Directly linked to the Minister, it studies, evaluates, formulates the juridical guidelines and regulations, prepares the appropriated or suitable texts in view of execution of policies prescribed by government in the shipping sector ;

- . Assures in consequence the administration of professions and sea-men namely harmonization and application on legal texts and regulations which regard them in the double aims at national development and moral material interests of seamen. It comprises two sub-divisions

a - Sub-direction of juridical works and regulations

- . Evaluates, elaborates, updates and diffuses regulations texts and projects of legal texts mean for ruling maritime activities and connct in the areas of shipment ; maritime security, in transports (in particular dock yards, naval reparations, maritime manutentions on sea on earth, maritime transit, maritime consignment, supplying, affreight, freight vessels, classification recuperation of wreck, special fitting such as off-shore platforms, artificial islands in liaison with the Ministry of mines, the protections of maritime environment,
- . Prepares, formulates, updates legal instruments and regulations concerning management, administration, training and statuts of sailors as well as the organization and the functioning of sea profession,
- . Studies, analyses, evaluates, exploits international texts and agreements in view to their concordance with the government maritime policy and of their eventual application in Ivory Coast with legal means and national regulations ,
- . Participates as necessary to the preparation of legel texts, international and regional regulations or carrying forward, in connection with the direction of international maritime affairs according to the government directives ,
- . Assists the ministry on legal matters and regulations in view of Ivorian position in international and regional maritime affairs, in particular with regard to the right on sea, the code of merchant shipping and the delimitation and control of maritime zones under legal and national sovereignty,
- . Instructs any type of legal matters, including those which involve the entreprises placed under the protection of the ministry of marine and that concerns the staff and sea-sailers.

b - Sub-direction of trades and sailors

- . Prepares, organizes and conducts administrative duties aimed at appropriated development and maritime trades or linked to the use of sea ,

- . Defines the quantitative and qualitative needs in human resources as well as the needs and norms of training in view of the coordinated development of these trades ,
- . Assures the general administration of sailors namely :
 - immatriculation of sailors and issuing of maritime professional booklets ;
 - administrative control of physical fitness of sailors ;
 - control of seamen's qualification ;
 - checking of application of regulation governing the board
 - fixation of minima effectives on board
 - control the application of regulations dispositions or statutes where follow collective conventions governing sailors namely with regard to employments salaries, leaves, overtimes, social allocations due to work accident and professional illness ;
 - settlement of litiges which can arise among ship owners and maritimes ;
 - disciplinary and penal measures of the merchant shipping
 - administration and disciplinary system of boatmen and plaisanciers ;
 - . harmonize social regimes and regulations applicable to the whole professional maritime sector in particular the establishments and national enterprises in respect to the general legislation and collectives conventions.

6 - Inspector - general of maritime education and training

Directly attached to the minister.

Entrusted to take charge of programming and control of maritime training actions, permanent perfectionment and recycling contained in maritime matters, according to the needs of the country, the prescribed policies of the government and the directives of the ministry of marines ;

- . Elaborates and determines professional training objectives in general and technical maritime teachings; permanent up-dating and continuous improvement ;
- . Prescribes preliminary evaluations of adequation and intellectual aptitude and psychotechnical of students and trainees of maritime teaching in view of satisfaction needs through formation

.../...

- . assumed permanent control, periodical or occasional control of maritime training and product result in double way of professional acquisition and general aptitude of human resources on training ;
- . Evaluate methodes and means of training
- . Supervised study programs and scholarship in foreign countries for all duration ;

Maritime general inspector is appointed by decree in cabinet meeting base on requested report of minister of marine.

B - S t a f f t r a i n i n g a n d q u a l i f i c a t i o n

Ivory Coast as all other developing countries does not y possess all required institutes for specialized training and of high quality in certain specific domains such as marine for example. So she appeals frequently to foreign nations for assistance. For this reason most of her maritime administration staffs were trained in France, most particularly at Bordeaux in maritime administration and documentation Instruction Center, (C I D A M).CIDAM has two levels of training.

1 - General maritime administrators and officers

- LEVEL A : General maritime administrators

- . Admission : law degree or economical sciences
- . Duration of training : 2 years + 1 year practical training on differents vessels : petrolium and fishing cargos..

The practical duration on commercial vessels is divided as follows:

- . cargo 3 months
- . specialized vessels : 1 month
- . fishing vessels : great fishing : 3 weeks
 - assistant fishing : 1 week

To this efforts, we can add many practices in ports and visits into maritime enterpriçes (shipyards, consignation, maritime companies and transit companies).

LEVEL B : Maritime administration officers

- . Admission : recruiting on DEUG degree law or economic sciences + (2 years in university)
- . Duration : 1 year in CIDAM, Bordeaux + minimum 1 year practical training in Abidjan ;

2 - Subordinate staffs

recruited on civil service in Ivory Coast.

It consists of inter-ministerial staffs without any technical competency as :

- administrative secretaries ;
- administrative assistants ;
- office employees ;
- normal secretaries ;

3 - Navigation police agents

. Admission : recruits at fishery mate level, licenced captain of coasting trade which has spent 5 years in ship command ;

. Duration : 1 year + 1 year of training at maritime affairs quarters (assistant of vessels security visits) ;

. Objective : in charged of the police navigation and fishery ; he controls when the vessels are in harbour, the documents to verify if the vessels are in conformity with the safety reglementations.

Thus are that we can say about the Ivory Coast maritime administration. But we cannot leave this subject without adding the country's maritime activities operation in two ports : Abidjan Autonom Port and that of San-Pedro.

For the conclusion of this chapter, we shall retain :

- Ivory Coast situated in West Africa coast covered a superficies of 322 463 sq km and had 8,6 millions inhabitants. Its climate, essentially tropical humid, offered two types of landscape : tropical forest in South and Savana in North.
- National education which confers a general level, prepares Ivorian citizens in such a manner to face any profession.

- The two marines (military or merchant) are under the same ministry who is in charge of the two ports: Abidjan and San-Pedro.
- Maritime administration senior managerial staff were trained at "Centre d'Instruction et de documentation de l'Administration Maritime (C I D A N) at Bordeaux, France (Maritime Administration Instruction and Documentation Center).

These are the interested subjects in the respect, the lines which characterize Ivory Coast.

In fact, under this presentation, the Ivory Coast is not really a particular case but goes through the same lines with few differences with other developing countries.

In these conditions, what are difficulties that can meet any country in developing (such as Ivory Coast), who desires to set for her own maritime training institute, in other hand a "Maritime Academy"?

