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PLANNING OF FUNCTIONAL/SPATIAL DEVELOPMENT OF THE PORTS IN GDAŃSK AND GDYNIA

Abstract

Transformation of Polish economy and of its environment, especially of the Central and East European countries, is strongly reflected in port economy. Polish ports found themselves faced by the necessity of finding solutions to many strategic problems, resulting from new conditions of functioning and development. The result is that structural changes in port management are needed, and that directions of spatial development of each of the ports have to be formulated.

In the last years, research and conceptual studies concerning the functional/spatial development of each of the ports have been started. One concerns a new plan of port area development for the Port of Gdynia, the other is the Master Plan for the port/industrial areas of the Port of Gdańsk.

1. Land-use plan for the Port of Gdynia

Work of the plan [1] lasted 2 years and ended with its approval in 1995. The plan concerns the whole area of the sea port in Gdynia and most of the port-town contact areas. Due to location, linkage and hitherto development, the whole area forms three functional/spatial units:

- Unit I, the port, directly related with the port basin, including accompanying functions (in that the ship building and ship repair industry); its character, development and functioning are determined by the existence of the port;
- Unit II, industry and services, with a large participation of already formed and used facilities and systems of technical infrastructure; and
- Unit III, at present undeveloped, located in areas which formerly were used for agriculture.

The plan adopts the above division of the whole area and formulates strategies of development and principles of spatial policy within these units.

The objectives of development and transformation of the port and industrial district are defined as follows:

- (1) optimum utilisation of the values and predispositions of the area,
- (2) utilisation of possibilities offered by the area in order to improve efficiency and to intensify operation of existing transport and infrastructural systems serving the port and town, and formation of correct conditions for transport and engineering servicing of subjects operating in the port area,
- (3) protection of natural environment against harmful and noxious influences of the district,
- (4) gradual arrival at spatial order,
- (5) in step with widening of the scope of port functions, change of character of the port and industrial district, in that:
 - integration of the port with the town, especially with its centre not only in organisational and functional sense but also spatially;
 - taking into account the development needs of other - besides cargo handling in port - branches of maritime economy and activity, connected with the coastal location of the town, especially tourism and passenger traffic;
 - formation of spatial conditions for the development of trade and new industrial enterprises, especially these which cooperate with the port;
 - formation of spatial conditions for intensifying international cooperation and for the development of Gdynia as a trade centre of national and international importance;
 - increase of location rent by appropriate infrastructural development and adaptation of the area to the new forms and principles of management.

The determinations of the plan with respect to port areas are characterized by a high level of aggregation and flexibility. Due to:

- a) large margin of uncertainty in predictions of development of maritime economy,
- b) subject/ownership transformations in result of which the port space becomes divided into a number of independent economical subjects, which realise their own interests,
- c) developed law (Act on Seaports), according to which economical functions of the whole port area, i.e. coordination of investment plans will be taken over by the Port Authority;

the land-use plan in its part concerning the port area is as far open as possible. The role of the plan is to reveal the basic spatial conditions and relationships, first of all between port operation and port environment (town, region), and also between various types of economical activity within the port area. Restructuring of the port in Gdynia is proceeding, and the presently existing

spatial divisions are not final; directions of further transformation remain open, though dependent on various aspects (final shape of law on seaports, volume and structure of cargo, marketing activities, social situation etc.). The process of spatial diversification and division of the port must be coordinated and supervised in order to:

- counteract tendencies to attain short-term profit by leaving a part of areas and basins, which are valuable to basic port functions, to needs/operations completely unrelated with the use of basic hydrotechnical infrastructure and of the location rent in port;
- prevent the appearance in port of spatial enclaves, useless to any future users (e.g. leaving a part of the waterfront with out hinterland facilities, or cutting off the storage hinterland from the quay or from transport services, etc.).

The plan contains two types of determinations: obligatory and postulative (information). Obligatory determinations concern these investments, which are necessary for proper functioning of a given area and which are unequivocally spatially conditioned (infrastructural investment mainly), and exclude investments which would be against public interest.

