

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and Recommendation

1. Strategy for Port Infrastructure Development

(1) Classified port development system

Since a major-port has a significant effect on the national interest. The government has to pay special attention to the development and maintenance of the function of the port, even if the port is constructed and managed by a private sector. The government should bear the following roles.

- (1) To examine the coherency of the port development plan/ project with the long term port development policy
- (2) To examine the coherency of port management and operation with the long term port development policy
- (3) To extend possible assistance to the port managing body to improve the basic port facilities and quality of port management and operation
- (4) To take the initiative in establishing a united organization for port management and operation in case of a “group port”
- (5) To collect the necessary data and information to examine the progress of the long term port development plan and to revise the plan

Twenty-nine (29) ports are selected as major ports.

Mediterranean:	1) Iskenderun TCDD,	2) Iskenderun,	3) Botas
	4) Mersin,	5) Antalya,	
Aegean	: 6) Marmaris,	7) Bodurum,	8) Gulluk,
	9) Kusadasi,	10) Izmir,	11) Aliaga,
Marmara	: 12) Canakkale,	13) Bandirma,	14) Mudanya,
	15) Gemlik,	16) Izmit,	17) Hydarpassa,
	18) Istanbul TDI,	19) Ambarli,	20) Silivri,
	21) Tekirdag,		
Black Sea	: 22) Eregli,	23) Bartin,	24) Samsun,
	25) Ordu,	26) Giresun,	27) Trabzon,
	28) Rize,	29) Hopa	

(2) Container facilities

1) The Mediterranean Sea

Since the present container volume handled in Iskenderun Port is far below the existing capacity, the new container terminal should be constructed in a timely manner, watching

the future progress of container volume of the port.

Mersin Port handles 242 thousand containers at the existing container terminal with three gantry cranes. Since it is certain that the container volume will exceed the existing capacity within several years, the new terminal should be constructed step by step to work in that case. Full capacity of 1.0 million TEUs of the new terminal is not necessary at the first stage of the development.

2) The Aegean Sea

Izmir Port handles 399 thousand containers at the existing container terminal with three gantry cranes so far. Since it is certain that the container volume will exceed the existing capacity within a few years, the new terminal should be constructed as soon as possible. Even if the new terminal will be completed, the shortage of capacity of 30- 40 thousand TEUs in 2010 and of 0.9- 1.2 million TEUs will be expected in a Aegean Sea region. Another new terminal with sufficient capacity should be constructed. A close investigation and study should be done as soon as possible to determine the most suitable location for the large container terminal.

3) The Marmara Sea

Since it is certain that the container volume will exceed the existing capacity within several years, new terminals should be prepared. It should be taken into consideration that too many small-scale container terminals would prevent a port in this region from becoming a calling-port. In this context, large-scale container terminals, namely Derince container terminal and Marmara Port, should be given high priority.

4) The Black Sea

Since the present container volume handled in ports in the region is far below the existing capacity, new facilities for containers should be constructed in a timely manner, watching the future progress of container volume of each port.

(3) Long term development

The initial construction investment of container terminal in Turkey by 2020 is estimated at approximately US\$880 million. The total berth length is assumed 5,900m.

(4) Short term development

When stage plan of infrastructure development is considered, it is essential to prioritize port facilities that should be constructed in the short term (2010).

Concerning container terminal, in accordance with the policy of hub port and demand forecast in this Master Plan, the construction of a calling port of mother port type in the Aegean and Marmara region respectively will be required by the target year (2010). Two

container cargo berths, including all container port type, will be required in the Mediterranean and Aegean region respectively, and three berths in the Marmara region. The initial construction investment of container terminal in Turkey until 2010 is estimated at approximately US\$360 million. The total berth length is assumed 2,200m.

Five general cargo berths will be required for the Mediterranean region, 18 berths for the Aegean region and 21 berths for the Marmara region. And a portion of the berths will be constructed as Multi-purpose type. Initial construction investment of general cargo terminal in Turkey until 2010 is estimated at approximately US\$650 million. Total length is assumed 10,000m.

2. Strategy for Port Management

In general, ports and harbors function as public assets. Coastal lines are limited for public use by Turkish laws. First of all, every port management body including private sector should be granted a certain status as a public statutory body for port administration. In addition, it is required that the central government should coordinate or guide port management bodies as autonomous bodies. To secure port development in Turkey, we recommend a nationwide port administration system as following section. It would be a basis to support port development by private sector in future.

