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**A RECOMMENDATION ON  
EDUCATION AND TRAINING ON PORT MANAGEMENT  
FOR THE MANAGERS AND STAFF ENGAGED IN  
PORTS AND SHIPPING INDUSTRY  
BY**

**SYED MASOOD UL HASNAIN  
P A K I S T A N**

**A PAPER SUBMITTED TO THE FACULTY OF THE  
WORLD MARITIME UNIVERSITY  
IN PARTIAL SATISFACTION OF THE REQUIREMENT FOR THE AWARD  
OF  
MASTER OF SCIENCE DEGREE  
IN  
MARITIME EDUCATION AND TRAINING (ENGINEERING)**

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

*S. Masood*  
Signature

Date 89-2-06

Supervised and assessed by:

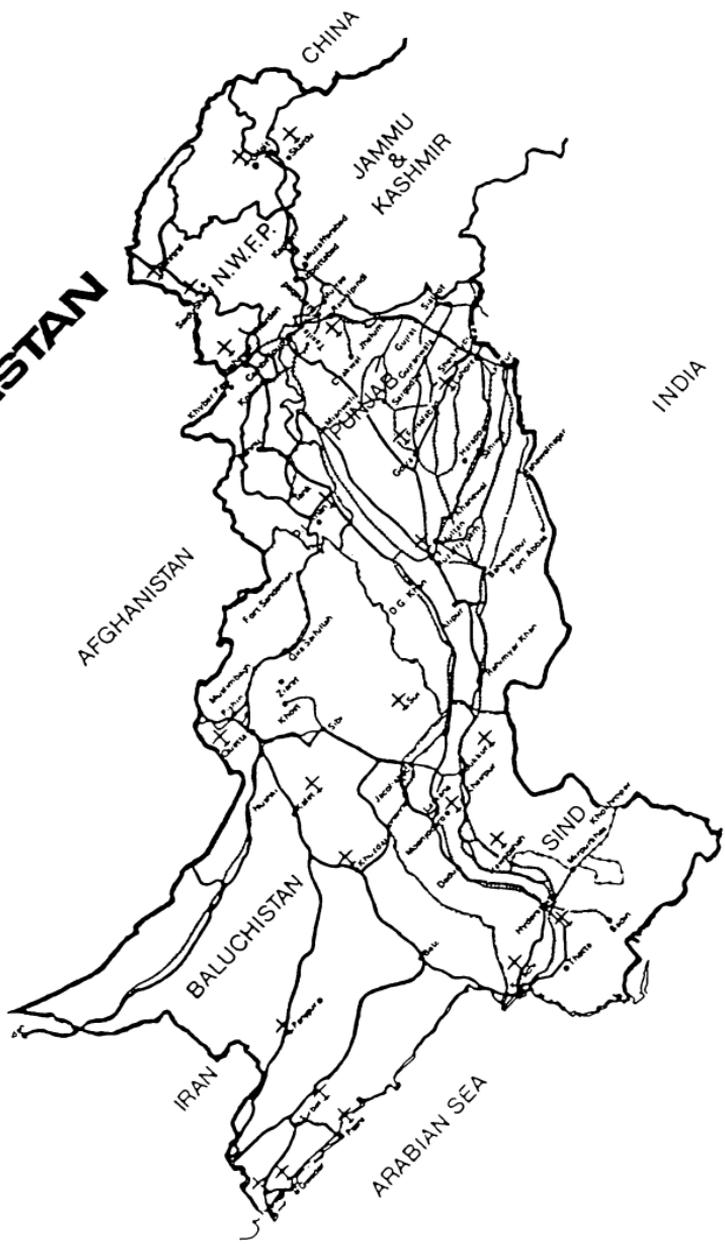
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# EDUCATION AND TRAINING ON

## PORT MANAGEMENT

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## ABSTRACT

Having been associated with the merchant marine for over ten years and currently being associated with the services of port, I have observed that most of the people associated with port and shipping management are not fully aware of the ports pivotal role in national development. In many cases they fail to appreciate the contributions of the port to the national economy.

It has also been observed that the port services and facilities are more productive and efficient in the developed world than in the developing world. All the experts in port management agree that most of the problems experienced by the ports in the developing world are the results of inadequate knowledge and skills of port management.

This paper highlights the importance of efficient management through good organisation and proper planning. The latest management ideas and techniques are discussed as a mean to maximise the throughput of the port resources. The paper concludes that proper and efficient port management can only be fully appreciated through proper education and training in the area of port management affairs.

## ACKNOWLEDGEMENT

I feel immense pleasure to offer my sincere thanks to my seniors who are conducting the maritime affairs not only in Port Qasim Authority but also in the ministry of communication, Government of Pakistan, for providing me an opportunity to improve and advance my academic qualification as well as professional knowledge through this unique centre of education on maritime affairs. I am also heavily indebted to Gokal Foundation for offering me the necessary scholarship to avail this great opportunity to know and learn more about maritime affairs through the World Maritime University.

The International Maritime Organisation has really installed a light house for other United Nations Organisations in the form of this University to serve the global interest. The University has remarkably justified its objectives by educating all of us not only in a particular subject of interest but all the subjects concerning marine affairs which are vital to keep the oceans safe and clean. This institution is a beacon for international co-operation in true respect, and is a milestone for global co-operation in quest of making the oceans cleaner and safer for all living species on this planet.

The spirit of international co-operation as persisted at the University, as there have always been more than sixty nationalities at a time in the University, is by itself an experience and education. I will be sharing the views of my other term mates when I claim that it is a life time experience to be a student of this great institution, the World Maritime University.

We were fortunate to have a gem of a person in the name of Mr. E. Nordstrom as the Rector of World Maritime University. Mr. E. Nordstorm has not always been eager to make our stay comfortable and pleasant but continuously endeavoured to improve the educational standard of this University. Although he was not involved in day to day routines with the students, his presence in the premises was self assuring and a major source of encouragement.

I must say that although all the professors and lecturers were very obliging, helpful, kind and courteous to meet all kind of our needs and demands, specially Mr. Burt Russell, secretarial and other staff of the university also extended the best possible help to us as and when required.

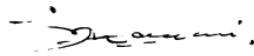
I also find it my duty to express my sincere gratitude to my course professor Mr. Charles E. Mathieu, who left no stone unturned to make us a better educated person than before. His teaching techniques and systematic approach to make us understand the problem and its solution, has been a great stimulant to derive the best out of offered education. The way he tried to extend all the possible help in and outside the class, was itself an education for me.

The knowledge imparted through the courtesy of visiting professors has definitely contributed heavily in our better education as their experience and knowledge is highly invaluable and unparallel in their respective field of interest.

The International Maritime Organisation with the help of entire world community has provided an opportunity to all of us to up date our knowledge and make the best use of these two years at the University. Now it is our duty to apply this vast and valuable acquired knowledge to serve not only our own national maritime interest but also to serve our international obligation at large.

In the last but not the least I feel duty bound to extend my deepest and sincere thanks to Government of Sweden for extending all the necessary facilities and help to establish this University in such a wonderful country. At the same time, the manner in which the city council of Malmo is playing host to all of us is a most pleasant and memorable experience.

In the end I sincerely wish that may God this spirit of co-operation to work together for the common global cause of safer and cleaner oceans, also continue to grow in other fields under the auspices of United Nations to make this world a better living place, Aamen.

  
SYED MASOOD UL HASNAIN

M.E.T.(E) 1989

## FOREWORD

The role of the port in national economical development is so pivotal that the port management continuously strives to maximise the productivity of port facilities and services in a most economical and efficient manner.

However, inspite of their best possible efforts, it has been observed that in most of the developing countries the ports are not utilising the available port facilities as efficiently as required. This situation clearly indicates that it is the management of port and its resources which need an urgent attention.

With the available facilities of information and knowledge in the University, through the books in the library and with the assistance of professors and lecturers, I have tried to assess the difficulties facing port management in the developing world. I am quite convinced that the problem lies with improper utilisation of human resources due to an insufficient understanding of modern management techniques.

To help the interested reader fully understand these problems, I have highlighted the productivity of the efficient port and the constraints in achieving such efficiency in the preface.

In the first chapter initially I have discussed the evolution of port on water front and its development with the passage of time. In the same chapter I have discussed the port and its function. The requirements of the services and facilities required for the port have also been discussed. I have also highlighted the needs of port

customers and the rapid change in their demands.

The necessity of an overall efficient transport system to and from the port for the traded goods has also been discussed in this chapter.

Similarly the port procedures and port operation has been discussed in length. The need for a cordial working relationship with national maritime administration has also been emphasised in this chapter.

The second chapter completely circumvents the port planning and development as well as the needs of further investments. The problems of dock labour has also been covered in this chapter.

In the next chapter which is third, the subject of management and its techniques are widely discussed. Both the concept and essentials of management along with organisational set up and its working environment are covered. The necessity of proper assessment, planning and planning objectives have also been discussed in the same chapter.

The fourth chapter covers the management of resources through integrated management techniques. This discussion includes the human needs and desires interpersonal skills. In the same chapter the management of finances has also been discussed in details along with the port finances. Furthermore I found it imperative to discuss the importance of the proper management of information and time.

The fifth chapter exclusively deals with the role of

manager and his responsibilities to make the operation and management of the organisation successful and efficient.

The sixth chapter has been allocated to discuss the need for training and education. I have also highlighted the available educational and training facilities in Pakistan.

In the last chapter while concluding the entire discussion I recommend that to derive the maximum benefits from the latest research and development in the field of management proper and regular education and training must be arranged for the port managers. This education and training must be imparted through suitably organised courses conducted through properly established and nationally recognised maritime institutions.

To make the best use of these available facilities I strongly recommend that the courses conducted through these institutions should be properly recognised by the board of national education.

## PREFACE

I have been associated with the merchant marine for over ten years and for the last ten years I am associated with the port services. During this period of more than twenty years I have observed that most of the people associated with port management do not have enough understanding of port economical contribution in national development. Since most of the employees are not fully aware of the ports pivotal role and contributions to the national economy, the port facilities are not being operated as efficiently as possible.

No country can afford to neglect national development through brisk trading activities. It is also a fact that the brisk trading activities take place only through the port. Accordingly all the countries strive to make the port as efficient as possible by promptly attending to the problems of the port and its genuine demands. It is in the national interest that the port facilities and services are maintained and operated to their optimum level of efficiency.

In spite of the rapid development and advancement in land and air transport systems the cost of transportation by sea is still far cheaper than any other mode of transport. Therefore, bulk of cargo irrespective of its type, volume, weight and shape is being transported almost exclusively through the waters. Accordingly the most efficient and economical transportation system and convenient ports on water front have been developed by the industrialised nations to provide the most suitable interface between various modes of transport.

Taking into consideration the average cost to move one ton of cargo through one mile of distance through different modes of transport, it has been observed that the next most competitive mode of transport is railways which is still costlier by more than eleven times (11.5 times). Road transport is costlier by thirty one times and air transportation is costlier by two hundred and eighteen times.

There is therefore, no dispute that the port is the major driving force in economical development of any nation. In the developing world, the port plays an especially pivotal role in the economical development, as on the average about 60% of exports and 80% of imports of the developing countries are routed through the ports alone. Efficiency, therefore is an objective which the management of a port continuously strives for.

Regretfully it has been observed that although all ports have almost the same facilities, the throughputs vary drastically from port to port, especially in developing countries.

This situation becomes more alarming when one considers the financial resources of the developing countries. It has been observed that although the resources in developing countries are extremely scarce, the throughput/meter length of quay is about 25% less in the developing countries than the developed world. These ports handle on the average about 400 to 450 tons of cargo in comparison to the developed countries where the throughput on the average is between 600 to 650 tons for the same length of quay.

Within this background, there is clearly an urgent need to make the port managers properly aware of the efforts and cost incurred to plan, develop and maintain the ports services and facilities.

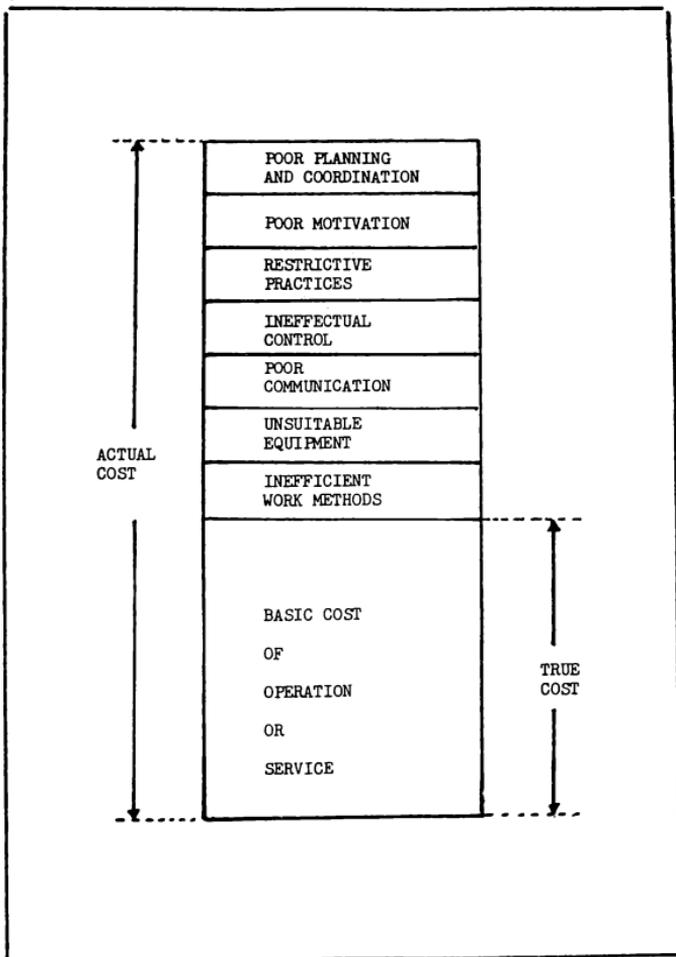
All the experts in port management agree that most of the problems experienced by the ports in the developing world are the result of inadequate knowledge and skills of port management. The acquisition of the necessary professional skill and proper training, and the application of such skill therefore, is of fundamental importance for the successful operation of any port.