Postulatory (information) determinations of the plan formulate the preferences and limitations in the development of separate functions at each location system or structural unit, resulting from:

- the evaluation of existing state of development, in that the technical state of basic components of port infrastructure,
- precised investment plans of users of the port area, with respect to which there are no contraindications resulting from hitherto planning,
- widely understood predictions of the development of various functions of maritime economy,
- the neighbourhood with other elements of development of the port and industrial district and of the town,
- adopted principles and priorities in the formation of a given spatial order and in the fulfillment of the requirements of environmental protection.

In result of the carried out studies and analyses, two groups of land areas and basins were distinguished:

- a) the areas (and basins), for which in the adopted time horizon no significant change in their present use is expected,
- b) the areas (and basins), in which hitherto use will be changed (development areas of the port, areas in which functions will become changed); in this group, areas of special importance to the spatial integration of port and town may be distinguished.

Also critical areas in the spatial structure of the port were indicated. These points require especially careful analysis when directions of their development are formulated, and this for various reasons: collision of investment plans of users

with natural predispositions of the areas and with their location in the whole port and town organism, availability for development of several different functions, special importance both to the port and the port town.

It is expected that the main directions of spatial transformation in the port will be focused on the following processes:

- improvement of spatial solutions in these parts of the port, which are characterized by a high level of modernization of potential and by good adaptation to the requirements of customers;
- conversion of a significant part of conventional general cargo potential into new developing port functions: distribution/logistics and trade/administration, possibly connected with the free port area; probably this will be a gradual process, requiring significant investment into infra- and infostructure of the port areas;
- arranging and transforming town/port contact areas through filling them up with functions integrating both organisms (including possible relocation of some functions from other parts of the town);
- improvement of infrastructure systems, in that first of all improving accessibility to the port by road transport, and also improvement of the system of rail services and adapting it to requirements resulting the predictions, modernization of the port sewage and heating systems;
- rational starting of the process of development of new functions in a part of the fishing port (Kutrowe and Wilson's Quays with their hinterlands) and of a part of the Gdynia SA Shipyard (Bulgarian Quay with hinterland).

It should be stressed that utilization of all land reserves in various parts of the port which have appeared and still are appearing due to restructuring of hitherto functions, though they are used by affranchised economical subjects, should be subjected to common to the whole port area (and the port/industrial district) rules of management, the objective of which is to generate and maintain a certain spatial order.

2. Master Plan for port/industrial areas of Gdańsk

When formulating the spatial delimitation of the work [2], the administrative division into port and town (municipal) areas, sanctioned by territorial boundary of the Port of Gdańsk, was disregarded. It was assumed that the study area consists of:

- land and water areas within the port limits,
- neighbouring land and water areas, showing a relationship with the port, or which may in the future an object of interest to the port investor.

The following objectives of the Master Plan were formulated:

- 1) development of a prediction of economical development of the Gdańsk port/industrial complex,

- 2) giving proper direction to investment activities in the port area and in its development areas,
- 3) determination of the needs with respect to port servicing infrastructure,
- 4) coordination of port investment (and of other investment in the port area) with plans and investment activities of the town,
- 5) obtaining information which would allow to select the most appropriate, in given conditions, sites for various projects,
- 6) obtaining a basis for formulating principles of management of areas and facilities in the area of the Master Plan.

When initiating the work on the Master Plan for Port/Industrial Areas of Gdańsk, the port authorities were sure that local detailed land-use plans do not take into account in one plan the whole port area and its development areas, and that the specifics of maritime economy and port investment cannot be properly reflected in the "rigid" framework of local spatial planning.

The research procedure for the preparation of the Master Plan is shown in Fig.1.

Basing on forecasts of cargo throughput and of passenger traffic, the following four strategic priority directions in the development of the Port of Gdańsk were distinguished:

1^o- development of cargo handling/storage services for dry and liquid bulk cargoes, together with processing and distribution services;

2^o - formation of conditions for activating the participation of the Port of Gdańsk in intermodal techniques;

3^o- formation of conditions for the development of selected distribution/logistics services;

4^o- development of Baltic passenger/cargo ferry services, parallelly improving the accessibility of the port from hinterland and improving the quality of environment.

