

THE ROLE OF ECOSYSTEM SERVICES IN PROVIDING SUSTAINABLE DEVELOPMENT

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Aggravation of environmental problems creates the conditions under which business entities legislative and executive authorities, other parts of society forced to move to new concepts of interaction between economic stakeholders in order to create an environmentally harmonious relations that would meet the criteria for sustainable socio-economic development.

Ecosystem services that are changing exert an indirect effect on livelihoods, income, local migration, and sometimes may even lead to political conflicts. The result of it for economic and physical security freedom, choice and social relationships affect the well-being and health, the availability of medical services and medicines and access. Ecosystem services is a function of ecosystems that provides some economic benefits to people who use these services, and are based on the nature of providing various kinds of regulatory functions receives the uncountable benefits of that it is possible to conditionally call "goods" and "services" such as food, timber, clean water, energy, protection from floods and soil erosion. Welfare of all groups of the human population in the world radically and directly depends on ecosystem services. Despite this, we have a lot of environmental problems: a sharp decline in many benefits, catastrophic decline of biodiversity all over the globe; total disappearance of forests in 25 countries; loss more than 90% of own forest vegetation by 29 countries; destruction of tropical and subtropical bogs since 1950s, raised through fishing 30% of coral reefs, loss of 80% of biocenosis through conversion to aquaculture land some countries.

The Millennium Ecosystem Assessment (MA) report 2005 defines Ecosystem services as benefits people obtain from ecosystems and distinguishes four categories of ecosystem services, where the so-called supporting services are regarded as the basis for the services of the other three categories. The following lists represent the definition and samples of each according to the MA:

Supporting services: ecosystem services "that are necessary for the production of all other ecosystem services" nutrient dispersal and cycling seed dispersal Primary production. Provisioning services: "products obtained from ecosystems" food (including seafood and game), crops, wild foods, and spices raw materials (including lumber, skins, fuel wood, organic matter, fodder, and fertilizer) genetic resources (including crop improvement genes, and health care) water minerals (including diatomite) medicinal resources (including drugs, pharmaceuticals, chemical models, and test and assay organisms) energy (hydropower, biomass fuels) ornamental resources (including fashion, handicraft, jewelry, pets, worship, decoration and souvenirs like furs, feathers, ivory,

orchids, butterflies, aquarium fish, shells, etc.)Regulating services: "benefits obtained from the regulation of ecosystem processes" carbon sequestration and climate regulation waste decomposition and detoxification purification of water and air pest and disease control Cultural services: "nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences" cultural (including use of nature as motive in books, film, painting, folklore, national symbols, architect, advertising, etc.) spiritual and historical (including use of nature for religious or heritage value or natural) recreational experiences (including ecotourism, outdoor sports, and recreation) science and education (including use of natural systems for school excursions, and scientific discovery

Note that there are various working definitions of ecosystems services in the literature. The most recent revision by TEEB to synthesize work in this field and prevent double counting in ecosystem services audits, has revised the MA definition to remove "Supporting Services" and replace it on the one hand with "Habitat Services" and on the other hand with "ecosystem functions" that "are defined as a subset of the interactions between ecosystem structure and processes that underpin the capacity of an ecosystem to provide goods and services".

The problem of providing a sustainable development is directly connected with the whole complex of economic and socio-economic characteristics. It means that the parameters characterizing a sustainable development, have to include both social, and an economic vector. And each of them an extremely important role is played by ecological factors to support the physiological functions of human or the personality traits of "socio" (contact information on holistic natural systems).

The methodological approaches to assessing ecosystem services are:

- 1) costly approach involves evaluation of the largest costs of production, development, introduction into the economy and natural resources. However, this approach does not encourage environmental management for better quality of life and accessibility by making the use of a lower estimate than the worse the quality resource;
- 2) resultant approach makes it possible to carry out an economic assessment of the resources that provide income. The disadvantage is that not all resources while using make income;
- 3) costly resource approach is based on the combination of costs of the development of resources and income from their use;
- 4) the rental approach is considered the most objective because the best resources get top marks for the same costs;
- 5) reproduction - economic evaluation in this case is the aggregate costs of reproducing resources in a particular area;
- 6) monopoly-departmental approach is a kind of costly. The essence is that the amount of payments must comply with financial costs of specialized agencies that are involved in the management of natural resources;

The rental approach is most widespread in economic practice to an assessment of natural resources. Rental approach is cornerstone of officially accepted technique of a monetary assessment of lands of agricultural purpose and settlements.

Analysis of the value of ecosystem services can also be performed using qualitative, quantitative and monetary estimates. Qualitative assessment typically focuses on such terms as social benefits of recreation, health, life safety and others. As a result, quantitative assessment receive an information about the number of abstract threats to health, the volume of high-quality water supply and so on. Monetary assessment involves determining the size of damage from water pollution, the level of income from tourism, pharmaceutical, in which were used ingredients of natural origin.

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