E S T A B L I S H M E N T O F M A R I T I M E A C A D E M Y

I - P R O B L E M S E N C O U N T E R E D

A - F i n a n c i a l p r o b l e m s

- 1- Funds acquisition
- 2- Training materials

B - S t a f f p r o b l e m s

- 1- Organization and legislation
- 2- Teaching staff
- 3- Maintenance staff

II - O B J E C T I V E S

- 1- Origin of the candidates
- 2- Training adapted to the country needs
- 3- Unique or diversified training ?
- 4- Training of seafarers

III - H O P E

- 1- Aims already reached
- 2- Aims to reach
- 3- Internation action

IV - G E N E R A L C O N C L U S I O N S

ESTABLISHMENT OF MARITIME ACADEMY

The establishment of a maritime academy as a training institution becomes a pre-requisite for a developing country which has chosen the merchant marine as one of the tools of independence and expansion of her national economy. The main reasons for the establishment of such an academy will include :

- adaptation of course and training schemes to local conditions ;
- costs of local training are by far less than those of training in foreign countries.

An important fact to notice is : establishment of maritime institution presents the same difficulties which we have to conquer such as for a developed country and that of country in developing. So, to set an institute for the maritime training presents the same problems such as for developed country like Sweden and that of developing country as Senegal ; as well as Ivory Coast and USA should have the same difficulties to overcome if they endow themselves to maritime establishment with the same standard. The image is strengthened by this of a motorist and cyclist having hundred kilometers each to go over. In each of the cases, what differs, are the means put in their disposition of each party to resolve the problem.

Then, the raising problems of maritime academy establishment in developing country is not also general as its, only superficial analyse could let it to believe. It assumes a particular character, commonly met by developing countries, in so far as means used, the efforts supplied, in regard to the situation prevailing in the said countries are not of the same importance or standing as those of "Nantis" countries, the solution to the problems is most arduous than in developed countries.

Seen that, it is practically impossible to cover all sorts of problems raised by the establishment of maritime academy, the object of this chapter is to expose only some of the difficulties met, the results expected, the hopes without which all tentatives in any enterprise are vain.

.../...

I- PROBLEMS ENCOUNTERED

Many are the problems set by the establishment of maritime academy in developing countries, and remain general from country to one another.

They are principally of three sorts: financial problems, staff problems and those regarding the training policies of the maritime academy.

A- Financial problems

1- Funds acquisition

Enorm financial means is necessary for any establishment to seat, more than that, establishment of technical school such as maritime institute.

In chapter 1, we have seen that developing countries are essentially agricultural and they use rudimentary agriculture technics; when these technics become modern, they are not widely distributed in activity of this sector. Moreover these countries export mainly raw materials. Even when some of these countries are potentially rich, this wealth of raw materials are not yet exploited or majority part of that is worse exploited due to the lack of technical means. We know that on the days following their freedom, developing countries faced multiple difficulties to start their development projects, because the old colonizers decided to withdraw rather than to equip the colonized countries with political, social and economical structures to enable their auto-government. Therefore the first means used for starting the economy was to take up agriculture whose needs for technical and financial assistance are less. But the export products which are essentially agricultural in D.C. undergo the hazard of Nature, thus making the economy to be exposed to fluctuations. The problem is worsened nowadays by the fact that the raw material consumers themselves in most case determine market conditions (fixing prices, for example).

In Ivory Coast, the major part of the active population are engaged in agriculture and export products upon which Ivorian economy is based are principally : coffee, cocoa, logs,.....

but cotton and rubber products are presently facing drought or dryness, prices of coffee and cocoa were fixed, not by the exporting countries of these products, but rather the consumer countries.

If we recall these economic facts which prevail in developing countries, it's easy to note that developing countries based on their economical situation cannot alone find the necessary fund for establishing her own maritime academy. For this reason they need intervention of foreign financials to complete the national contribution. These intervention takes a form of bank loans, or in form of political assistance or simple benevolent helps.

The bank loans because of the non-profit-making financed object is of very high conditions for borrowing countries.

Let us look at "political characteristics aid" we informed that the grants publicly announced are gift. But in reality, they are fixed certain political economic conditions on beneficiary country together with this aid, for instance, "A" country accepts to finance a project on "B" country (D.C.) with conditions that "B" country must fill certain number of citizens of "A" country or accept in priority certain products or material from "A" or to sell on preferable prices to "A" certain products from "B" country.

Finally, there are some aids actually benevolent, in which number of countries are already illustrious to give frequently to developing countries. But this also, in many cases goes with certain conditions; in this case, most of the helps were granted usually in form of materials in which amount may be equivalent to the value of aid request. Therefore, you are requested to engage one technician or engineer from donating country, and it's also necessary that the bank which finances the different operations be from donating country. Hardly we the borrower see the color of the money.

For this purpose, the Academie des Sciences et Techniques de la Mer "A.S.T.M." (Science and sea technics academy) in Abidjan has already benefited and continues to benefiting benevolent helps from certain developed countries, the names of which I am pleased to mention: Japan, Danemark, France, and South Core.

In any case, as we can notice, the acquisition of funds involves many difficulties because it always goes with conditions hardly satisfactory, and often we cannot obtain all requested amount. Furthermore, in first stage, local government should be convinced of the necessity of this investment. For, if merchant marine is recognized as one of the tools for economic independence, the means used to make it profitable is not always obvious good for anyone.

2 - Training materials

Once the financing problems have been solved (by acquisition of necessary funds), we face the second problems : providing infrastructures and equipments for the academy.

Infrastructure problems as they exist are not major and can be easily solved by any country. The ones which retain our attention are that of equipment.

a - The fundamental equipment

The different equipments which the school needs to endow have to be evidently adapted to the objectives of the training dispensed and need necessary maintenance. We must then be informed by specialist advises or experts for the choice of the equipments and we must have recourse to maintenance team. Now exactly, as we saw it in chapter 1, problem for D.C. is the shortage or insufficient national specialists in different economic branches, and particularly in shipping trade which is one of the economical sectors relatively recent.

If the equipment problem is general for all countries, solutions to it are particular in each country, depending first of all on available funds and in addition, on the objectives to reach.

.../...

In developing countries where national specialists are short two options are giving for the choice of equipment :

- aids provided by UNDP who sends IMO experts to the country in question. The result on the quality of the choice depends on the background of the experts, this background influences the list of equipment they advise ;
- to require commercial houses said to be "specialized" in manufacturing the pedagogical materials, but here, the trend of these commercial houses also would be to act for their financial interest, therefore advised equipment would be very expensive because too much sophisticated to the pedagogic purpose they are aimed. In Ivory Coast, we have chosen a third option which is to reconcile the two previous options :

- . contact with supplier,
- . advise of IMO experts and that of local maritime teachers.

Nowadays, the stand-by equipment which technical institutes possess are simulators. Two essential points must be clarified. The first point is the utilization of simulator in practical training. In general, manipulation of simulator during maritime training is a good thing and it is recommended if it is properly used. The most advantages are that they permit every student to experiment different situations and then to approach desperate case, that is, dangerous situations which cannot be possible to realize on real ship because of the tremendous consequences it may result in as for devices functioning or engine running. For example, on board ships no captain would allow the anchorage of the ship by any cadet in training, likewise chief engineer would not accept the running of main engine without lubricating oil, on ship, if cadets want to do so for their training; however, these situations can be easily simulated without disastrous consequence in the training school.