It was decided that the strategic directions of development of the port should be built up basing on values connected first of all with "tradition", "location", "accessibility" and "spatial planning/development and natural environment":

- a) accessibility of the port for all vessels entering the Baltic;
- b) very good access from hinterland of rail and pipe transport;
- c) location at the outlet of the Vistula inland waterway, in spite of the presently limited efficiency of inland connections with the hinterland;
- d) existence of very large reserve areas, mainly on the Stogi Island, advantageously located in the structure of the port town system (at an advantageous distance from urban areas). Besides, reserve areas are characterized by the rather rare advantage that their preparation for port functions requires relatively low investment;
- e) cultural tradition and touristic value of Gdańsk, which are not equaled along the whole Southern Baltic coastline (a 1000 year old town with wonderful

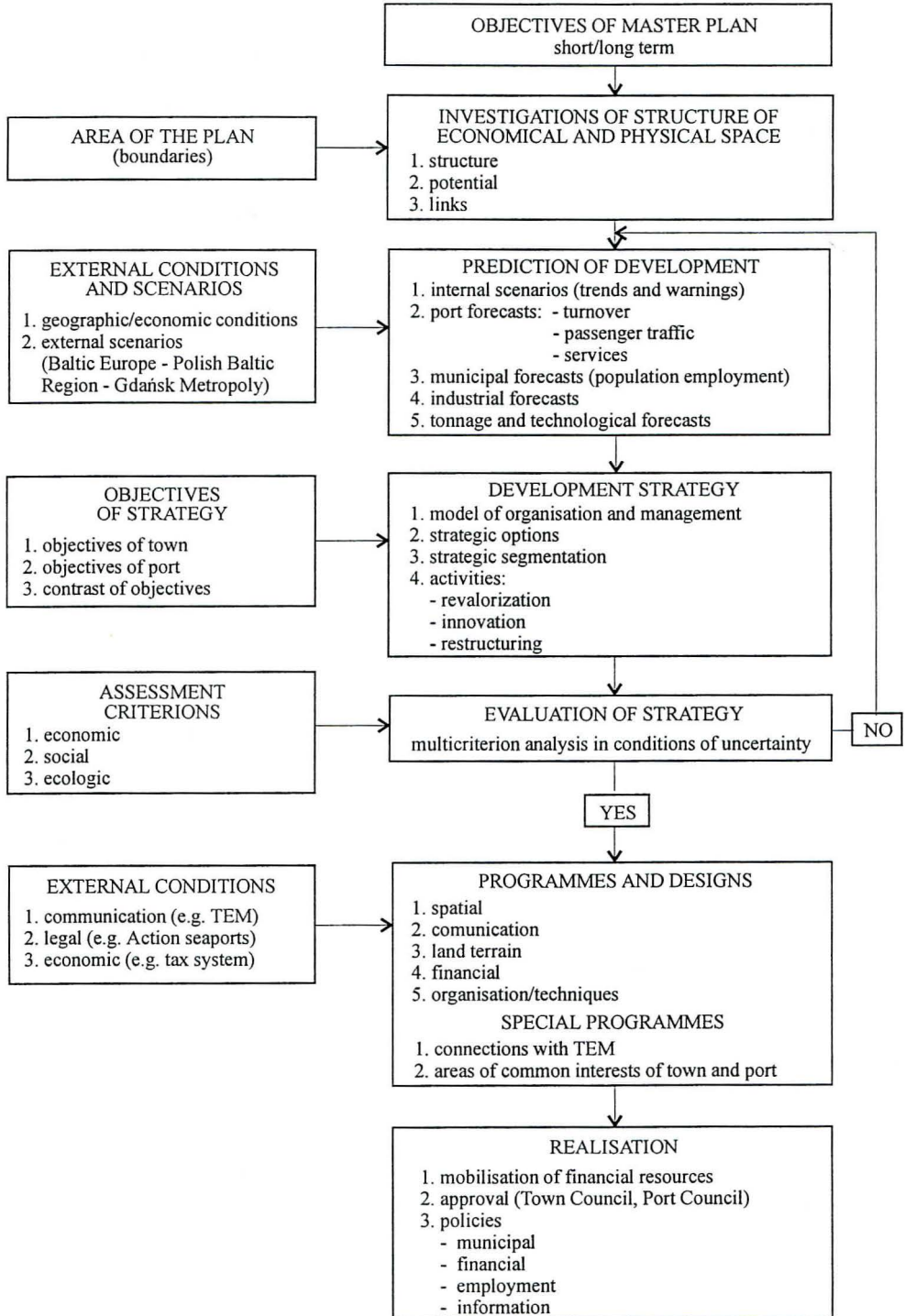


Fig. 1. Procedure of the Master Plan of Gdańsk port/industrial areas

old buildings, located in its most valuable part - the Old Town, situated along the old port waterfront).

