Importance of elaboration the Codes of Agricultural Practice in Belarus

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Introduction

Belarus has a population of 9.75 million (Annual year-book, 2006). About 28% of population live in rural areas, 14% are employed in agriculture. Agriculture provides about 10% of gross domestic product (GDP). The territory of the Belarus covers about 21 million hectares; 44% or 9.1 million hectares is agricultural land. Two thirds or 5.8 million hectares is arable land, the remaining third natural grasslands.

Belarus' role as a surplus milk and meat producer during Soviet times was based generally on high-input agriculture plus large-scale imports of feed-grain. This production provided jobs, income and environmental problems, such as leaching of plant nutrients from fertilizers and manure, with ensuing water pollution, and the negative effects of pesticide use, including leaching.

Agricultural production began to increase again in 2000 and has reached 80% of the 1990 production level, continuing upwards. Ideally, future crop production and livestock production will develop in balance, nationally and within individual farms. Livestock production should be mainly based on the country's own feed-grain resources, and with manure loads not exceeding the nutrient uptake capacity of crops.

Boundless intensification of agriculture in 1970s had strong negative effect on the environment. Because of that the European Union reformed its agricultural policy in 1992 and defined objectives for good farming. Main of them: to reduce dependence on fossils (oil, coal and mineral raw materials, degradation of environment and soils, to improve farm management, to decrease energy use and improve living conditions of agricultural community).

Codes of Good Agricultural Practice

On farm practices in the EU are controlled by Codes of Good Agricultural Practice, which whilst not being statutory in nature, failure to comply with the codes can be used as evidence, if cases of prosecution arise. Although nitrates are the main reason for the introduction of the Codes, other potentially dangerous substances and situations are also covered. The major concern in recent years has been in connection with nitrogen in the environment, especially high levels of nitrate in water, which may affect drinking water supplies.

The EU Nitrate Directive concerns the protection of water against pollution by nitrates from agricultural sources. It requires member States to designate vulnerable zones and implement action programmes and prescribed measures for reducing pollution from agriculture in these areas. The list of measures contains: period of fertilizer (both of mineral and animal/manure) origin) prohibition; restricting the use of fertilizer on steep slopes; restricting the use of fertilizer on soil saturated with water, and frozen or snow-covered soil; restricting the use of fertilizer in

proximity to water bodies; effluent from livestock manure storage; livestock manure storage capacities; rational fertilizing; rotation, maintaining permanent crops; vegetation cover in rainy periods and winter; fertilizer plans; specific date and limit value of nitrogen application through livestock manure; and other measures.

The main objective of the Codes of Good Agriculture Practices according to EU Nitrate Directive is to reduce pollution by nitrates and ensure that for each farm the amount of livestock manure applied to the agriculture land each year, including the animals themselves, shall not exceed the amount of manure containing 170 kg/ha of nitrogen as well as that the concentration of nitrogen in freshwater and groundwater supplies does not exceed 50 mg-NO_3/litre and to control the incidence of eutrophication of waterways, seas and lakes.

The Codes of Good Agricultural Practice (GAP) are designed to decrease the negative influence of farming practices on the environment and to protect natural resources, including the soil, water, plants, animals and the landscape.

Fertiliser organisations throughout the world have prepared and introduced similar Codes e.g. Asia and the Pacific in 1992. Latin America in 1994, Philippines in 1996 and America in 1997, as well as Canada, Australia and New Zealand.

The European Union Water Framework Directive (WFD) concerns all aspects of water management; agriculture is only a part of the issue. Among its main objectives are: expanding the scope of water protection to all water (surface water and groundwater); achieving “good status” for water by set deadlines, all water to have reached this status by 2015; water management based on river basins; establishing a coherent managerial frame for all water-related legislation, thus allowing for consistency in planning and measures.

WFD requires all partners in a given river basin to manage their water in close cooperation. It stipulates that, where several countries are involved, they should set up a common river basin management plan. WFD also demands the integration of its rules into other policies, e.g. agricultural policy. In agriculture and the environment, WFD interacts with the stipulations of the Nitrate Directive.

The potentially strongest international experience that Republic of Belarus may use is the EU Nitrate Directive and Water Framework Directive (the parts that concern agriculture) and member States’ work with their implementation. This would also be consistent with Belarus’ attempts to make its legislation compatible with that of European Union in environmental matters.

