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# REGIONS OPPORTUNITIES (POTENTIAL POWER)

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## ABOUT ARTICLE

**Key words:** Area, natural conditions, abiotic environment, biotic environment, landscape, ecological habitat, ecological capacity, the potential capacity of the territory, biogeocenosis, agrocenosis and urbocenosis, ecological load.

**Abstract:** The article describes the natural conditions and ecological conditions of the regions and discusses their ability to cope (possible potential).

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## INTRODUCTION

A territory is a limited part of the earth's surface, characterized by its quantitative expression - its area or size, its qualitative sign (state) - its location or appearance.

Any (any) area has its own environment characterized by its natural conditions and ecological condition. This environment is sometimes considered conditionally as an abiotic environment (natural phenomena not related to the activity of living organisms) and a biotic environment (natural phenomena whose occurrence is related to the activity of living organisms) [1; 2].

## THE MAIN RESULTS AND FINDINGS

A set of abiotic and biotic environments in a certain area, landscapes, that is, natural or cultural territorial complexes with interacting natural or natural and anthropogenic components, as well as a specific habitat for certain organisms, in other words, an ecological habitat in which living organisms live and have a direct and indirect effect on them does. The concept of "habitat" (or "ecological habitat") is often supplemented by the term "area" (geographic distribution of a biological species). For example, a brown bear, its habitat is a forest; and the area is forested areas.

Any ecosystem or landscape (for example, a broad-leaved forest, a forest, a steppe, a semi-desert, a desert, etc.) has its ecological capacity, that is, the ability of a certain ecosystem or landscape to support a certain number of organisms belonging to a certain biological species, or a certain anthropogenic characterized by the ability to withstand the level of pressure without negative consequences [1]. Therefore, the ability of any (any) area to withstand one or another level of anthropogenic pressure without disrupting the work of ecosystems is called the "potential capacity of the area". This capacity is

important in assessing the state of the environment, that is, the natural and anthropogenic environment around a person or the environment of human existence and activity, and in the formation of diverse cultural landscapes.

In other words, the potential capacity of the area is the highest possible biological productivity of biogeocenoses, agrocenoses and urbocenoses with the optimal composition of living organisms under the specific conditions of a certain area. The territory capacity indicator is taken into account in the development of a system of restrictions on environmental pressure on natural complexes, that is, permissible or permissible indicators, and in determining the stability of natural complexes to anthropogenic influence, that is, the development of the population and economy in the territory or the pollution of the territory's production industries, as well as in determining the characteristics of the use of the territory [ 1; 3; 4].

The full potential capacity of the territory as a natural complex, firstly, the main natural conservation areas, that is, the complex of atmospheric and water bodies and streams, soil and land reserves, flora and fauna biomass, and secondly, the power of the flow of biogeochemical circulation that constantly renews the composition of these conservation areas, i.e. local mass and gas exchange, fresh water volume accumulation, biota productivity and soil formation speed is determined by etc.

The potential capacity of the area is a standard (measurement) that shows how much its quality changes when there is an external influence (pressure) on the environment. The impact, that is, the less the quality of the medium changes at a certain level of pressure, the greater its capacity.

The need to maintain ecological regulation of human economic activity is a component of the concept of ecological development. It is based on the principle of balanced use of nature: placing any or how many economic objects in a certain area and their combined anthropogenic (technogenic) impact on the environment should not exceed the potential capacity and self-recovery of the ecosystems of this area. Therefore, it is necessary to develop and determine the optimum environmental pressure (load) separately for each area in a unique and appropriate manner.

Optimum environmental pressure is defined as ecologically acceptable or permissible anthropogenic pressure. The optimal environmental pressure is the economic activity of a person, as a result of which the standard of stability of ecosystems in a certain area is not violated or the limit is not exceeded (the limited economic capacity of the ecosystem). Violation or exceeding of this norm or limit leads to erosion and disturbance of ecosystem stability. It does not imply an absolute requirement that this standard or limit will not be violated or exceeded in any area. The fact is that if the optimal ecological pressure (load) is not taken into account on the local and regional scales, the sum of all ecologically permissible anthropogenic pressures on the planet Earth will exceed the "economic capacity" of the biosphere, leading to its overall destruction, with serious consequences for human health and economic activity of the environment. can create dangerous situations (ecological crises or disasters) that lead to change.

