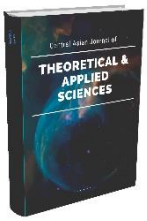

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International Experience in Creating an Ecological Network

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Abstract: *This article considers the creation of an ecological framework, one of the most effective forms of nature use and use. Also, the concept of the ecological framework and its elements is analyzed.*

Keywords: *Ecological framework, protected natural areas, representativeness, biological diversity, sustainable development, optimization, ecosystem, geoecology.*

Introduction.

The territorial form of nature protection and its use is improving in connection with the interaction between nature and society and the development of society. On September 25, 2015, the United Nations adopted the Resolution "Changing the world: Agenda for sustainable development until 2030", which set 17 goals and 169 tasks, and the 15th goal is "Protection of terrestrial ecosystems" and restoration, their rational use, rational management of forests, combating desertification, stopping land degradation and preventing the loss of biological diversity. As one of the most effective mechanisms for ensuring ecological balance in nature and maintaining biological and landscape diversity (BLX) in the international experience - a protected natural area that covers the geographical (landscape, biological, geological, etc.) diversity of the region Special attention is paid to the establishment of the (METH) system. Because it is proven in international experience that the establishment of the METH system is the basis for preserving natural ecosystems and biodiversity, restoring resources and developing the economy.

Therefore, in recent years, the countries of the European Union have been paying special attention to establishing an ecological framework and transitioning to a "green economy" by forming a system of METHs as a traditional method of nature protection. Because such areas are of great scientific, economic, cultural, historical and aesthetic importance, they perform functions of preservation of biological diversity, unique flora and fauna, natural landscapes, restoration and protection of natural resources. It also creates favorable environmental conditions for sustainable use of nature and its resources [3, 13, 15].

Sustainable development of the economy of Uzbekistan, development of a long-term strategy of structural changes requires taking into account internal and global processes and problems. In this regard, the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated June 11, 2019 No. 484 "On approval of the Strategy for the preservation of biological diversity in the Republic of Uzbekistan for the period 2019-2028" and other regulatory and legal acts related to this activity in the documents, the preservation of the favorable ecological condition of the environment, the protection of natural complexes, individual objects, and biodiversity are defined as priority tasks. From this point of view, the development and implementation of recommendations on the formation of a comprehensive system of METHs capable of protecting BLX and rationally using them in the conditions of the Fergana Valley, where the degradation of natural landscapes is very high in Uzbekistan, is of significant scientific and practical importance [16, 22].

Purpose and tasks of work. The goal of the work was to study the geoecological aspects of establishing an ecological framework, which is one of the most effective forms of nature protection and its sustainable use, and to study advanced international experiences in this regard. The concept, composition and structure of the ecological framework, the identification of its main elements and their implementation are among the main tasks of the research work.

Main part (results and their discussion). Improving the METH system is directly related to the creation of an ecological frame structure. Therefore, it is necessary to combine all the elements of nature protection, that is, it is desirable to turn the natural, natural-anthropogenic and anthropogenic areas specific to one place and connected with each other into an effective working structure. Currently, such a structure of nature protection is called "ecological network", "ecological frame" and "green belt" in scientific literature [1-6].