The importance of efficient management through proper organisation and planning and effective use of the latest ideas and techniques to maximise the throughput of the ports services and facilities needs to be fully appreciated by the people who are responsible for the affairs of ports and shipping management.

Although the need and urgency of such education and training has been acknowledged by almost all the port management, due to some financial and other constraints the required efforts have yet to bear the fruits. To optimise the use of available port services and facilities the situation demands that the developing countries must know the reasons for the short falls in ports throughput. They must make an allout assault to remove the obstacles which are restricting the desired productivity of the ports services and facilities.

The throughput of the port services and facilities can only be cost effective if the port resources are being utilised in a most economical manner, minimising all the

FACTORS MAKING UP THE COST OF AN OPERATION  
OR SERVICE



possible wastages. It should be kept in mind that the fixed costs of a port are independent of throughput and the only method available to reduce the impact of this cost is to handle as much cargo as possible on per meter length of quay basis so that the overall cost of per ton handled cargo is minimised.

Unfortunately the developing countries find it convenient to obtain foreign loans to build additional quays instead of making efforts to improve the management techniques to make the best use of the already available facilities. Some time back, in seventies it was estimated that the cost of construction of additional quay along with the necessary back up facilities amounts to an average of Rs. 100 million per meter length (\$ 5 million / meter length).

To get the port personnel motivated, to accomplish the set goals to maximise the ports throughput, it is imperative to have a proper understanding of all the major elements which dictate the successful operation of the port. The necessary understanding of such major elements demands that one must know the organisational structure of a port, the necessity of good planning, the role of good management in executing the plans of an organisation and most importantly the responsibilities of the managerial staff to make the operation of the port most productive and successful.

The necessity of such in depth information and understanding of the major contributory factors to the ports productivity is further increased when one takes into consideration the huge financial investment in the port project and the pivotal role of the port in national economic development. One must also take into

consideration the scarcity of financial resources in the developing world, especially when there is an urgent need for making such investment in other sectors to serve other pressing demands of national interests.

The overall knowledge of the structure of the port, the demands of maritime trade, the economics of industries and shipping and their contributions towards the national economics and industrial development need to be fully understood by the port managerial staff.

Furthermore to serve and safeguard the best national maritime interest, not only a team of competent managers must be trained, but there is also a need for certain numbers of trained personnel who could impart such acquired knowledge to others.

It is extremely important to note that in all the maritime nations of the developed world, all the maritime courses and training have been duly accredited by their national board of education. Similarly to serve and safeguard the national interest in the developing countries all types of courses conducted by maritime institutions need to be fully recognised by national board of education for academic or vocational studies.

# CHAPTER 1

## THE FUNCTION OF A PORT

### 1.1 EVOLUTION OF PORT

The economical activities of mankind have for ever been directed to the production, distribution and exchange of materials and wealth which have always been considered most desirable and useful by them. All the human efforts are therefore directed to acquire and gain control over the resources which can bring comfort, pleasure and convenience to them.

In order to satisfy their such needs and desires, people started trading and exchange of materials. Thus trading became the prime and major occupation even in early civilisation. To boost up the trade there was a constant search to transport the materials in a most economical and efficient manner. Accordingly the water being available in abundance, proved to be most economical to satisfy this pressing need.

Ever since the Phoenicians discovered the compass, the world has been using the waterways and especially the oceans for mass trading. This was also necessary as there was a constant search to find and explore the new markets for trading resources to satisfy their needs by exchanging or acquiring the required resources.

These waterways which cover more than two-third of our Earth are therefore, the most common and economical medium of transportation. It is accordingly, in constant use to transport human and other natural resources since the development of early civilisation. Still to date, it is

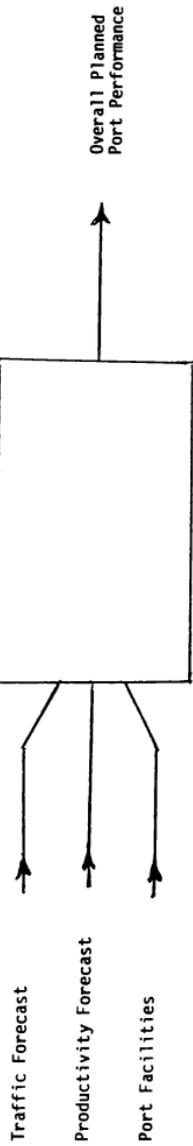
the most efficient, economical and dependable medium to transfer large amounts of material and resources at one time.

Due to the economical advantage of water transport and convenience, early settlements grew up around the navigable water ways. Harbours thus became the cross roads of the world trade. With the passage of time these harbours developed into world trading centres having all the necessary facilities which are essential for international trading and business transactions. These trading centres on the natural as well as man made navigable water ways, improved their capacity and developed into a full fledged port by providing necessary facilities and services for maritime trade.

The most rapid and significant development in port services and facilities as well as in the shipping industry took place after the second world war. The heavy destruction of the developed countries during the second world war forced these countries to rebuild their economical structure on war footing. This was most urgent and important as it has been observed that the port is a life line for economical development for every nation.

No matter what a country does to improve the level of productivity of its economy and no matter how carefully the production level is controlled and maintained as long as there is no proper disciplined and orderly mechanism of transportation and distribution available, the economical benefit to the nation as a whole can not be transferred.

THE THREE DICTATING FACTORS FOR PORT PERFORMANCE



## 1.2 PORT AND ITS FUNCTION

The ports are recognised as focal points for national economical development and as the efficient distribution centre of its traded goods and products. This is true because all maritime and most of the international trading activities take place through the port. On the average about 60% of exports and 80% of imports of the developing countries are through the ports alone.

The efficient and proper management of port services and facilities plays a major part in influencing the cost of traded goods as a significant proportion of cost is incurred at this place. Port being the focal point in the overall transportation chain, is required to transport the traded cargo efficiently and economically. This in turn minimises the overall cost of per ton handled cargo.

Therefore, the combined and unified efforts must be directed by the port management to use the available port facilities in the most efficient manner. It is also important that the output of port services and facilities can only be economical if the facilities are being used efficiently in terms of time and cost both.

To provide cost and time efficient services to the customers, the port management has also to make sure that the cargo not only on board the calling ships but to and from the port is also handled and transported as efficiently as possible to its consignee.

The services and the facilities in the port are therefore required to handle the calling ships as well as the cargo with out delay. Simultaneously there is an urgent

need to stow and to clear the landed cargo efficiently and at a fast speed. This is very essential so that the port does not get congested with the landed cargo unnecessarily as this situation is detrimental to the port efficiency and productivity. The cargo once landed in the port area needs proper care because there is also a possibility of pilfrage, wastage and damages of the traded cargo.

The performance of the port can only be judged by taking into account all such factors which contribute and regulate the productivity of the port. The port management therefore, has to explore all possible ways and means to minimise the total port costs through efficient cargo handling.

The results of uneconomical port operations are high operating costs, excessive regulatory restrictions as well as high charges for port users. All of which are detrimental to efficient trading. It is against the national economic development interest that trading is dictated by the port performance and its efficiency.

The developing world desparately needs increased agricultural and industrial efficiency as well as productivity which is directly related to efficient port operation. The pursuit of efficiepcy is therefore, a necessary and definite cure for the cycle of increasing costs and rising prices of traded goods. Efficiency also eliminates the wastage and the apportionment of saving.

To remain a prosperous, efficient and convenient port of call, the management must always be ready to adjust and adopt efficiently and adequately to the varying demands of port customers as well as to changing working environment.

### 1.2.1 Port Services and Facilities

The services and facilities at the port vary from port to port. The expression "facilities" is used for quay, shed, gantry cranes or floating cranes. The expression "services" refers to cargo handling, bunkering, watering, provisioning and repairing.

Similarly, "infrastructure" covers the basic engineering works such as approach channels, breakwaters, locks, quay walls etc.

The "superstructure" refers to the facilities and plants provided above the general surface of the port. Transit sheds, cranes, silos, roads and railway tracks thus belong to the superstructure. Generally speaking, the infrastructure caters to the needs of ships and floating craft while the superstructure caters to those of cargoes and inland carriers.

Ports as a matter of fact provide the necessary services and facilities for the transfer of cargoes from ships onto land conveyances and vice versa. However the method of operation and management of the port services and facilities play a pivotal role in maximising the throughput and efficiency of the port.

The ports performance and productivity is also dictated by two other outside elements, such as types of ships calling at the port and the types of cargoes to be handled in the port. Therefore, the use of port facilities are not confined to one particular type of cargo or type of ship and the demands of the users vary from time to time.

PORT FACILITIES AND SERVICES

"THOSE PROVIDED ON THE  
LANDWARD SIDE"

SPECIFIC

FACILITIES  
e.g.  
Transit Sheds

SERVICES  
e.g.  
Cargo  
Handling

GENERAL

FACILITIES  
e.g.  
Service Road

SERVICES  
e.g.  
Fire  
Fighting

"THOSE PROVIDED ON THE  
MARINE SIDE"

SPECIFIC

FACILITIES  
e.g.  
Locks

SERVICES  
e.g.  
Pilotage

GENERAL

FACILITIES  
e.g.  
Breakwaters

SERVICES  
e.g.  
Nav. Aids

The type of ships and cargo required to be handled at the port varies almost constantly not only in shapes and sizes but also in value. Therefore, the port must be well equipped to handle all such types of ships and cargo as the situation demands.

The types of ships calling at port are as follows;

Passenger ships	Pure passenger ships Cargo cum passenger Car ferry
Cargo ships	General cargo ships Container ships Dry bulk cargo ships Liquid bulk cargo ships Liquid gas carriers Ore/Bulk/Oil ships Product carriers Car carriers Barge carriers Lumber carriers Pulp carriers Cement ships Chemical carriers Refer ships Heavy lift ships

The types of cargo vary not only in the state of cargo (liquid bulk, dry bulk, solid bulk and gaseous state) but also in the way it is shipped (containerised, palletised, flat, packaged and referigerated) as detailed below.

General	Cargo	Bulk Cargo	Conventional
unitized	dry	liquid	oil
bags	slings	grain	crude
bales	pallets	ores	oil product
drums	barges	coal	L. N. Gs
cases	containers	cement	

The port must not only have such facilities to handle the varieties of cargo as and when required but it must also have the stowing facilities for such varieties of cargo.

The requirements for ships in a port are generally;

- Channels and fairways, breakwaters and similar works,
- Turning areas, locks, docks and wharves,
- Aids to navigation,
- Navigation information and radio telephone service,
- Pilotage,
- Towage,
- Line handling,
- Provisions, stores and bunkering,
- Repairs.

The cargo and passengers requirement in a port are;

- Sheds and other terminals,
- Passengers terminals,
- Stacking areas,
- Warehouses,

- Tanks and silos,
- Cranes and various types of cargo handling equipments,
- Lighterage,
- Handling of cargo and passengers.

The land carriers in a port demand;

- Roads,
- Parking areas,
- Proper assignment scheme for cargo carriers,
- Railway tracks,
- Marshalling yards,
- Wagon deployment scheme,
- Pipe lines,
- Waiting areas.

The port has to maintain the proper arrangements for;

- Conservancy,
- Lighting,
- Fire fighting,
- Police force,
- Labour amenities,
- Sanitation.

To run and operate port services and facilities in an efficient and orderly manner, the departments of a port are generally;

- Administration,
- Operation,
- Finance,
- Maintenance,
- Planning and development.

- The Government is to safeguard national interest through;
- Immigration,
  - Customs,
  - Health,
  - Dock labour safety inspection.

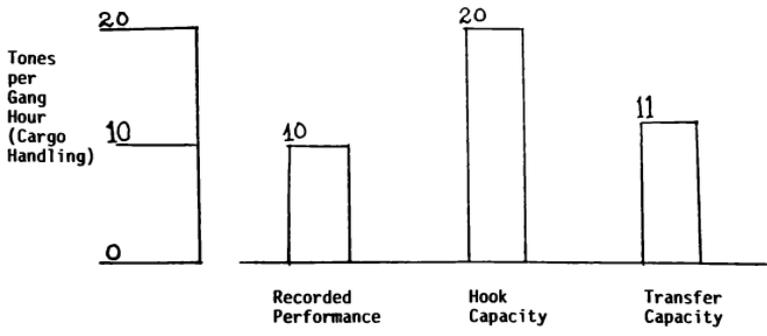
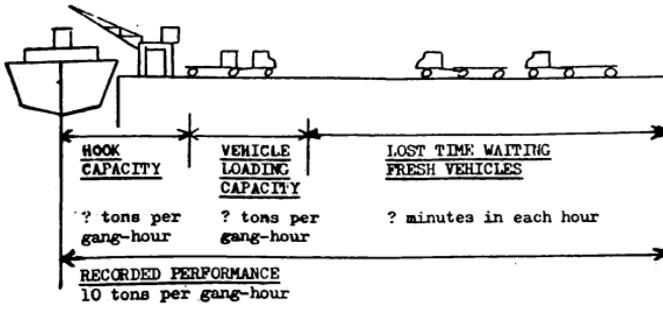
### 1.2.2 Port and Overall Transport System

The port actually is a bridge between hinter and foreland and provides the deepest access to the country through the waters. Being an interface between the various modes of transport i.e. air, land, water and pipelines, it needs to provide an efficient connection between these various modes of transport. The port operations and management therefore, must coordinate all the available transport facilities and resources to dispatch the goods once landed in the port premises to the consignee as fast as possible.

The fast cargo handling at the port and efficient transportation of the handled cargo is an important key to lower and contain the cost of traded goods which are essential for stimulating the overall trading activities.

