ECOLOGICAL EFFICIENCY OF THE PROJECT OF INSTRUCTION IN THE FARM

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The effectiveness of internal land formation in the farm is manifested in three areas: ecological, economic and social.

The ecological effectiveness of internal land development in the economy comes from the need to protect nature, restore natural resources and use them rationally, and above all, the impact of land development activities and production on the natural environment surrounding us, improving the land, protecting it from erosion to do, it is seen through the implementation of nature protection measures.

The production-economic or, simply put, economic efficiency of land preparation is based on the requirements for the mutual organization of production and the territory, the improvement of the economic conditions that affect the efficiency of material production in the agricultural enterprise in the first place. comes out.

The environmental efficiency of the project is the main one. The demand for it is reflected in the need to fulfill strict environmental and nature protection standards imposed on every element and every component of the project. No on-farm land development project solution can be considered if it does not meet these standards.

The main indicators of the ecological efficiency of the project of internal land formation in the farm include:

information on the comprehensive assessment of the impact of land management on the quality of land obtained for each land plot (humus balance; the amount of mobile forms of macro and micro elements, heavy metals, radionuclides, residual pesticides; suitability of land for agriculture categories, classes, productivity evaluation score; acidification, wetting regime; seepage water level, water capacity, productive water reserve; homogeneity of soil, terrain, etc. conditions);

information on the reduction of water erosion and deflation processes of soils (soil washing, reduction of ravines, grazing and afforestation of eroded lands, erosion risk coefficients of crops and soil and vegetation in periods of erosion risk project coverage, regulated water flow volume, change of microclimatic conditions);

information on the structure of lands aimed at nature protection (water protection zones and coastal strips, sanitary protection zones, protected landscapes,

land plots at the conservation stage, sanitary and zoo-veterinary intervals, protection, prohibited and protection zones availability);

information describing the ecological structure of the area (migration corridors, ecological units, micro-reserves, ecological diversity of the area, indices of ecological stability, productivity of agro-landscapes taking into account "marginal efficiency", length of ecotones, etc.).

The effectiveness of internal land formation in the farm is manifested in three areas: ecological, economic and social.

The economic effect of internal land formation on the farm is as follows:

in the placement of production departments, economic centers and main roads - from reducing the annual costs of production and various types of expenses (for reconstruction and construction);

in the organization of land types and crop rotations - from the increase in net income;

in the organization of crop rotations, tree groves, hayfields and pastures - from a decrease in costs for the implementation of production processes and the prevention of production losses (due to the reduction of the area under the turning lanes, residual triangles, sharp edges).

Taking into account this stratification of the economic efficiency of land development, the efficiency of capital costs in creating the elements of the infrastructure of production and the corresponding economic level is considered. For example, capital costs incurred in the transformation of land types are compensated by the increase in net income on newly acquired or more intensively used land, and in the establishment of crop rotations, capital costs incurred in the construction of field sheds, roads, etc. . is covered by the decrease.

It can be seen that the main effect of land consolidation is related to the increase in net income and the reduction of production costs (which can also translate into an increase in net income). These increases arise from organizational and economic activities that require additional production costs (S) at the expense of additional capital costs (K) and without additional costs.

The ratio of net income growth to SD costs is used to calculate a generalized indicator of the economic efficiency of the internal land development project in the farm, which takes into account all the above measures : Δ

$$\frac{\Delta СД}{C + KE_м} \to max,$$

where E_m is the standard coefficient of efficiency of capital expenditure.

The ratio of the increase in net income due to the establishment of the territory to the corresponding project and exploration costs, capital costs, and current costs of production allows to evaluate the effectiveness of the necessary organizational-territorial measures and capital costs for the implementation of the project.

Technical (technological-economic), agro-economic and economic (value) indicators are taken into account when evaluating the economic efficiency of the internal land development project in the farm.

The technical indicators of the internal land development project in the farm mainly include the spatial conditions of the area created by the project and the technological characteristics of the land (the relief of the place, the mechanical composition of the soil, the presence of obstacles, the cultural and technical condition, the size of the contours, etc. '.) serves to evaluate the descriptions.

