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## LAND ZONING FEATURES IN SETTLEMENTS

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*The principle of zoning of lands is defined by the Land Code of Ukraine (Art. 180) where it is specified that zoning of lands is carried out within settlements and requirements of rather admissible types of building and other use of the land lots within separate zones according to local rules of building are established. However many aspects of studied questions are studied insufficiently both with methodical, and from the practical point of view, in particular, approaches, principles, classification signs and features of land zoning, and also mechanisms of introduction of this system.*

**Problem statement.** In a land cadastre works one of the most important is the principle of urban zoning. Law of Ukraine «On the planning and development areas» set mandatory types of urban planning with planning areas. Among the tasks of planning (Article 11 and 12 of the Act) – is the implementation of zoning for construction and other uses, defining the boundaries of functional areas of priority and the allowable uses and development areas according to local building rules. Zoning Plan, which is part of local development rules, specifying the functional division of the territory into zones. For each zone established procedure for planning and development, allowed types of development and other land use, and the only condition and limitation of development and other land use. Read these questions addressed in state building codes, including SBC B.1-3-97, SBC 360-82\*\* and others.

Some of zoning within settlements defined by the Cabinet of Ministers of Ukraine on February 22, 2008 № 79 «Order a plan of land and business structure the settlement». However, in our view, the use

of land for the purpose set out in this Resolution is eclectic and inconsistent with the current state of science.

**Article purpose** – to analyze the features zoning in settlements for planning land use and protection at the regional and local levels.

**Analysis of recent researches.** The issue of zoning in Ukraine devoted to the scientific work of such scholars as A. Berladin, S. Bulygin, Y.L. Hrubryn, G.D. Huculak, D.S. Dobryak, J.M. Dorosh, C.I. Ishchuk, A.P. Canash, V. Krivov, G.K. Loyic, A.G. Martin, S. Osypchuk, L.M. Perovych, A.M. Tretiak, M.A. Hvesyk et al. [3–6]. From foreign researchers contribution to the development of spatial planning and zoning have G. Hatterbauer, F. Grief, E. Gais, W. Zacher et al.

**Main material.** In Ukraine cities differ primarily manifolds. In the development of cities and incorporated according to general principles of urban development, enabling a clear divide their territory inappropriately.

City zoning – the distribution of land in accordance with their functionality (functional areas), considering the

combination of natural elements surface land (landscape zoning), estimate (territorial and economic zoning) regulation of legal relations (urban zoning and urban planning regulations setting) .

World practice shows that urban zoning is a zoning urban areas and other municipalities in order to determine territorial zones with the installation of urban regulations.

Territorial Zone – a zone for which land use and development rules defined limits and set urban regulations.

Urban Development regulations – established within the territorial boundaries of the zone types permitted use of land, as well as all that is above and below the surface of land and is used in the process of their construction and subsequent operation of capital construction, limits (minimum and (or) maximum) size of land and boundary parameters permitted construction, and limiting the use of land and capital construction.

Limits of territorial zones may be established by:

- 1) lines of highways, streets, driveways, separating traffic flows opposite directions;
- 2) red lines;
- 3) within the land;
- 4) border settlements within municipalities;
- 5) the boundaries of municipalities, including the borders of the inner areas of cities of Kyiv and Sevastopol;
- 6) within natural objects;
- 7) other borders.

As for the species and the territorial zones, resulting in urban zoning can be defined residential, public and business, industrial zones, areas of engineering and

transport infrastructure, areas of agricultural use, recreational use zone, zone especially security areas, special zones, zone placement of the military installations and other local areas.

The composition of residential areas may contain the following:

- 1) Area of building individual dwellings;
- 2) area of building low-rise dwellings;
- 3) building area mid-rise dwellings;
- 4) area of building multistory apartment buildings;
- 5) area of residential development of other species.

In residential areas allowed separately located, built or adjoined of social and communal purpose, health facilities, facilities preschool, elementary, primary and general secondary (full) general education, sacral buildings, parking lots road transport, garages, objects related to living people who do not adversely affect the environment. The composition of residential areas may also include areas designated for gardening and cottage industry.

The structure of social and business areas may include:

- 1) areas of business, public and commercial purposes;
- 2) zone placement of social and communal purposes;
- 3) service area facilities required for production and business activities;
- 4) social and business areas other species.

The list of capital construction allowed for placement in social and business areas may include houses, multi-storey underground garage.

The structure of industrial zones, areas of engineering and transport infrastructure may include:

1) Zone communal facilities – zone placement of utility and storage facilities, housing and utilities, transport objects, objects wholesale;

2) industrial zone – zone production facilities with different standards of environmental impact;

3) other types of manufacturing, engineering and transport infrastructure.

Regional areas are established within settlements can combine zone agricultural use (including areas of agricultural land), and areas occupied by objects agricultural purposes and intended for agriculture, suburban farming, horticulture, development of a structures in agricultural land.

