

THE PORT-CITY RELATIONSHIP

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Abstract. *In time, the port-cities knew advantages and disadvantages as compared with the common cities, the ports have a certain impact on the urban developments: they create environment problems and contribute to the city development through the trade development, creating adding value and working places. On the other hand, the ports development is restricted by the land deficit, ecological reasons and the urban growth. The pollution caused by the port (structural, operational and accidental) extends toward the junction area port-city, as well as the pollution caused by the city superposes over the same area, which becomes very sensible from this viewpoint. In the present time the port-cities extended the ports limit, so that these have to take steps for reducing the city pollution by performing the port operation far from the city and generally the ports have to find solutions for a sustainable development that may avoid the conflicts with the port city.*

The aim of the paper is to emphasize the problems existing now between the port and the port-city as well as several solutions for going beyond them.

Keywords: *port, port - city, urban developments, sustainable development.*

1. INTRODUCTION

A maritime port is an interface between the maritime transport and the other means of transport (rail, land, through tubes, domestic maritime and even aerial). It has a key-role in developing the port-city, the economy of the state it belongs to, and the disserved hinterland, so that any imperfections in functioning this “gate” to inland and hinterland may have drastic effects on their economy. The relations between the port and the port city are dynamic (as the same measure can have different effects on short and long term) and complex (economic, cultural, environmental safety and security). Even if there have been conflicts between the port and the urban authorities, always the development of the port offered new opportunities for the port-city.

Many cities in the world, especially the greatest, had a close relation with their port, the economic situation of many of them being bound with the port dynamics. This has led to establishing the cooperation relations between the port and the city and moreover to some conflicts, especially for utilizing the land and water, the sea shore being an area with interface. There have been also safety and security problems, which contributed to a precarious public image of many ports.

In the last decades, the dominant tendency has been to increase the connecting level between the ports and the host cities, especially due to improving the hinterland accessibility, which means that the main economic activities that utilize the port are set in the hinterland, and not very close to the port terminals. Europe, on the whole, comprises more than 1000 maritime ports, among which 700 are small or middle size (have a year traffic under 1 million tones goods) and about twelve are large size ports with the traffic of over 50 million tones. Numerous European ports, especially the containers ports reached an explosion concerning their activity in the last twenty years, as consequence of the containerization of the Asian market and especially the imports from China. This tendency encourages a greater number of European ports to participate in the world market. In order to cope with this increase, the European ports were obliged to invest in new capacities for receiving the ships and in fiable connections with the interne traffic. The economic world crises made the transport markets over the world to react to decreasing the economic power in 2009. The port operators fought with diminishing the transport volumes and extending the port infrastructure referring to the new port terminals, new equipments for goods manipulation or possible new intermodale connections have been placed on “the waiting line”. Despite these, recent data show that goods volumes transited through the ports are growing again and a greater internationalization of the trade intensifies the importance of the maritime ports.

2. The economic objectives of the maritime port

The maritime ports have three main economic objectives [3]:

1) *The microeconomic objective*, according to which the ports aim at reaching an important traffic volume, for this efforts are made both at the port Authority level and the level of the societies that form the port community;

2) *The section objective*, in conformity with which the ports take parts in transport chains and make efforts to minimize the goods transit costs through the port;

3) *The macroeconomic objective*, according to which the ports has the purpose to maximize their impact on the local, regional and national economy, by creating incomes, the adding value and working places.

Having these objectives in view, the modern maritime ports get to competition, each intending to attract an important and loyal goods traffic, to become more competitive in the transport chain where it is involved in terms of its contribution to reducing the transport expenses and finally, striding to create the best conditions for connecting the industries with the delivery centers in the area.

Therefore, the ports should be efficient and competitive for surviving in a competing society. Among the factors that contribute to the competitiveness of a modern port, the following necessitate a direct relation with the port city:

a) – the accessibility of port on the land (ports need adequate connections and access to hinterland, on nets of road and rail transport, through tubes) and where it is the case, on the interior navigable ways;

b) – Availability, capacity and quality of infrastructure and the existing installations and their future perspective;

c) – The active sustenance of the port by the city.

In general terms, the port infrastructure should adapt to the users needs (ships, goods, transporters) and to take into account their needs of foreseeing development in future.

3. PROBLEMS IN THE RELATIONS PORT-CITY PORT

Problems port port-city port come from the fact that the port-city extended to the port limit, so that the growing of the ports is restricted by the land deficit, ecological accounts and urban development and the port should find solutions for developing sustainable and avoiding any conflict with the port city. The main existing problems at present among the port and the port-city are: the need of land for port extension and the pollution caused by the port.