(1) Definition of 'PORTs' to be managed

In order to provide a firm foundation for a unified port administration system, basic concept and legal definition of 'ports' should be clarified. In this study, 'Port' is understood as:

“An organic structure of a set of coastal facilities for cargo and passenger traffic to be administered, managed and operated as a unified functional unit and with a certain legal boundary which is necessary at least for port administration, management and operation”

(2) Port development master plan

Port Development Master Plan should be established by each port authority on a legal basis. This plan is a guideline both for administration and management of port. It is a master plan with a long term planning period (approximately 10-15 years) that includes the use and maintenance of ports and harbors, and examination on environmental impact, as well as port development. The key concept is that port is regarded a space to be managed which includes land and facilities.

(3) Establishment of port managing bodies (Port Authorities)

'Port Authority' is understood as follows: “A statutory body which develops, maintains ports as a unified functional unit, and secures port services for public use”. What is required at present in Turkey is a system to control port management by proper involvement of the central government. In such a system, each port operator is obliged to manage and operate a port based on port master plans which are authorized by the central

government.

3. Strategy for Port Investment Finance

(1) For an efficient financial operation of TCDD port account, authorities should start to consider a matter that the port account should be separately operated from the railway account on the following conditions;

- 1) The port account should continue to increase Treasury receipts. The annual amount transferred to Treasury would be 50% of the annual rough operating profit. A transferred amount to Treasury for 20 years of 2001-2020 sums up US\$ 1.689 million in Case-2.
- 2) The port account should be efficiently operated to raise investment effectiveness. The port account should be allowed to invest in both sub-structure and super-structure in order to realize effective investment by short-term construction and improvement. Thus budget amount of the maritime port investment for TCDD ports should be transferred to the port account. Annual amount for self-operation would be 40% of the annual rough operating profit, which will allow investment in both sub-structure and super-structure in TCDD ports. A self-operation amount sums up US\$ 1,351 million in Case-2.
- 3) The port account should function like a public fund to support private sectors because that TCDD is unable to handle all of the increasing cargo. On the other hand private sectors will be waiting lenders in order to cope with the increasing cargo in their ports because of shortage of private credits. Therefore this account is expected to function as a public fund. Both Treasury and Transport Ministry will operate this account from a viewpoint of encouraging the private sectors. TCDD will transact as a secretariat of the account. The annual amount of this function would be 10% of the annual rough profit, which will be loaned to private sectors. This amount for 20 years of 2001-2020 sums up US\$ 337 million in Case-2, which compensates 80% of the shortage of private financing resources.

(2) For encouraging private sectors, the authorities should begin to reconsider the following points on BOT scheme, transfer of operation right, a support function for private sectors and a tax system.

Refer to II - 8.2.1

- 1) On an agreement of BOT contract, the authorities should start to reexamine articles on arbitration, account, cost increase, force majeure and termination from a viewpoint of risk sharing. Details are explained in “8.2.1. BOT scheme.” In order to make an attractive BOT scheme, the authorities should have opportunities to consult with financial advisers and lawyers to improve and develop skills on BOT financial scheme.

Refer to II - 8.2.2

- 2) On an agreement of transfer of operation right, the authorities should reexamine articles on repair cost of natural disaster and assignment of authorization because some private operating companies may be faced with financial difficulties according to financial

statements. Details are explained in “8.2.2 Port Operation at Privatized Port.”

Refer to II – 8.4

3) Investment by private capitals is inactive as explained in “8.2.4 Private Capitals.” A public function should be established, which provides private sectors with a direct loan and/or a guarantee to a loan from private banks. This function will be in the TCDD port account as described above. This public function will compensate large portion of the shortage of private financing resources.

Refer to 4.2.4 (3)

4) A tax system has a function to provide enterprises with financing resources as exemption. Because those enterprises in the port businesses or the enterprise intend to enter the port business are small, they are not eligible for incentive scheme. In this sense, a tax system of prepaid stock dividends and special depreciation is a powerful tool to encourage private investment and should be considered to compensate the shortage of private funds.

4. Strategy for Institutional Framework

(1) Coordination system by port master planning

The government reviews the port development master plan submitted by a port authority, based on the guideline which follows the basic policy, and gives approval. In case of changing the plan, it is also necessary for the port authority to obtain approval from the central government. After obtaining approval, port authority makes construction plan, deciding the development priorities based on the government’s basic policy and the approved master plan.

(2) Organization

Port authorities at major ports designated by the government must have a ‘Local Port Council’ with which to consult and obtain comments and recommendations on establishing or changing port development master plan. This is because the development of major ports is considered to have a significant impact on the national interest.