Various examples can be given of the carrying capacity (or potential capacity) of areas. For example, suppose a group of farmers clears a forest and uses it as a crop field until its biological productivity declines dramatically. When the natural fertility of the field decreases, it is turned into a fallow land, that is, a land that is left uncultivated, and farmers move to newly opened land areas, and in this way, new lands are developed and a traditional farming system is created. Years later (after 20 or 30 years), the farmers return to the former fallow land, which has already been turned into a forest. In this case, the indicator of the possible capacity of the area is considered to be a sufficiently stable period of the circulation period in terms of years. If anthropogenic pressure increases, the period of forced migration

of farmers from one field to another accelerates, i.e. the rotation period decreases (at first it decreases to 10-20 years, then 10-5 years), and thus, the ability of the region to withstand anthropogenic pressure increases. , that is, it exceeds its possible capacity.

In somewhat complex social situations, the potential capacity can be determined by the number of people who make up the population of a certain area, which is sufficient to maintain their usual lifestyle using the available natural resources and their labor skills in the near future, and its change.

In different countries, the indicator of the potential capacity of the regions varies for different reasons, for example, increasing productivity without reducing the natural fertility of the soil, different regulatory requirements for the quality of life, interactions between the market and the economy of product exchange, changes in government policy, technological innovations, etc. can vary depending on many conditions.

For example, a farmer from Khorezm buys a large amount of root-fruit or tuberous plants (beets, carrots, turnips or Jerusalem artichokes) from a neighboring farmer from Karakalpakstan for animal feed. As a result, the real potential capacity of the Khorezm farm area exceeds its natural potential capacity at the expense of the potential capacity of the Karakalpakstan farm area (as it was transplanted). The excess accumulation of manure exceeds Khorezm farm's need for organic fertilizers several times (even a part of the manure is sold to neighboring farmers at a low price). This means that the actual potential capacity (or carrying capacity) of the Khorezm farm area is greater than its actual area or natural capacity. Also, the farmer from Khorezm imports food products and plants other than root crops for the development of his livestock. If the total volume of all goods imported from abroad is calculated, it will be known that the area of other (external) land used by the Khorezm farmer is 2-3 times larger than the area of his farm. If a different calculation is made, that is, if the land area used only for the production of biological products is deducted in the Khorezm farm, it will be known that this farmer used other (other) land areas 1-1.5 times larger than the total area of his farm. This example can be applied at the scale (cross section) of districts, regions, regions and even countries.

There are 252 countries in the world. 66% of the world's population lives in a total of 41 highly developed (7 countries) and developed (34 countries). Each person living in these countries owns 1.5 times more products than the average person in the world needs. 34% of the world's population lives in other 211 developing countries. The population of these countries would need to produce 34% of the global product to live on average according to standard indicators. However, these countries produce only 10% of the global product. This example means that 3.4 people in developing countries consume a product for 1 person on average.

Most of the world's countries (or some regions of some countries) are overpopulated, that is, the population exceeds the available resources. In other words, anthropogenic pressure has exceeded the ability of the regions to withstand. For example, a large part of Uzbekistan is mostly occupied by deserts and partly by mountains, and in these areas the population is extremely sparse, and in cultural areas, on the contrary, the population lives too densely. In particular, Andijan region is the smallest region of the Republic of Uzbekistan by area (4240 sq. km) and occupies about 1% of the territory of the republic. However, 2.8 million people live in the region, which is 10% of the country's population [5]. So, Andijan region ranks highest in the country in terms of population density: one sq. More than 660 people live in the square km. During the last quarter of a century, the main natural resources of the region, especially the land resources, have practically not increased. Undoubtedly, the population of the region has exceeded the region's ability to cope, and accordingly, specific socio-ecological problems (reduction of natural landscapes, increased anthropogenic pressure on land resources, environmental pollution, accumulation of waste, etc.) have arisen.

In most countries of the world, the dense settlement of the population has created a strong anthropogenic pressure and has exceeded the possible capacity of the territories. In particular, in the case of Uzbekistan, the ratio between anthropogenic pressure and the region's capacity to withstand, that is, the potential capacity, can be roughly determined as follows:

The area of Uzbekistan is 448.9 thousand square meters. km, population 32 million. 1.4 ha of land per person (ha/person) on average. If the volume of primary biological product produced per unit of area is taken as an indicator of geoecological potential, this value will be around 4.3 t/ha on average for the territory of Uzbekistan. In that case, 6 t of primary biological products per year correspond to one person (4.3 t/ha x 1.4 ha = 6 t).

