

JUSTIFICATION OF METHODS OF LAND MANAGEMENT OF INDUSTRIAL CITIES

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Statement of the problem

The achievement of rational and efficient use of land resources is essential for the development of any country. Land resources, like other natural resources, declining over time, lose their natural properties that often cannot be reproduced, changing the quality of the soil, thus become unattractive from an economic point of view. Unfortunately, the efficient and effective level of use of land resources in Ukraine is lower than in Europe. The main reason is irresponsible attitude to the distribution of land and its use, imperfect technologies of rational land use, significant indicators of anthropogenic pressure on land resources, outdated environmental regulations that establish values of maximum permissible exposure etc.

Land Management is an important component of the economic management of the state, which with proper implementation will lead to the desired results. In our country land resources are a major national wealth [2], so they require special methods of management. Formation of Land Management is one of the important tasks of our time. As a result, it is necessary to identify, classify and approve the land management techniques for specific categories of land at the state level that are not yet regulated by any legal act of Ukraine.

The agricultural orientation of Ukraine is generally accepted, but it should be noted that in our country major industrial agglomerations are combined, which form the industrial zone. Donetsk-Makeevska, Gorlivka-Yenakiievsk, Lugansk industrial agglomerations are included in the Donetsk industrial area; Dnipropetrovsk-Dneprodzerzhinsk, Zaporizhzhya, Kriviy Rig – in the Pridniпровsk industrial area; Lviv agglomeration – in the Priкарпатський industrial area, Novovolynsk and Chervonograd – in the Prybuzka industrial area. Outside the industrial areas are Kyiv, Kharkiv, Odessa industrial agglomeration. All these elements of the territorial organization of industry are united by various relations forming the industrial complex of Ukraine. Above are the main areas of mining and heavy industry in Ukraine. It should also be noted that industrial sites in Ukraine are often located directly in the city. As industrial lands are inextricably related to the ecosystem and cannot be isolated from the use along with other categories of land, there is a need for a specific mechanism of their use and protection, as well as management methods.

Analysis of recent research and publications related to the solution of this problem

The concept, objectives and methods of land management are not defined and are not regulated by any legal act of Ukraine, in contrast to the Land Use. However, there are a sufficiently large number of textbooks and scientific publications in professional journals of Ukraine concerning the theoretical foundations of land management and practices. Among the most important professionals dealing with the issues of land management in Ukraine the following authors can be pointed out: V. Gorlachuk, J. Hutsuliak, D. Dorosh, J. Karpinski, M. Lyhohrud, A. Liashchenko, A. Martin, L. Nowakowski, L. Perovych, O. Petrakovska, M. Stupen, A. Tretiak and others.

The article by O. Petrakovska [5] deals with the generalization of all international and domestic experience dividing methods of land management into three main groups: planning, economic and institutional ones. According to the author [5], planning methods help to work out long-term and short-term programs of socio-economic development of areas, urban planning and land management documentation that regulates development and land use at different planning levels.

Economic methods of land resources management are aimed at creation of economic conditions that trigger the rational use and protection of land without administrative measures. Institutional methods are based on taking legal action by the authorities, making various kinds of institutional arrangements and logistical operations and combining administrative and judicial activities.

A. Tretiak [6] defines the following methods of land management: social, economic, legal, land-use, organizational and administrative.

In the book “Land Management” [8] the methods of land management are divided into: methods for the study of management objects, methods of development of management solutions, methods for implementing management decisions.

The authors of the book “Land Management” [1] distinguish between land management techniques, which are divided into two groups - the methods of direct exposure (active) and indirect effects (passive). The first group includes administrative methods, the second - economic, social and psychological ones.

A. Ohriy in his Ph.D. thesis [4] suggests the need for marketing and logistics management of land resources, which, in our opinion, will provide an opportunity to

significantly increase the effectiveness of their use, for these methods will make it possible to make optimal decisions.

The authors in their paper [7] grounded the necessity of introducing multifunctional complex model of land management in Ukraine, however did not explain what management practices they consider necessary as the base for the model.

Each of the authors considers the content of the problem to some extent; however each of them focuses their scientific study of scientific management of land resources on agriculture and sustainable development of large cities. None of the authors considers the problem of land management of industrial cities.

The purpose of the research

The purpose of the research is to investigate and justify the land management methods for industrial cities of Ukraine.

The main material

Management method is a set of techniques and methods of influence on the managed object to achieve desired goals or the method of influence on members of the management process. Classifications of management methods are mainly related to economics and management and there are a large number of them. Still there is no unique, definite and approved classification of management at any level, especially management of land resources. On the one hand, it appears that land management is an integral part of the economic system created by and subject to the same economic laws that are faced by any process control, on the other hand, it is a unique and specific legal group, which is mainly characterized by category and purpose of facility management.

We believe that special attention should be focused on the study of methods of land resource management in the context of the legal characteristics of different categories of land use. This should identify which management practices from classic management can be used, which should be finalized and justified, and which could not be used at all.

At the core of management techniques are identified the basic functions of management [3]:

- Organization;
- Planning;
- Motivation;
- Control;
- Regulation.

According to them, in the management the following groups are defined:

- Economic;
- Administrative;
- Social and psychological.

The main task of management is to focus on achieving the necessary goals, but with the obligatory account of rational use of certain resources.

Economic management is a set of tools and instruments that specifically affect the creation of conditions for the functioning and development of the business [3]. These methods are based on the factors of market economy and take a leading place in the management.

Administrative management is a system of methods and techniques of organizational and administrative actions that are used for the organization and coordination of management facilities to carry out their mission. [3] These methods are based on the current legal regulations.