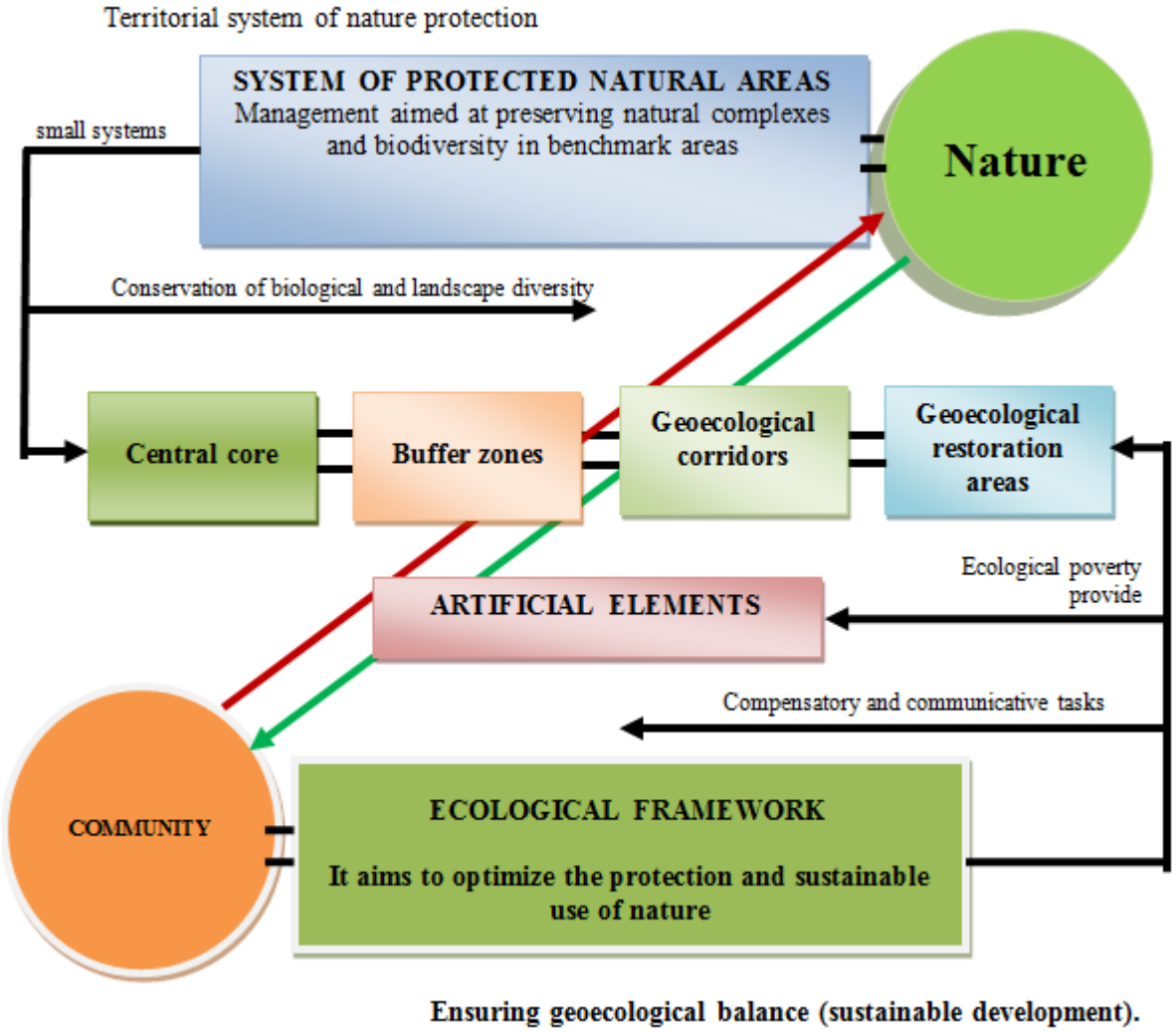
Theoretical and practical issues of forming a system of protected natural areas forming the basis of an ecological network R.H.MacArthur, E.O.Wilson, N.T.Bishoff, M.Hockings, S.Stolton, N.Dudley, M.Külvik, R.H.G.Jongman, L.Miklós, N.Dudley , B. Oyuungerel, etc., were considered in the scientific works of many well-known foreign scientists.

In the scientific literature on modern geography, various terms are used to interpret the concept of ecological framework [4, 15]. For example, "geoecological frame" (Zarkhina Ye.S., Sokhina E.N., 1989), "nature frame" (Kavalyauskas P., 1985; Reimers F.N., 1990), "nature protection frame" (Tishkov A.A., 1994), " framework of stability" (Tishkov A.A., 1995; Shestakov A.S., 1995), "natural-ecological framework" (Prelovsky V.I., 1996), "natural-reserve framework" (Chibilev A.A., 1997), "ecological network" (Schwarz Ye ... M., Suškevižs M., Kreisman K., 2008). "green belt" (Titov A.F., et al. 2009), "natural-ecological frame" (Ponomarev, Baybakov, Rubsov, 2010), "ecological-cultural frame" (Titova O.V., 2013) and many other terms are mentioned [7-11].

For example, in the studies of Ye.M.Panchenko and A.G.Dyukarev (2010), the term "ecological framework of the territory" (HEK) was used, and the system of protected natural areas is territorially and functionally interconnected according to the order and importance of using all the plots in it. is considered as a complex based on its connection. In order for HEK to maintain its basic functions, it is necessary to include the following three types of elements:

- first, natural geographical complexes (the territory has completely preserved its natural appearance);
- the second is re-transformed areas (for example, arable land), focusing on restoring the natural environment in order to create a single infrastructure of the ecological framework;
- thirdly, artificial elements that are foreign to the landscape, but are of great importance in maintaining the ecological balance in the conditions of intensive economic activity [12-18].