Nevertheless, intensive utilization of simulators or other training equipments should not replace experience got from sea. In school when manipulating simulator, the most case we do not feel really responsible, but on board, we are imposed with heavy responsibility and little mistake may not be without bad consequence. In these conditions, the situation on board and that of school are different. The conclusion that we want to draw, is that the two means must be completed one another. At the beginning

.../...

experimentation can be made and quicker experiences acquired in school through the manipulation of simulator ; but you must complete it by the experience on the sea, which requests much longer time. This is mostly true in developed countries in which financial means allow to endow their school with simulator of last shrick capable to represent the faithful reality.

Concernaning equipment choice, this problem may happen to a developing country: if, because of the limited financial means at its disposal, a D.C. has to make choice between both deck and engine room simulators of high performance in one hand, and training-ship in other hand, which one (simulators or ship) will be more advantageous to be selected? I leave it to my reader to decide.

The second point to consider is how to minimize training expenses using certain smart ways. To reduce the training costs, we can use old models (motor engine, turbine, deck derriks or crane...) to make demonstrations. That does not matter very much if there is any difference between old and new models provided that the basis principles remain the same! That is the policy followed in the maritime college of Fort Schyler in USA, when they still use a diesel motor engine dated from 1930.

Still in worrying to reduce training costs, we can plan visits or field trips, locally, in thermal power plant or whatsoever, in the town or the country of manufacturing where the training school is located. In so doing, students will learn surely many things and at this time, with concrete situations and indeed, with less expenses.

Finally, the last means to reduce the material cost is to be on permanent contact with the manufacturers of susceptible interested school material, making them know the needs of teaching equipment/materials. In general, materials manufactured usually works for certain period of time and then finally have to be obsolete. If we are wise, we can obtain it less expensive during depreciation period, or we can simply receive it as a gift for the Institution.

These are the important points to consider mostly in developing countries where grants were difficult to obtain.

b - Need for library

Extremely important, library consists of two main advantages :

- to permit students to obtain manuals or materials they need for short period of time and without any expenses ;
- to permit students to stretch their knowledges to areas in which they are not directly concerned with.

The first advantage given above deals with the fact that, any student who did not understand lesson given in class to the extent that the explanations of the lesson in class were insufficient therefore, can get further explanations on the same subject in other books that he cannot afford to buy ; the library can supply these books.

The second advantage is that, when we need to broaden our knowledges to other fields, for example a technologist or a scientist who interests an historical question, the library can supply encyclopedial, magazines, newspapers, booklets that treat concerned subjects.

In this regard, libraries must contain different kind of materials, books, magazines, reviews newspapers, State organization publications, International organization booklets such as I.M.O. etc...

Why is it necessary to possess a library of the same importance as that of other equipments in maritime academy?

Existence of library in maritime institution in developing country is extremely important as ever we know that, the developing countries got into maritime activities relatively recent, and in this effect don't possess in majority cases maritime bookshops. As we know that in developed countries these maritime bookshops are rare and by what means countries in developing. We observed that libraries in this case constitute only source of obtaining various manuals in maritime field as in case of, for example, for Abidjan maritime academy : there is

.../...

no maritime bookshop in Abidjan in present stage.

These are briefly, the first problems met in establishing a maritime academy in developing countries. The second problems, important and most difficult to control concern the staff, since that the staff training is much more costly and more extensive in time.

B - Staff problems

When a problem involves the participation of human group, then appears the organization problem. The maritime training in this regard, can be qualified as local organization which supplies locally qualification to staff to practise the sea profession.

1 - Organization and legislation

Commonly, the organization involves the assignation of departments and coordination of efforts among the staff of the organization in such a manner as to ensure maximum efficiency in the attainment of predetermined objectives.

In the maritime domain, the dangers presented by a poor organization are of two sorts:

- Poor control of national flag :

It can happen to anybody to misuse the flag of any country by fraud by buying maritime studies certificate and to ship as navy officer. That is the case of "Christian JUNBLUT" (Lloyds list, September 1981)

- The lack of strong maritime management.

As a matter of fact, a developing country should start their activities of maritime education by concentrating on its organization. The procedure of the organization should include the formulating of the training policy according to the rule of the country's maritime legislation which on its turn should be conformed to the agreements of international conventions and

.../...:

controlled by a well organized maritime administration. Nowadays, many countries are still reticent to the ratification of the international conventions and agreements. Even if this is performed, the difficulties remain on level of their execution. The dullness of the bureaucracy linked to the mediocrity of the communication system and lack of cares hinder the flowing of informations. In those conditions new regulations reach rarely the men working at sea even if the country has ratified the convention. This fact met at the world level is particularly common in developing countries.

The maritime training can only be effective if the studies programs are in conformity with recent standards and if they are determined by national laws and decrees. The issuing of masters certificate can be unsafe if it is not under the maritime administration supervision which we may observe, is aware of recent agreements and international conventions. Security at sea cannot be assured if the new regulations do not reach the persons concerned at sea.

On this subject, let us examine the role, the responsibility and the functioning of the government (maritime administration) with regard to seamen.

The most abundant available resource in most developing countries is human resource. The leaders's role and the first responsibility of exploiting a such resource and in its appropriate use to national advantage in the maritime area, comprising the benefits of national seafarers themselves and the maritime industry must be assured by the maritime administration in a developing country. The main reasons to this are the followings :

- The government political philosophy, economic, and social with regard to employment in general must affect the maritime work in spite of the special character of the last one.

In view of the development of the national marine, it is the duty of the maritime administration :

- . to assess the need for staffing the maritime sector ;
- . to plan and assure the availability of such a staff both in quality and in quantity, and to promote the optimum use of such a staff to the nation interest.

- It is of the duty of the government, through the maritime administration, which must assure that the national sea law applicable to national seafarers fit their extraordinary standard of living and working conditions.
 - Since the merchant marine is an international industry, the maritime work in a D.C. can be subject to international pressures in various forms, and the local government is better placed than the maritime industry or even seamen to treat such pressures in the national interest.
 - The government has international obligation in relation to sea conventions that must be observed, including international norms of competence and contest from its sailors.
- Thus the first problem D.C. have to deal with when setting up a new maritime school is organization. The solution to this question consists of the following stage :
- the adoption of international agreements and conventions ;
 - the setting up of a well-organised maritime administration ;
 - the legislation of a national maritime code ;
 - the formulation of a regulation which rules the training and the issuing of training certificates ;
 - the planning of study programs in accordance with the national regulations and international standards ;
 - the organisation of the school which should be chosen among several already existing types.