The essence of *social and psychological management* is reduced to the methods of impact on an individual and groups to change their attitudes to work and creative activity, as well as social and psychological interests of companies and their staff [3]. The purpose of using these management practices is the study and application of the laws of human mental activity and putting it in real conditions for the functioning of the organization.

The above basic management techniques are often coupled with legal, ideological, technological, illustrative, research and other management techniques, depending on the specific object of management.

In terms of market relations the basic principles of the use of management practices are the following: economic independence, ensuring profitability, self-sufficiency, financial interest, moral satisfaction, competitive products.

Due to the specific nature of industrial Land Management, the general list may be added by the principle of maintaining ecological stability of ecosystems.

The first and the most important method of land management of industrial cities is an economic method.

The economy is a fundamental component of the existence of the country and it contains all prospects for the state development. Economic methods of land resources management of industrial cities must provide optimal use of land in accordance with the specific capacity of the existing natural resources of a territory. It works under the following conditions:

- Financial interest of entities of land management of parcels located in urban areas and that can be used for industrial purposes;
- Pricing of land, loans, fines, tariffs for services on land that would directly depend on the category of land and its purpose;
- Formation of payment for land;
- Compensation for the use of land inappropriately and for violation of land caused by the effects of natural and anthropogenic factors;
- Prediction of the long-term economic situation in the country;

- Combination of financial interests of the state, owners and users of specific management facilities.

Particular attention should be paid to land lease payment, fines, etc., because these components form the source of material revenues to the state budget. For industrial land special tax status should be defined, especially in case of a new venture or equipment upgrade at the old one, which can significantly improve the environmental situation, and more. We believe that economic method for industrial lands should be used as a method of stimulation and only in extreme cases as enforcement and punishment.

One of the important methods of land management of industrial cities is the *planning method*. Planning for urban areas plays a significant role in land management. Informed and meaningful planning must be the basis of any management. As a method of land management in industrial cities, this method should include the following:

- Public discussion of the industry location in existing urban conditions for certain urban areas;
- Justification of urban planning and projects in accordance with applicable legal acts of Ukraine, building codes, regulations and standards;
- Account of local development rules in accordance with specific area;
- Justification of prospects for the use of each territory;
- Planning of engineering and transport infrastructure around industrial facilities.

In general, exploration, development and zoning should be done in close collaboration of architects, planners and experts on land relations. Adherence to this principle will implement a systematic approach to this issue.

Administrative management based on the law relating to Ukraine and on land relations occupy equally important place in the management of land resources of industrial cities. Administrative methods of land management of industrial cities can be divided into three main components: regulation, administration and disciplinary ones.

The first component refers to all legal acts, regulations, standards, guidelines, instructions, statutes of companies on issues of land resources which do not contradict the current legislation and have a strong impact on objects and subjects of control.

The second component includes all administrative documents of local governments aiming to address arising specific situations.

The last component is a basis for discipline in all areas of life, which governs all existing types of liability of Land Management (personal, collective, financial and other liabilities).

Social methods of land management of industrial cities are also an important part of the control system. This social component is not affected directly by the management facility, but indirectly by the state and/or

individual owners and users. Components of social methods include different types of motivation, raising awareness to solve a particular problem, government support for critical needs and more. Social management techniques must be supported by adoption of rules and regulation for activities, as well as by permissions and prohibitions.

The last method of land management, which is one of the major methods for industrial cities, is *environmental* one. This topic is barely covered in scientific publications. Although the application of this method is the key to the cities with advanced and powerful industry. Environmental problems in Ukraine are increasing every day, the main reason is the anthropogenic pressures and their solutions depend directly on funds invested in prevention of the damage to human health and the environment. Taking into account the land legislation of Ukraine there is a category of land as industrial land, transport, communications, energy, defense and other purposes that form a separate category. In terms of environmental law, this category is distinguished as land under the objects of the significant sources of negative impact on the environment.

Important components that make the basis of ecological method of land management are the following:

- Location of land for industrial purposes must be justified according to urban standards, rules and regulations;
- Required definition of sanitary protection and security zones;
- The introduction of advanced equipment and technology that enables to reduce negative impact on the environment;
- Design and construction of industrial facilities should be subject to mandatory environmental assessment, which should provide an assessment of environmental safety of the area.

Ecological method of land management in developed countries is a priority and we believe that this approach should be adopted in Ukraine.

Conclusions

In recent years, there has been a rapid change of legal acts of Ukraine, which affects the development of land and state land cadastre of the country. Unfortunately, until now there is no general information on land management and land use as part of the state land cadastre. In Ukraine there is no single body of land management as a macro system. At the same time the responsibility for the efficient use of land is divided between the executive authorities and local governments subordinated to various ministries and departments.

Modern fast development of science and technology complicates human pressure in industrial cities through diversity of ultra-modern equipment and advanced production technology. But taking into account costs of new technologies in production and modern equipment,

the majority of industrial enterprises cannot afford such changes. Because the industry is inextricably linked to the land where respective company is located, and with the environment in general, effective management will allow indirectly influence the development of the industry.

We propose to use economic, planning, administrative, social and ecological methods for land management of industrial cities. Although most of the management methods are taken from classical management, they have been adapted specifically for use in the relevant field of science and industry.

Characteristic feature of management of land resources in industrial cities is that the consequences of their actions are observed in all spheres of human activity.

Further research has to shift from macro-to micro-level of land management, depending on the purpose within the category.

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The results of analysis and justification of management methods are given. Suggestions on the use of economic, planning, administrative, social and environmental land management methods in industrial cities are made.