3.1 The need of land for port extension

The most important problem is the permanent need of the ports for extension therefore to increase the land surface. In their evolution, the ports have permanently extended the land area. For example, the port of Constantia - the largest Black Sea port and 4th largest in Europe - has expanded in several stages of its development and modernization, over time [6]:

	1899-1916	1968	1984	In present
Quay length [km]	4,312	-	15,400	29,83
Surface water [ha]	60	64	254	2613
Land area [ha]	137	135	270	1313
Total number of berths	-	24	79	156
Water depth [m]	-	7-10	7-11,5	7-19
Port capacity [mil.t/ year]	-	-	55,5	140
Size of the ships operated [tdw]	-	/25.000	/36000	/ 220000

As the land reserves foreseen for extension are in all ports consumed, the extension of the actual ports is restricted by the land deficit, claiming intensifying and improving the port territory utilization.

Another solution that cannot lead to conflicts with the port city is gaining land from the sea. So, we see nowadays many port terminals migrate towards peripheral locations, due to the need of supplementary space for extending existing terminals and for building new terminals, in locations situated farther from the conventional location, on the existing fields and/or on the fields obtained from the sea (through filling hydro technical buildings). These locations are advantageous from the point of view of the city pollution reduction. The actual need of the port extension is explained by/through:

1. The increasing container traffic
2. The increasing ship size
3. The need to grow the safety and security of the port-city inhabitants

4. The necessity to develop infrastructures for the short distance maritime transport and for the intermodal transport

3.1.1 The increasing container traffic

Containerization, as a modern technology for packing, storing and transport of goods in containers, reclaimed not only means of transport but also specialized intermodal terminals, supplied with large storing surfaces, special equipment for storing, transboarding and manipulating of containers. Modern container terminals are great land and capital consumers but they necessitate a reduced quantity of skilled labor. Consequently, they employ less people than the old terminals for general goods, reducing a large number of interactions port/city (for instance to and fro running, working places). The ships specialized in container transport station a short time in port, usually less than 24 hours, considerably reducing the links between the crew members and the land. Even more, because of the complaisance pavilions given by certain states (for example Filipine, Malta) a ship can have a multinational crew that is not bound with the ports of call, reducing so the link between the crew members with the port city. It results that the city benefits from the existence of the modern container terminals which receive for operating even greater ships, are reduced.

3.1.2 The increasing ship size

Generally, ships (tankers, portcontainers, bulk carriers) have increased the transport capacity (implicitly the dimensions and the draught) with the purpose of realizing the scale economy, that the ships owners and freighters make use of, with a negative impact on the ports, that must make important investments in order to receive and operate them performantly.

Certain measures impose: increasing water depth in the port basins, broadening berths length and storing areas, equipping with corresponding quay cranes concerning the arm length (to cover the ship width), the productivity and the simultaneous number of cranes operating a ship.

In spite of these operating modern ships, because of the specific technologies and degree of the port equipment for specialized operation, necessitate less effort, therefore reduced working force but skilled and the crews of the classical ships, so that the evolution of the ship size received in port does not create more working places for the inhabitants

of the port city to conclude it does not bring benefits from this point of view.

3.1.3 The need to grow the safety and security of the port-city inhabitants

The risks and threatening include the pollution generated by ships, ports and illegal activities, from the traffic with human being and smuggling to terrorism. Such risks and threatening necessitate control in accordance with the rule for maritime security through national port control, through the safe and efficient management of naval traffic and through its careful monitoring.

This necessitates harmonization legislation of EU member states and implanting some international rules as The International Code of Naval and Port Facility Security (ISPS Code) [4].

The fight against these risks and threatening could be efficientized following some improving actions of informations swaps among the EU member states, the common investigation teams and consolidating the transport infrastructure protection in the EU.

3.1.4 The necessity to develop infrastructures for the short distance maritime transport and for the intermodal transport

Improving the maritime short distance transport (shore or cabotage) could bring advantages, such as diminished investments for the port infrastructure and reduced pollution. For lack of these investments, the traffic will continue to be taken on land by the road transport, which necessitate expensive road infrastructure and has polluting high degree.

Also, the investments necessary in the port infrastructure needed for the intermodal transport improving is required considering the importance of the intermodal transport improving for the economy, balancing transport improving and pollution diminish.

3.2 The pollution caused by the port

Pollution provoked by the port (structural, operational, accidental) is limited by the legislation in force (MARPOL 75/78; ISPS Code), which stipulates even shutting down the port facilities that are unproper. The EU objective is the durable improving of the ports.

In the era of the International Code for the ship safety and port facilities and other prevention measures, the durable port improving (that aims the present needs, without compromising the future generations possibilities to meet their needs) is a special provocation the needs a certain creativity from the ports managers.

