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**SPECIAL RAW MATERIAL ZONES AS AN EXAMPLE OF SUSTAINABLE
LAND MANAGEMENT**

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Abstract. In this paper we describe some aspects of implementing the practice of special raw material zones in Ukraine as an example of sustainable land management in transition economies.

Key words: special raw material zones, agricultural land, best practice, sustainable land management.

Such great attention that is recently paid to the problem of desertification and degradation of land in Ukraine, is caused by increasing of anthropogenic influence on soils, irrational using of land, imperfection of agrarian technologies, social disturbance of environmental condition and awareness of role of soils in secure of food and ecologic security of the country.

Among the ways of solution of problems, concerning the irrational land using nowadays the main one is to increase the efficiency of agricultural land using through launching of modern technologies and environmental protective measures.

At the same, time taking into consideration rather high level of pollution and degradation of arable soils as well as consequences of Chernobyl catastrophe, Ukraine just like other countries of transition economy has very actual issue is to secure quality and ecologic security of food products. It's a well-known fact that the population health, life expectancy, labour and intellectual potential of society depend on these rates. These social-and-economic factors determine the necessity to rebuild radically the character and structure of land using in Ukraine. The first thing is to

change the development direction of agriculture taking into account the sequence of ecologic, social and economic demands.

The example of implementation of efficient policy and practice in Ukraine aimed at prevention of desertification and degradation of agricultural land as well as at improvement of social conditions of rural population, and which are economically favourable for agricultural producers are the special raw material zones.

„Special raw material zones are regions or separate farms that meet the conditions of manufacturing of plant and animal production suitable for making products of children and dietary food” [1].

Main requirements to secure stable functioning of such agricultural enterprises are: prohibition of using of synthetic pesticides and mineral fertilizers; maintenance of optimal level of soil fertility; application of system of manuring and protection of plants with using of elements of organic agricultural technologies.

Definition in kind and conditions of functioning of special raw material zones is regulated by present laws of Ukraine. Territories that are suitable for creation of special raw material zones are determined on the grounds of evaluation results of sanitary-and-hygienic and zonal agro-chemical rates of soil taking into account information about degrees of loads by pesticides and agro-chemicals, emissions from industrial enterprises and objects that can pollute the environment.

Conformity of agricultural land to requirements of special raw material zones is estimated according to criteria and norms, developed by authors [2] and approved by State Standard of Ukraine [3]. Such complex preventive estimation of the territory is carried out by authorized scientific-and-technical institutions.

Agricultural enterprises that meet the demands, decisions of commissions created under all regional state administrations get the status of a special raw material zone and right to state financial subsidy for supply of raw material for production of children and dietary food. The status of a special raw material zones is awarded to the producer for the term of 5 years under annual control of meeting the demands.

Practice of special raw material zones is on the grounds of financial interest of producers (subsidies from state budget for raw material that is used in production of

children and dietary food and meets the demands provided by law). State subsidies allow to compensate the expenses concerning the increase cost of getting a unit of production and also to spend some assets for development and modernization of production.

Distribution of financial subsidies for supply of raw material used in production of children and dietary food support the producers who launch modern environmental and high technology methods of agriculture for getting the production that meets the demands of quality and security.

They began to implement such practice in the first agricultural enterprises in 2006. But only after confirmation of the Decree of Cabinet of Ministers of Ukraine “On Approval of Order of Awarding Status of Special Zone of Manufacturing of Raw Material, Used in Production of Children and Dietary Food (2007) its launching became spread.

During 2007-2012 the status of a special raw material zone has been awarded to 86 enterprises with total area of 267, 9 thousand hectares (for comparison, the total area of all agricultural land in Ukraine is 41650 thousand hectares).

Special raw material zones function in all nature zones of Ukraine. The major part of such enterprises is located in the zone of Forest-steppe, the minor part is in zone of Polissia and only 6 such zones are in the south of Ukraine in Steppe. Natural and climatic conditions differ much in temperature regime, degree of dryness of the territory, soils and topography. Process of land degradation that in Ukraine mainly concerns the agricultural activity is showed in different ways. For example, in Polissia the most widespread are overmoisture and acidity of soils, in Forest-steppe and Steppe these are water-erosion process and deflation. That is why in each case during the estimation of the territory of enterprises their zonal differences are taken into account.

