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## FORMING THE SUBURBAN ZONE OF THE GREAT SEASIDE CITY

Viktoriya Yavorska, Doctor of Geographical Sciences, Professor

> Vyacheslav Onufrienko graduate student

**Odessa National I. I. Mechnikov University** 

### Abstract

The article looks at the problems of formulating the primitive zone of the Great Primorsky Mist. From the article it was stated that the planning scheme for the territory of the Odessa region needs to be developed, in fact, a new direction - the functional zoning of water areas adjacent to the agglomeration, and estuaries, as well as lands of the water fund, which are allocated in the Water and Land codes of Ukraine, but have not yet been allocated to terrain (in kind). The general scheme of separation of the sea from the coastal zone is already known. But it must be substantially detailed in relation to the natural features of the coast and the socio-economic needs of the Odessa agglomeration and Ukraine as a whole.

Key words: suburban area; seaside strip; planning; territory; development.

# ФОРМУВАННЯ ПРИМІСЬКОЇ ЗОНИ ВЕЛИКОГО ПРИМОРСЬКОГО МІСТА

## Вікторія Яворська, В'ячеслав Онуфрієнко

## Анотація

У статті розглядаються проблеми формування приміської зони великого Приморського міста. У статті доведено, що в схемі планування території Одеського регіону необхідно розробити, по суті, новий напрямок - функціональне зонування акваторій, прилеглих до агломерації, і лиманів, а також земель водного фонду, які виділені в Водному і Земельному кодексах України, але ще не виділені на місцевості (в натурі). Загальна схема ешелонування морської акваторії від берегової зони вже відома. Але її необхідно суттєво деталізувати стосовно природним особливостям узбережжя і соціально-економічним потребам Одеської агломерації і всієї України в цілому.

Ключові слова. приміська зона; приморська смуга; планування; територія; розвиток.

**Statement of the problem.** The term "suburban zone" has been used for about 80 years [6], and during this time the concept has become widespread, and its content as territories adjacent to the city - suburbs and suburbs. In the future, the PP was considered as a functional-planning "additive" mandatory for the city, later as an integral component of the city [4]. At present, in many countries the PP already has its own administrative-legal status, and in other countries this problem is in the context of administrative-territorial reforms. In the US and EU countries, PZs are considered as "urban areas" and are included in the urban population. For Moscow, PZ is the entire Moscow region with a population of 6.7 million inhabitants, and it forms a separate administrative district with special status - the Moscow metropolitan area. More than half of the population of the Leningrad Region lives in a suburban area of St. Petersburg and forms the St. Petersburg agglomeration with special administrative-territorial reform, it is proposed to create new administrative-territorial units - a city-region and a city-district, in which large and medium-sized cities will administratively include their PZ.

Analysis of recent research and publications. When writing robots, the legal regulation documents, the rights of authors and foreign authors, and the literature are written. The methodology was based on the foundation of mortgages, such as openings in the

scientific fields of N. I. Blazhko, F. D. Zastavny, S. S. Mokhnachuk, L. M. Koretsky, P. S. Kovalenko, V. M. Piturenko, V. M. Peresekina, O. I. Stepaniva, A. V. Stepanenko, G. G. Starostenko, D. M. Stechenko, M. F. Timchuk, M. I. Fashchevsky, S. S. Fomina, O. I. Shablia, L. T. Shevchuk and that. [2, 4, 5, 6,].

**The purpose of work** - take into account the particularities and laws of formality of the primitive zone of the Great Mist.

**Basic material**. Currently, the city-PZ system is considered as a single whole with its connections, interdependencies and interactions, with its principles of complex and synergetic development. In the methodological aspect it is necessary to distinguish: 1) the impact of the city on the PP; 2) the impact of PP on the city; 3) the interaction and interdependence in the system "city - PZ" and the synergistic effect of such activity. Management problems are becoming particularly difficult in the PP: in Ukrainian urban planning, the PP is called the "zone of common interests", which intersects the multilevel interests of the city's population, satellite towns, adjacent administrative and territorial areas, and village and village councils. For coastal cities, it is necessary to take into account national requests related to maritime borders, recreational and environmental activities.

The concept of PP in Ukrainian urban development, as well as in Russian, has virtually no regulatory status and requires appropriate development. In this paper, the problems of the territorial organization of PP are considered on the example of a large coastal city - Odessa and Odessa agglomeration, using the concept of the territorial organization of the natural environment of the population and economy, territory planning, urban planning, regional economy, and management.