In the forecast of development and land-use of the port/industrial complex of Gdańsk, an attempt at answering the following questions was made:

- is the quantitative and qualitative realisation of the forecasts possible within the Master Plan area?
- to what extent this may be attained through activation of the existing invested (developed) areas?
- to what extent the use of reserve areas is justified?
- what values of the space are required for proper development of selected functions?

Investigations showed that transposing the forecasts into spatial considerations is fully possible within the Master Plan area. Development of already invested areas should be intensified to a maximum degree, and reserve areas should be used only if absolutely necessary.

In terms of space, the development of economical functions of the Port of Gdańsk indicates that fulfillment of the needs will to a limited degree engage the capacity of the whole system. The scale and the location values of reserve areas lying within the Master Plan area will still remain, after 2010, one of the main factors of further development of the port. However in order to fully realize the adopted spatial development strategy, consisting in full utilisation of existing values, inherent in the management of space and location values of the space, it was assumed that utilisation of any spatial reserves in various parts of the port which become apparent in effect of restructuring the hitherto existing functions should be subjected to rules of management common for the whole area, even if they are used presently by separate economical subjects. These rules of management have the objective of forming and maintaining a defined spatial order.

The Master Plan assumes intense development and utilisation of all areas, though there are very large reserve areas, in the North Harbour system mainly. The main principle in the work on the Master Plan, was the principle of intensifying the utilisation of already developed area, e.g. through restructuring activities which would increase the potential possibilities.

Using the criterions: (1) location in the functional/spatial system of the whole port complex, (2) location with respect to the town, (3) transport accessibility from sea and land, (4) spatial continuity and requirements of environment protection, (5) process technique connections, the whole area of the port was divided into fire units [3], which were given the following basic directions of specialisation:

I - west part of inner port - "clean" cargo handling and storage, free port area distribution/logistics function, ferry traffic services; within this unit the most strong requirements on environment protection must be observed;

II - port industry in the Młynisko - Ostrów region - the area will be further used for industrial functions, but these functions require restructuring and use of space

should be intensified, with “regained” areas being used for other functions, e.g. connected with the town;

III - east part of inner port - handling/storage function for dry and liquid bulk cargo, elements of distribution functions and industrial function, maintaining possibly highest rigours of environmental protection within the whole area; intensification of the use of the area and improvement of spatial order are required;

IV - North Harbour structure - system open for locating any function, the main value of that unit are still the natural conditions; extremely large land reserves, long coastline and easy access to the deep part of the Gulf of Gdańsk. Additional value of this system to the port/industrial functions is that it is removed from densely urbanized areas of Gdańsk, and is advantageously positioned in relation to the hinterland with respect to transport;

V - Martwa Wisła unit - functions connected with the inland character of the basins.

3. Conclusions

First of all, from the work on the functional and spatial development of the ports in Gdańsk and Gdynia results a new philosophy in the approach to problems of spatial development in Polish ports. In the work special attention is given not only to:

(1) formulation of the principles of area and real estate management within the limits of the Master Plans,

(2) definition of the directions of development and of spatial transformation, and of principles of location policy, taking into account the requirements of protection of environment [4],

(3) determination of the most effective model of utilising the port/industrial areas,

but also to:

(1) Formulation of principles of rational area management in areas considered in the land-use plans,

(2) activation of processes of integration between ports and port towns in the organisational, functional and spatial spheres, taking into account the development needs of other, not concerned with cargo handling, branches of maritime economy and activities connected with the coastal location of the towns, especially tourism and passenger traffic,

(3) attaining coordination between the development the port and development of the town, especially of districts adjoining both ports.

References

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