The entire port operation efforts are essentially directed to let the distribution mechanism of the national economy work efficiently. The whole of the transport system including the movement of cargo to and from the port therefore, needs to be treated as an integrated and coordinated system. Only such co-ordinated approach can result in quick handling of cargo in port and fast turn around time for the ships at call.

The detailed analysis of cargo handling operation is



compounded by the inter related complexities between the numerous agencies who are directly concerned with the movement of cargo through the port. Therefore, a proper and suitable system must be developed through which all the different agencies must be able to satisfy their demands without restricting the ports transportation efficiency.

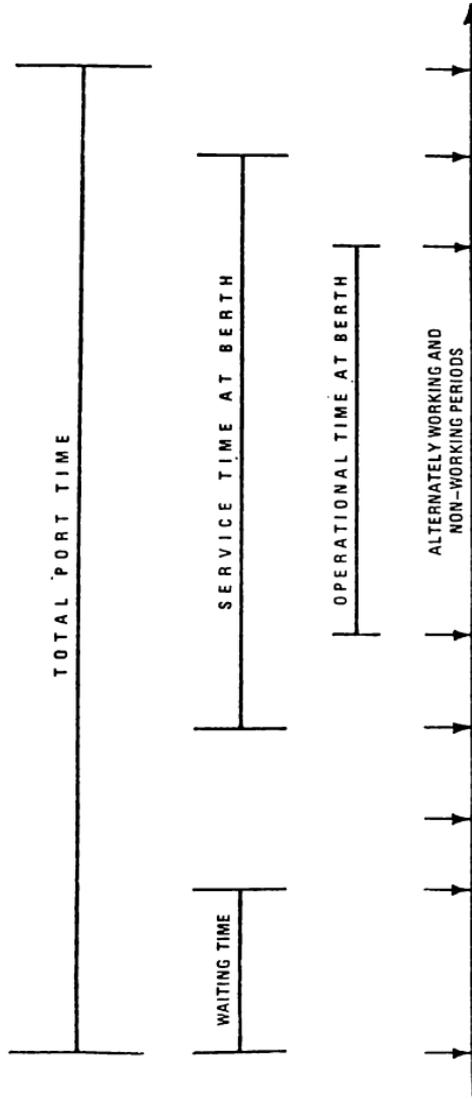
In addition to heavy cost, the size and volume of most of the traded goods is also not suitable for any other type of transport system as all are very expensive. The port therefore, has to offer the best possible economical services to its customers. Accordingly for the successful and economical operation of the port services and facilities there is an urgent need to maintain the total chain of transportation system in a very efficient manner.

The necessary efficiency must be maintained right from the port to the distribution centres of traded goods. This is essential to derive maximum benefit from the port services and facilities. Accordingly there must be proper arrangements to dispatch the landed goods at the port to hinter or foreland as fast as possible through rail, road, water or pipelines transport system, whichever system is most suitable and economical.

The delay in transportation of the traded goods not only increases the overall cost of the goods but there have been many occasions when the development projects of national importance either have been delayed or postponed due to irregular deliveries of required equipments and materials.

It may also be noted that under all circumstances, the

BREAK-DOWN OF SHIP'S TIME IN PORT



cost of cargo handling and transportation is ultimately passed on to the consumers. By maintaining a good throughput and efficiency of port, not only is the cost of transport reduced but new trading possibilities and reliability in trade flow is increased as ships are turned around at faster rate. The efficient transportation system also results in reducing the cost of imports and increases the competitiveness of export.

The quick and fast dispatch of landed cargo to the consignee is the main task of the port. This also makes the port facilities available for incoming cargo. Regrettfully it has been noted that in most of the developing world the road transport system is not only over loaded but it is also inefficient as well as improperly maintained.

In order to work out its own strategy of quick and efficient transportation of landed cargo, the port management must also collect and study the necessary information about the inland transport system. This information is extremely important as it affects the port efficiency and throughput drastically.

The impact of efficient transport system on national economy is so vital that all developed countries are continuously carrying out research. Accordingly, they are developing the most convenient and economically suitable system of transportation for the required growth of their national economy.

It has been stated very correctly that there are three things which make a nation strong and prosperous. These things are, fertile soil, busy workshops and easy

transportation systems for its population and products.

It has therefore been noted that the efficient transportation system to meet the supply and demand requirement of general public has brought prosperity to all developed and affluent societies of this world.

### 1.2.3 Port Operations

The most important responsibility for port management is to ensure efficient port operation under all conditions through;

- Improved utilization of existing and available facilities,
  
- Up to date awareness of technological development in trade and shipping industry sectors,
  
- Contingency planning to face and handle the emergency situations.

The ship is to be considered just like an industry and as soon as the ships propeller stops to turn the production of this industry stops. The ships therefore must strive hard to put back the ship underway as fast as possible. It has been observed that the total turn around time for a ship in a port is not the total time spent in cargo handling, rather it includes the waiting time to start cargo handling on board as well as the waiting time to get the ship sailed in and out of the port.

It has been observed that most of the general cargo ships still spend 40 to 60% of their annual operating time in port only, instead of sailing and steaming, which is against the economical interest of maritime trade.

Variation of port costs with increasing traffic

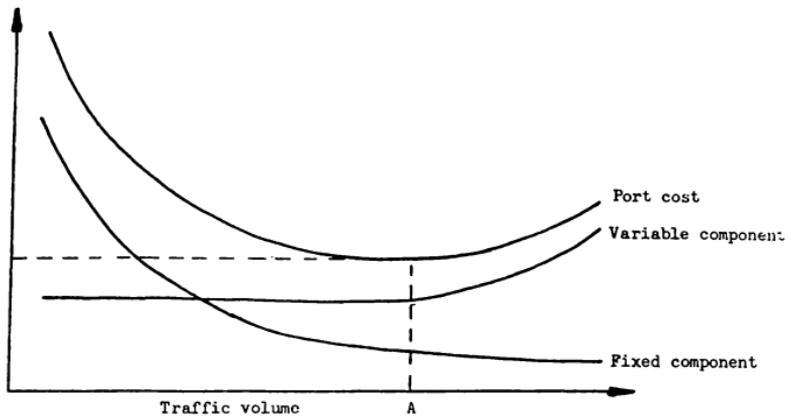
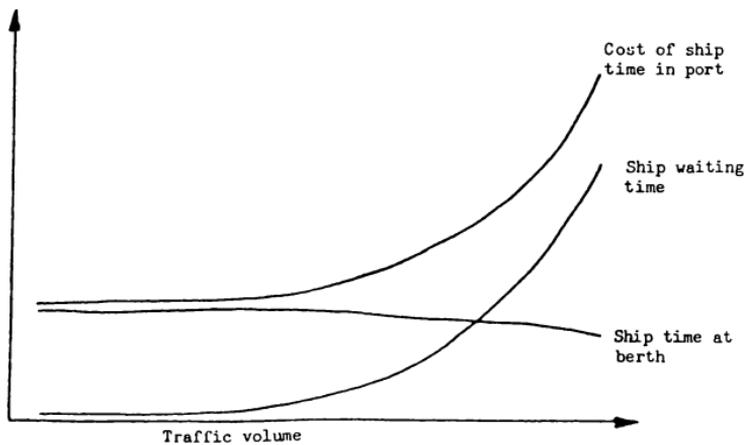


Figure 13 Variation of cost of ship time in port with increasing traffic



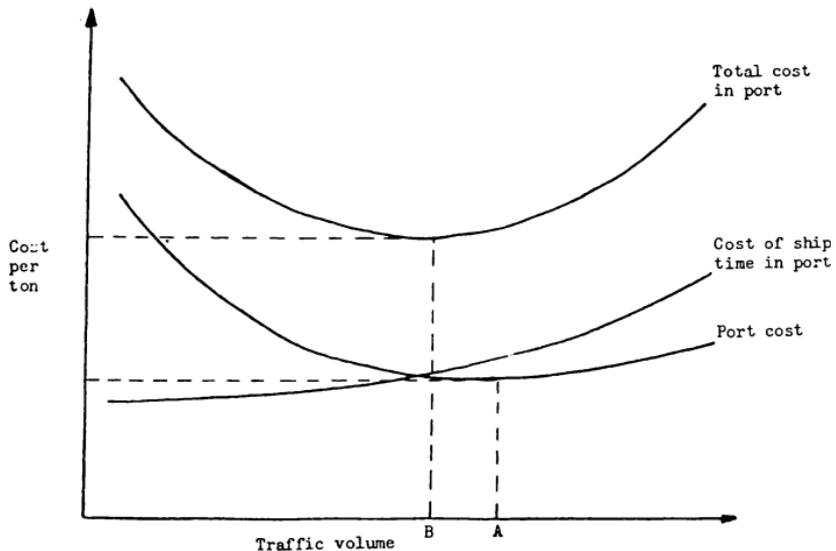
The quick and prompt cargo handling of cargo on board a ship in a port does not only result in quick turn around time for calling ships but it also makes the port facilities available for other ships at call. Similarly, the productivity of berth facilities is well served when the berth is not only occupied by the ship but the cargo handling operation is also underway.

The port operational efficiency and productivity is based upon the utilisation of quay front, shed area and storage area, unit of resource or facility used. This situation is most unsatisfactory in most of the developing worlds port. Generally the number of tons of cargo handled per meter length of the quay gives a good indication of port efficiency.

There is also a need of proper comparison of the capacities of cargo handling system and cargo transfer system of the port. The capacity to handle the cargo in the ships hold through the hook may be sufficient but the rate of transfer from hook to the storage area or to the vehicle may be inefficient.

Accordingly, the operation of a port must be better organised, coordinated and pre-planned as this results in an increase in productivity both in receiving, storing and loading of cargo on board the ship. The productivity and performance of port facilities depends upon the speed of turning around a ship in the port of call. This means that the total time taken by the port to get ships berthed and sailed after extending all possible services to the calling ships dictates the efficiency of the port.

Variation of total cost in port with increasing traffic



The ships delays in the port are mostly due to too much paper work and other port procedures which actually work against the economical interest of the port. In addition to the port rules and regulations, there are many other government agencies such as customs, immigration, health and security which maintain their own separate documentation system. All these varieties of documents are routed through the port to and from the ship resulting into time consumption which definitely is a highly valuable for the ships calling at the port.

The efforts applied in filling up all these departmental documents eats away enormous numbers of manhours leaving aside the heavy cost of paper and stationery. The cost of manhours and stationery thus consumed is finally adds up to the cost of handled cargo which is ultimately passed on to the consumers. It has been estimated that such invisible but a continuous documentation exercise increases the cost of the traded goods by almost 20%.

In order to achieve the desired productivity, the port administration and management is to evolve and formulate the rules and regulations which shall eliminate the unnecessary bottlenecks in cutting down the ships turn around time in port. The rules and regulations of ports are to be so designed that the users find it convenient to follow it and their interests are not jeopardised.

The ships prefer to call at convenient port and increased shipping movements in the port result into the generation of extra necessary funds to maintain, improve and provide the satisfactory services to the port users. This in turn will reduce the port operating cost substantially as the

available resources to the port will be operating at their maximum capacity.

#### 1.2.4 Port and National Maritime Administration

The port also needs to maintain a good and cordial working relationship with National Maritime Administration as there are various functions of a port which have direct concern with National Maritime Administration.

The main functions of National Maritime Administration which are directly related to the ports activities are as under;

- Licensing of the pilots,
- Licensing of ports craft operators (deck and engine both),
- Registration, survey, and certification of port craft,
- To ensure safe manning of port craft and the ships calling at port.
- To make necessary rules and regulations for safety of port,
- To have statutory control over wrecks in port,
- To conduct enquiries and investigations into shipping casualties in port,
- To ensure that the port is properly equipped to participate in maritime search and rescue operation as and when situation demands,

- To ensure that the port has adequate reception facilities for oily and chemical wastes according to the international requirements.
- To ensure that the port is properly equipped to participate in national contingency plan to combat the marine pollution.

## CHAPTER 2

### PORT MANAGEMENT

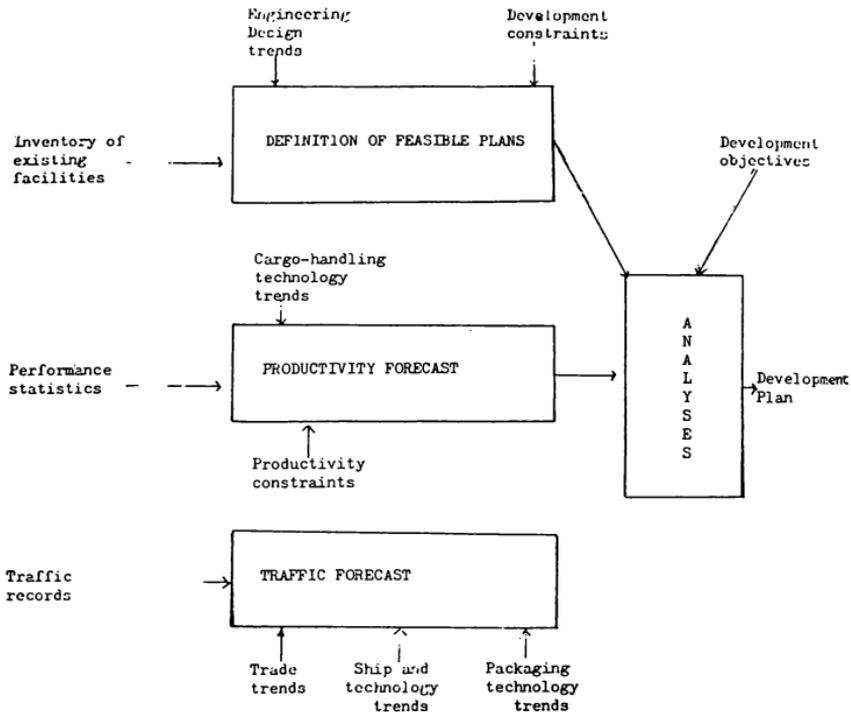
#### 2.1 PORT PLANNING

The port provides a service and the main user of this service is shipping. Shipping, however, is very elastic to various national and international financial and economical regulatory policies. Financial, economical as well as political interests of trading countries are variable and conflicting and sudden change in their policies drastically influence the future trade pattern.