While METHs protect rare and valuable parts of nature, they do not fully capture all the diversity associated with natural environments. Because the METH status is not connected to each other and scattered to the areas and objects. Therefore, in this form of nature protection, it is impossible to completely eliminate the problems related to meeting the demands and needs of society [10, 21, 23]. The concept that is widely used in scientific literature and on a regional scale is the ecological framework. In our opinion, the ecological framework is an improved form of the METH system, a functional system that stabilizes imbalances in the "man-nature-society" system, maintains an optimal ecological balance, ensures sustainable development, and supports biological and landscape diversity, a complex with management is understood (Figure 1).



Drawing 1. "Ecological frame" structure (drawing from Yu.V. Volkov (2012), improved by the author)

One of the prerequisites for this functional management is that the METH network is structured and integrated with anthropogenic landscapes. This is done by combining separate and different categories of METHs with anthropogenic landscapes (artificial elements) into a single system. Also, the elements or areas that make up the ecological frame can be grouped in several directions [5, 13, 14, 19]:

- by function - ecological core, geoecological restoration areas, geoecological corridors, protection zones (nodal (core) and communicative elements);
- by hierarchical level - elements of local, district, regional and international importance;

- by legal status - protection zone, METH, new forms of protection, areas with limited use at the discretion of an organization or office, etc.;
- according to the symbol of the ecosystem - according to what type the element of the ecosystem represents;
- according to the level of naturalness of the area.

I.M. Bouwma et al. (2002) explained the elements of the ecosystem structure as follows (Fig. 1): Core Area (ecological core or base areas), Sustainable Use Area (ecological restoration zones), Landscape Corridor (landscape corridors). , Linear Corridor, Stepping-stone, Buffer Zone (Figure 1) [20-25].

In the ecological framework, favorable conditions are created for rational and full use of METHs, which maintain the ecological balance, preserve and enrich resources, create a natural environment, and other features. The framework includes all the natural and anthropogenically protected natural areas that fulfill specific ecological functions in one or another area and are interconnected in space (Figure 2).

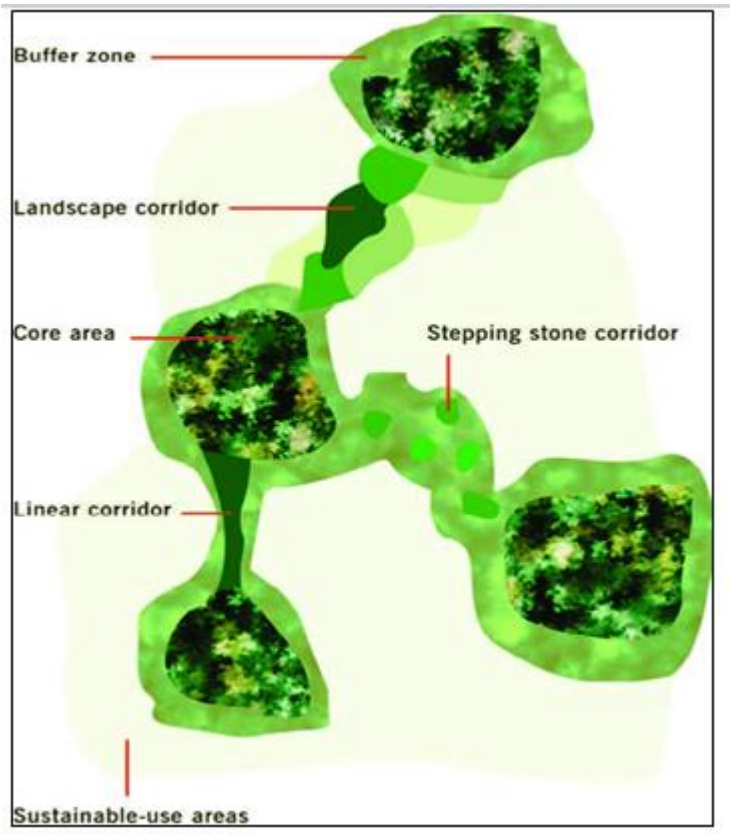


Figure 1. Elements of ecosystem structure (I.M. Bouwma et al. (2002)).

In the ecological framework, the degradation of biological species and natural landscapes is prevented by improving ecological connections between natural and artificial elements and ensuring ecological stability. Also, the effective operation of the system is manifested in meeting the production, socio-psychological, cultural, and primary needs of the society, and in creating the working conditions [26-31].