According to the product pyramid rule, during transition from one trophic stage to another in the ecosystem, the change in primary product consumption is about 10 percent, and the system does not change significantly - a steady state is maintained. Consequently, the average sustainable consumption level for Uzbekistan should not exceed 0.6 t per person per year. This is equal to 0.14 ha/capita in the average primary biological productivity of Uzbekistan.

Now we will look at the actual consumption in Uzbekistan from the other side, i.e., on the example of types of anthropogenic use of land, most of the primary biological product of which is used (consumed) by humans:

• agricultural land - 25 mln. 622 thousand hectares; including:

arable land - 4 mln. 44 thousand ha;

perennial tree plantations - 372 thousand ha;

gray lands - 80 thousand ha;

pastures and hayfields - 21 mln. 126 thousand hectares;

• lands of residential areas (city, settlement and rural residential areas) - 217 thousand ha;

• industrial, transport, communications, defense lands and lands intended for other purposes (together with landfills and other man-made lands) - 1 mln. 270 thousand ha;

• land of water fund (storage) - 831 thousand ha etc.

So, in the territory of Uzbekistan, approximately 28 mln. Most of the primary biological product in the area is consumed by humans. This corresponds to 0.9 ha/person. Also, primary production may decrease by about 0.2 ha/capita due to deforestation and environmental pollution. Therefore, the actual consumption rate is estimated at 1.1 ha/person or 4.7 t/year. This value is almost 7.8 times greater than the ecologically sustainable consumption rate (1.1 ha/capita : 0.14 ha/capita = 7.8).

Therefore, it is known that the indicator of the possible capacity of the territory of Uzbekistan is smaller than the anthropogenic pressure. If we mean densely populated areas (for example, Andijan region, Khorezm region (without the Tuproqkala massif in Hazorasp district) or densely populated districts), it becomes clear that such places are really very unfavorable from an ecological point of view.

The main features of the concept of the bearing capacity (potential capacity) of the regions are shown in the following:

- the application of the concept of the ability (or potential capacity) of regions to human society requires the highest level of communication of various disciplines;

- this concept is variable in nature - changes over time, that is, anthropogenic pressure and potential capacity may interact and change;
- the ability to withstand is determined by the limiting factors in the studied system (for example, soil fertility, that is, the amount of nitrogen that plants can absorb in its composition, etc.);
- the potential capacity of areas may increase or decrease due to human activity. One of the ways to increase it is efficient use of resources (for example, using less resources and producing more goods);
- restoring the resilience of a degraded area is more complex and costly than preventing it.

Despite the fact that it is not possible to get an unequivocal answer when comparing the natural potential capacity of regions with anthropogenic pressure, the concept of resilience is a useful tool for assessing the ecological condition of regions and developing national development strategies.

It is known that the Earth's resources are not enough to bring the material standard of living of all people in the world to the modern standard of developed countries, and in this regard, the anthropogenic pressure has already exceeded the possible capacity of the ecosphere. On the other hand, the lowest level of life (marriage) has not yet been reached, that is, the Earth's ability to endure, which ensures only survival. There seem to be many intermediate options between these two contradictory states.

The limited natural capacity of the ecosphere is not due to a set of factors, but to two or three main limiting factors that lead to its degradation, but it is difficult to say at the moment: lack of water resources or food, or the complete depletion of the ozone layer, or some other new factor that is still hidden. is determined.

We want to say that a few decades ago the sudden depletion of mineral resources (oil, some metals, etc.) seemed to be the main limiting factor in human society, then the inability to provide food for the ever-growing world population seemed to be the main problem, and then and the problem of anthropogenic waste (industrial and household waste, toxic substance storage sites, etc.) was shown as the most important limiting factor.

## CONCLUSION

Today, issues such as disruption of the structure and regime of the ecosphere, i.e. disruptions in the system of photosynthesis (respiration) and destruction (disintegration) processes in nature, increased effects of vapor gases, and disruption of biogeochemical circulation have become the main problem. However, none of the above-mentioned problems have lost their relevance today. Therefore, the level of complexity of ecosphere problems is increasing day by day.

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