Territorial planning and functional zoning of the large coastal town PP has its own methodological and methodological features. Chief among them [2]:

1) the use of territories in the suburban zone of a big city is characterized by significant differences and uneven distribution: according to the levels of intensity of economic use, the territory has a significant decline from the center of the suburban zone to the periphery, with a belt distribution of functions and corresponding anthropogenic and technological loads. It is also characterized by a thickening of the settlement and economic use of territories along the main transport highways with a gradual decrease in the intensity of use from the center (core) to the periphery;

2) in the suburban areas of large cities, there is an acute shortage of land both for the development of the nucleus and for the normal functioning of the suburban territories: this problem is especially relevant for coastal cities, where the land part of the suburban area is on

average half that of the suburban lands of continental cities; the deficit of territories in the suburban area reduces the multifunctional use of land when the same site performs several different functions at the same time; in this regard, a mandatory step in the planning of the territory of the suburban zone is a coupled analysis of the spatial "compatibility-incompatibility" of different functions with the justification of permissible combinations and combinations of economic use of the territory of different types;

3) the level of intensity of the economic use of suburban areas is usually high and the accuracy of the functional zoning of the suburban area should be as reasonable as possible;

4) many functions of the suburban area are mutually opposing, antagonistic to one another, mutually exclusive of each other; wastewater and waste management opposes the functions of environmental protection of the city; land allotments for industrial and transportlogistical use conflict with resettlement functions; the formation of a protective forest park belt conflicts with the production and settlement use of the territory;

5) the confrontation of certain functions of the suburban zone imposes certain requirements and standards on its territorial organization:

a) the polar distribution of sites with opposing functions and their maximum distance from each other;

b) echeloned increase (decrease) in the intensity of economic use of the territory between such "pole areas" with a gradual increase (decrease) in anthropogenic and technogenic loads;

6) the general type of territorial structure of the suburban area of a big city - radialring; coastal cities are also characterized by the coastal-frontal territorial organization of the suburban zone; the coastal zone is the main axis of settlement and economic activity, from which the territory inland is separated by intensity of use, and the same separation is characteristic of the adjacent water area; geographers are additionally considering "hinterland" - the territory gravitating to the port city, as well as "forland" - the water area of gravity;

On the whole, we define the territorial structure of the suburban zone of a large coastal city as a coastal-facade, radial-ring, with hinterland and forland, forming zones of gravity to the port city from land and sea, respectively.

7) the planning of the territory of the PP of the big city should be coordinated and linked with all the basic documents that govern the socio-economic development of the region, including (in our case):

- strategies, concepts, programs and plans for the socio-economic development of the country, region, city and all administrative and territorial objects falling into the suburban area;

- The general plan for planning the territory of Ukraine (approved by the Law of Ukraine in 2002);

- The program for the formation of the National Ecological Network of Ukraine (laws of Ukraine in 2000 and 2004);

- The concept and program for creating a regional ecological network of Odessa region.

The main feature of the suburban zone of Odessa is that it covers both the territory (the continental part of the suburban zone) and the water area (coastal part of the sea and estuaries). The water area of the suburban zone with approaches to the inclusion of sea water in it reaches 40-60% of its area [4]. The functional load on the suburban lands is doubled in comparison with the "continental cities", and the planning of the territories in the suburban area itself becomes especially difficult and stressful. On the other hand, the water part of the suburban zone forms its highly valuable and specific natural resource, the correct use of which gives qualitatively new opportunities for the development of Odessa and the entire agglomeration. Unfortunately, the domestic experience in planning water spaces - sea, estuary, river, lake, takes only the first steps.

In the planning scheme for the territory of the Odessa region, it is necessary to develop, in fact, a new direction - the functional zoning of water areas adjacent to the agglomeration, and estuaries, as well as lands of the water fund, which are allocated in the Water and Land Codes of Ukraine, but have not yet been allocated on the ground (in kind) The general scheme of separation of the sea from the coastal zone is already known. But it must be substantially detailed in relation to the natural features of the coast and the socio-economic needs of the Odessa agglomeration and Ukraine as a whole.

In the development of the project of the functional planning organization of the PP of a large coastal city, it is necessary to take into account its properties [6]:

a) the coastal position of the suburban zone, its separation (zonality) in relation to the coastline, which forms the axis of the economic life of the region;

b) the presence of a powerful center in the form of the main city or urban metropolitan area;

c) a strong dependence of the settlement and economic use of the territory on its proximity - remoteness from the main center and coastal zone;

d) belt-ring resettlement of the population and types of economic activity around the central core with a gradual decrease in the levels of intensity of use of the territory as they move away from the main city; almost all researchers note this principle; it can be called the principle of belt separation of the suburban area of a big city;

e) the sectoral-radial distribution of the territory with a high level of economic development, in which sectors with the maximum population density and intensive development naturally alternate with sparsely populated and sparsely developed intervals; the maximum development of the territory occurs along the highways and planning axes, the minimum - in the sectors between them; we call this principle of the territorial organization of the suburban zone a sectoral-radial organization;