The Codes were originated because of these high nitrate problems of the 1980’s, which resulted in the EU Nitrate Directive (EEC/91/676). The subject became of more importance regionally as a result of the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area (HELCOM), 1992 with particular relevance to Belarus due to the potential effects on water quality from its waterways on neighbouring EU member countries and ultimately the Baltic Sea.

The Republic of Belarus is an observer on the Helsinki Commission since 1996. HELCOM has an ongoing activity to assess the significance of the transboundary pollution load coming from

the non-Contracting Parties in the catchment area, including Belarus, in more detail. Also country may benefit from the experience of the Contracting Parties to HELCOM (mostly from former Soviet republic – since 1991 independent Baltic States: Estonia, Latvia, Lithuania) in various environmental issues in agriculture, including adjusting legislation and policies.

The ecologically sustainable development in Republic of Belarus is hampered by a decrease of a level of state investment in this sphere. The axe installation of units for environmental protection is watched, for example on systems of recycling water supply, installations for catchings and neutralization of hazardous substances from waste gas.

The problems of conservation of agricultural resources is acute, as a result of accident at the Chernobyl nuclear power plant more than 25 % of percents of Byelorussian territory was contaminated with radionuclides, the part of agriculture lands (about 5 % of farmland with a level of contamination more than 15 Ku/ sqr. km) was removed from an agricultural revolution.

During the 21 years since the accident, radiation levels have decreased somewhat. Also, field inventories and measurements have shown great variation. A system of liming and fertilizer application to prevent plant uptake of radionuclides is said to have used 20% of the State's budget for Chernobyl measures. Many of the 600 large-scale farms in contaminated areas have applied for clearance of individual fields. Through a complex system of measures, developed by Byelorussian research institutes, which diminish radionuclides uptake by plants and animals, some restricted areas have been opened up for production. These measures include, in addition to choice of soils and systematic liming and fertilizer application, choice of crops and varieties, crop rotations, the use of caesium-binding agents in livestock feed, quarantine periods on "clean" forage before slaughtering of cattle, etc. Since 2001 Belarus is implementing its General programme for overcoming the consequences of the Chernobyl Nuclear Power Plant disaster up till 2010.

The reduction of necessity in agricultural lands for plant growing and cattle breeding can be countervailed, only by increase in their productivity. However, it in most cases, in the stress of money presence on a preventive environmental management (testing of sprayers at regular intervals, agrochemical measures, more wide application of organic fertilizers, etc.) results only in negative ecological implications (salinity and leaching of irrigated lands, groundwater nitrates pollution, appearance of pesticide residue in nutrition, etc.), which one can appear irreversible.

The Codes must include many aspects of agriculture, where bad practices can cause pollution and associated problems to the air, soil and water resources of the countryside. The implementation of the GAP depends on the basic principles that to be successful the Codes must be easily understood, practical, environmentally friendly, socially acceptable and economically viable. The elaboration the Codes of Good Agricultural Practice will help to reduce the restriction of international trade markets and also to maintain the natural environment, which is unique and could become a great asset and attraction for the development of trade, in products and tourism, in Belarus.

Conclusions

High input of mineral fertilizers and pesticides, livestock production in large units with great concentrations of manure, and ensuing problems for surface water and groundwater are the basic environmental problems of Belarusian agriculture. The consequences of the Chernobyl accident became a serious burden on Belarus' agriculture. Large areas of agricultural land had

to be taken out of cultivation because of high levels of radioactive contamination. Other areas, with lower levels of contamination, are subject to a control regime.

The European Union's Water Framework Directive and Nitrate Directive and may be useful both in making Belarusian legislation more compatible with that of EU in the area of the environment and in helping Belarus solve its environmental problems in agriculture.

At the moment in the country there is no comprehensive strategy document for agricultural policy, including production, markets, economics, forms of ownership, rural development and the environment. Some legislation and rules affecting agriculture are today to be found in many different sources: Water Code, Land Code, numerous presidential decrees, programmes and other governmental documents.

First of all the Government (Council of Ministers) should initiate the drawing-up of a exhaustive strategy document for the development of agriculture, which would integrate environmental aspects. Also with support of the Ministry of Agriculture and Food the creation of extension (advisory) services in agricultural committees in oblasts and rayon's should be organise for improving the level of agriculture in general and to be instrumental in integrating environmental aspects and good agricultural practices in production.

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