EU aims the durable development of all European ports, promoting the industry efficiency, diminishing the negative impact on the environment and integrating the ports in the whole chain of intermodal transport.

Through the local and port authorities are the main responsible for integrating the ports in the city and the urban life, The European Commission can be a catalyst in this initiative, sustaining good practices. In order to diminish pollution, the modern ports make use of modern ecological technologies for manipulating and storing the goods and ships operation, among which the following can be enumerated:

- a) Depositing the solid bulk goods in special domes where loading and recovering the goods is made continuously. In fact the solid bulk goods are not allowed to be deposited in

the open air, because of the pollution caused, the goods loss and degradation of the port equipment by erosion.

b) The usage of the modern pneumatic equipment for manipulating the solid bulk in the form of grains or powder (coal, cereals, cement);

c) Introducing some personalized floating cranes for operating in the roads or in port basins of different ship types (portcontainer, bulk carrier) and for depositing and transporting the goods on short distances. These cranes are opportune in the present time, when the risk of some major investments in berths and quay equipment is great.

d) Building offshore terminals for petroleum products, LPG, NPG, has the advantage of reducing the risk for city and port accidents, bearing in mind that the goods to be manipulated, especially NPG are very dangerous.

4. SOLUTIONS FOR INCREASING THE PORTS AND PORT-CITIES ATTRACTION

In Europe quite a lot solutions have been found for developing ports and their cities: arranging the shore areas, developing tourism in the port-cities, developing the modern port as junctions in the intermodal transport chain, cooperating with the International Association Cities and Ports.

4.1 Arranging the shore areas

The shores represent a unique natural inheritance that holds irreplaceable ecological, cultural and economic resources. These territories are a complex and fragile environment that functions like a corridor for protecting water, on one side, and land, on the other.

The projects for arranging the shore areas though different, aim at rendering the city the abandoned and disaffected port areas in order to turn them into spaces for offices, dwellings and leisure places, establishing the activities far from the city centre.

4.2 Developing tourism in the shore areas

The shore areas and the islands are important elements of attraction and success for tourism. The durable tourism can contribute to the development of the shore areas (and the islands) by improving the competition in business, satisfying the social needs and increasing the national and cultural heritage of the local ecosystems.

The need to improve and maintain the attraction of these areas should lead to more durable and ecological practice and policies.

4.3 Rehabilitation of the port-cities

Assigning some parts of the coast and shore that belong to the port to the port-city, fact that took place in many European countries separated in many cases the city from the port, making the port “invisible”. For some ports this policy is not durable as the lack of land is acute and the ports growing are limited by important ecological pressures, fact that forces

them to turn towards the inner city in order to re-develop the old areas of port activities.

The good relations established between the port and the port city needs an effort made by the two parts: the port authorities should assure that the port is as clean, careful, and discreet and secured as possible. As for the inhabitants, they ought to understand, the fact that the port is useful for their general progress. Only under these conditions, the port city re-ignition will be a real success. With the same purpose, partnerships port-port city are being created in domains as tourism, resting activities, culture, inheritance, with the view of familiarizing people with the port universe and importance and the maritime transport.

4.4 Developing the modern ports as junctions in the intermodal transport chain

In the present time, modern ports represent essential elements in the logistic global chain, being locations of the economic activities assuring locative spaces and touristic facilities. Starting from being destined exclusively to one single activity, they became multifunctional places.

The European ports are a direct and indirect source for half million working places, at the same time assuring the dynamism the areas development even those peripheric. The port cities are junctions in the intermodal trade. The ports that developed intermodal transport facilities and have good connections with hinterland can participate in the intermodal transport chains but the competition is great. So, in the present time, the decisive factors on the transport matters (senders, forwarding agents, multimodal transport operators), do not necessarily select a port, but mainly a transport chain with the purpose of organizing a “door to door” intermodal chain, where the port is just one of the junctions.

4.5 Cooperating with the International Association Cities and Ports

The International Association Cities and Ports (IACP) was created in 1988 on the initiative of cities, ports and their institutional and economic partners to improve the dialogue between the cities and the ports and to advantage exchanges of experience between port city communities, for urban development at the city port interfaces, territorial development policies, and sustainable development [2].

5. CONCLUSIONS

The solution for passing beyond the conflicts port – port city is being familiar and mutual understanding, respect and dialogue between the two institutions. In order to fulfill its mission, a modern port should maintain a positive relation with its city. Viewing economic growth and durable development, ports and port-cities have to re-become partners.

IACP offers specialized help for going beyond these conflicts, based on the acquired experience by certain European ports and good practice.

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