

The Feasibility Study on the Development Project of the Port of Constantza in Romania

PART II

Final report

February 2002



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Ministry of Public Works, Transports and Housing, The Government of Romania

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PREFACE

In response to a request from the Government of the Republic of Romania, the Government of Japan decided to conduct "The Feasibility Study on the Development Project of the Port of Constantza in Romania" and entrusted the study to the Japan International Cooperation Agency (JICA).

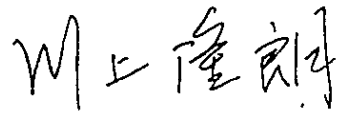
JICA selected and dispatched a study team headed by Mr. Fumio Kaneko of the Overseas Coastal Area Development Institute of Japan (OCDI) and consisting of OCDI and Pacific Consultants International Co., Ltd. (PCI) to Romania, three times between September 2000 and November 2001.

The team held discussions with the officials concerned of the Government of Romania and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Ministry of Public Works, Transports and Housing of the Romanian Government and other authorities concerned for their close cooperation extended to the study team.

February 2002



Takao Kawakami

President

Japan International Cooperation Agency

LETTER OF TRANSMITTAL

February 2002

Mr. Takao Kawakami
President
Japan International Cooperation Agency

Dear Mr. Kawakami:

It is my great pleasure to submit herewith the Final Report of the Feasibility Study on the Development Project of the Port of Constantza in Romania.

The study team of the Overseas Coastal Area Development Institute of Japan (OCDI) and Pacific Consultants International (PCI) conducted surveys in the Republic of Romania over the period between September 2000 and November 2001 as per the contract with the Japan International Cooperation Agency.

The study team compiled this report, which includes the Master Plan, the Short-term Development Plan and the Feasibility Study of the Port of Constantza, through close consultations with officials of the Ministry of Public Works, Transports and Housing of the Romanian Government and other authorities concerned.

On behalf of the study team, I would like to express my heartfelt appreciation to the Ministry of Public Works, Transports and Housing and other authorities concerned for their cooperation, assistance and hospitality extended to the study team.

I am also greatly grateful to the Japan International Cooperation Agency, the Ministry of Foreign Affairs, the Ministry of Land, Infrastructure and Transport and the Embassy of Japan in Romania for valuable suggestions and assistance through this study.

Yours faithfully,



Fumio Kaneko

Team Leader for the Feasibility Study on the Development
Project of the Port of Constantza in Romania

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ABBREVIATIONS

ADB	Asian Development Bank
APDF	National Company Administration of the River Ports on the Danube
APDM	National Company Administration of River Sea Ports on the Danube
CEEC	Central and Eastern European Countries
CEFTA	Central European Free Trade Agreement
CFR	The National Company for Railway Transport
CIF	Cost, Insurance and Freight
CIS	Commonwealth of Independent States
CMPA	National Company Constantza Maritime Ports Administration
CMRC	Central Meteorologic Regional Constantsa
DFI	Direct Foreign Investment
DWT	Dead Weight Ton
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EU	European Union
FIRR	Financial Internal Rate of Return
FOB	Free On Board
GDP	Gross Domestic Product
ICN	Inspectrate of Civil Navigation
IEE	Initial Environmental Examination
IPTANA	Design Institute for Roads Water and Air Transport
ISPA	Instrument for Structural Policies for Pre-Accessions
IWT	Inland Water Transport
IWW	Inland Waterways
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
MPWTH	Ministry of Public Works, Transport and Housing
NPV	Net Present Value
PHARE	Poland and Hungary Aid for Restructuring of Economies
TEN	Trans European Transport Network
TEU	Twenty feet Equivalent Unit
TINA	Transport Infrastructure Needs Assessment
TRACECA	Transport Corridor Europe Caucasus Asia
WB	The World Bank

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Chapter 1 Development Strategy of the Port of Constantza

1.1 Market Potential and the Role of the Port

1.1.1 Change in the Industrial and Trade Structure of Romania

Since 1989, the Romanian Economy, which once concentrated on capital intensive and energy consuming heavy and chemical industry, is now undergoing a general economic development, with EC countries and other countries of the world serving as the market for its goods. Thus, Romania's trade relations have changed from countries of the Eastern Block to the EU countries. (Trade volume ratio for EU increased from 25% (1990) to 65 % (1999))

1.1.2 Traffic Trends and the Changing the Role of the Port

Since 1994 the total volume of cargo handled at the Port of Constantza has been increasing or decreasing in correlation to the economic growth rate of Romania. In particular, the volume of imported cargo has been changing in correlation to the economic growth rate.