The port should therefore be ready to respond in a timely manner to meet the varying needs of the port users as the users very often make their decisions independent of the available port facilities. However, the port has to operate under all these unknown situations. The port needs to plan its long term strategy in such a way that the social and economical benefits are measureable.

The port plans have to cover a period of certain foreseeable future. The uncertainty is the characteristic of the future, specially in maritime trade and shipping industry. The port planning, therefore must not be rigid rather it should be so designed that it could easily accomodate the necessary modification and alteration to suit the emerging future shipping demands.

Port accordingly, develop various types of plans which are designed to meet various requirements of the port users in the future. Through this the port try to achieve the productivity targets and accomplish the set objectives efficiently and effectively.



Information needed for Port Development Project

The plans can be classified generally in three categories;

- 1. Standing plans,
- 2. Single plans,
- 3. Strategic plans.

Standing plans: These are the plans which deal with port policies, procedures, rules and regulations. These are referred to very frequently in dealing with day to day affairs.

Single plans: These are the plans which are designed to accomplish some specific objectives within a given period of time, such as the budget for each financial year.

Strategic plans: These are the plans which are concerned with long term objectives and are vitally important for the development, growth and successful operation of the port services and facilities in the foreseeable future.

This is the strategic planning which needs special attention of all uncontrollable economical and commercial dictating factors which can influence the accomplishment of long term objectives of the port. However it may be noted that long term planning is neither a forecasting nor taking future decisions as it does not eliminate risks. It is just a plan to keep the organisational interest and objectives in pace with the future requirements. This is achieved by utilising the available resources in the best possible manner as well as through up to date knowledge and information about the operating and competing working environments.

The port planners have to take into account the changes taking place in the maritime trade and shipping industry so that the necessary and suitable facilities to cater to the demands of the port users are adequately and timely developed. The forecast of types of cargo to be routed through the port as well as the types of ship engaged to carry such types of cargo are extremely crucial in planning the future port facilities requirements.

Planned performance of a port is dictated by the traffic forecast which includes types and numbers of ships expected. The productivity forecast indicates the volume and tons of cargo handled per ships day at berth. Port facilities, length of quay and other ship handling facilities available also influence the overall productivity of the port.

The port planners must also ensure that a situation of port congestion does not arise as this results in a delay in cargo delivery. Congested ports not only delay the delivery of cargo but the cost of cargo also increases. There is also the risk of non-fulfilment of orders which imperils the development plans and damages the national image.

The brisk trading activities are most important for national economic development and without maintaining the adequate port capacity the required and appropriate trading activities can not be generated. Under this background there is an urgent need and necessity to have a proper and full realisation of port and trade relationship and its affects on national economic development.

There may be an adequate port capacity available to handle

varieties of cargo in a port but the facilities to handle the types of cargo which actually arrives in port sometimes are not adequate. Therefore, there is an urgent need to ensure that the necessary facilities along with the port capacity should always be adequate to suit the type and volume of traffic actually arriving at the port. Under the existing circumstances when most of the developing countries have scarce financial resources, the fast and rapid changes in trade pattern and its continuously varying demands for efficient transportation, the ports find it very difficult to improve their facilities at the same pace.

The port development therefore, not only needs very careful planning but also an economical study of the national financial resources available.

The requirement of additional quay and facilities is to be assessed on the basis of additional volume of trade expected to be handled through the port. The volume of trade forecast is based upon the growth rate of the projected production and consumption in the national economy.

The future forecast of port requirements are also based on future national needs for agricultural, industrial, commercial and overall economical development plans and targets.

In the meantime the port must also develop a long term plan to generate enough revenues from the already existing facilities. It is essential to meet the future financial investments which are necessary to develop essential facilities to meet the future demands of port users.

To draw adequate and suitable plans, there is a need of proper information about;

- Present state of port facilities,
- Facilities in other regional ports which are in competition,
- New demands due to development in maritime trade and shipping industry,
- The necessary facilities which are not available in competitive ports,
- Future traffic forecast and its needs,
- Existing port performance, productivity and level of efficiency,
- The cost of developing the necessary port facilities,
- The rate of return on the required investments,
- The comparative advantages of various alternate choices of investments.

Port planning also needs to be in full harmony with national economical, financial and physical interests as well as aspects. It has to be planned with proper care by taking into full consideration location, design, funding, construction and operational problems.

The port improvement plans are necessary to keep pace with the technological advancement in the maritime trade and

shipping industry to remain competent.

It is a matter of fact that the cost of providing port facilities is appreciably lower than the cost of cargo handling or ships time in port. Therefore, there is an urgent need to avoid unnecessary investments in the port to improve facilities. In order to boost the throughput, the port must find the ways and means to cut down the time of ships stay in port through fast handling of ships and her cargo.

To make the port convenient and attractive to the users, the port must ensure;

- Adequate capacity and suitable draft to accomodate various types of calling ships,
- Fast cargo handling so that the facilities are readily available for the ships at call without delay,
- Efficient port procedures as well as efficient transportation arrangements for traded cargo to and from the port,
- Necessary services and facilities to cater the users requirements (other than the cargo handling),
- Facilities to handle transshipment cargo.

## 2.2 PORT DEVELOPMENT

Development of a port is a very complexed exercise which demands very careful study of various collected informations and datas. Initially it needs in depth hydrographic surveys and study of various coastal sites on waterways. Study of sub-soil condition, stability of creeks and waterways is also very crucial. This factor plays a vital role in assessing the cost of dredging and maintenance of the navigable approach channel to the port. The cost of port operation increases by 15 to 20% in case the depth of the channel is to be increased just by one meter.

The depth of the navigable approach channel to the port is always more than the permissible draft as it has to keep an allowance for the movement of underway ships due to wave action, squat, underkeel clearance, accuracy of hydrographic surveys, dredging tolerance and rate of deposition and movement of sediments in the approach channel. Based on such information and studies the comparative advantages of different sites are established. Once the hydrographic study is complete, the surveys and studies of adjoining land areas of preferred sites are taken in hand.

The adjoining land in reasonably good flat condition or requiring little earth removing or levelling work is considered to be excellent for development of port. The adjoining land area is also preferred to be large enough to cater for future development and to accomodate extra facilities to meet future demands as and when required.

The access to the port site from the hinterland through various modes of transport such as rails, roads and

pipelines etc. is required to be economically possible. There must be minimum difficulties and problems to maintain such system efficiently with necessary back up facilities.

The investment cost of port development is dictated by;

- Channel length,
- Permissible draught,
- Visibility condition around the port,
- Rise and fall of tidal current in port,
- Wind and sea condition,
- Expected frequency of traffic,
- Turning basin,
- Anchorage,
- Mooring facilities,
- Navigational aids both audio and video,
- Cargo handling equipments.

Other necessary investments to maintain the port facilities and services can be briefly described as the cost of;

- Surveys of channel,
- Dredging of navigable channel,
- Berth development,
- Rail and road access to the trading and consumption centres from the port,
- Acquisition of harbour craft and navigational aids,
- Building of cargo sheds,
- Administrative blocks construction,
- Developing other facilities and services.

### 2.3 PORT INVESTMENTS

The ports financing strategy requires investment in the sector where the development of certain facilities could bring extra revenues. These investment decisions are to be based upon the ports current, as well as, expected rate of future occupancy. The risk of under utilisation of port services and facilities should also be taken into consideration.

The new investment strategy is however, determined by the size and type of investment required, opportunity cost and expected rate of return from such capital investment.

The investments are usually of two types:

- One is of short term which is essential to maintain the operational efficiency to the required level.
  
- The other type of investment is based upon long term strategic planning to achieve long term objectives to meet the future requirement and demand of the national economy.

The investment, however, must be made in the narrowest bottleneck after its accurate positioning. The assessment of the benefits resulting due to removal of these bottlenecks is also necessary in order to properly set the priorities. The bottlenecks must be identified through the study of problems within the port as well as the problems due to the competition with in the market.

It has been observed that not only an inefficient inland transport system but also an inadequate inland cargo storage facility can severely affect the ports overall performance. The proper identification of such

bottlenecks is therefore very necessary to maximise the ports throughput.

This sort of approach is extremely necessary so that the investment is made in such a way that all the bottlenecks which includes interdepartmental bottlenecks are removed simultaneously.

It may also be noted with care that such investments mature to give the necessary dividends only after a certain period of time. The choice available for financing the new projects is to ensure that enough revenues are continuously generated. This is necessary so that not only the existing port facilities and services are well maintained but the capital investment is also paid back in due course of time.

Since all the costs and benefits of port project effects the national economy, it is important for the national port authorities to plan and make available the adequate port facilities with suitable pricing policies to keep a proper balance between the interest of the port and its users.

It may be noted that the adequate port capacity;

- 1. Facilitates in expansion of trade,
- 2. Stimulates the industrial development,
- 3. Eliminates the risk of port congestion,
- 4. Saves foreign exchange.

The projected benefits of a port investments are not only limited to just revenue earnings, the social benefits are more important and a major consideration for developing countries.

#### 2.4 PORT AND DOCK LABOUR

The most critical role in the desired throughput of a port is played by the dock labour. It has been widely recognised that one of the most sensitive areas in a changing port environments concerns the status of the dock labour. Actually in all type of organisations the efficiency is dictated by the manner the labour, capital and land are deployed and utilised. Unfortunately the complexities of dock labour work and their needs are not fully appreciated by the majority of people who are assigned the responsibilities to get the dock work done through this most invaluable human resource.

Gradual change towards an improved labour management is imperative to maximise the port throughput. Dock labour efficiency is extremely essential to handle unitized cargo as it eliminates a substantial amount of ports cost and it has been estimated that it can save upto 14% to 15% of port cost.

The dock work obviously includes the handling of cargo at the quay to load or discharge the cargo on or from the ship as the case may be. The work of dock labour requires skill and strength. It is not only labourious but is also dirty, unpleasant and dangerous. The working conditions are also inconvenient and unpleasant and there is no satisfactory security for their future employment.

It is very essential to note that the dock labour is the largest single group which is very much different from normal labour force and subject to casual employment. The dock labour, after reaching a certain age is also considered redundant and he finds it very difficult to earn the same emoluments for his livelihood and to adjust to other kind of jobs.

Under the circumstances, it is very difficult to organise and to provide a regular earning and congenial working condition for the dock labour. Under these working conditions, the dock labour usually finds it convenient to exploit any situation which could give him the best dividends for the immediate future.

This situation if not attended to properly, creates unhappy relationship between the management and the dock labour. Therefore the dock labour scheme is a necessity to develop and maintain a satisfactory and healthy working relationship between the dock labour and port management to serve the best national interest.

The mechanisation in cargo handling has also brought new kind of stresses on dock labour. There is a transitional problem in ports of developing countries as the conventional break bulk cargo handling is now being replaced by the unit load. This progress of unitization is continuously increasing and can not be reversed. To deal with such transitional problem the port management must co-ordinate with national maritime administration to plan and develop a suitable strategy to adjust the dock labour to meet the future cargo handling demand.

The port performance and productivity can be improved quite appreciably by providing adequate training to the dock labour for handling the different types of traded goods, specially the unitized cargo. They must also be trained to be fully acquainted with the facilities and requirements to handle different types of specialised cargo. Training of such nature is vitally important to maintain the port efficiency and must be introduced in cooperation with the dock labour union.

The dock labour policies play an important role in maximising the yield of ports services and facilities. The dock labour policies must also incorporate the adequate security and incentive provisions by taking into consideration dock labour difficulties to eliminate the discontentments among the dock labour as it also works against the interest of a port.

## CHAPTER 3 MANAGEMENT TECHNIQUES

### 3.1 MANAGEMENT

The most recent concept other than the concept of economics, is the concept of management. This has become essentially important to derive the maximum economical benefits from the available resources of an organisation. Management is the most important and necessary tool for maximising the total productivity of human and material resources through their efficient utilisation and proper organisation.

The essence of management, according to Mr. Edgar H. Shein, is to know and to understand the forces which are entering into action in a given situation in an organisation and to gain control over them. It is in the interest of the organisation that all of its employees understand the essentials of good organisational management. Otherwise, inspite of all the best possible resources and facilities, the organisation can not accomplish the desired end results.

Management Process Demands;

- 1. Collection and organisation of necessary information,
- 2. Analysis of the collected information,
- 3. Analysis of the conflicts emerging from these collected information,
- 4. Proper use of the available resources.

These resources are;

- 1. Employees,
- 2. Finances,
- 3. Time,
- 4. Skill.

### 3.1.1 Essentials Of Management

Although the organisations may differ in type and strength from one to another, there are two kinds of elements which are common to all organisations, including ports, these are;

1. The core element-----human resources
2. The working element-----other than human  
resources

Efficient and effective management of these elements is imperative not only for the satisfactory function, but also for the successful operation of any organisation, inclusive of a port.

This is the core element which controls the working element, therefore, it is the human resource which must be carefully managed. Accordingly there is also a need to maintain the working and operational environment of the organisation with minimum possible friction.

To achieve such an objective;

- There must be a clear line of authority running from top to bottom of heirarchy,

- No one in the organisation should be required to report to more than one senior member,
- The accountability and authority of each individual should be clearly defined in writing,
- Responsibility and authority always go together so these must be suitably combined,
- Senior must be responsible for the work of their juniors,
- The authority must be delegated as far down as possible but to a minimum number of levels,
- The job assigned to each individual should be limited and specific.

The set up of all the organisations including port is based upon;

- Its objective,
- The type of services it is going to offer,
- The type of resources it is going to use,
- The type of owner and top management.