2 - Teaching staff

The teaching staff, in a higher maritime college must be considered the most important step towards setting up a maritime academy. The members of the teaching staff are not only in charge of teaching and practical instruction but also that of updating programmes of studies, encouraging students, to do well in their studies, providing them teaching materials, testing their knowledge, and training them into the core discipline, integrity, in order that they be able to see their country interest in the maritime field.

To accomplish their duties, being well provided for a level of required competence, the majority of the teaching staff must be native of the country concerned. This feeling of belonging enables them to better understand local conditions and opportunities offered and to share with students the same yearning.

As a general rule, there is always a lack of high qualified teachers in most of the institutions of maritime training, but in many D.C. such teachers are almost lacking and maritime schools are run with a teaching staff made of foreign expatriates. These foreign experts, whatever their country of origin, cost a deal to D.C. which have them and they in return do not serve as it is expected of them. As old colonists, they think of gaining more than giving. In short, the country is not very certain of the aim it sets up with foreign technical assistance ; if they are aware of it, they seek to deserve their salary, but will lack national motivation which makes up of natives competent people..

Then, to come back to the subject matter, the question of lack of teaching staff in D.C. will be of two sorts :

- the lack of high qualified teachers ;
- the great majority of foreign technical assistance at all levels of qualification.

One of the factors making worse the matter is the length of time necessary to train a teacher : one needs up to 10 - 15 years to train a teacher, a high qualified maritime teacher ; on taking into account maritime studies, sea experience, academic level and teaching training. Unfortunately attention is not enough given to this vital sector.

Reasons could be :

- 1) - ignoring the importance of the question ;
- 2) - the lack of necessary financial means (D.C.) ;
- 3) - the lack of incentives to attract national prospective applicants.

These are the reasons we will be examining.

1) - When talking of D.C. attention must first be paid to the teaching staff.

Once decision to establish a maritime institution is made, the programme of training future teachers must start before the first foundation is laid. This programme must be executed on sending future teachers abroad, in higher maritime academies or universities or ordinary technical institutes. To attract applicants, work incentives very satisfactory must be offered. The sea-going officer who must come to shore will be reluctant to accept a teaching post, if salaries were too much meagre compared to the salary he received aboard. If one thinks that he will accept those conditions as teaching is a more sedentary and restful job and therefore allows a full and peaceful family life in comparison to his sailing, is proof of a lack of realism. For who would accept to have a full and peaceful family life without absence, if in return, he must be in short of finance to meet his material means of his family ? Consequently some balance must be considered.

On analysing the teacher's training question, we come back to the matter that arguments proposed by some institutions concerning the lack of funds are questionable. The same institutions often succeed in gathering a huge amount of money to undertake buildings (in general several millions of dollars) ; was it a care to show up ? However the budget allocated to train teachers doesn't request such a vast amount. In addition this training is, by far more important than the buildings of schools. Building schools and equipping them is easier than training a teaching staff through contest.

On this subject, SITRAM, one of the shipping company in Ivory Coast has equipped its fleet with 8 new and very modern ships, between 9 September 1977 and 20 October 1978 ; and later on in 1983-1984, completed its fleet to ten (10) units which render this fleet the most modern fleet in the world. Evidently SITRAM would not succeed in training first class captains in 4 years (a minimum of 9 year is required) and to a lesser extent a teaching staff in this short interval.

a - Responsibility of the training institute

For training countries or organisms it is not necessary that equipment be stressed, through many visits or travel studies at the expense of the real goal to reach in their teacher training, in particular :

. To acquire thorough knowledge to master the teaching subject and learn complementary knowledge on the same subject to raise the level of the teacher.

. To acquire fundamental pedagogic knowledge in view of passing on this knowledge, know how to prepare and teach a class, in sum, to know different methods for students' training.

The visits of different systems of maritime teaching existing in the world as well as that of teaching materials (radars, simulators, apparatus for lab assignments, training-ships) which equip different schools, even if they are necessary must come in addition to the two capital steps cited in the first place. The acquisition of teaching equipment is quick and relatively easy. It is a money matter, for "Endowed with money, it is not necessary to be a king to build a palace".

It is the duty of the teaching institute to fully respect, at least for some time, pledges taken before D.C. concerning the programme and training policies which have been issued, and which have caused the sending of applicants to this school. Indeed, it should not be right that institution should change its aims offered without rightful causes. This thought seems outdated and we would even not mention it if that had not happened earlier before.

b - Responsibility of the country where teacher-trainees are natives

It is the duty of D.C. to send applicants for future post of teaching, abroad for their training when this training cannot take place in their own country. It is also of its reach to ensure that the training given to applicants will fit their goals for which they were sent abroad and conform with their career requirements once they return home and take up their position. D.C. should not only rely on sonorous titles of training institution and on the eloquent degrees that are delivered.

- 2) - The second reason mentioned is the lack of national candidates to teaching posts.

A striking fact in most countries, particularly in D.C. and even in the poorest countries in the world is that an adequate number of ministers, diplomatic representatives, senior army officers are produced. Why not the same for high qualified teachers of the maritime teaching who lack in national maritime school ? In most countries, with the exception of a few, the teaching job is a ungrateful work. But regarding the maritime education the teaching staff consists of persons already working on a different job and for some other reason, change their mind to become teachers. I insist on saying that the fact of exercising a new job exposed to less danger and allowing a peaceful family life such as teaching compared to sailing, for example, will not succeed in filling up the lack of financial gain, if the difference of wages exists and is quite important, people will not be tempted by this new career. Huge money would have been spent on their training and the result of these expenses will not flow out to match its compensation. Then foreign assistance will be always invited in ; and the matter will remain unsolved as such. The best solution to this problem is to offer attractive work conditions.

- 3) - At last, a third reason is that at times national and international technical assistance agencies are charged of stressing the need on recruiting a great number of experts and the furnishing of a great deal of various materials. Unfortunately it is the place to state that the training experts have been conducting or financing is the smallest part taken into account. If the importance of experts is not minimized, one should imagine the future of any project after the departure of the experts.

But reducing the importance of the role played by experts presupposes that the country has other qualified trained personnel to replace them. Once again, we always come back to the training of the staff.

3 - Maintenance staff

Their presence is necessary because of the existing of facilities to train students. The problem generally met is every in the same order than that of the teaching staff, with even those following particularities :

- they require less time for their training ;
- they can be but not necessarily merchant marine officers ;
- in addition to technical knowledge they have about their different apparatus of their specialities, they should know how to use them in order to appreciate their performance or what is expected from them : one must take it into account in the training of maintenance staff.

In the Ivory Coast, by the time the maritime school was only to train watchkeeping officers and ratings, there was a priority: to nationalize shipping companies. Thus, in first place, one has trained national candidates in many different shipping countries so that a number of officers finding themselves in the teaching sector one could have deep view of existing training systems throughout the world. For this purpose, young people were recruited by means of examination and sent all over: France, Belgium, Germany, Canada, Morocco, Norway... etc to be trained as senior sea-going officers and shipping company agents; that was in 1972. Since then up to 1983, no prevision has been made to train maritime teachers : one left native officers to acquire enough experience in sea job in order to become good trainers. Freedom is granted some way to seafarers to come ashore themselves as maritime teachers for example.