The concept of interdependence of reserves served as the methodological basis for the organization of the ecological framework of the region, and protected areas were considered as one of the main elements of the framework [4, 17, 18]. While METHs protect rare and valuable parts of nature, they do not fully capture all the diversity associated with natural environments. Therefore, it is necessary to include in the

existing system of nature protection criteria that ensure the representativeness of regional landscapes and stabilize the ecological situation. METHs are organized in specific regions and territories. Therefore, they are located at a great distance from each other. Different elements performing different tasks in the ecological frame are important in combining them with each other [32-40].

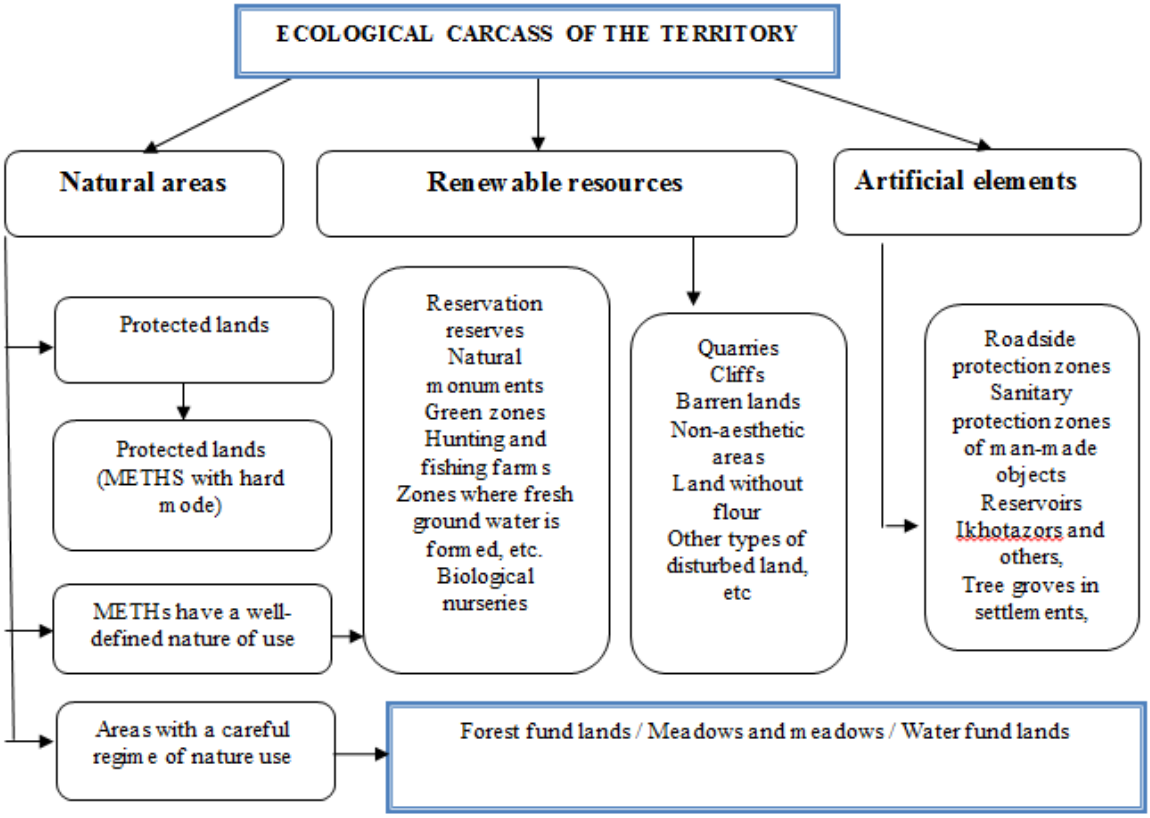


Figure 2. Elements of ecological frame (Ye.M. Panchenko, A.G. Dyukarev, 2010).

Conclusion.

First of all, it is necessary to develop comprehensive measures to restore the culture of land use in the region in the formation of the ecological framework. The main focus is on the methods of using nature based on the principles of eco-landscape. This approach ensures the protection of biological diversity based on the preservation of natural landscapes. Therefore, the ecological framework is the basis for the sustainable development of the region.

The ecological framework as a compensatory system has the legal status of supporting biological and landscape diversity, restoring resource potential, providing a favorable ecological environment, and various restrictions on sustainable use in ensuring stability in nature-society-human relations. a functional network of regions is understood.

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