About regional indicators of steady development (On an example of the Belgorod area)

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The Belgorod area is located between rivers Don and Dnepr of the Black Sea pool - as region with brightly expressed conflicts in the framework of nature using, high level of anthropogenesis influence on is discussed, environment and degree of pollution of its components (water resources, atmospheric air and ground) is submitted.

On an example of this region is discussed the opportunity of formation of indicators system of steady development based on the principles that have been put forward by the international community and adapted to concrete regional (ecological component).

The adapted list of indicators of steady development of region (ecological component without economic and social aspects) is offered.

KEY WORDS

- Regional indicators of the ecological situation,
- Ecological situation of the Belgorod area

The Belgorod area is located a little bit above, than average part between rivers Don and Dnepr of the Black Sea pools' border of these rivers. All space of the Belgorod area, represents the old mastered region, practically is transformed in one or others form. Created here cultural landscapes are adapted to satisfaction of various economic needs: agricultural, industrial, partly, wood economic renewed zones and others.

The condition of the basic natural environments is characterized in a series of research works as equilibrium in conditions of the intense ecological situation [1]. In particular, the quality of waters in superficial water objects within many years is characterized as "moderately polluted", by places - "polluted" [2] and here are supported typical water ecological systems, including the ordinary kinds of fishes, though from this list, probably, first of all owing to poaching, for last decades some number of valuable kinds has disappeared.

Atmospheric air in large cities (mountain industrial centers - Old Oscol, Gubkin, industrial and administrative centre - Belgorod) on the average balances for some components and separate posts of supervision at a level "of extreme allowable concentration", that from the formal point of view shows what not all safely.

At the same time, many large industrial cities at whole on Russia considerably outstrip area on these bad parameters. As well as in all country, the implementation of modern ecologically sparing technological systems of agriculture carries fragmentary character and, of course, there are far from such characteristics as "everywhere" and "covering all."

The losses of valuable ground resources for agricultural

purposes are significant as a result of their competitive use for the mining enterprises, industry and development of the human settlements. Wood files, in the basic wood landings, occupied about 10 percents of territory. In region, first of all, in beams and river valleys, in woods, zones of automobile highways etc. is submitted typical vegetation and fauna for wood landscapes and steppe. The official data show the usual dynamic balance of number of the hunting animals.

Rather stable recently, but characterized of high level of the ecological intensity, dictates necessity of choice and introduction in a management system of economic development certain indicators, which would allow to supervision and to correct a situation, first of all, in areas of the high ecological intensity.

According to the decisions of a conference ONU in Rio de Janeiro (1992), for estimation of stability of development, the countries of community should improve the national statistics by take into account besides economic also social and ecological factors. Recently European countries, and then and in Russia the discussion about creation of system of indicators of steady development was widely developed. Basically two approaches are discussed.

The first approach assumes introduction of the integrated indicator, on the basis of which will be possible to judge a degree of stability of socio economic development, which in turn presumably will be find from ecological-economic, ecological-socio-economic and actually ecological groups of indicators. As the effective integrated indicator were offered the aggregated index "Environmentally Adjusted Net Domestic Product" as indicator of the "true savings," besides its, the aggregated index "Living Planet Index," etc.

The second approach assumes construction of system of base indicators, each of which reflects separate aspects of steady development; here within the framework of system the subsystems of economic, ecological, social and institutional of parameters are allocated [3].

The experts ascertain, that in the world still there is no conventional and well proved integrated parameter, therefore accent is done on construction of system of indicators. The examples of development of the appropriate systems, sometimes including extensive amount of indicators, have shown necessity of the restrictive approach by amount of used parameters to increase their chances be adapted in a control system of economic development and protection of an environment. In particular, one of popular variants [3,4] offers the system of seven priority basic ecological-economical indicators and their modifications, constructed as structure "problems - indicators". They are: 1- energy intensity, expressed in kgs of conventional fuel equivalent (oil equivalent) per unit of gross domestic product (GDP); 2- updating of a fixed assets (factor, %); 3- emissions; dumps of polluting substances per unit of GDP; 4- quantity of not used and not neutralized toxic wasters; 5 - the areas of especially protected natural territories (mill. hectares); 6 - not broken by economic activity territories (%); 7- hothouse gases emissions (mill. tons.) There are attempts of introduction this system of indicators as example for Kemerovo and Tomsk areas of Russia.

If to try to use this specified system of indicators with reference to concrete region, for example, such the old mastered zone to region as the Belgorod area, with high density of the population, significant level of natural environmental transformation, bright expressed conflict of nature use, it is necessary to note serious restrictions and clauses to opportunities of their application (see under number of the indicator).