Bear in mind that the true training of maritime teachers in the Ivory Coast began with my own promotion (1983-1985) at World Maritime University in MALMÖ. It is expected that additional pedagogic training will follow once back to my home country.

The teaching and maintenance staff is one of the most important element in the process of setting up an institute of maritime training.

The following are what we state to conclude the paragraph:

- Not enough attention is given to this, whereas the training programme of the personnel who is high priority should have begun before the first foundation of the building is laid down. The government must be the first initiator of this training and in that sense, it should take all necessary measures.

- Incentives work must be provided to call national candidates to the maritime teaching posts. On this subject the opening of Malmö international maritime university is a great hope for D.C., if all goes well to train teachers of maritime teaching.

- However, technical assistance agencies should stress training and allocate funds to this end.

- D.C. must be convinced that preparing national personnel gets priority over the building of schools, over hiring experts and over buying equipments. We must even reduce to nil, dependence upon foreign technical assistance.

To human problems succeeds that of training naval officers, personnel, assistant naval officers of merchant marine, and in this view, the aims that the maritime institute pursues, once it is set up. It is a fact that when D.C. come on to the market of maritime activities international competition is keen in this field and this not only for goods to carry but also for the manner in which the ship operates, and which entirely depends on the competence of its operators.

To support this international contest, the complete team must be competitive and highly qualified. It is the duty of the maritime academy to provide for such a high qualification to naval officers and to sailors who work aboard this ship.

II - OBJECTIVES

An organisation such as a maritime academy however organised, cannot get but outstanding results after having set in sight goals to reach, which were established long ago after years of studying based upon experience, existing system analysis throughout the world ; in other words, a maritime academy must have in sight a training policy.

We'll try to review all the aspects of the problem set up in this training policy. We will not have the pretension to bring about solutions to these problems, if not as a suggestion, the main aim in this writing being to put them in light to conform to D.C. image.

1 - Origin of the candidates

The training of high qualified personnel, a maritime institution must assure, is influenced by the nature of national educational system in general and the fundamental technic training in secondary schools. To put it on another way, general education must enable future applicants to comply with the required level in order to receive with ease the required training of a captain, chief engineer of a navy for the sea-going ship. One can thus see the importance played by a national educational system.

In the Ivory Coast, there is no such a problem, as care was taken for general education to enable student to maintain a good level. Enabling him to continue higher learning whatever the field of study.

2 - Training adapted to the country needs

There must be an organised and non-dysfunctioning training, what requires the setting-up of a national maritime commission, composed of prospective users of seafarers. Each enterprise manager must have his need of personnel known. There must be a sort of adequation between training and employment, in order to avoid unemployment.

This is the procedure in the Ivory Coast : the national maritime commission sits once a year ; during this session, each maritime organisation introduces its personnel needs. Thus, the number of students who must go out of this school is computed in relation to the existing personnel needs of these enterprises.

3 - Unique or diversified training ?

The force of tradition in all maritime schools in

.../...

almost all developed and developing countries commands that there be three departments: Deck department, Engine department, and Radio department. Hence the training is brought about these deck, engine, radio officers.

In some countries, officers and personnel of lower Rank are trained in separate schools. It is thought (rightly or wrongly) that officers and ratings must not grow up in the same institution, the same training school. The question is not to know if officers and Ratings must share the same training school as they all are seafarers. The question to concern oneself with is to know if these institutes, particularly maritime academies should keep the tradition in using a unique training policy or otherwise should benefit from their setting up to widen or diversify their vocation, this vocation could be brought about seafarers training as well as that of shore-based personnel, particularly the personnel of maritime administration, the personnel of maritime safety, stevedoring personnel, transit company personnel, and so on...

It is self-evident that in D.C. if the maritime academy performed this, things would go well. As there is no such establishment to assure this training, D.C. are always in the obligation to train their people abroad, which is quite expensive.

Concerning the "Academie des Sciences et Techniques de la Mer" denoted by A.S.T.M. (Maritime Academy of Science and Techniques) of Abidjan, the aim is about the training of the personnel whether seafarer or sedentary necessary to man the merchant fleet, the maritime administration, and the management of maritime business. The ASTM gathers three main schools:

- the College de l'Enseignement et de l'Apprentissage Maritime (C.E.A.M.) with a secondary school level, trains assistant naval officers and sailors of merchant and fishing marine;
- and for high level training, the Ecole Supérieure de Navigation (E.S.N.) created to train Deck, Engine and Radio officers of high level required to man the merchant fleet;
- the Ecole Supérieure des Transports Maritime (E.S.T.M.) for the training of sedentary personnel of shipping companies, para-maritime companies, as well as personnel of port administration services.

To these schools might be added:

- the Centre de Formation Professionnelle des Travaux Maritimes (C.F.P.T.M.) which would assure the training of stevedores and dockers and cargo handlers ;
- the Ecole de Gardes-Côtes (E.G.C.) which would train coast guards in charge of supervision and controlling of water plane in maritime environment;
- the Centre de Formation Halieutique (C.F.H.) which would train experts and administrators of high level of fishing as well as instructors and fishing supervisors.

Maritime academies in the USA :Fort Schyler S.U.N.Y., New York State.

Let us leave D.C. to pick up the example of the USA where I had the opportunity to visit several maritime colleges which, to some extent, teach all the same training topics.

- . Engine Department: in this department are trained in addition to marine engineers, electrician engineers, nuclear science engineers, oceanographer engineers and of course naval architects;
- . Deck Department: in addition to sea-going officers are trained economists in maritime transport;
- . Sciences Department: it gives programmes of nuclear sciences, maths, computer (confirmed by Engine license) and meteorology and oceanography (confirmed by Deck license).

This example is to show that many countries long ago adopted the policy of diversified training and do perform it in maritime education.

The second step to study has relation with sailors training. Should this training be limited to the unique exploitation of a ship or in addition should it offer opportunities of possible re-conversion towards sedentary jobs ?

4 - Training of Seafarers

It is one of the most important aim assigned to maritime academy. It is the reason, here too, a somewhat detailed study must be undertaken. We will review different steps to take into consideration, always in the aim to shed light on problems stated in the field.

a - Computering of number of students

Whether it be national or regional, the academy must pursue the aims to :

- satisfy the requests of the country or the region in qualified personnel as well as merchant marine personnel ;
- govern the country maritime policy ;

- manage ports, shipping companies, and other maritime enterprises.