Social-and-economic conditions of population at the places of launching of the practice are also different. Ownership form can be both state and private one; the leading form of land using is tilled soil. The area of enterprises that have the status of special raw material zones are from 100 hectares (mostly not very big farms in

vegetable planting) to 5 thousand hectares (mostly feed crops). All agricultural enterprises as it were mentioned above need to meet main requirements concerning special raw material zones.

This practice allows solving a lot of problems, the main of which are following:

1) It allows to prevent further development such degradation process as soil contamination, dehumification, soil erosion, agrochemical depletion. So due to prohibition of using agrochemicals of synthetic origin and strict control of sanitary-and-hygienic rates they prevent contamination of soil, water and plants by residues of pesticides, hard metals, radionuclides. Keeping of crop rotation, increase of using of organic fertilizers, planting of perennial feed crops assist on maintenance and larger contents of humus.

Due to higher contents of organic things in soils their water balance gets better, they become more resistant water stress and drought, the possibility of water erosion diminishes. Mode of activity in the special raw material zone also assists on higher fertility degree of soils, higher supply level of nitrogen, phosphorous, potassium, microelements.

2) It secures stable land management by means of optimization of planting and cattle breeding within the zone, introduction and keeping of scientifically grounded crop rotations, application of optimal doses of agrochemicals of organic origin.

3) Practice of special zones for planting the most productive and high quality crops is one of key measures that assist on adaptation of agricultural production to climatic changes. Functioning experience of such zones shows their great potential in softening of consequences of climate change. That is the increase of carbon contents in the soils of special zones is reached by means of better tilled land management and pastures, optimization of sown areas, prevention of degradation process development. Besides that as a result of more rational using of nitrogen fertilizer and organic residues and atmospheric nitrogen, the emission of nitrogen oxide is less.

Reduction of areas under monocultures, increase of beans sowing, wider areas under one-year and perennial herbs totally assist on increase of structure variety of

plants and microorganism activity and, as a result, it allows to multiply of agro biodiversity as a part of biodiversity.

4) It assists on increase of quality and security of the raw material for production of children and dietary food, it prevents contamination of food products by toxic elements, radionuclides, pesticides.

5) It allows in the most efficient way to use existing resources and organize agricultural production aimed at maintenance of optimal condition of ecosystems at the social, ecologic and economic levels. In particular, it secures permanent employment and stable income of the employed population and also assists on knowledge about the using of modern ecologically friendly technologies and ecologic consciousness in general among village population. Consumption of high quality and safe products assists on decrease of sickness rate of the population.

In Ukraine the interest of landowners and land users in implementation of measures aimed at prevention of negative process that worsen the condition of land can be reached only on terms that such actions will be profitable for them. The efforts to cause some interest only by the way of establishing correspondent liabilities don't encourage landowners and land users to certain actions. The more so the measures concerning the prevention of worsening of land quality, its contamination, spoilage or degradation demand considerable material expenses (for purchase of new equipment, construction of security buildings, development of plans of maintenance the soil fertility etc.).

Only practical implementation of measures of economic stimulation of rational use and security of land provides interest of landowners or land users in realization of nature protective measures that are profitable for them.

At the national level it is very important to maintain further development of services of distribution of knowledge and experience with the purpose of popularization of principles of stable and efficient agriculture. Introduction of good agricultural practice is a key element in this process. That is why the interest of landowners and leaders of agricultural enterprises in the transfer to ecologically

friendly agricultural technologies is also a very important factor of practice success, not less than the economic interest.

Besides that the other important condition that will assist on successful implementation of leading practice in the countries of transition economy is their state support at the national and regional levels by means of adoption of correspondent laws and programs. Support of highly developed and balanced rural economy is very important for environmental protection and keeping natural resources, including long-term preservation of soils and landscapes. But in countries of transition economy it is not easy to introduce the programs of environmental protection in agricultural sphere in modern economic situation.

New practices can be successfully implemented only if they also assist the amelioration of production and life standards. More stable agriculture that optimizes productivity, agricultural practice and expenses use would make positive influence on soils and land resources management.

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