Import volume of Crude Oil and Solid Fuel, and export volume of Oil Products and Chemical Fertilizers have been decreasing for these years due to the reasons above.

On the other hand, General Cargoes, including containerizable cargo, have been increasing year by year at an annual rate of about 4%. The container traffic volume has doubled during these five years since 1994. However, the main reason for this increase in the container traffic volume is a rapid increase in the containerization ratio, yet not an increase in containerizable cargo itself. In the long-term, containerization of General Cargoes will gradually continue.

The main role of the Port of Constantza as a Commercial Port will gradually increase in the future.

1.1.3 Potential Hinterland for the Port

Transit cargo of the Port of Constantza, exported to and imported from CEEC recorded a maximum of 8% of the total volume since 1994. Reflecting the turmoil in Yugoslavia, the recent transit cargo volume decreased to 40% of the volume of 1996. Main commodities are cereals, steel and other metal products, ferrous and non-ferrous ore. Container traffic is still very small.

Inland Waterway Transportation through the Danube and Black sea Danube Canal is used for the transit cargoes of the Port. This transportation system will continue to be used in future.

Although Hungary, Slovakia, Yugoslavia and Moldova are deemed to be the potential hinterland countries of the Port, the most promising countries are Hungary and Slovakia, considering their locations, economic and political situations. The trade volume of these countries for Mediterranean European Countries, North African countries, Middle East countries and Asian countries, which is considered as the potential trade that might be transited at the Port, reaches 4-6% of the total export trade and 8-14% of total imports.

However, competing ports in this area, particularly ports in the North Sea and the Adriatic Sea, are formidable rivals. In order for the Port of Constantza to acquire the exported and imported cargo in this area, it will be necessary to innovate regional transport infrastructure, the level of differentiated service including not only harbors, but also inland traffic systems and customs systems.

1.1.4 Possibility to serve Transit Cargo between Caucasus/Central Asian Countries and Europe

The scale of economy of the three Caucasian and the five Central Asian countries is still very small. Among these countries, Kazakhstan and Uzbekistan have a substantial economic scale. These countries still have close economic relations with Russia and the former CIS countries, which account for 40-50% of their total trading volume.

Cargo from this area that might be considered to pass through the Port is the cargo exported to and imported from countries such as CEEC and some EU countries, i.e., Germany. Trade volume between these two areas is expected to be about 5-15% of the total trade volume.

The sea transport of cargoes to and from Caucasus and Central Asian countries is carried out using the ports on the Black Sea coast of Georgia. Of these cargoes, bulk cargo, general cargo and other cargoes excluding oil are exported or imported via Poti Port.

About 50% of cargoes handled at Poti Port are transit cargoes to Caucasian countries such as Armenia and Azerbaijan which make up part of the Port's hinterland. Both Kazakhstan and Uzbekistan with a comparatively large economic scale are considered to be hinterland

in the future. The originating countries of import cargoes through Poti Port are the former CIS countries (Ukraine and Russia), CEEC (Bulgaria and Rumania), and the USA. On the other hand, major countries to which export cargoes are destined through the Port are Turkey and Ukraine. Of these cargoes, those which go via Constanța Port are approximately 5 ~ 15% including trade cargoes with Romania, and of which transit cargoes at Constanța Port are currently about 5%.

Economic Growth of the Caucasian and Central Asian countries is forecasted to increase by 3-6% by year 2020. (The World Bank forecasts 3-4% growth to year 2010)

In 1993, EU launched TRACECA Program to implement financial and technical assistance (TA) to develop a transport corridor on a west - east axis from Europe, across the Black Sea, through the Caucasus and the Caspian Sea to Central Asia. As part of the program, the European gauge ferry loading bridge project is underway in the port of Poti (Georgia). Completion of this project will result in the realization of direct railway transport between Caucasian countries to Europe via the Black Sea-Constantsa line. Thus, Railway Ferry Terminal of the Port of Constantsa will have important role again.

1.1.5 Possibility of Container Hub Port in the Region

Presently, two types of container feeder lines operate in the Black Sea with hub ports at Piraeus, Gioia Tauro and Haifa in the Mediterranean Sea. One calls at ports (Odessa, Constanța, Varna, and Burgas etc.) on the west coast of the Black Sea, and the other calls at ports (Poti, Novorossysk, and Samsun etc.) on the east coast of the Black Sea. More than 10 shipping companies assign small ships of 500 ~ 1200 TEU to call at the Port of Constantsa.

Water depth of container ports on the coast of the Black Sea is 10.5 meters at maximum, but a plan to build a modern container terminal with a comparatively large water depth of over 13 meters exists for each of the above ports. Among them, Constantsa Port is ahead of the others in starting construction of a large water-depth container terminal. Ports such as Burgas, Varna and Poti, not having necessarily seen large increases in container transport demands these several years, are not strongly motivated to new terminal construction.