To provide a training adapted to the needs of country or the region, a calculation of the fleet in need of qualified personnel must be carried out to predict the number of students who might be admitted into the academy. This calculation should be based upon some facts assumption, particularly ;

- the fleet and tonnage of goods which it carries during a year (Ex:1985) ;
- the international maritime trade in 1985 and its growth over 10 years (1995- for instance);
- the likely degree of success of the countries in realizing the objectives of their policies;
- improvement in the efficiency of ships exploited in the region.

Once calculation of the future fleet size has been done the calculation of the number of students needed to be trained to man that fleet is not difficult.

For a large variety of ships, sea-going ships the number of officer is as following :

- . 1 Captain
- . 3 or 4 Deck officers
- . 3 or 4 Mechanics officers
- . 1 Radio officer

However, the staff of lower rank varies in number, figure swings between 22 and 45.

The main problem is that, in the sub-region the experience of those African sea-going officers is insufficient to enable authorities to establish a profile of a typical maritime career ; Looking at the traditional maritime countries, the career average for naval officers is 10 years for the Deck officers ; and 5 to 6 years for engineers.

Taking into account holidays, illness and periods ashore for training and updating, the experience has shown in Europe and in some D.C. countries the need to have 3 full crews for every two vessels.

When the academy extends its operation to other options, similar consideration must be kept to make certain that there is adequation between training and employment, in each case.

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b - Training_policy

Our intention in this paragraph is not to make a typical profile of what might or should be the programme of studies : intellectual material (Maths, Mechanics, Trigonometric, Electricity, Electronics) is left to the initiative of each academy, while having regard for standards agreed upon by the international maritime organisations - (IMO) - what is worthy of interest is the aims that are sought in the training. In this context, the following questions are to be asked :

- must we train the naval personnel by focussing on the technical exploitation and the safety of the ship as do Japanese, the Soviet and Chinese? In this case, seamen are technicians and safety agents.

- must we train the naval personnel by working together on technical and commercial exploitation of the ship as do the French and many other Europeans, African and American systems? In this case, seamen are technicians and merchants. Between these two main options, there are varieties according to countries.

- At last should we get together the two main options cited above to make a third one in which the stress will be both technical and commercial exploitation and ship security? In that case, seamen will receive a training made of 3 main domains of the merchant marine.

Any academy, of course, would be happy to adopt the third solution. But then, maritime studies will be extremely extended and the training quite advanced, as we all know that, in the normal state of things, naval personnel already gets an advanced training for the occupation it has aboard a ship. The ultimate result of this long training may be tendency to desert sea occupation for shore jobs which are less enduring but with good attractive pay.

c - Level_of_recruiting

In the paragraph, "Origin of the candidates", we have shown the role of the educational system on the intellectual capacity of the applicant who wants to undertake higher learning. This role becomes again more important when it comes to train senior naval officers of the merchant marine. In other words, the intellectual capacity of the applicant must be high.

This is due to the fact that the senior naval officer must carry heavy responsibilities in the exercise of his duty. See, how sophisticated equipment aboard may be, it is always the two small eyes of the watchkeeping officer which are those of the large VLCC.

So, a ship master who loses a 300 000 dwt ship or because of some error committed or because of mechanical failure, pollutes a coast with the pouring of crude oil, a chief engineer who burns both two connecting rods (cost of purchasing another one, cost of repairing, cost of ship locking up) expose their company to huge expenses for about several millions of dollars, even when damages are but mechanical without any loss of human life. Because of the special character of the seaman's job, along his training a particular stress must be placed upon each of these following points :

d - Notion of management

Management is the optimum use of human and material resources, to achieve objectives that were already planned. Since then both resources are gathered, management may be applied everywhere, in particular aboard ships where seamen compose human resource while the ships stand for material resource. Whether its application on board be slightly different from its application in a factory, major functions remain same everywhere, that is :

- planning : predetermination of action with regard to where, when and how the objectives will be achieved in taking into account situation prevailing ;
- organisation : which performs the distribution of work and coordination of efforts among members of the organisation so as to assure maximum efficiency in reaching predetermined goals.
- controlling : which takes into account the past and relates it to planning that looks forward to provide information and guide the manager in decision making in the present.

Because of strong competition; a ship exploitation must be as productive as possible. This means naval officers must not only know their work but must also know how to get the most out of their people. Otherwise stated, it is not enough for a naval officer to be a good seaman, a good engineer aboard, he must also know how to lead his people, how to get their confidence.

.../...

It is the reason why, in his training, he must have management training.

We conclude that a good naval officer also means a good manager.

e - Economics notion

In their training students of maritime schools must be familiar with applied economics in the maritime field, so that the ship exploitation be productive in maximum. Maritime academies which have not yet adopted it must develop syllabus on maritime economy and include it into their training programme. It is unthinkable that a captain or a chief engineer who are deemed to be official managers aboard do not know anything about economics.

f - Nature of seamen's occupation

Since marine is a relatively new field in D.C. young men enter the trade without prior knowledge of what it's like, as they are mistaken by what they hear outside. To avoid deception, desertion, it is the duty of teachers who are experienced naval officers to talk openly about the work. Its main characteristics are the following ;

- the need for a big sacrifice : away from home and the family ;
 - life conditions and occupation aboard : work performed under single authority and life within a limited space ;
 - dangers resulting from the trade : aboard one is always at the mercy of dangerous events relying on one-self to overcome.
 - stern discipline in the exercise of the functions aboard : at stake are production and security of the exploited ship.
- Countries such as the USA and the Soviet Union to name but these two superdeveloped ones, have adopted a military status in the training of merchant marine officers and they did it well. An occupation with so high dangers and so heavy responsibilities cannot function in security unless some discipline is entirely observed : military behaviour looks to that.

g - Security_

Big dangers present in sailing have led to safety policies aboard ships. Fortunately very early, maritime training organisations and shipping companies became aware of it and had included safety in their training programmes. In addition, training about the struggle against pollution, against fire and training about securism up to now performed in the maritime training, it is necessary that sailors apply themselves for a while to the effective training of giving up and life - saving. In the East Germany (RDA at WARNEMUDE) maritime academy (near Rostock), I had the opportunity to visit for many days, mariners with all groups of rank, on training in a water pool then in the sea, by using air rafts aboard the ship sinking and the struggle against water floating in a ship.

The second aspect of this paragraph is about the policy of training sailors, that this training must allow sailors to shore. Formerly it was very difficult to a captain to find a job on shore once his career was over. Then, in the study programme one thought of developing courses such as electronics, automatism, maritime economics, management etc... and make it possible that by remaining in the maritime sector, sailors get an extra training. The policy has been adopted by Belgium in her maritime training. D.C. countries which want to resolve in the maritime field, unemployment or saturation of the job market must adopt very early this policy.

h - Up-dating course

Progress of sciences never stops and so is development of technology which doesn't know any limit. It is the reason why technicians such as naval officers, however experienced, must go on studying in view of increasing or maintaining their intellectual capacity concerning new discoveries. In maritime academies recycle courses must be organised to this end.