The composition of zones for recreational purposes may include areas within the territories occupied by urban forests, gardens, parks, urban gardens, ponds, lakes, reservoirs, beaches, as well as for other territories used and intended for recreation, tourism, physical training and sports.

Regional areas may combine especially protected area (land with special environmental, scientific, historical, cultural, aesthetic, recreational, health and other especially valuable value).

The structure of special purpose zones may include areas occupied by cemeteries, crematoria, cattle cemetery, waste disposal and other objects of consumption, accommodation which can only be achieved through the provision of these zones and unacceptable in other regional areas.

Local governments may establish other local areas that are allocated based on functional areas and features of land use and capital construction.

Urban planning regulations defined legal regime of land, as well as all that is above and below the surface of land and is

used in the process of their construction and subsequent operation of capital construction.

For all territorial zones and according to each land parcel located in these zones are established urban use and building regulations change property. These regulations may be, for example: types permitted use of property; boundary parameters allowed construction on land plots, limiting the options permitted construction on land; placeholder parking.

Zoning classification attributes closely associated with logical options zoning. In the implementation of various kinds of natural zoning are three logical possibilities: A, B and C.

In design practice mainly use logical options A and B. Option A provides input in the process of zoning hard qualitative and quantitative restrictions classifications. Note that this option Zoning difficult to apply, because the earth is a complex multicomponent system.

Option B aims at detecting and isolating ground units initially for one basis, then entered the second sign, third, etc. Also used a variant of the bifurcation (split) features.

According to the author, Ukraine widest apply system-row typological zoning with a predominance of the logical option B of classification features that are introduced sequentially and option B with a bifurcation (split) features.

In carrying out zoning scientifically grounded divided territory with different economic and functional purpose, legal use conditions and predict their future use. Therefore, the zoning should be based on a comprehensive study of the morphology of landscapes so that the best (optimal) apply each morphological unit, on the one hand

and on the other – to find the most appropriate economic use of each morphological unit landscapes. Also important to consider the needs of multi-various natural resources in accordance with existing and future socio-economic programs.

When zoning, in Ukraine separation of the system of taxonomic units: Zone 1-order (group land) area of 2nd order (types of land) area of order 3 (subtype land) area of the 4th order (types of land ) Zone 5-th order (land). In the practical implementation of the principle of zoning proposed name of «zones of different order» may be specified. For example, could be offered more established names taxonomic units: zone, province, county, in county, district, in district, place, area and more.

All lands within the boundaries of our country at the highest hierarchical level should be divided into three zones of the 1st order (of land), which determine the existence of major functional types of modern environmental protection: agro-landscape (agricultural) environment stabilizing (environmental) and designed for construction and location objects sectors – residential (urban). Zoning classification features are the land distribution by category.

This approach makes it possible to justify proposals for science-based organizations use and protection of land, their reallocation across sectors to meet the needs of agriculture, forestry and water management, industry, transport, energy, territorial development of settlements, land, recreation, historical and cultural, protected and other conservation purposes.

Residential (or urban) group land area of 1st order of land intended for the construction and placement of objects sectors, namely the following categories

according to the purpose: residential and public buildings, industrial land, transport, communications, energy, defense and other purposes.

Residential land is now unsustainable and costly. The density of the urban population and housing in cities is 2–3 times lower than regulatory, and the density of urban development does not exceed 55% of the normative. Several areas marked by excessive land management. Thus, at least 40% of the ferrous metallurgy and heat up heaps, tailings, and other Slurry storage receptacle.

Optimization of the land use of this group is economic in nature and will focus on the implementation of public policies to reduce anthropogenic load of the largest industrial areas are concentrated excessive number of large enterprises and release areas of technogenic load.

Within that group land area of 1st order should identify the following areas of 2nd order:

- housing;
- social and business;
- production;
- and scientific research and production;
- engineering and transport infrastructure;
- for placing military objectives;
- special purpose.

Zoning residential zones established requirements [1, p. 11–12]:

density of buildings:

basic parameters of engineering and transport communications, green spaces, pedestrian routes, sanitary protection breaks and other structural elements of real estate in urban planning;

location of welfare and cultural facilities to serve the residents;

terms of land use within the security and safety zones, zones of special treatment of land use and to order compensation to land owners and land users, which they may incur due to the establishment of such zones;  
conditions of lease of land on which objects reconstruction obsolete (amortized) housing conditions and charging rent for this land during the construction period;

the manner and amount of compensation to owners of private land plots with objects obsolete housing stock in the event of a need for such lands in accordance with the approved urban development documentation;

areas of temporary use of land belonging to the zone of promising developments, and more.

Within the residential area of 2nd order should identify the following areas of order 3:

- building individual dwellings;
- building low-rise dwellings;
- building mid-rise dwellings;
- building of multistoried dwellings;
- building of other species;
- long-term use;

recreational areas that are occupied by urban forests, gardens, parks, urban gardens, ponds, lakes, ponds, beaches, areas within other areas used and intended for recreation, tourism, physical culture and sports;

areas which are specially protected, and which includes land with special environmental, scientific, historical, cultural, aesthetic, recreational, health and other especially valuable significance.