Technical indicators in the process of land construction design include the possible slopes in the working directions of the movement of aggregates, the limited width of the sections between the strips, the recommended areas of the land massifs attached to the production departments, crop rotations, fields, working (irrigation)) reflects the application of scientifically based norms on the optimal areas of plots, permissible distances for driving cattle. The technical indicators of the internal land development project in the farm include how the standards of land development design have been followed, the improvement of land ownership and land use latitude conditions compared to the existing situation, and what are the advantages and disadvantages of possible solutions. allows to think about.

The agro-economic substantiation of the project is carried out in order to determine the compliance of the organization of the designated area with the requirements of production expansion, therefore, the indicators of the agro-economic substantiation mainly describe the organizational and economic aspect of the internal land creation project on the farm and various balances system consists of: labor force, feed, fertilizer, circulation of goods, production and distribution of agricultural products. The agro-economic substantiation includes solving the issues of placing the production and its branches, substantiating the organizational-production structure of the farm, introducing crop rotation, which is also reflected in the appropriate indicators.

Economic substantiation is carried out in order to determine the best solution for the organization of the territory, to determine the effectiveness of the design solutions in relation to the existing situation, and to provide the internal land development project in the farm with value indicators describing its effectiveness. In this case, economic indicators are used to compare the expected results of improving the economy and the growth of production in various sectors, rational organization of production processes with the costs caused by these improvements.

The result of social effectiveness of land management is considered to be strengthening of land relations, protection of land ownership and land use rights. In relation to this field, land is considered as an object of socio-economic relations. The social effectiveness of internal land formation in the farm is aimed at the development and improvement of production conditions. It also leads to changes in the living, working, cultural and household service and recreation conditions of the population.

The social efficiency of internal land construction in the farm is classified according to the components and elements of the project.

When placing production departments and economic centers, it will consist of:

ensuring social fairness in the distribution of land shares and property shares, in the formation of land massifs of production departments, in the integration of citizens' and workers' land shares into internal production departments of the economy;

improving the conditions of production management and leadership, proper organization of production in enterprises, which affects the increase of labor productivity;

correct placement of economic centers, determining the future development of housing, cultural-domestic and industrial buildings, improving the living and working conditions of the population due to the purposeful change of the nature of migration processes.

Social efficiency in the placement of highways, road constructions, and other local engineering facilities is to reduce the time and money spent on unnecessary travel of people and agricultural equipment to and from the workplace, and counter travel. will consist of changing working conditions due to completion, improvement of transport vehicles, proper organization of water and heat supplies, communication, energy supply.

The social justification of land types and crop rotations consists of creating cultural landscapes, satisfying the aesthetic and recreational needs of the population, and environmental health and protection.

The social effectiveness of the organization of crop rotations and the creation of their territory consists in the design of fields with the length of a reasonable working direction, correct forms, which creates normal conditions for the implementation of work processes in the field, improvement of working conditions, agriculture it allows to reduce the time of useless walks, rotations and entering and exiting of the excavator, reduces the fatigue of mechanics, the duration of field work, and increases labor productivity.

During the period of field work, it is possible to collect equipment, repair service, improve the food and living conditions of workers, and provide transport services at the necessary level due to the concentration of crops in fields with optimal area.

The social effectiveness of the project in the establishment of areas of orchards, hayfields and pastures is reflected in the enhancement of the aesthetic features of the agro-landscape, the improvement of the working conditions of workers (gardeners, cattle breeders) and so on.

Quantitative assessment of the level of impact of the internal land development project on social conditions in the farm is quite complex, because many social indicators have a qualitative description. In addition, it can be considered that the social efficiency of the project leads to the following results:

to save time by reducing unproductive activities (passages, rotations and entry and exit of equipment, maintenance, transportation of people and goods, driving of goods, etc.);

increase the employment of workers, level the seasonality and frequency of work, reduce downtime, improve working conditions;

to the growth of the interests of some workers and labor teams, as well as the enterprise as a whole, in the good use of the land and other means of production assigned to them.

This leads to a significant increase in the labor productivity of workers, an increase in the volume of production and a decrease in its cost. Consumption and savings grow, social conditions of life in the village improve significantly.

As a result, the efficiency of all types of land preparation is reflected in the economic results of the activity of the agricultural enterprise. Practice shows that the farms that have mastered the projects of internal soil formation in the farm are more effective in the continuous growth of soil fertility compared to other agricultural enterprises.

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