After surveying problems expressed in D.C., the aims they pursue on establishing a maritime academy, what can be the hope of these D.C., hope which is the motive in achieving this gigantic business ?

III - HOPE

1 - Aims already reached

Big problems exposed by the setting up a maritime academy in D.C. would remain vain if achievement could not permit to state efforts and results in the D.C. concerned.

As seen in earlier paragraphs, problems are of 2 sorts, as a result, the solutions are two too that is to say, of a human order (that is the training of the teachers and maintenance personnel) and of a material order (teaching material that the academy has got).

For example here are the aims reached by the maritime academy of Abidjan.

a - Teaching staff

It consists of :

- 7 Navigation teachers (French)
- 2 Handling instructors (1 French, 1 Ivorian)
- 2 Fishing instructors (Ivorian)
- 10 engineering teachers (9 French, 1 Ivorian)
- 2 drawing teachers (French)
- 3 Training teachers (Belgian)
- 2 electricity teachers (Ivorian)
- 1 Automation (Ivorian)
- 1 Maths teacher (Ivorian)
- 1 economics teacher (Ivorian)

This limited number of teachers leads the academy to employ the expatriates of part time teachers from technic teaching schools, merchant marine civil servants or the Direction of sea and lagoon fishing (39 in all).

b - Infrastructure

Up to now, maritime training for only sailors is taught, thanks to an infrastructure covering a total area of 2 hectares. The name of this institute is called "Groupe Ecoles de la marine Marchande" - GEMMA (Merchant Marine School Group) and consists of 2 schools. The regional center for maritime apprenticeship (CREAM) and the high Maritime college (ESN).

For these two schools the infrastructure consists of :

- 1 building of 300 square meter with all workshops ;
- 1 building of general services and intership 1 000 square meter
- 5 dormitories, with a total capacity of 170 students ;
- 6 classrooms (CREAM) and 6 classroom (ESN) since october 1975 ;
- 1 primary health service
- 1 small kitchen and local cold store
- 1 dining-room
- 8 administrative office or the school board
- 1 basket-ball field

c - Equipment material

The academy has, for lab training, apparatus such as :

- labs of Navigation
- automatic radar plotting Aid (ARPA) to double with rader simulator - model JPZ - 204 -
- operational radar apparatus
- a 3 cm radar to double with ARPA in accordance with specifications of IMO and those of coast guards of the USA
- a 10 cm radar
- workshop and Navigation lab whose aim is to train students in the field of maintenance, of sailing equipment
- decca with simulator
- Satellite navigator to double with simulator

Automation laboratory :

- Aims : to study the functioning of apparatus controlling measures and different automatic regulators controlling conditions of functioning and maintenance of control systems of electrical types, electronics, pneumatics and hydraulics.

- Material proposals :

- . Pneumatic simulators for studies of logic functions with 6 pneumatic distributor posts
- . Hydraulic simulators for the study of hydraulic scheme
- . Electronic simulators for the study of logical circuits

- . Simulator to regulate boilers : water-level, steam-pressure, fuel pressure, air output .
- . Various controllers for disassembling and study : pneumatic hydraulic, mechanics controllers, speed regulator of diesel generator
- . Pneumatic simulator for study of control system (action PID)
- . Simulator of engine room : command of instructor, control-room, engine-room.

Radio room

the complete set consists of 6 working posts

- table of manipulation
- transmitter-receiver as a module
- multifunction lay-out
- generators HF - AM - FM
- generator of functions sine - square - rectangular
- oscilloscopes bicurbs
- universal controller
- electronic multimeter
- transistormetres
- stabilized supply

Radio-electric laboratory

6 working posts

- stabilized supply ($\pm 5 \text{ v}$ $\pm 12 \text{ v}$ $\pm 24 \text{ v}$)
- pumps to unsold
- welding iron
- welding-tin coil 60/40
- fitting out panel, DEC type

Safety

- Rescue :
 - . lifeboat with complete motor-set
 - . bows (to install on the pier) in view of exercising to diving and pulling up boats
 - . 2 combination to sea-survival
 - . 12 life jackets
- Firefighting

The building of 3 houses has been planned

- . Classroom, store, toilets and office

- , Fire experiment room
- . Model of a half-boat
- Building of ship and cargo handling :
 - Mast with two derricks and two windlasses to install near the sheet steel-hatchway ;
 - models and sections of ships :
- . Forecastle
- . 2 reduced-sized model of ships with equipment of cargo handling
- . buttockline along the keel of 5 different ships with building elements (cargo, door, containers, Ro/Ro, petroleliner, Obo)
- . transverse section showing elements for building the 5 types cited above.
- . model of rear of ships with one propeller, twin-screw steamer showing the construction of staff line, rudder and steering gear.

These are main apparatus the maritime school in Abidjan uses to train its future naval officers, assistant officers and personnel of lower rank at the merchant marine. Compared to some country, especially to developed ones this school is humbly equiped. However this achievement is the result of continuous efforts.

2 - Aims to reach

We have seen the different situations and particularly economic situations that prevail in D.C. Even with the existence of marine, the maritime sector and the maritime dessert of D.C. are essentially characterized by the following unfavorable features :

- Weakness of merchant marine,
- Lack of good informations about the maritime field,
- Foreign maritime services intervene often in the maritime transport,
- Actual maritime services do not respond to the need of the developing countries,
- And finally weakness in the capacity of negotiation.

These characteristics are nothing else than their under-development manifestations in the maritime scope. The policy designed to alter this is nothing but a small piece of the global policy of development.

We have seen few of the great difficulties that are facing the developing countries which wish to set up a maritime training institute.

One of the solutions adopted to overcome these difficulties is the policy of grouping up by region. The main advantages of this policy of regionalization are the following: 1/ - the foolowing-up, through education, of the 25 western and central african States conference (Conference Ministerielle des 25 Etats de l'Afrique de l'Ouest et du Centre sur les Transports Maritimes denoted by "C.M.E.A.O.C./T.M.) aimed at increasing the negotiating capacity of the regional countries above-mentioned. This is why the ministerial meeting decided to regionalize maritime training centres : the centre of ACCRA in Ghana for the English-speaking countries and the centre of ABIDJAN in Ivory Coast for the French-speaking countries. According to their by-laws, the aims of these training centres are the following:

- . to train seafarers, port personnel and sedentary personnell of shipping companies and those of all levels and all specializations;
- . to give complementary training to students from other schools and other institutions in accordance with the conditions set forth by the general assembly of the given maritime school and other schools;
- . to give permanent training and to contribute to the effectiveness of the marine and the port personnel so as to update and improve their knowledge.

At the opening, the GEMMA which is composed of two schools for the moment (CREAM and ESN) will eventually include other schools already mentioned in the paragraph pertaining to "Unique or diversified training?" and will truly become regional and then will be called "Academie Régionale des Sciences et Techniques de la Mer-A.R.S.T.M.- (Maritime Academy of Sciences and Techniques), with a capacity of 536 students. The concerned region will cover all the Frenchspeaking western and central african coastal countries, from Mauritania to Zaire.