It may be very appropriate and necessary to high-light the definitions of the terms which are frequently referred to while discussing the organisation and its function.

**Organisation:** A structural process in which the members interact towards organisational objectives and goals

by satisfying their own needs and desires.

**Plan:** A process through which the objective priorities and general approaches are established for its accomplishment such as to develop certain new facilities in the port, taking into consideration the future trade pattern.

**Effectiveness:** This reflects the extent to which the organisation is capable to produce the necessary services through the already available resources .

**Efficiency:** This reflects the cost of producing and maintaining the necessary services to meet the port users demand such as shipping. In other words it can be said that it is the cost of each output unit to the cost of each input unit.

**Manager:** This is the person incharge of managing the available resources, both human and material, to accomplish the objectives in a most effective and efficient manner.

**Authority:** The right to do something, however this can be delegated to subordinates.

**Responsibility:** The obligation to do something, but this can not be delegated to any one.

Organisation structure is based upon its purpose for being in service, and planning is necessary to achieve the set objective.

Objective, Goals and Targets are very frequently referred to while discussing the organisation. Therefore, it is also necessary to have a clear concept of these terms.

Objectives are usually referred to as targets which are for longer periods.

Goals are usually referred to as targets which are set for medium periods.

Targets are usually referred to as short term objectives.

### 3.2 ORGANISATIONAL STRUCTURE

To describe the areas of activities of each member and also to place the hierarchy of objectives, the organisations describe their structure through an organisational chart. This chart also defines the chain of responsibilities and command by describing who interacts with whom in terms of command and compliance. Accordingly the various activities of the organisations are also grouped into a logical pattern, assigning specific responsibilities to specific positions to make their interaction convenient and efficient.

The organisational structure is designed vertically as well as laterally as both are essential for the accomplishment of the set objectives. The vertical structure reflects the hierarchy of authority, power, accountability and information channels. Through lateral structure departments are established with the assignment of specific functions and responsibilities along with the description of their interaction and establishment of a proper line of communications.

These vertical and lateral structures must also co-ordinate and co-operate for the formation of a matrix structure as and when necessary.

In an organisation there are occasions when tension is created among the members over assigned authority and power. This situation demands that the areas of authority and the extent of power is clearly defined for each member of the organisation. However, it has also been observed that most of the members of the organisation, try to maximise their power and authority yet at the same time try to minimise their responsibilities. To overcome this problem there must be a balanced distribution of authority and power with a detailed job description of the assigned responsibilities as well. This is very necessary to cultivate, develop and maintain a healthy and pleasant working relationship between the superiors and subordinates.

The organisational structure of any organisation described through the chart is a static and formal picture of the working arrangement but practically the actual interaction and function of the working members are not in complete conformity with the formally described chart. An informal working within the organisational working system takes shape due to the natural tendency in human behaviour to create informal alliance and working relationships to satisfy the expectations of superiors and a variety of peers. The employees of the organisation also adjust their behaviour to their own logic to accomplish the given task and responsibilities.

Therefore, the dynamic functional structure of any

organisation is not always compatible to a static structure. This situation should not be considered as a violation or a disregard of organisational set rules as this is just a very normal human behaviour. However, the organisational chart is of significant value as through this a clear picture of the formal working structure is represented. It proves to be very helpful in case of any desired changes to improve the function or readjustment of various departments or necessary re-distribution of certain responsibilities.

For state controlled and formal organisation, the structure of the organisational chart is recognised to be a primary feature. Where as, for private and informal organisation, the structure described through the chart is of less importance.

The organisation chart of a port may be different from port to port but under all circumstances each department has to work in close co-operation. There are many operational activities which require the contributions from different departments in the best interest of handling the faced situation effectively and efficiently. Accordingly, all the employees of the organisation must be made to realize the absolute necessity of teamwork.

It has been observed that the people at higher positions consider themselves more faithful and loyal to the organisations than the employees at lower positions. However, the people at higher positions change their jobs more frequently than the people at lower ranks. This wrong belief and attitude of the people at higher level restricts the free flow of ideas and necessary information to all the employees. This attitude also

harnesses the creativity and motivation at lower level. Therefore, it must be kept in mind that loyalty and faithfulness is independent of the position and authority held by the individual.

A poorly equipped organisation will work despite its deficiencies if there is a teamwork whereas a very well equipped organisation will perform poorly due to the absence of teamwork. The most important job for any management therefore, is to develop the spirit of teamwork among the managerial staff and to improve their calibre through education and training.

### 3.2.1 Organisational Working Variables

Organisations have to operate under varying conditions and the most pronounced variables are;

- Organisational variables,
- End result variables,
- Moderating variable.

Organisational variables are;

- Formal structure,
- Informal structure,
- Individual characteristic,
- Technical system,
- External pressures.

End result variables are;

- Profitability,
  
- Share of target market,
  
- Growth,
  
- Productivity,
  
- Customers satisfaction,
  
- Employees satisfaction.

Moderating variables are;

- Managerial,
  
- Interpersonal,
  
- Intrapersonal.

All such variables are necessarily required to be properly and effectively directed, controlled, and channelled through a good leadership. It has been observed that if employees are to operate under a strictly controlled conditions and have to follow strict rules and regulations, the working environments become very tense and formal which is neither considered happy nor conducive to efficient and desired productivity.

In any dynamic situation where human beings are at work, the human behaviour is to be given due importance. Relaxed and unrestricted working environment always results into efficiency and better productivity.

### 3.2.2 Organisational Objectives

Planning for accomplishment of objectives needs to be based upon certain careful assumptions as future developments are beyond the control of any organisation. To accomplish the set objectives the organisation has not only to acquire or to arrange the necessary resources but has to utilise these resources efficiently and effectively both in terms of time and cost. Once the organisational structure is charted out, properly assigning each member of the organisation a proper position and areas of responsibilities, the need arises how to get the employees motivated and their efforts channelled to accomplish the planned objectives and set targets.

Accordingly the departments and divisions within the organisations are created and formed to achieve certain objectives while working to survive successfully in a dynamic and competitive environment.

Working environment however are most unpredictable as they change not only due to the market needs and demands but are also very vulnerable to the national and international trading and economical policies and priorities. It is therefore most essential for the top management to clearly define and outline the objectives and strategies of the organisation to their employees.

This is necessary to induce a sense of participation and belonging among the employees. It is also very necessary so that they know and understand their own role and responsibilities in accomplishing the organisational objectives efficiently and successfully.

In search of such an objective one must look for;

- What are the prime objectives,
- What is your aptitude,
- How best you can achieve these objectives,
- What are the available resources,
- How much freedom of action is available,
- How best you are utilising your skills and abilities,
- How much restrictions are there,
- How best you have brought in your potentials,
- How best the productivity can be increased,
- How much responsibility can be delegated,
- How much authority and power you command.

The best approach is to place yourself in the position of other to assess how the other is going to react under the same situation.

### **3.3 ASSESSMENT**

Organisational structure is set up to provide a frame work to regulate and direct the human efforts to accomplish certain objectives through monitoring periodic end results. Monitoring of the end results is the most important indicator to ascertain the productivity and

efficient utilisation of human and material resources. The effectiveness and efficient application of human efforts to utilise the available resources dictate the end results.

However, there are many occasions, especially in the port, when external developments and environments beyond the control of the organisation influence the overall productivity and efficiency of the organisation.

A controlled and planned approach towards the set goals is imperative for its successful accomplishment. To ascertain the productivity and contribution of each employee there must be some kind of measurement not only to measure quantity but also to measure quality of input. Such regular assessments and measurements keep the employees responsible and committed to the work.

There must also be a proper system to assess the overall efficiency of the organisation. The port is a service therefore, the interests and demands of the port users must always be the prime objective of the port management. The quality of port services must always be judged through the customers free and frank opinion about the services offered. The port users comments and remarks are very important also to keep a close watch on the quality of the services offered. Based on the comments of the services the port can adequately and timely improve its services to satisfy the users demands. As a matter of fact the feedback is the life line for achieving the desired end results and is the most important tool of self assessment. Performance and control are possible only through a proper and efficient feed back system.

### 3.4 PLANNING

The fundamental need in planning is to choose the performance targets that are realistic and then set up the strategy and necessary controls to accomplish and maintain it. The social and economical benefits are of more importance to developing countries than to make the profit in real financial terms. The planning strategy must be designed in such a way that social benefits are properly measureable. It is necessary to adjust the plans accordingly as and when necessary to serve the national economical priorities and objectives.

Planning means;

- Setting up of the objectives.
  
- Proper assessment of the available resources.
  
- Proper assessment of cost and benefit in accomplishment of the set objectives.
  
- Charting the most economical strategy to accomplish the set objectives.

Without planning the management is forced to react to the situations and problems as and when they appear resulting in an inefficient and costly port operations and management. Planning is also an essential necessity to make the best use of the available resources towards the defined and set objectives in a rational, proper and orderly manner.

Planning also assists and permits the management to act with initiative and to create situations conducive to accomplish the set objectives and achieve the targets

successfully.

The results of such efforts and planned approaches to successfully accomplish the objectives must also be continuously monitored and measured against the predetermined targets so that the corrective measures and necessary alterations in the planning can be timely executed. The methods applied and used to accomplish these objectives are also required to be continuously reviewed taking into full consideration, the nature of dedication, motivation and creativity of the employees.

#### 3.4.1 Planning Objectives

Planning is considered to be the setting up of the idealistic objectives and is necessary so that the employees of the organisation continue to strive to better their accomplishment. Since only the human being can experience a sense of purpose, there is a genuine need of a plan to get the employees committed. It is necessary to get all the possible efforts set in the desired productive direction to accomplish the set targets. In other words the objective of planning is to know and to explore the ways and means to maximise the benefit from the existing services and available facilities.

The objectives and goals as planned and set are of two types,

1. Immediate objective-----short term
2. Attainable objective-----long term

The immediate objectives: These are set to be achieved or accomplished to meet the existing and urgent demands.

The attainable objectives: These are set to be achieved or accomplished with an estimated time.

It may be noted that all these plans are drawn to deal with known existing and future events but there is always a need for a contingency plan which although is not expected to be used under normal circumstances, is required to be kept ready to meet the hypothetical conditions of an emergency.

## CHAPTER 4 MANAGEMENT OF RESOURCES

### 4.1 INTEGRATED MANAGEMENT TECHNIQUES

The recently developed methods of management through participation create and demand a conducive climate for the development of a team work spirit. The crux of these methods is involvement through proper communication and full participation.

Although all the management must ensure the effective use of resources through the people however, getting the things done through the people is not an easy task. Therefore, various systems have been developed and put into practice for human resource management to achieve the desired results. The port management must therefore select the most suitable system to maximise the productivity of its manpower. This is very essential for the effective utilisation of the human resource, to be able to participate efficiently and contribute effectively in achieving the productivity and throughput targets of the organisation.

The necessity and importance of team work for the successful operation of any organisation is undebatable. However the basic human factors are to be given necessary consideration while developing a team work spirit. It is also an important fact that the people perform differently to complete the same job and this difference in performance varies between time, quality and tidiness. This is because people have varying abilities and skills depending upon their education, training, experience and their intellectual capacity to learn from their earlier opportunities.

In any organisation, managing up is just as important as managing down. Criticism of subordinates by the superior actually does not help anyone rather the problem continues to persist creating more division and unpleasant working atmosphere. In this regard there is a need that both the subordinate and superior analyse each others strengths and weaknesses. To make the situation pleasant, one should try to appreciate the strong points of each other and weaknesses must be ignored or dealt with tactfully.

#### 4.2 HUMAN NEEDS AND DESIRES .

It is a hard fact of life that no one works for any one except to satisfy ones own needs. The motivation in human behaviour is dictated by needs and desires of self actualisation to know and to understand. Therefore, the most essential consideration to get the employees motivated is to take into account the essential and basic needs of those who are employed. An ideally integrated management team in any organisation would only consist of motivated people.

It is stated that there are at least five sets of goals which are considered as basic needs for all human beings, these are briefly described as ;

- a: Physiological,
- b: Love,
- c: Safety,
- d: Esteem,
- e: Self actualisation.

Physiological needs refer to rest and recreational activities as well as satisfaction of bodily needs.

Love needs refer to the desire to belong, to associate and to get recognition.

Safety needs require protection from physical as well as economical dangers.

Esteem needs are the desire of achievement, competence, knowledge, freedom and independence.

Self actualisation needs are the self satisfaction and self development.

There is also some times the need of intellectual desire to get a human being motivated. When one need is satisfied the next potent need emerges. Being able to understand the system of organisation, in which one is participant, is also a very powerful tool towards self actualisation. The port management as well as other managements must strive to promote working conditions which are pleasant to work with. This is necessary to satisfy the desires and needs of their employees as far as possible.

Healthy, pleasant and satisfying working conditions contribute remarkably in maximising the creativity and dedication of members of the organisation. The employees contribute their best through their creative imagination in a free and relaxed working environment. This in turn also create a team work spirit and get the job accomplished successfully with full participation.

#### 4.2.1 Creativity

There are various techniques to develop creativity, such as;

- a: Analytical,
- b: Free association,
- c: Brain storming,

**Analytical technique:** This technique is based upon a logical approach of the problem under which the problem is to be clearly defined to a group of people at first and then all possible solutions are taken into consideration.

**Free association technique:** Under this technique, free flow of thought and ideas from the working group are strongly encouraged and emphasised without making any effort to channel or direct the inflow of ideas.

**Brain storming technique:** Under this technique, the specific problem is tossed up to a group of 5 to 8 persons seated around a table and free flow of spontaneous solutions and ideas are generated and the most suitable solution is opted.

#### 4.2.2 Motivation

Motivation to accomplish the task needs to be given very serious consideration while setting up the strategy to accomplish the set objectives. Actually the management has to stimulate a reaction in employees and see how best they can be motivated.