In the new framework, the main ministry which has the greatest responsibility for promoting the national port development should be clarified. Until now, the responsibilities on port development have been cut into pieces functionally among the competent ministries. This is one of the reasons why a total coordination function is lacking in the present system.

(3) Position of Port statistics by port authority

At present in Turkey, the most systematic and consistent data are port statistics by PMUMA. The cargo handling data, however, is insufficient from the viewpoint of port development and promotion because the data source originally comes from inspection reports for port entry application. Another data source with regard to cargo handling volume should be secured to supplement PMUMA data. In that sense, port statistics by

port management bodies should be paid more attention. At least, port statistics of major ports which have significant impact on the national interest should be reported to the central government periodically on the legal basis.

(4) Unified category of statistics

As for the statistics of PMUMA, it has been examined to adjust their coding system into global standard. Statistical criteria such as the category of items should be unified among each port management body on the national basis. Related guidelines in EU or international organizations also should be examined as they must be compatible in future. Unified criteria on port statistics cargo enable comparison of the port data among all ports regardless of type of port management bodies on the national level, which is a powerful tool for nationwide port development policy making.

(5) Nationwide Physical Distribution Survey

Fundamental data on nationwide container cargo flows is useful for the examination of nationwide port development and promotion. Periodical OD (Origin-Destination) survey for container cargoes is available as one of supplementary measures in addition to grasping the cargo handling volume by port authorities.

(6) Personnel Changes among Port-related Ministries

Personnel changes among port-related ministries should be considered to increase communication and information sharing. It should be noted that bureaucracy in the government will inevitably hinder effective port management and operation.

(7) Establishment of ‘Port and Harbor Council’

Persons of learning and experience in the field of ports and harbors should be utilized in the process of policy making. Fortunately, there are many talented people with wide experience in container transportation and port management around the business world in Turkey. A system to draw on their opinions should be established urgently. ‘Port and Harbor Council’ which consists of experts on port construction, port management and operation, and other experienced persons concerned, should be established in the government to give comments and recommendations to the government’s request for advice.

5. Strategy for Port Operation

(1) Introduction of Advanced Technology

To improve the efficiency of container handling operation, it is essential to exchange information and communicate effectively between crane operators and the supervisor at the control center. In Turkish container ports (Hayderpasa, Izmir), “walkies talkies” are being favored for communication between their offices and crane operators. However, most of operations are covered by man-power communication. The following 4 systems for transmitting information are currently used at container terminals. The following Table indicates the particularities of each system.

(2) Importance of Computerization

Computerization will make it unnecessary to get access to the same information on other documents and possible to use repeatedly the information once fed into computers. It is also expected that compiling statistics concerning port activities will become easier.

Therefore at first, TCDD should introduce the computer system concerning documentation inside the PMB (Port Management Body), and as a next step, it is necessary to upgrade functions and expand the areas covered by the computer system. Consequently, the computer system will become an open system in which the parties concerned can participate.

(3) Proper Use & Maintenance of Cargo Handling Equipment

- 1) Replacement of Old Cargo Handling Equipment
- 2) Importance of Continuous Maintenance
- 3) Preparation of Spare Parts

(4) Enrichment of Training System

Introduction of sophisticated computer system will be essential to improve port operation in Turkey. Appropriate training to master computer shall be provided to all staff at TCDD ports. Enrichment of the training programs for each staff will improve overall service level for port users.

(5) Introduction of EDI (Electronic Data Interchange) System

To increase international competitiveness and provide user-oriented services, it is necessary for Turkey to promote the implementation of EDI, which would simplify and improve efficiency of port and harbor administration. It is advisable for Turkish Ports to learn from the examples of major competitive ports in advanced countries.

6. Environmental Consideration

- (1) To take necessary measures for preventing destruction and pollution of maritime environment
- (2) To provide port managing body with the authority to monitor the environmental quality and implement environmental projects
- (3) To establish comprehensive oil-combating system involving the relevant public and private sectors
- (4) To do environmental consideration in port development not only on the port facilities and activities but also on related economic activities in the hinterland
- (5) To establish domestic maritime transport promotion policy

7. Recommendation

[Policy on Port Infrastructure Development]