1. The power intensity of Russian Federation is negatively allocated on a background of a world economy, and, despite of some objective circumstances, the reserves of rationalization of use of power resources are still farly from being settled is recognized. That is caused by a backward technological level of former Soviet civil industrial sphere. The Belgorod area a little differs from middle European level, therefore dynamics of a power intensity will be available so for the given region and undoubtedly will serve one of indicators of steady development.

The absolute parameters of power intensity for

region will be not as effective as the indicator, because to each region the structure of various industrial branches is specific, caused by economic specialization, so the territories and density of the population of regions of Russia essentially differ from each other. The comparison of this parameter for various regions will not allow receiving a true picture about efficiency of use of power resources. Here it is expedient to find power intensity inside of each branch on groups of the enterprises and to compare them with power intensity of the similar enterprises in the country and abroad.

2. Updating a fixed assets first of all characterizes economic stability, at the same time, it is obvious, that the modern technological circuits not only are more economic, but also much more ecologically, hence, this parameter indirectly characterizes also ecological stability.

3-4. The following parameters: emissions, dumps of polluting substances per unit of GDP, quantity of not used and not neutralized toxic wasters in absolute values or as specific values per unit of GDP, as well as in a case with energy efficiency parameters, should be adapted in to the available form for their application in different areas with significant physical and geographical differentiation.. A rather irrespective parameter here could become dynamics of absolute and specific values of emissions. At the same time, any region has the certain admitted value of assimilations potential. Therefore, only in case of excess of given potential can be successfully used dynamics of absolute indicators. The relative values, as it was already marked above, are indicative only in comparison inside branches. For example, it is possible to define relative ecological loading on the given parameters in a framework of branches, to calculate the overhead factor above average values of the given indicators of the branches and then, to integrate these factors in the one cumulative regional indicator.

5. The areas of especially protected natural territories, as well as territorial limits value of assimilations should have the certain geoecological estimations of optimality (estimations of regional norm). Here the indicator of stability can be not area, but the factor, calculated as relation between real areas and optimal areas.

6. The parameter “not broken by economic activity territories” requires semantic definiteness. it is caused probably by that especially protected territories are allocated as the independent indicator. In this case, there is a territory, more or less intensively used in economic activity and not lost ability to support ecological environment. It can be appreciate by using additional parameters: biological variety, biological production, etc. As constant observation of these additional parameters is difficult work, preferably formal reference them to territories of those categories of grounds, which have common ability to support ecological environment. For example, ground of wood funds, haymaking sites, parks, organized protected water zones, pastoral lands, agricultural areas, certificated as ecological safe manufacture areas, etc.

7. The emissions of greenhouse gases in territory of the Belgorod area, first of all, are coursed to processes of burning of organic fuel and, accordingly, their volumes and the specific parameters per unit of GDP as indicators of steady development of area will duplicate parameters of power intensity and energy efficiency. The emissions of polluting substances in an atmosphere are caused to the same processes that also results in the certain duplication. Accordingly, the emissions of greenhouse gases as regional parameters of steady development have a little bit superfluous character and their observation expediently only within the framework of realization of the international contracts of Russia.

Thus, offered by us the list of indicators reflects some aspects describing, in general (common), ecologically steady development in international and regional scale. At the same time structure and list of these indicators at a regional level should be specified proceeding from the basic features wildlife management and available ecological problems.

In particular, conflict of alienation valuable in the agricultural purposes and ecologically safe lands demands an economic evaluation of there relative importance as kind of nature use with the amendments

on artificial underestimated profitability of agricultural manufacture and absence of adequate estimations of an ecological component and accounts of limiting variants of expansion of territories under industrial and mine-industrial needs.

The normative share of especially protected lands and other territories are necessary to determine not only and not so much proceeding from available and enough abstract estimations of a share of these objects in structure of administrative formations. It is necessary also to take in to account the factors of uniformity distribution of the support ecological environment elements, proceeding from the functional analysis of maintenance by them stability of the development functions.

In view of stated, list of indicators of steady development of region (here we do not examine economic and social aspects) for the Belgorod area as a first approximation should include the following:

- energy intensity (including dynamics of a parameter in a branch framework),
- updating of a fixed assets and nature protection funds,
- relation of volumes of emissions, dumps of polluting substances formed industrial wastes to territorial limits of their formation and also their specific quantity per unit of GDP,
- on a basis of normalized kinds of lends usage – the share factors (as the relation of real values to regional territorial norm) for the lands which have kept there environment protection properties, corrected in view of factors of uniformity (adequacy) of distribution.

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