According to Mr. Henri Fayol, one of the earliest observer of organised efforts, the motivation is the core of management and refers to the degree of readiness of a person to pursue some designated goals.

According to Mr. Abraham Maslows views, the individual motivation is predetermined by the order of his needs and their priorities. Only unsatisfied needs motivate human behaviour, however these needs vary in type and priorities from person to person.

There are three organisational approaches to stimulate the individual motivation. They are;

- a: Paternalistic approach,
- b: Scientific approach,
- c: Participative approach.

**Paternalistic approach:** Under this approach it is assumed that the more the worker is rewarded, the more he will be motivated. The objective of this approach is to make the worker comfortable, happy and secure. However in almost all state owned organisations this approach has proved to be not as motivating as expected.

**Scientific approach:** This approach is based upon the assumption that rewards and penalties must be tied up directly to ones performance. However, since the performance is also tied up to so many interrelated factors of the working environment, it is very difficult to award or penalise an individual for his performance.

**Participative approach:** Under this approach there is more emphasis upon the performance of a group of people. This method has proved to be very productive to serve the best interest of the organisation as well as to maximise the potentials and creativity of each serving individual.



It may however be noted that under such an approach there must be someone to lead the group of people inviting and channelling individual contribution towards the accomplishment of organisational objectives and manage to keep the team work spirit alive at all times.

Mr. Douglas McGregor, the professor of management at M.I.T. actually has presented two opposite theories to discover the stimuli that a management can use to motivate the employees. These theories are known as Theory "X" and Theory "Y".

Theory "X" is based upon the assumptions and consequences that;

- a: Most persons dislike work,
- b: Most person seek narrowly designed jobs and close supervision,
- c: Most person want job security along with directions.

Theory "Y" is based upon assumption and consequences that;

- a: The average person does not dislike work but rather enjoys it,
- b: The average person, under suitable and proper working conditions, not only accepts but seeks additional responsibilities,
- c: External controls and threats of punishment are not major motivating factor to work for the organisational objectives rather the commitment and achievement desire is the prime source of motivation,

- d: The capacity to exercise a high degree of imagination and creativity is widely, not narrowly distributed in the population.
  
- e: Under the normal working condition of an organisation the capacities of imaginative and creative potentials are only partially exploited and utilized.

Mr. McGregor himself considers theory "X" as an extreme and an unacceptable set of assumptions but it is very unfortunate that this theory is still prevalent in most of the third world countries and especially in state controlled organisations. The ports in almost all the developing countries are administrated by the respective states. It therefore, is in the best national interest that the state controlled port authorities should apply the principles of motivation considering altogether the important factors which dictate and influence human behaviour.

It is fortunate that most of the employed persons accept the implicit obligation of the employment contract to work for the success of port operation. They do not get themselves restricted by the obstacles imposed by the formal structure and controls.

#### **4.2.3 Interpersonal skills**

All social systems depend and nurture on cooperation among individuals. It is also true that when ever there will be an interaction of human beings, agreements and conflicts are bound to take place. Conflicts stimulate reasoning, logic and analysis of the problem which also gives birth

to creativity, motivation and action. Similarly, the satisfaction with the work, results in good performance and recognition of achievement encourages the individual to accept more challenges.

The ability to get along with others is a talent. Such talents however, are not uniformly distributed among human beings, some have it as a normal routine but others have to develop it. It is also a fact that every one has special abilities and talents in one direction or another. An individuals potentials must be acknowledged through proper appreciation to strengthen his confidence.

In order to maintain an orderly discipline in the organisation, the employees of all the organisations irrespective of their sizes and strengths are accountable to their superiors for their functions and responsibilities. However, it is in the interest of the organisation that the employees are made more responsible for their individual function. This is necessary to involve each of the employees to create and contribute to accomplish the organisational objectives.

Mutual trust, understanding and the team spirit contributes remarkably in boosting up the potentials of creativity among the employees of any organisation. The more prevalent is such a healthy and pleasant working atmosphere the more creative thoughts and ideas develop and intertwine.

It is essential for all the workers working in any organisation to communicate their feelings and ideas properly and effectively to get the necessary response to accomplish the set objective. To make the team work

successful, a sense of equal participation and belonging is to be developed and maintained and no egos must be involved.

Brushing aside the disagreements, serves nobodys interest and rather it is harmful for the efficient disposal of the problems. The art of management is to get the team members involved in open free and frank discussions on the subject matter. The appraisal is an ongoing and constant thing and one must respect the differences of opinion in order to have a proper and unbiased understanding of the situation. This is the only way to get the most comprehensive analysis of the faced problem and to arrive at its most suitable solution.

In pursuit of reaching the most suitable solution to the faced problem, under the prevailing conditions and circumstances, the suggestions and contributions from all the members of the team must be invited and encouraged by the manager as the leader of the team. It must be taken as the collective responsibility to overcome the problems of the organisation and resolve the issues in the best possible manner.

It is also imperative for productive working environment that the members of the same organisation do not try to prove their point among themselves. Rather it must be kept in mind that competition is a healthy thing, but one should compete with outsiders and not with his co-workers.

It may also be noted with care that people require some form of discipline and begin to resent their superiors when they do not get it. However, along with it, people also want freedom to do their jobs without feeling of

being unnecessarily dictated. The subordinates should therefore feel confident under the leadership of their superior and they should have a feeling of working "with" him rather than "for" him.

Human beings are the also a most complexed working resource as their productivity varies drastically with changes and fluctuation of their feelings and desires which are unpredictable. The managers therefore must have the quality to keep the workers interest alive and keep them committed to their assigned task. This in turn demands a good interpersonal understanding and relationship through proper and regular communication between the manager and his fellow team mates to work as a team.

All successful organisations therefore, keep a continuous and close watch on working conditions and environments to maximise the productivity, creativity and innovation of the employees.

Less regulated working environments motivate the employees to use their abilities and capabilities in the most efficient manner. It also results in healthy interaction and interpersonal relationship among the employees of the organisation at all levels.

These interpersonal relationships are based upon the employees own liking and disliking of fun, power, influence and affection. Such liking and disliking are natural when intelligent and creative people work together. It is because of these differences that new ideas and new concepts take birth and this conflict energises creativity and stimulates productivity.

Although we observe that most of the essentials of good management are not applied in most of the organisations but still most of the organisations continue to survive and operate. This situation prevails because we are fortunate that most of the employed persons accept the implicit obligation of the employment contract to work for the success of organisation. They do not get restricted by the obstacles imposed by the formal structure and controls.

To make a right decision at right time is the most important task. It is a well known fact that every body can not know every thing and therefore, the manager must initiate a team spirit to make the best use of the creativity of each individual.

#### **4.3 FINANCE MANAGEMENT**

Management of financial resources is a very crucial factor in the success of any organisation. The expenses have to be strictly controlled and balanced within the available financial resources. In case the expenses are expected to exceed the available finances, the sectors where expenditures can not be cut down as well as the sectors of lower priorities should be marked in advance.

No organisation can afford to operate at a cost more than the benefit it confers to the organisation and therefore it must encourage initiative and innovation through better communication on financial matters. Successful accounting and financial management is the crux of the success of any organisation. Taking into account the financial situation of the organisation, the areas of additional earnings are

Diagram of Revenue Statement

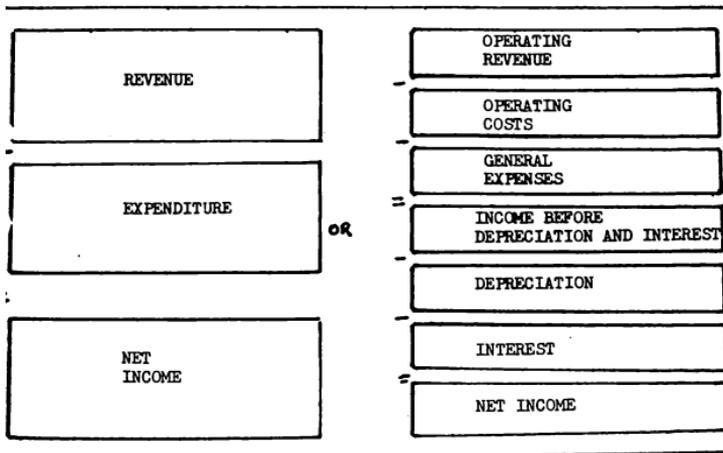
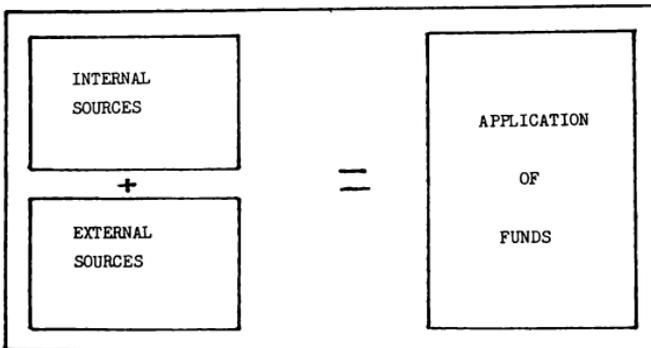


Diagram of cash flow statement



accordingly explored and future plans are developed.

To maintain a proper balance between income and expenditure the managers of respective departments need to have well defined objectives.

To accomplish the departmental objectives, the managers must be able to;

- Assess the available resources,
- Use the available resources efficiently,
- Assess the requirement of financial resources,
- Assess the cost controlling benefit,
- Assess the impact of wastage on efficiency,
- Motivate and educate the subordinates to avoid wastage and keep checks on expenditures,
- Maintain a balance between allocated funds and expenditures.

In order to help to accomplish these above mentioned objectives, the accounts department collects, maintains and issues necessary information. The finance department is basically responsible for the systematic originating, authenticating, recording, classifying, processing, summarising, analysing, interpreting and supply of dependable and significant information covering transactions and events which are a normal routine in commercial or any other operations.

It is the responsibility of the accounts managers to make the other managers understand the financial accounting system. This system needs to provide relevant and necessary information to management about the positions of assets, liabilities, income and expenses for shaping of the future policies and strategies.

#### 4.3.1 Cash Flow Statement

Another financial statement which has become a normal routine during the last decade in the commercial organisation is the cash flow statement. It describes the sources, whether internal or external, from which the additional cash was derived in a specific period and the particular uses of this additional cash. This statement is very helpful to the management as it gives information which is not included in the balance sheet or the financial statement. It also gives articulated information about the flow of funds.

It may be noted that neither the expenses and costs shown in the revenue accounts necessarily are an outflow of cash nor the revenues are an inflow of cash. Since the balance sheets show only balances, not movements of funds, the cash flow statement compliments these two reports.

#### 4.3.2 Statement of Accounts

To provide the necessary improved understanding of the accounting and financial functions of any organisation, that also covers the port, the statement of accounts is prepared by the accounts department as a normal routine. The statement of accounts, usually referred to as revenues accounts, summarises the results of the port operations in monetary terms, for the reported period.

This statement shows the earning from various types of operations as well as the expenditures incurred on conducting the port operations and maintenance of the port facilities. The difference between the two elements is called profit, net income or surplus.

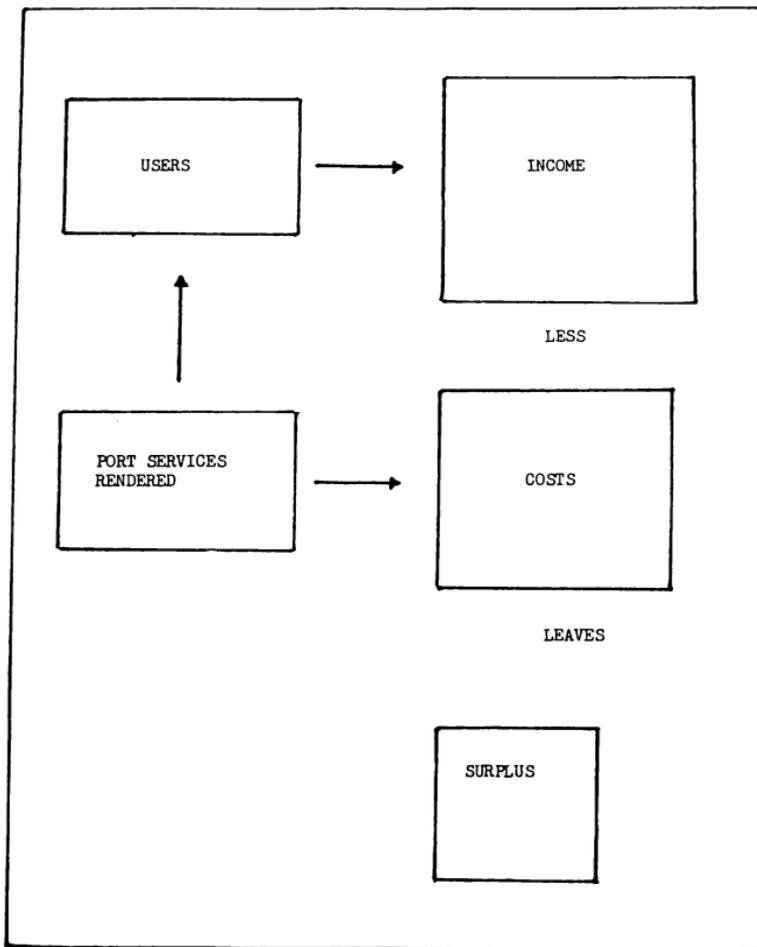
To facilitate efficient control on revenues and cost, suitable accounting techniques are to be introduced. The requirement of cash to run and operate the port services and facilities can only be effectively scheduled if the management knows the financial position of the port.

The annual budget should be so prepared that even the non-professional accountants could clearly understand the resources of the ports earnings and expenditures. A suitable budgetary control system needs to be properly designed and organised so that it could be easily and clearly understandable and supported by the staff. Without such an approach the necessary objective of efficient working of the port can not be achieved.