- (1) To formulate advanced maritime transport network in international container transport (The Mediterranean, Aegean and Marmara Sea)
 - a. To establish internationally competitive container ports
 - b. To invest the public and private resources intensely and effectively in port development based on future demand
 - c. To improve cargo handling capacity)
 - c-1 To improve existing capacity (maintenance works for existing facilities and equipment)
 - c-2 To introduce overall computerized system covering management and container operation
 - c-3 To introduce EDI system in long term
- (2) To formulate rational international maritime transport network
 - 1) Other international general cargo
 - a. To invest the public and private resources effectively in port development based on future demand
 - b. To improve cargo handling capacity by means of strengthening the maintenance works for existing facilities and equipment
 - 2) International bulk cargo transport
 - a. To increase governmental involvement to secure stable inflow of energy and natural resources for future possible scarcity of world natural resources
 - b. To invest the public and private resources effectively in port development based on future demand
 - c. To improve cargo handling capacity by means of strengthening the maintenance works for existing facilities and equipment
 - d. To establish comprehensive oil-combating system involving the relevant public and private sectors
- (3) To formulate rational domestic maritime transport network
 - a. To establish maritime transport promotion policy
 - b. To maintain and improve existing facilities
- (4) To formulate safe and comfortable passenger transport network
 - a. To upgrade international maritime passenger facilities to promote tourism
 - b. To maintain and improve existing maritime passenger facilities

- (5) To promote port projects to assist regional development
 - a. To establish local container ports to assist regional development in long term (The Med. and Black Sea)
 - b. To maintain and improve existing maritime passenger facilities
 - c. To maintain and improve existing facilities for cargo transport
- (6) To sustain national/ regional economy and people's daily lives in case of emergency such as earthquake, energy crisis
 - a. To improve anti-earthquake capacity of facilities to be selected
 - b. To increase governmental involvement to secure stable inflow of energy and natural resources for future possible scarcity of world natural resources
- (7) Common framework of infrastructure development
 - a. To establish the Nationwide Port Development Master Plan to coordinate and guide port development projects implemented by various organization
 - b. To introduce classified port development system to invest the public and private resources intensely and effectively in port infrastructure development
 - c. To introduce a new investment system based on the port development master plan of each selected port
 - d. To strengthen functions of access railway and road network connecting ports and their hinterland
 - e. Particularly, to introduce adequate measures to promote the railway activity in container transport

[Policy on port administration, management and operation]

(1) Improvement of port management

1) Framework of port management

- a. To introduce "Port Law" to clarify a basic concept and legal definition of "Port"
- b. To establish port development master plan of each port
- c. To identify roles and functions of port managing bodies
- d. To introduce Port Authority system in long term

2) Efficiency of port management

- a. To transfer more authority/ responsibility to each port manager port from the headquarters of TCDD
- b. To introduce a new personnel system including promotion of talented employees and outsourcing
- c. To introduce competitiveness into container stevedoring in TCDD container terminal to raise handling productivity

(2) Port investment and finance

- a. To reconsider existing BOT contract from the view point of risk sharing for encouraging private sector investment
- b. To reconsider existing article on repair cost of natural disaster of privatization contract of TDI port.
- c. To raise public fund to provide private sectors with a direct loan and/ or a guarantee to a loan from private banks
- d. To provide private companies, which are managing port related business, with exemption tax system
- e. To consider a matter that port account of TCDD should be separately operated from the railway account.
- f. To accelerate port investment both in infrastructure and superstructure

(3) Institutional framework

1) Basic framework

- a. To establish guideline for port development master plan of each port
- b. To establish an appropriate organization to coordinate among the ministries concerned on matters from port master plan to construction plan
- c. To strengthen coordinating function of central government
- d. To establish an appropriate organization in each port to collect various opinions and suggestions of relevant parties concerning port management and development