Currently, competition among shipping company alliances has further increased, and the recent trend in international container transport business has been toward higher efficiency of operation and better response to customer needs by less deviation of hub port sites from East-West trunk lines connecting the west coast of USA, East Asian coast, South Asia, the Mediterranean Sea coast, West Europe, and the east coast of the USA. This situation also

stimulates the strengthening of feeder service networks through concentrating the cargoes at hub ports.

Therefore, even if the Port of Constantza aims to be a hub port like those in the Mediterranean Sea, the possibility of mother ships now in service in the Mediterranean Sea trunk lines deviating to the Port is very low. Even in the case of Jakarta Port, Surabaya Port, etc., with annually handle containers of 1 million TEU in Indonesia, most ships are feeder ships from Singapore Port.

It is possible, however, for the Port to become a container hub port in the Black Sea if, in the future, the following situation occurs.

When the total demand for container transport in the Black Sea increases and independent container ship services within the Black Sea have been established, there will be a possibility for the Port to play a role as the second hub port in case it becomes economically advantageous to assign large ships for shuttle services between the hub ports in the Mediterranean Sea and the Port as a transit port.

In the case that container transport networks are developed in the basin of the Danube River, the Port can become a transit port since container transport services from the Mediterranean Sea to the Black Sea coast may possibly be connected to this liner services when the container transport of some substantial volume has been established between the Danube River basin and the Black Sea coast.

1.2 Development Strategy of the Port

1.2.1 Change of Romanian Economic and Trade Structure and Reorganization of the North Port

The Port of Constantza is basically a port that supports the domestic economy and domestic industries and will not be prosperous without the development of Romania's economy and industries. Since 1989, changes in the trade structure of Romania have resulted in vast discrepancies between the existing facilities and required port functions.

Port facilities for Bulk Cargo, i.e., Crude Oil, Oil Product, Coal and Ore, and Fertilizers and Chemical product, have sufficient capacity even considering Romanian economic growth in the future. Facilities for General Cargo traffic will need to be enhanced. Due to its

superannuated facilities and dispersed handling areas around the Port, this cargo is not handled efficiently.

Reflecting the trend of containerization and the construction of New Container Terminal in the South 2 Pier of the South Port, general cargo undertaken in the North Port will gradually be shifted to the terminal in the process of perusing more efficient terminal operation.

For this reason, reorganization of the North Port, including effective connection with the inland transportation system in the Port, is crucial.

1.2.2 Development of Regional Agriculture Industry and Development of Grain Terminal in the Port

CEEC countries are endeavoring the modernization of their agriculture industry as a national project. Romania also registered development of agricultural technology and trading system as a centerline of the medium-term national development strategy. In cooperation with EU accession their arable productivity will be improved and they will regain the position of strong grain exporter in the world market.

From a long-term perspective, the unrest in Yugoslavia will be also settled and Danube River Traffic will be resumed in the future. Accordingly, transit cargo for the hinterland, particularly cereals, will increase.

On the other hand, due to their obsolete facilities and lack of draft, the Grain Terminals in the Port at present do not have sufficient capacities or capabilities. As a consequence, development of effective and competitive Grain Terminal to support export industry of Romania and hinterland countries is crucial in the Port.

1.2.3 Expansion of the Container Terminal

Considering the changes in the trade structure of Romania, economic growth of hinterland countries, recovery of Danube River Traffic and the potential in cargo transit between Caucasian / Central Asian Countries and CEEC / EU countries, it is necessary for the Constantza port to go along with the worldwide containerization trend.

Following the ongoing container terminal development project, the pier S-2 in the South Port should be extended to increase capacity from viewpoints of pursuing effective

investment and sufficient yard space and draft. Consequently, expansion of the slip width in the east side basin of pier S-2 is important for the future plan.

1.2.4 Renovation of River Transportation Facilities

The advantage of the Port of Constantza over its competitors is its location at the river mouth of the Black Sea-Danube Canal, allowing it to provide economical transportation services by water transport on the Danube to the landlocked Eastern and Central European countries in the hinterland. It is important to set the development direction of the Port with an eye to ensuring that the port can make full use of this advantage. In the recent years, transit cargoes from the landlocked Eastern and Central European countries transported by inland water on the Danube have decreased due to the ethnic turmoil in Yugoslavia. However, when the blockage of the Danube in the Yugoslavian district is removed in the future, there is a possibility that these transit cargoes will increase significantly.