2/- expenses made by the academy are shared by the concerned countries of the region: this policy opens up more possibilities to get the academy achieved and to keep it moving.

3/- regionalisation permits uniformized trainings and avoids varied levels within the same speciality, which are the results of training undertaken on the initiative of individual State, all based only upon the Standards of Training, Certification and Watchkeeping (S.T.C.W./78) regulations, this uniformized training which characterizes the maritime training throughout the world.

4/- the satisfaction of regional needs taking into account :

- . the flow of trade;
- . the present participation of national maritime services to foreign trade;
- . the present size of the merchant fleet;
- . the number of expatriates and the africanization policy.

3 - International Action

In the paragraph on unfavourable factors that characterize D.C., we mentioned the lack of specialists in different economic branches and the little means of materials at their disposal ; this is especially true in the maritime field, which as you know, is a new domain in D.C. It is the reason for which a D.C. will always call in international and developed countries, under different forms :

1/- UNDP was the first to offer its assistance by the office of African Regional Program. Indeed, the amount of money granted was limited but by so doing, the confidence in the project of the ARSTM regionalisation led other donors to get involved in offering equipments. UNDP also sent experts from I.M.O. of great value, to assist the Abidjan academy by providing study programs, syllabus in taking into account recommendations of the STCW regulations. UNDP again offered scholarships to the academy for any staff training.

2/- Japan gave in August 1981, a training ship of 33 meters long with a capacity of 16 students and 4 instructors. It is able to sail as far as coastal countries concerned by the the Ministerial Conference, during its training trips. In addition Japan gave equipments to the Academy and accepted the training in Japan of specialists for the maintenance of some training equipment.

3/- France and many other countries have agreed on providing training simulators and other useful equipment to the Academy.

4/- The European Community will offer technical material and at the same time, for two years technical experts to assist the african personnel in use and the maintenance of equipment.

Here is, some hint, about the manner in which international action takes place and will take place in the maritime academy of Abidjan.

IV - GENERAL CONCLUSION

1- The four main factors which characterize a country are demography, social factors, economics and politics. When we willingly made a list of the negative aspects of those characteristics in D.C., it was not our intention to make negative criticism about D.C. instead, it was designed to point out that :

- . there is a necessity to set up an educational system in D.C.: for being educated is a weapon for life for each of us and education in general manner allows man to evaluate, to judge and to draw conclusions about given circumstances.

- . there is a necessity of an economic infrastructure in D.C., as fundamental education followed by proper training are insufficient to develop any country. Efforts are undertaken in each D.C. to modify negative aspects of the main factors cited at Among various means already available, "the marine is a privileged instrument for economic development". It is what strong market-economic developed countries understood when developing all major means to become or stay great maritime powers.

.../...

2- The Ivory Coast which will serve as a reference in this project, as a coastal country and a model of a D.C., deserves to be known by the reader. It is located in west Africa, the Guinea Gulf; it has 322 463 square kilometers and is inhabited by 8,6 millions people. Abidjan its economic capital has more than 1 Mil. inhabitants.

- The national education system which is the first step in the struggle against underdevelopment has given the country a rather good intellectual level that helps the Ivorian citizen advance without too much harm, no matter what studies he can undertake whether academic or professional.

- Its maritime administration, well-organized, goes on its daily operation under the sponsorship of the ministry of marine.

3- "The way to economic liberty necessarily goes through the sea". D.C. do understand it very well now. It is the reason why they are willing to give more attention to the foundation of a maritime business. A marine that can be effective and productive. But it is only people who can create efficiency of marine; if we speak of men, we need to speak of their training too. This training gets done in maritime schools: whence the necessity of setting up a maritime academy.

In their establishing of a maritime academy, D.C. are confronted with three different problems :

a/- Material problems:

D.C. have scarce resources in materials, whence their call on foreign aids under different forms;

b/- Human problems:

D.C. lack specialists of different economic branches, in particular in the maritime sector, whence the need to technical assistance of experts. The last problem and perhaps more important in that subject matter is how to devise the best way to attract national candidates to teaching careers;

c/- The third problem is concerned with the training policy to adopt:

. the training should correspond to the need of the country or the region, achievement of the equation between training and employment,

. traditional maritime training principle should be crossed out in favour of the setting up a maritime academy to diversify training specialisation so that natives be trained at home, sort of saving for D.C. who lack financial funds in overseas training,

. training of seafarers should allow candidates to later return to sedentary works.

4- The Ivory Coast as a D.C. is limited economically and lacks specialists in the maritime field. It then calls for international action to intervene in setting up the maritime academy of Abidjan. To adopt the principle of diversified training and satisfy national needs as well as regional ones, GEMMA has become a regional centre, by decision of the 25 western and central african countries ministerial Conference. It becomes ARSTM.

5- Although there exist in some D.C. important merchant marines for their external trade relation such as India, Brazil and South Korea, D.C. fleet are always weak. The 7 most powerful D.C. fleet in Maritime industry gather only 5% of world dead weight tonnage, whereas the 7 most industrialised countries (Japan, USA, Norway, UK, France, Greece, Italy) make up 70% of the world dead weight tonnage. D.C. strive through their regulations, conventions to protect their maritime trade. The aim of these efforts is to matter their maritime transport. But these efforts are nothing but willingness. The best way to assure a significant mastering in the long term is the creation of a well-organised national merchant marine which shall be efficient, economic, whence men at sea must be well-trained in a national maritime academy.

6- "The way to economic liberation goes through the sea". D.C. as well as developed countries, coastal or landlocked ones (Niger for instance) which have some ^{exit} on the sea by their rivers, all seek to have a merchant marine as Switzerland. We can understand the reason why the regionalisation of the maritime academy of Abidjan is a good investment made to train permanently sailors, recycle maritime personnel, port workers.

In this context Malmö International maritime University is to encourage and to help develop. It opens on to a large field of study on the maritime business since it admits applicants from D.C. in search of the best solution. This policy of training meets my suggestion, that is, giving a balanced and open education to trainees.

To train specialists is good, but specialists who have broad and general education is better. To be convinced of this thought, let us see that in Africa, specialisation in Medical services seems absurd ; the lack of generalist in medical professions makes a medical doctor to be more generalist than a specialist. In small african villages a medical doctor is often called to treat and cure all sorts of diseases, whether the doctor is a generalist or specialist. This kind of example is full of truth in all fields, especially in the maritime field which is new to the majority of D.C.

To end up this writing, let us state that the main weakness D.C. are concerned with are listed. Those people who chose marine as a field to foster their economic development will have a long way to go before they can overcome their difficulties, set up a maritime academy to train their highly qualified personnel devoted to the maritime sector, in view of having national fleet worthy of the name, that is, through efficiency and economy.

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