#### **4.4 PORT FINANCES**

The economics as a matter of fact is the most vital subject for all the organisations including ports. The importance of the economics is more crucial for the developing world where the resources are limited and scarce and the demands from various sectors are very pressing as well as urgent. The port finances are therefore, need to be managed in such a manner that the existing facilities continue to operate at their maximum sustainable yield and new investments are approved to be made only in the sectors where the development can bring extra revenues.

PORT OPERATIONS SEEN IN FINANCIAL TERMS



The port services and facilities are required to be maintained and provided at a reasonable cost. However, such services should also generate enough additional funds to develop the necessary port facilities to cater to the future demands of the port users.

The need for actual realisation of an acceptable and substantial return on assets employed in port services is extremely essential to draw the maximum benefit from the available resources. All the managements efforts are therefore directed to minimise the operational and maintenance cost and to maximise the productivity. This cost saving exercise, however, needs a good and proper communication and co-operation among the managers of different departmantms with in the port.

The managers have to strive to live within its income and see that its revenues from the services, as provided by the port to the customers, which are primarily the ships and shippers, should exceed the cost incurred in maintaining these services and facilities. Similarly direct and indirect costs have to be clearly understood by all the managers of the port so that they can operate in a most economical manner.

The port finance management is accordingly, continuously engaged to work out some suitable and satisfactory arrangements for optimal allocation of scarce resources between competing demands. The finance department is also to see that the revenue from ships dues, cargo handling and storage charges exceeds the costs incurred in providing and maintaining the port services and facilities.

#### 4.4.1 Costs

The cost to develop and maintain the port facilities are heavy due to fixed capital investment in infrastructure. The only available source to reduce the unit cost of port facilities is to increase the tonnage handled through every meter of quay length.

The cost to operate the port services and facilities include;

- 1. Direct and indirect cost,
- 2. Labour and staff emoluments,
- 3. Wages, salaries, medical and the cost of other fringe benefits,
- 4. Power, stores and maintenance of berth and machinery,
- 5. Total direct and variable cost,
- 6. Fixed cost,
- 7. Depreciation on berths and plants,
- 8. Apportioned overheads,
- 9. Berths,
- 10. Head offices and administrative blocks.

To circumvent and understand the real problem faced by a port the port management and authorities must know at the first instance, how to;

- 1. Derive the maximum benefit from existing port facilities.
- 2. Develop most economically the new facilities to meet the emerging and future demand of the port users.

The cost in respect of engaging the human and material resources are to be well estimated. All direct and indirect costs must be taken into account for proper assessment of the required funds. It is necessary to plan to generate necessary funds to pay not only the overhead costs but also to reinvest in improving the port facilities for future requirement.

The efficient management of a port requires that the managers are provided, at regular intervals, with suitable indicators which show how well the various departments of the port are performing financially.

The information regarding the earning and expenditures must be communicated to the various departments in such a way that they not only give the actual financial position of the port but the manager may also be able to understand his responsibilities to earn more. He must also be able to know where to cut down the expenses without any displeasure and act accordingly to accomplish the financial objectives of the port.

This information may consist of the average daily throughput of the port, its performance, the average turn around time of the ship in port, and the state of operational costs of port facilities. These indicating reports must be prepared with the necessary information which is measureable and reliable.

A clear and correct picture of the financial position of the port must be reflected through this report and it should be in line with previous reports. It is necessary for non professional administrators to compare the productivity and growth through these reports in clear and simple methods to make future decisions.

All ports therefore, just like any other organisation, direct their efforts to earn necessary revenues from the services provided to customers and endeavour to ensure that they exceed the overall expenditures. Generating a regular and satisfactory surplus for reinvestment helps to improve the port facilities regularly which is necessary to keep pace with the customers demands.

#### **4.5 INFORMATION MANAGEMENT**

All human beings are goal directed so they must have a clear understanding of their assigned goals and responsibilities. Such essentials demand that first of all one should precisely know the actual problem. Secondly they must have an access to the necessary collected information which could be helpful in some way or the other in solving the problem.

To facilitate the efficient working of the organisation, there is an urgent need to have the necessary information

readily available as and when required. There is always a continuous and urgent demand to have enough relevant information and necessary data to analyse the current market development as well as to plan the future strategy. Information is also necessary to prepare the management to anticipate the future uncertainties and to minimise its adverse effects on the accomplishment of organisational objectives. The importance of reliable and clearly understandable communication between the employees is also well established and is imperative for the success of any organisation.

The prime task of the management therefore is to make proper assessment of the upcoming challenges and to get the things done through the available resources, efficiently and effectively. To accomplish this task the management needs to have enough relevant information and necessary data to analyse the current market development as well as to plan the future strategy.

This is also necessary to fully prepare management to anticipate the future uncertainties and to minimise its adverse effects on the accomplishment of organisational objectives.

This looks very simple and logical but it has been observed that in most situations senior management fails to communicate the information which is most essential to pursue the objectives of the organisation. The exchange of information induces a sense of participation and involvement among the workers and accordingly they become more committed to accomplish the set objectives.

Timely information and prompt communication about the affairs which can influence the performance of the organisation in any form is most essential for its successful survival. The efforts must therefore, be made and information system be so designed to make sure that right information arrives at the right time.

This is essential to make the best use of the available information to serve the best interest of the organisation. The success of the organisation heavily depends upon the speed, reliability and timely analysis of collected information.

The information is of different types and each has its own importance under a given situation. Facts, data, observations as well as anything which increases knowledge is considered information. The efforts must therefore be made to develop a central information system with an objective of collecting and maintaining all the necessary information in a systematic manner that includes only relevant and filtered information.

This proper information is to be promptly made available as and when required for necessary decision making. It must always be kept in mind that the information loses its importance if delayed or if it is not promptly available when required.

Similarly, ambiguous and inaccurate information is also of no use and carries no value. The information must contain very clear, reliable and correct data and it must have relevance to organisational interest. Indiscriminate collection of information must be discouraged as it costs

not only in terms of money but also is a waste of valuable manhours.

The senior management of the port needs to keep itself well informed on the productivity and other activities in the port. Therefore the reports and statistics are the indispensable tools for necessary up to date information. When properly circulated, the progress reports and latest information on the ports activities contribute substantially, together with interdepartmental meetings, to accomplish the set objectives.

Good communication is also an exchange of information. It is actually an art of getting the message across which may be through writing, speaking or expressions.

Effective communication through writing demands that one should always try to be clear, to the point and brief. The statement must be correct and free from any thing which may be damaging to anyone.

Effective good spoken communication demands that one should have good practice of speaking skill and speaking to the point. The information thus passed must be current and relevant to the subject under discussion.

Effective communication through expressions demands that one should have good listening habit and skill to clearly understand the subject matter. There must be no emotional interference in clear thinking even if one does not agree with the given statement.

#### 4.6 TIME MANAGEMENT

Time is the most precious resource and therefore needs to be managed very efficiently and effectively. Through its proper management one can get the most out of oneself.

As time is the most invaluable and also perishable resource, it needs to be necessarily managed as it helps to;

- Schedule the time to meet the target,
- Succeed in a restricted time limit,
- Know your daily routines and keep an eye on productive, and non productive periods,
- Achieve more,
- Have spare time,
- Plan and meet dead lines,
- Lead a balanced life between work and rest.

Time management is as essential as the management of any other resource. For time management one must maintain proper daily and weekly schedules depending upon the nature and priorities of assigned work. This must include the scheduling of the key daily and weekly targets. For difficult tasks, having longer periods of time available, the task must be broken into smaller portions and each portion must be attended to at a certain time. Time for social and other engagements should be scheduled separately to make the available office time most conducive for productive working.

To use the available time in a most productive manner one must;

- Use waiting and spare time in reading and thinking on the matter of interest,
- Tackle hard subjects in an organised and systematic manner,
- Avoid perfectionism in all the unnecessary matters,
- Know very clearly and perfectly what is required and what is to be accomplished,
- Schedule some time for rest and recreation as it is necessary for building up energies and to stimulate creativity,
- Do not overcommit oneself.

#### 4.6.1 Interruptions

Interruptions are the most time consuming elements and it need to be minimised as far as possible if not completely eliminated to avoid the wastage and make the best use of the available time. To eliminate or minimise unwanted interruptions one has to take his own initiative and has to be assertive as well as polite in declining to entertain such interruptions

The most common interruptions are;

- Drop in visitors,
- Telephone calls,

- **Noises,**
- **Disturbances.**

## CHAPTER 5 THE MANAGER

### 5.1 ROLE OF MANAGER

To manage the affairs of the organisation, the manager has to plan, organise, command, coordinate and maximise the sustainable yield and throughput of all the available resources at his disposal.

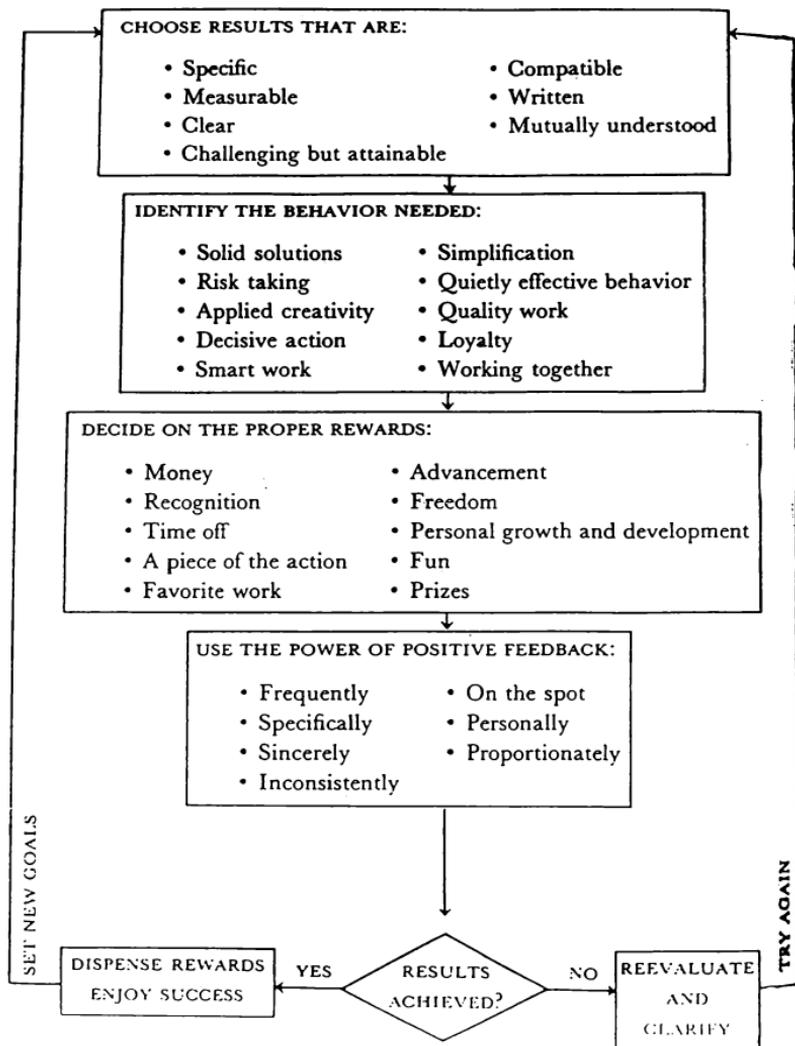
This ability of the manager to get the set objectives accomplished efficiently is dependent and limited by certain factors. These factors include time, knowledge, energy and the quality of human and other resources as well. An all out effort on the part of the managers must therefore be made continuously to improve these important factors.

The senior management must also realise that in order to utilise the skills of the manager in a most productive and efficient manner, he must be provided with the proper facilities to form a dedicated, motivated and fully committed team to accomplish the set objectives and given targets.

The managers therefore have to develop a strategy where only employees with suitable skills and abilities are selected for the team. Similarly, the arrangements of suitable and proper training for the team members is also necessary to develop and maximise their creativity skills and potentials.

To maintain the required discipline and to discharge his responsibilities efficiently, it is very essential for managers to have proper authority and power. This is

# THE MANAGER'S ACTION PLAN



necessary to conduct day to day affairs and to make prompt decisions as and when necessary. The responsibility actually is the obligation to do something and only by having the necessary authority, he is able to get the job done through the combined efforts of his sub-ordinates.

The manager may delegate his authority to his sub-ordinates but he can not give away or delegate his responsibilities. He is solely accountable for all the assigned responsibilities. Therefore, the manager is also responsible for all of his subordinates and their actions.

The manager must have the ability not only to manage the efforts and creativity of his subordinates in a fruitful direction but he also has to utilise the non-human resources very efficiently for the success of the organisation.

#### **5.1.1 Manager as a Leader**

Effective leadership is also an essential ingredient of effective management and it is an important managerial function.

Being effective means being able to;

- Express and present ones feeling clearly,
- Extend and receive compliments gracefully,
- Accept or refuse appropriately,
- Resolve the problem amicably.

The manager has to lead the team members to the successful accomplishment of the set goals. However, the leader should clearly understand that inspiring and helping people to work towards a goal does not necessarily mean taking charge.

There are various ways and means to lead such as, by;

- Setting an example for others to follow,
  
- Introducing ideas to help and solve the given problem,
  
- Helping to settle differences of opinion,
  
- Keeping every ones energy focussed to the task at hand,
  
- Acquiring professional skills to command respect,
  
- Enjoying the satisfaction to get the job efficiently done.

The leader must not only head the team but also be team minded. He must develop a team spirit by encouraging enthusiasm and a sense of belonging among members of the team.

In order to get every one involved, to contribute, to get to the end result as efficiently as possible, the leader must;

- Invite ideas and possible solutions from all the team mates,
  
- Evaluate each idea and possible solution,

- Opt for the best course of action through proper scrutiny,
- Plan the strategy to apply the best possible solution,
- Keep the time limitation and resources restrictions in sight,
- Follow up the plan till it succeeds,
- Never get discouraged with the failures,
- Identify the areas of improvement and weaknesses in case of failures.