2) Sub-framework for port administration and management

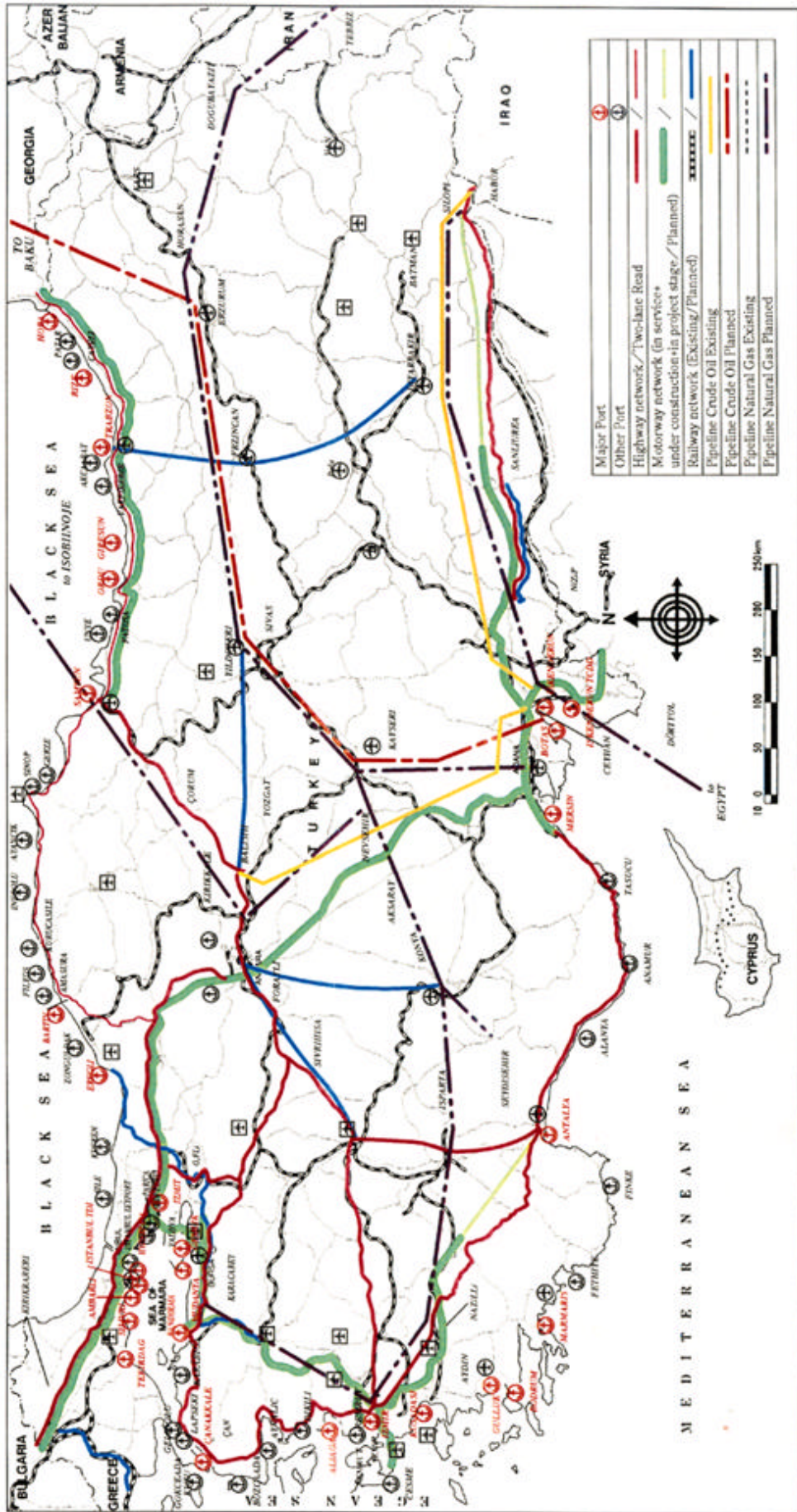
- a. To strength port statistics system
 - a-1 To introduce port statistics done by each port managing body
 - a-2 To introduce periodical report of port statistics to government from major port managing bodies on legal basis
 - a-3 To introduce unified category of statistics
- b. To introduce registered system of port facilities
- c. To introduce personnel change system among port-related ministries

(4) Port operation

- a. To increase cargo handling productivity, especially in container handling by employing various effective measures
- b. To promote appropriate private sector participation gradually in cargo handling operation
- c. To introduce advanced communication system between crane operators and control center
- d. To promote computerized operation systems such as container inventory control, container delivering/receiving control and loading & unloading operation control
- e. To implement EDI system gradually based on world standard
- f. To enrich training programs of computer system appropriately

(5) Environmental consideration

- a. To take necessary measures for preventing destruction and pollution of maritime environment
- b. To provide port managing body with the authority to monitor the environmental quality and implement environmental projects
- c. To establish comprehensive oil-combating system involving the relevant public and private sectors
- d. To do environmental consideration in port development not only on the port facilities and activities but also on related economic activities in the hinterland
- e. To establish domestic maritime transport promotion policy



Turkish Ports and Transport Network

Implementing Organization, Period of Survey
and Flow the Study

APPENDIX FOR EACH CHAPTER

Appendix for Chapter 3

Appendix for Chapter 4

Appendix for Chapter 6

Appendix for Chapter 8

Appendix for Chapter 10