At present, the greatest part of the barge facilities at the Port has suffered severe deterioration and the capacity of the remaining part is insufficient for the future traffic demand. New facilities are needed to meet the inland waterway transportation cargo demand in 2010 in an appropriate manner. At present, there is a plan to make use of the hinterland area behind these barge berths as premises for an industrial district, in response to the establishment of a new law for turning the entire Port of Constantza into a Free Port in future.

For the above reasons, it is necessary to renovate River Transportation Facilities for barge mooring and for the breakdown and setup of convoys in still water areas inside the port.

1.2.5 Improving Road Access in the Port

Since the Port of Constantza has been developed as a modern port, transport between the hinterland areas has mainly been railway. Large portion of port area was shared to the railways. On the other hand, as the Port gradually shifts to a commercial port, the weight of road transportation system will increase. From this viewpoint, securing road capacity and accessibility for future traffic is necessary in the New Master Plan.

The South Port and North Port have different problems in terms of the port traffic roads. At present in the North Port, the means for transporting bulk cargoes to the inland are mainly pipelines, barges and railways, therefore the dependence on road transportation is not necessarily high. Furthermore, due to the progress in containerization, the general cargoes in

the North Port will be shifted to the South Port in the future and will not increase abruptly. In the North Port, therefore, the main problems to be solved are the accessibility of the roads connecting the gates and the wharf and the insufficient specifications of the facilities.

In the South Port, there is a possibility that the capacity of roads will become insufficient, due to an increase in the cargo traffic, including containers, in the future. Particularly, inland transportation of containers has a high proportion of the road traffic compared with other bulk cargoes. Furthermore, the existing roads in the South Port have many crossing points with the railway and there is a possibility that this may represent an obstacle to an increase in traffic volume in the future. Therefore, it is necessary to formulate the master plan from the viewpoint of improving crossing points and increasing capacity of the road traffic.

1.2.6 Revamping of Institutional Framework of the Port Administration

Since 1989, an intensive privatization process of the national companies has been carried out. In the port sector, the national company for port administration has been established and port operations have been privatized, spawning dozens of independent companies.

This abrupt privatization, on the other hand, has left over some insufficient legal and institutional frameworks as well as taxation system and procedures. This situation hinders the efficient utilization of the port facilities and undermines financial sustainability of the port administration body that has responsibility to maintain port facilities. This situation also hinders sound competition among operators in the open market for achieving efficient operation in the port. Present privatization and competition scheme tends to protect the vested interests of the present operators and discourages newcomers from participating.

In order for the Port to compete with the ports in EU and neighboring countries successfully, it is essential to improve the legal and institutional frameworks and taxation system for the port administration.

1.3 Possibility of Industrial Development in the Port

1.3.1 Industries Located in the Port of Yokohama

In order to identify what kinds of industrial activities could be located in and around the area of a port, the activities in the port area of Yokohama City are shown in Table 1.3.1, by way of example. The four major activities, which occupied more than 80% in total, are manufacturing, transport and communication, wholesale and retail, and services. The shares

of manufacturing, and transport and communication are 28.3% and 31.3%, respectively. In the sub-categories of manufacturing, food processing, chemical product, oil and coal products, ceramics and quarry, steel industry, and machinery are occupying large shares.

Table 1.3.1 Share of Business Activities in Port Area of Yokohama City

(Unit: percent)

Primary Categories		Sub-Categories			
		Manufacturing		Transport and Commu.	
Activities	Share	Activities	Share	Activities	Share
Agriculture and Fishery	0.8	Food Processing	12.5	Railway	0.8
Mining	0.0	Wood and Furniture	3.6	Passenger by Road	0.0
Construction	5.4	Pulp and Paper Processing	0.9	Cargo by Road	22.6
Manufacturing	28.3	Chemical Products	8.0	Waterway	0.8
Energy and Water Supply	3.8	Oil and Coal Products	10.7	Air	0.0
Transport and Communication	31.3	Ceramics and Quarry	8.9	Warehousing	41.4
Wholesale and Retail	14.0	Steel Industry	7.1	Related Service	31.6
Bank and Insurance	0.5	Metal Products	3.6	Communication	0.8
Service	10.8	Machinery	6.3		
Public Works	0.0	Electrical Machinery	8.0		
Others	5.1	Transport Machinery	8.9		

Source: Port of Yokohama, Yokohama City Government

In the sub-category of transport and communication, the share of cargo transport by road, warehousing, and related service is about 95% in total.