Essential leadership skills are;

- Friendliness with co-workers,
- Fair and unbiased assessment of the problem,
- Goodwill for others,
- Understanding of others point of view,
- Quality of resolving differences among the co-workers,
- Eagerness to encourage good ideas,
- To involve the co-workers to accomplish the set goal,
- To keep the set goal in sight.

The leader also has to interact and be familiar with each member of the team. He is expected to lead and show the way out in difficult situations therefore, he must be well prepared through education and training. Team members must be adequately rewarded for their extra ordinary contribution in accomplishing the set goals. The leader also must take the initiative and be actively involved by himself in team work. He must very clearly explain the task ahead to the team members and organise all the information and resources available.

## 5.2 PORT MANAGERS RESPONSIBILITIES

The responsibilities of a manager of a port are enormous and specialised in nature. He has to keep a balance not only between the interest of the customers and the port, but also between the port and its employees. In essence, he must ensure that all are well served. He has to take into account the fact that as the shipping activities grow in the port, the working pressures rapidly increase. In this situation the interaction between the subordinates must also increase at a much faster speed than the overall rate of growth of such shipping activities in the port.

The manager has to ensure that the fast interaction should not overshoot the port objectives and interests. He under the situation, frequently has to make prompt decisions to overcome the immediate problem in the interest of an efficient port operation. He has to work under the prevailing working environment which provides not only resources and opportunities but also the limitations and challenges to the port organisation. Unless and until, the manager does not develop a properly trained, skilled

and competent team to deal with growing demands, he can hardly manage the affairs successfully.

For an efficient port management, the professional manager should:

- a: Make proper use of the resources available to him.
- b: Appraise his own competence, acknowledge potential weaknesses and seek relevant qualified advice.
- c: Take every reasonable opportunity to improve his professional capability.
- d: Be objective and constructive when giving advice or guidance in his professional capacity.
- e: Accept accountability for the actions of subordinates as well as for his own.
- f: In pursuing his personal ambitions, take account of the interests of others.
- g: Never maliciously injure the professional reputation, or career prospects of others nor the business of others.
- h: Be aware of and sensitive to the cultural environment within which he is working.

As regards the organisation, the professional manager should:

- a: Direct all the possible efforts towards the success of the enterprise through leadership, coordination, personal example and commitment

- b: Apply the lawful policies of the organisation and carry out the instructions with integrity.
- c: Define and maintain an organisation structure, allocate responsibilities and encourage the achievement of objectives, by team work where appropriate.
- d: Demonstrate his loyalty to the organisation by promoting its interest and objectives.
- e: Promote effective communication within and outside the organisation.
- f: Make immediate and full declaration of any personal interests which may conflict with the interests of the organisation.
- g: Refrain from engaging in any activity which impairs his effectiveness as a manager.
- h: Act in accordance with his own judgement in any instance of conflict of interest arising from his membership of a trade union, trade association, or other body.
- i: Ensure that plant, processes and materials committed to his charge are maintained and operated as efficiently and safely as reasonably practicable.

As regards others who work in the organisation; the professional manager should:

- a: Strive to minimise misunderstanding and promote good

relations between all who work in the organisation.

- b: Consult and communicate clearly.
- c: Take full account of the needs and problems, ideas and suggestions of others.
- d: Ensure that all subordinates are aware of their duties and responsibilities, specially in relation to those of others.
- e: Encourage the improved performance of subordinates and the development of their potential, by means of training or through any other suitable ways.
- f: Be concerned in the working environments for the health, safety and well being of all, especially those for whom he is responsible.
- g: Promote self discipline as the best form of discipline both for himself and for his subordinates.
- h: Ensure that disciplinary or other corrective action is constructive and respect the dignity of all concerned.
- i: Using his judgement, advise senior colleagues in advance of situations in which they are likely to become involved.

## CHAPTER 6

### ESSENTIALS FOR A PORT

#### 6.1 TRAINING AND EDUCATION

All organisation need not only the suitable human and material resources to accomplish the set objectives but they also must have the strategy to utilise those resources in a most productive and economical manner. The employees of the organisation therefore, need to know the proper application and effective utilisation of the available resources. This can only be achieved through proper education and training on management of resources.

Education and training is also necessary to develop and boost creativity among the employees. However, such education and training needs to be well planned to produce the necessary end results.

The essential considerations while offering such an education and training need to be as follows;

- The need of training required,
- The type of training required,
- The scope of training required,
- The necessary arrangements required,
- The methods to measure the effectiveness of the offered training.

Similarly, to accomplish the port objectives successfully, there is a need of proper knowledge of;

- Working environments,
  
- Working constraints,
  
- Competing factors,
  
- Resources available.

The overall knowledge of the structure of the port, the demands of maritime trade, industries and shipping economics as well as its contributions towards national economical development need to be fully understood by the port managerial staff. This type of knowledge must be imparted through properly arranged education and training programmes and courses on a national level.

In order to maximise the port productivity the developing countries must strive with their best possible efforts to identify the bottlenecks which are restricting the ports throughput. All such obstacles which are hindering the desired productivity from the port services and facilities must be removed at the earliest.

This is also to emphasise that the inefficient use of port facilities are a sheer wastage of national resources which are not only valuable but also scarce. It is in the best national interest to keep the port management fully abreast with latest techniques and methods of management. This can be suitably accomplished through proper education and training programmes. The employees of the port must be kept current with timely refresher courses with

reference to port operations and economic issues.

To meet the urgent demand to operate the port efficiently, a team of competent managers is to be trained to perform the necessary tasks in a most efficient manner. The port management training would help to eradicate the need for additional huge investments in port development which are very scarce and not easily available in the developing world. There is also a need for such trained personnel who could impart such acquired knowledge to others employees of the port management at the lower levels.

The initial courses of general nature must be designed to provide;

- An over all knowledge of the structure of port and shipping industry,
- The basic techniques of shipping economics, maritime law and marine technology,
- The necessary understanding of how much human efforts and financial resources are required for port project,
- The necessary information about the port project from planning stage till its opening with necessary services and facilities to handle the ships and its cargo.

There is also an urgent need to look into the problems faced by the port.

The key problems to be looked into at the first instance are how to;

- Improve the port operations,

CRITICAL EXAMINATION SHEET

PURPOSE	What is achieved?	Is it necessary?	What else could be done?	What should be done?
PLACE	Where is it done?	Why there?  Advantages: Disadvantages:	Where else could it be?  A: D:	Where should it?
SEQUENCE	When is it done?  After: Before:	Why then?  A: D:	When else could it be?  A: D:	When should it?
REASON	Who does it?	Why that person?  A: D:	Who else could do it?  A: D:	Who should <del>do it</del> ?
MEANS	How is it done?	Why that way?  A: D:	How else could it be?  A: D:	How should it? .

- Plan the ports future development.
- Improve the function of port administrations and management of port finances.

To sort out these problems, each problem needs to be further analysed for;

- The nature of problem,
- Who is responsible,
- The causes of problem,
- Who is going to be affected,
- Possible solutions and actions.

The necessary training needs not to be confined to the management personnel only. It should also be available to train the lower levels of port employees. The dock labour of the developing countries also need a proper training in order to get the maximum productivity and throughput.

## 6.2 EDUCATION AND TRAINING FACILITIES IN PAKISTAN

Fortunately in Pakistan there are already two fully developed training and educational centres to meet the demand of the maritime industry. These institutions are properly equipped to impart the necessary education and training on maritime affairs. However, there is an urgent need of co-ordinated efforts to make the best use of these educational and training facilities to serve the best national interest.

Realising the importance of the necessary education and training and to meet the emerging demands of the national maritime merchant fleet, Pakistan Marine Academy was established as early as 1964. It moved to its present premises in 1973 where it occupies over 136 acres of land having a vast exposure to water front of Arabian Sea along the coast of Karachi.

This Pakistan Marine Academy accordingly, is the most suitable and properly equipped institution to conduct the necessary courses on ports and shipping management. It has the proper educational environment as well as the necessary facilities. This Academy has been established with a prime objective of providing the fundamentals of theoretical and practical element of nautical and engineering subjects for merchant marine cadets. With the implementation of the STCW convention, this Academy must play a more active role in imparting the necessary education and training to the interested students to secure the certificate of watch keeping.

The educational facilities at the Marine Academy are continuously being improved and upgraded to meet the requirement of international maritime standards. This has been made possible through the financial and advisory help of international organisations and friendly countries.

This Academy also conducts post sea refresher courses to prepare the sea going officers for their certificate of competency examination. Taking into consideration all the facilities available at the Academy, it will be in the best national interest to use these services and facilities to serve other disciplines of maritime affairs.

There is another institution that conducts the necessary short courses on port and shipping affairs. These are run and managed by Karachi Port Trust and the premises is known as K.P.T staff college. This staff college was established in 1979 on the recommendation of United Nations consultants to K.P.T.

This college was established with the main objective being to;

- Determine the requirement for managerial and supervisory skills,
- Arrange in-service training programmes,
- Arrange pre-service training courses for new enterants,
- Prepare technical staff for qualifying the examinations
- Asses the effectiveness of training,
- Conduct research in the field of administration from training point of view.

This college is on the approved panel of UNCTAD (United Nations Commission on Trade And Development) to conduct international courses as developed by the port and shipping wing of UNCTAD. This college is expected to become the regional training centre for UNCTAD project "Trainmar" for the training and development in the field of maritime transport.

These educational facilities are being extensively utilised not only by K.P.T itself, but also by the participants from the shipping and maritime industries. However, these fine and proper facilities are yet to be fully utilised by other port and shipping authorities in the country. National and private organisations who are engaged in maritime affairs must make use of these available facilities to educate their officers and staff regularly. There is also a need not only to train and educate the port and shipping personnel but also the management of fishing and other marine resources.

To make the best use of these educational facilities as available at these two different centres, Pakistan Marine Academy and K.P.T. staff college, in a most productive manner to serve the best interests of maritime trade and industry, there is an urgent need for proper co-ordination and supervision at the ministry level.

There is also a well equipped and properly staffed dock labour training school for cargo handling at Port Qasim. This school is fully operational but the maritime industry has yet to utilise these facilities. To make use of this facility there is an urgent need of certain mandatory requirement for cargo handling companies to get the dock labour trained and certified to attend the needful at the port. Under the circumstances although the cost of maintaining such training facilities is being borne by the port authority, but the desired benefits are not being obtained by the dock workers.

Similarly, the fire fighting and life saving training facilities for ships crew are also being provided by

Pakistan National Shipping Corporation and some other shipping agents. However, none of these facilities are centrally controlled or administrated resulting into either duplication or inefficient training. There is therefore, an urgent need to properly organise the available educational and training facilities to serve the best national interest. To make the training more acceptable by the industry there is a need of getting the offered training properly recognised by the Board of Academic or Vocational Education.

## CHAPTER 7 CONCLUSION

### 7.1 RECOMMENDATIONS

The port for all practical purposes is the cradle from which all the economical activities of national importance are generated. Although the port does not produce any agricultural or industrial products, it plays a pivotal role in maintaining the productivity of these sectors.

The needs of almost all the developing countries are almost the same as they have to see that the port operations are profitable and cost effective, provide employment opportunities, and adopt the new technologies to suit the users varying and inexhaustible demands. This often seems to be contradictory objectives, but the port has to operate under all such demanding and dictating factors to meet the national obligations and economic factors.

The port managers are therefore required to continuously update their knowledge through proper education and training on maritime affairs as well as on management techniques. This is imperative to make the best use of limited and valuable national resources and to ensure their proper utilisation to serve the national economic interest. It is just not enough to maintain and operate the port services and facilities to serve the need of maritime trade and industry. To meet the challenge of high economical growth there is an urgent need to operate the port services economically and efficiently.

To assess the necessary educational and training requirements and to frame the national maritime policies

is obviously the job of the Ministry of Communication which also looks after Maritime Affairs. These institutions are therefore required to be regulated by the same Ministry to design and offer the courses which are essential to serve and safeguard the best national maritime interest.

All efforts must also be made to make sure that the available training and educational facilities are not duplicated or underutilised. In developing countries the financial resources are scarce and must not be invested unnecessarily. It must also be given important consideration that all the disciplines of maritime affairs are well covered through the offered courses. This requires proper planning and understanding of the national maritime interest, priorities and demands.

Training and retraining courses for better management of the resources, including discussion periods, have already become a normal routine in successful and reputable organisations. These refresher and training courses are also of great help for the higher and middle levels of management. There is also now a growing realisation in all type of organisations that training should not be restricted to the high and middle level of management only, rather it should be extended to the lower levels as well.

The courses must be designed by taking into account not only the demand of the maritime sector but also the future need and current development in the shipping sector. The new techniques and methods of managemnt of human and material resources should also be introduced through these courses.

However, it must be emphasised that unless and untill all the offered courses are not duly recognised by certain boards of national education they will neither attract the students nor command respect. The Pakistan Marine Academy therefore must strive to be affiliated with some university or should try to acquire a status of university of maritime affairs by itself.

To streamline the national education and training on maritime affairs it is also necessary that the Pakistan Marine Academy must be the fountain head for all the subject matters on marine affairs. Having the necessary educational facilities, Pakistan Marine Academy should assume the responsibility to start conducting the necessary maritime education and training courses. The courses should have particular reference to the maritime industry and also cover all the disciplines of maritime affairs.

These varieties of courses must be offered under the supervision of Ministry of Communications (Ports and Shipping Wing) and in collaboration with the Ministry of Education to serve and safeguard the national maritime interest.

In the same context, it is also to emphasise that there must be some sort of collaboration between Pakistan Marine Academy and other leading Universities of the world which conduct management and maritime courses. In this regard some kind of suitable affiliation with the World Maritime University, Malmo, Sweden, the pinnacle of education and training on maritime affairs, to serve national and regional maritime interest is highly recommended.

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