In residential areas are allowed:

separately located, built or adjoined objects of social and communal purposes;  
health facilities;

objects preschool, elementary and general secondary (full) general education;

places of worship;  
parking of motor vehicles;  
garages;  
objects related to living individuals;  
areas designated for gardening and holiday services;

Social and business areas intended for placement of health, culture, commerce, catering, social and communal household, business, real secondary vocational and higher professional education, administration, research institutions, religious buildings, parking lots road transport, real business, financial destination, and other objects associated with the provision of life of citizens. In social and business areas may include houses, hotels, underground and multi-storey garage.

Within the social and business area of 2nd order should identify the following areas of order 3:

- business, social and commercial purposes;
- placement of social and communal purposes;
- service facilities required for production and business activities;
- social and other types of business.

Industrial zones, areas of engineering and transport infrastructure designed to accommodate industrial, utility and storage facilities, facilities engineering and transport infrastructure (buildings and Communications rail and road transport, communication) tai establish safety zones of such objects .

Within the industrial zone areas of engineering and transport infrastructure of 2nd order includes such areas of order 3:

production (production facilities with various regulations impact on the environment); utility (utility placement and storage

facilities, housing and communal services, transport facilities, real wholesale);

for the placement and operation of basic, auxiliary and ancillary buildings and structures of enterprises with mining and mineral processing. This area includes such areas 4-th order: the extraction and processing of minerals open way, with mining and mineral processing closed method, waste storage industry (affected land);

other areas of manufacturing, engineering and transport infrastructure.

Within the area major cities defined zones for placement and development of scientific institutions, depending on the nature of research and the specific production.

Within the scientific and scientific-industrial area of 2nd order includes such areas of order 3: scientific, research and production.

Within the zone of 2nd order, designed to accommodate military installations includes such areas of order 3 for placement and ongoing activities:

Armed Forces of Ukraine;  
institutions of the Security Service of Ukraine;  
of the state border;  
of the penitentiary;  
of Civil Protection;  
Special Transport Service;  
for the location and activities of foreign military forces.

Within Zone 2-order special includes such areas of order 3:

in cemeteries, crematoria, cattle cemetery, waste disposal needs;

at other sites accommodation which can only be achieved through the provision of these zones and unacceptable in other regional areas.

Within the areas of order 3 can be isolated zone 4-th order corresponding types of land for cipher graphs form number 6-zem., And areas of the 5th order – land.

**Conclusions.** Obviously, the zoning should be implemented with varying detail, that should be done at the regional and local levels, the differences in the objectives and mechanisms of practical application.

Specific zoning options depend on many factors – the existing land use, natural structure of landscapes, heritage and social needs of others. We believe that all the fundamental issue of zoning must be solved with broad public and marketed under its control.

The highest efficiency zoning will happen if the allocation zones use a set of interrelated criteria and approaches. Naturally, the smaller allocated areas and the greater area of each of them, the better to achieve a comprehensive and effective zoning.

In evaluating the effectiveness of a system of zoning proposed as a basis to four criteria: functional, ecological, economic, social (the load of interests of different groups of the population). The last two criteria in practice is not always possible to clearly distinguish between, and then they are combined into a single socio-economic criteria.

Environmental efficiency. From the position of environmental performance in the same functional area should include areas similar environment molding or their ecological functions.

The economic and social efficiency. Direct economic effect of holding land zoning, can be assessed from two beliefs: first, the effect of zoning as a management decision to establish certain taxa zoning,

which provide appropriate modes of land use can be established by comparing the performance of the monetary valuation of land before and after implementation of zoning, and secondly, the definition of impact from zoning can also be seen in the context of simplification of management (administration) of land use in establishing and changing the

purpose of land, and thus create the preconditions for the actual achievement of optimal land use in shorter time.

Economic efficiency zoning should determine char value economic benefits achieved as a result of zoning and expenses to be incurred in its implementation (of an appropriate land documents).

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*Принцип зонування земель визначений Земельним кодексом України (ст. 180), де вказується, що зонування земель здійснюється у межах населених пунктів і встановлюються вимоги щодо допустимих видів забудови та іншого використання земельних ділянок у межах окремих зон відповідно до місцевих правил забудови. Проте багато аспектів досліджуваних питань вивчені недостатньо як із методичного, так і з практичного погляду, зокрема, підходи, принципи, класифікаційні ознаки й особливості зонування земель, а також механізми впровадження цієї системи.*

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*Принцип зонирования земель определен Земельным кодексом Украины (ст. 180), где указывается, что зонирование земель осуществляется в пределах населенных пунктов и устанавливаются требования относительно допустимых видов застройки и другого использования земельных участков в пределах отдельных зон в соответствии с местными правилами застройки. Однако многие аспекты исследуемых вопросов изучены недостаточно как с методической, так и с практической точки зрения, в частности, подходы, принципы, классификационные признаки и особенности зонирования земель, а также механизмы внедрения этой системы.*