f) the principle of environmentally friendly territorial organization of the suburban area using the concept of the polar organization of natural and economic landscapes: areas with high anthropogenic and technological pressure and areas of pure nature should be as distant as possible from each other, and transitions between them should be gradual with respect to increasing or decreasing levels economic load;

g) the territorial organization of the suburban area should be consistent with the characteristics of the population and the placement of the economy; the coastal regions of Ukraine are characterized by the coastal-facade type of territorial organization with strip separation of the population and economy relative to the coastal front zone and its special status in terms of the intensity of economic development and the severity of environmental and socio-environmental problems;

h) the main direction of the planning organization of the suburban zone is its functional zoning - dividing the territory into parts with different socio-economic functions, various economic uses; functional zones of the suburban zone should take into account its natural resource potential and main types of nature management, on the one hand, and the needs of the city and its environment for a certain set of economic functions, on the other; functional zoning considers the suburban zone as an integral natural-resettlement-economic complex.

In the suburban areas of large cities, a special type of population settlement has developed [4, 6]. Demographers and ecologists-geographers traditionally divide the population into urban and rural, analyze the level of urbanization of the territory, and distinguish urban and rural settlement systems. In the gravity zones of large cities, a new type of settlement has formed - the suburban proper. Along with the usual urban and rural population in the suburban area, a mixed type of resettlement arose, which modern statistics

cannot attribute to either urban or rural. We are talking about arrays of cottage, country and garden-garden land use in the suburban area, which do not have a clear administrative link either to the big city or to the corresponding administrative areas. In world statistics, such territories are called "urban areas" and are included in the urban population. In the future, suburban areas may receive a certain administrative status in Ukraine. In the meantime, in the suburban areas, it is necessary to take into account three types of population - urban, rural and peri-urban.

There was a certain reorientation of summer cottages and garden gardens by their location. Previously, the majority of summer residents gravitated to the coastal strip on the coast from Ilyichevsk to Novaya Dofinovka, but at present, summer cottages and garden plots "scatter" from Odessa along the main transport routes, concentrate on the banks of the estuaries and the Dniester within a radius of one and a half to two hour transport accessibility. As far back as 1986, such sites were allocated only in the Belyaevsky, Kominternovsky and Rozdelniansky districts, but since 1987 the Ovidiopolsky district belongs to them.

The general picture of the placement of garden plots in the Odessa agglomeration is as follows. The greatest concentration of such sites is observed on the right bank of the Hadzhibeysky estuary (Velikaya Balka, Altestovo, Cherevichnaya, Otradovo, Elizavetovka, Khominka, Maloye, Bognatovoye, Burdovka), as well as on its left bank (Protopopovka, Chebotarevka, Beregovoye, Chernyakhovskoye). Large tracts of garden plots are allocated on the right bank of the Tiligulsky estuary: Koshary, Rannevoye, Pshonyanovoye, Maryanovka, Chervona Niva, Shirokoye, Kalinovka. A large concentration of such sites is also characteristic of the nearest suburbs of Odessa: Tairovo, Chernomorka, Sukhoi estuary, Velikodolinskoe, Svetloye, Sverdlovo, Novaya Dofinovka, Vapnyarka, Aleksandrovka. On the banks of the Dniester and the Dniester estuary, garden tracts are organized near Belyaevka, Mayak, Nadlimansky, Nikolaevka, Ovidiopol, Roksolan. For the same purposes, the valley of the Baraboy river is intensively used: Petrovskoye, Teplodar, Mirnoye, Maryanovka, Baraboy.

It is significant that in many cases garden plots are used by the population for suburban and residential construction. Already today, approaching Odessa from any direction, you can see just yesterday still nameless cities and urban-type settlements that have grown unusually rapidly in recent years and continue to grow. It can be said that the world urban development trend of rapid growth of cottage settlement in the suburbs of big cities has captured Odessa, however, in a somewhat peculiar form.

The big city exerts significant anthropogenic and technological pressure on the suburban area, which, as a rule, tends to increase. Big cities absorb the suburban territories again and again, increase the technogenic load on them, and increase the intensity of the economic use of the suburban area as a whole. Such problems are especially relevant for the suburban area of a large coastal city, where the territorial component is half that of continental cities, and the settlement and economic burden on them is twice as high. On the other hand, the suburban areas of coastal cities have an aquatorial component that expands its functions and planning capabilities.