On the whole, the manufacturing industries located in the port area could be divided into two types: material-based and demand-based. The material-based factories use a large volume of crude materials transported by sea, and in general have dedicated berthing facilities in the port area to optimize transport cost. On the other hand, the demand-based industries are more concerned with the distance from target customers and land acquisition cost. Acquisition cost of large reclaimed land neighboring densely populated area was comparatively cheap in Japan and therefore demand-based industries are also located in port areas.

The port is an important junction that connects different transport modes, especially between sea and land; hence, it is reasonable that a lot of transport companies and related industries are located in and near the port area. The figures in Table 1.3.1 indicate that cargo transported by road, warehousing, and related services are crucial in satisfying the various requirements of customers in Japan.

1.3.2 Potential Industries in the Port Area

From abovementioned facts, it follows that some kinds of manufacturing and transport industries have the potential to be newly located in Constantza Port area.

As reviewed in this Chapter, material-based large factories are already operating in the port hinterland, such as Petromidia (oil processing and chemical products), SIDEX Galati (Steel products), Lafarge Medigia (Cement) and Oil Terminal (Crude oil and oil products handling and storage). These factories have sufficient capacity to increase production volumes, and therefore it is unlikely that similar industries will be developed in the port area.

On the other hand, the larger markets in Romania are the Bucharest Area and the northeast area, and EU countries are the best market for Romania at present. Constantza port is, however, less competitive because of its location and the present poor transport infrastructure condition. The market area should be assumed to be within Constantza County, and the size of this market is not sufficient to justify the establishment of large demand-based industries at present. Small size industries could be more feasible for this market size under the present economic situation of Romania. Investment by the private sector will occur under the incentives given in the Free Zone (see Chapter 1 of Part I) to minimize initial cost.

Considering these facts, the following industries have certain potential to be located in and around the area of the Constantza port.

- 1) Road Transport Industry and its Related Service
- 2) Food Processing Industry
- 3) Wood Processing and Furniture
- 4) Car Terminal

1.3.3 Initial Evaluation of Potential Industries

(1) Road Transport Industry and Related Services

The major part of cargo transported from/to the hinterland depends on the rail and inland waterway at present in Constantza port, mainly because of the policy for infrastructure

development during the last regime, and the character of cargo. The improvement of rail and road network, including the European Corridor project, is in progress and Bucharest-Constantza highway will be inaugurated by the year 2010.

In the age of IT (Information Technology), e-Business, SCM (Supply Chain Management) and LMM (Lean Material Management) are essential tools to succeed in competitive business fields. In order to facilitate these tools, optimum transport network with various transport means such as sea, air and land, shall be organized in the targeted business domain to satisfy different kinds of terms and conditions of materials supply and products delivery, such as time, cost, volume, security, punctuality and frequency. Considering those trends, the role of container transport by sea, cargo transport by road, and transport related services, which are deeply related to Constantza port, would be important in Romania in the foreseeable future. Finally, the distribution complex, which involves not only transport function but also sales function such as wholesale, retail, showroom and package, as well as information and marketing function, shall be organized to satisfy customers' requirements.

Construction of a new container terminal in the south port is in progress, while several forwarding companies and storage companies have been established in the Free Zone. According to the given container forecast volume, the size of these facilities is not sufficient. Therefore appropriate area near the new container terminal, for example in the Agigea Commune, as well as road connection to European Corridor should be prepared to encourage further private investment.

(2) Food Processing Industry

As described in Section 1.1.6 of Part 1, around 274 food industry companies are functioning in Constantza County. Those companies are, however, too small to be competitive on the international market. After short sea shipping transport network in Black Sea area is well-organized local material-based investment targeting this area could be started under the condition of Free Zone incentives. On the other hand, after the economy of Romania recovers, the domestic market would consume the imported raw materials for processed food, for example soybeans. Those factories could be located in and near the port area.

(3) Wood Processing and Furniture

As described in Section 1.1.6 of Part 1, several wood processing and furniture industries are already operating in Constantza County. After the container transport system is well organized, further local material-based investment targeting international markets could be started under the condition of Free Zone incentives.

(4) Car Terminal and its Related Services

As described in Section 1.1.7 of Part 1, automobile sector planned to export their products to emerging markets in their original investment program. But due to the harsh investment climate and severe competition in the world automobile market, this has not been realized. If exports become a reality, car terminal and related services could be located in Constantza port.

1.3.4 Location for New Industries Investment

The industries proposed in this section are characterized as customer-oriented and therefore the investor will select clean and easily accessible areas located a certain distance from dirty cargo handling area and near the ramp of highway.

The detail plan of road network is not yet fixed, but it could be said that in and around South port area is the most appropriate location for new investment. If coordination between the port and the city would be thoroughly organized, the north-end part of the port could be another alternative location for a car terminal.