Odessa is the epicenter of anthropogenic and technological pressures within the Ukrainian Black Sea region. The total volume of harmful substances into the atmospheric air within the city is 74.2 thousand tons per year. For 1 square. km of the city's territory for the year there are about 546 kg of pollution, and per inhabitant - 73.5 kg. Enterprises of I-III classes of environmental hazard create over 4250 tons of waste during the year, of which only 786 tons are processed and disposed of. Odessa produces over 220 thousand tons of municipal solid waste per year, which are transported to the Dalnitsky Quarries landfill. It is planned to build two waste recycling plants and a plant for the processing of construction waste.

PZ is designed to balance the interaction of urbanized and suburban subsystems, to ensure the ecological improvement of the territory and its socio-ecological n Eastern European Ecological Network. Recall that ecological networks are integral (interconnected) territorial structures, in which there are sections of the purest nature (nucleus) connecting their natural corridors and buffer zones. Ecological networks are designed to ensure the conservation of landscape and biological diversity and contribute to the ecological improvement of territories [5]. In the PP of large cities, the formation of an ecological network includes the sanitary-protective forest park zone of the city, and for coastal cities, the creation of the so-called "water-green belt" along the sea coast.

Odessa PZ is located in the steppe and dry steppe landscape zones and is characterized by extremely low forest cover (less than 5%). The standard of green spaces for large cities in Ukraine is 50 square meters. m per 1 inhabitant, and the total area of the forest zone of Odessa should be at least 5 thousand hectares. There is still no formed forest park belt around the Odessa agglomeration, and this is one of the main problems in planning the PP.

Complex and debatable is the problem of the composition and boundaries of the PZ of the Odessa metropolitan area. There are proposals to make Odessa a new administrativeterritorial unit - a city-region, in the context of the proposed administrative-territorial reform in Ukraine and to include adjacent settlements and areas in its composition. In the general plan of Odessa in 1979, the PP included seven neighboring districts - Ovidiopolsky, Belyaevsky, Razdelnyansky, Ivanovsky, Kominternovsky, Berezovsky and Belgorod-Dniester. In the latest master plan [6], Odessa agglomeration is distinguished, which includes satellite cities - Ilyichevsk, Yuzhnoye, Teplodar, as well as administrative districts -Ovidiopolsky and parts of Belyaevsky and Kominternovsky districts.

In order to develop a project for planning the territory of the industrial area of Odessa agglomeration, it is proposed to consider four types of its territorial structures:

 Odessa agglomeration as a regional system of urban settlement, which covers Odessa and neighboring satellite towns - Illichivsk, Yuzhnoye, Teplodar, within a radius of 50 km;

2) the near suburban zone of the Odessa agglomeration, which integrates: a) suburban settlement - cottage, cottage, garden; b) industrial infrastructure systems - electricity, gas and oil pipelines, product pipelines, railways and highways, sea and air ports, ensuring the life of the city and metropolitan area; c) suburban agricultural production, including gardening; d) recreational and recreational activities; e) environmental activities;

3) the distant suburban zone of Odessa, which is distinguished by such signs: a) intensive agricultural production with a large share of suburban specialization; b) a developed system of suburban transport, providing mass trips of the rural population to the Odessa agglomeration - labor, social, business, recreational and recreational; c) increased concentration of environmental activities associated with the formation of the sanitary-protective forest zone of the big city and the recreational needs of the population;

4) preliminary, it is necessary to distinguish the peripheral suburban zone of Odessa along the routes of suburban trains - Belgorod-Dniester, Kotovsk, Kolosovka, which provide regular trips of the population to markets and business service centers in Odessa, as well as trips of citizens - recreational and resettlement (secondary housing).

**Conclusions**. The PPs of large cities vary in territorial structure. They can be monoand polynuclear, single-center and agglomeration, have a different configuration of the main settlement axes and transport routes. In our example, Odessa PZ as a core has the Odessa agglomeration, which is in the formation stage, and it is considered in two versions - as a mononuclear Odessa PZ or as a polynuclear PZ of Odessa agglomeration. According to its planning configuration, the PZ has a coastal-frontal, truncated coastline radial-ring structure with zones of gravity to large ports from the land side (hinterland) and from the sea (forland).

Odessa agglomeration plays the role of the core of the settlement system of the Odessa region and the entire region of the Ukrainian Black Sea coast. Due to the coastal and border

geo-economic position, it serves as the main sea gate of Ukraine, concentrating the largest sea ports of the country - Odessa, Ilyichevsky and Yuzhny, with a total cargo turnover of over 83 million tons of cargo per year. Odessa agglomeration is actively involved in European and world transport and logistics structures, in international oil and gas transit. In the context of the main national economic functions of the Odessa agglomeration, the priority areas for the development of the suburban zone are the maritime sector, sanatorium and resort and recreational tourism, suburban agriculture and environmental protection. A special design is needed.

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