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AGRICULTURAL COMPETITIVENESS: MARKET FORCES AND POLICY CHOICE

PROCEEDINGS
OF THE
TWENTY-SECOND
INTERNATIONAL CONFERENCE
OF AGRICULTURAL ECONOMISTS

*Held at Harare, Zimbabwe
22–29 August 1994*

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INTERNATIONAL ASSOCIATION OF
AGRICULTURAL ECONOMISTS
QUEEN ELIZABETH HOUSE
UNIVERSITY OF OXFORD

1995

Dartmouth

*The Formulation of Environmental Policies
for a Market-oriented Agriculture in the Baltic States*

INTRODUCTION

This paper deals with environmental and agricultural problems of countries in transition from centralized planning to a market economy, using Lithuania (an independent democratic state since March 1990) as a case study. Conclusions and recommendations made here are to a great extent common to all Baltic countries since the ongoing processes are similar in many respects, even if they have some distinctive features. Lithuania is the largest country of the three Baltic states, being inhabited by 3.75 million people, of whom 31.5 per cent live in the countryside. The territory covers 65 300 square kilometres, with forests covering 27.9 per cent of total area and farming utilizing 54.0 per cent, of which 85 per cent is ploughed land and pastures, 13 per cent meadows and natural pastures, and 1.6 per cent gardens.

Under the conditions of the former centrally planned economy, decisions were usually taken on the basis of economic factors alone, almost to the complete neglect of ecological issues. Furthermore, even proposals supported by the results of careful research had to pass what can only be described as 'ideological tests'. At present agricultural and environmental problems are having to be tackled against the background of unfavourable circumstances. There is continuous economic depression and a deficiency in public finance, difficulty over the financial state of enterprises, and lack of experienced specialists. The ecological situation, inherited from the past, is one in which pollution from industrial, transport and agricultural activities has damaged about two-thirds of the country, some of which is damaged beyond easy recovery.

LITHUANIAN AGRICULTURE: PAST AND PRESENT SITUATION

From a historical standpoint, agriculture was always one of the main branches of Baltic economies. In the inter-war period, agrarian reform, beginning in 1922, enabled Lithuania to achieve self-sufficiency in food products, and to become an important export earner, this aspect accounting for 80 per cent of total revenue.

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Collectivization, carried out between 1949 and 1952, was forced through for political and ideological reasons to form large-scale farms (average size 3000 hectares) based on state, or what was formally cooperative, ownership. Production was conditioned, not by the conjuncture of internal and external markets, but by directive plans made in the centralized order. Though Baltic agriculture was rather effective when viewed in the context of other republics of the former USSR, it lagged well behind that of developed countries. Although certain environmental requirements were formally set, they did not correspond to those applied in other countries and, furthermore, they were not observed.

Before the declaration of independence, it was obvious that the existing system of farming was not satisfactory economically, socially or ecologically. Rudiments of agrarian reform were seen even before independence, when it became possible to establish family farms, though land was granted without any right to sell it. However, the main features of the current agrarian change revealed themselves only after independence. They include land reform, privatization of assets of agricultural enterprises and their transformation into new forms of organization, and changes in the pattern of state intervention into their activities. Furthermore, along with the agrarian reform, a new environmental policy is being formed and has been partially realized. Before considering environmental issues, a brief description of the nature of the reform will be useful.

The land reform is of a restitutorial character, since the main way to bring land under individual ownership and to establish a family farm was its return to former owners or their successors. Only recently have decisions been made on alternative ways of compensation for land previously owned, either by investment credits, by cash payments, or by grants of forest rights and sites for residential property. It is also possible to purchase land, though a land market has only recently begun to function. Following land reform, small family farms are being established in the Baltic states in particular in Lithuania. In 1993 in Lithuania, average farm size was 8.8 ha, in Latvia it was 33.0 ha, and in Estonia 25.4 ha (Department of Statistics of Lithuania, 1994). At present attempts are being made to set up economic and legal preconditions for the establishment of larger, more competitive, farms. Privatization of the property of former agricultural enterprises and their transformation are virtually over, ownership of such property having passed to newly formed agricultural partnerships or to family farms. Unfortunately, some properties (including warehouses for fertilizers and other agrochemicals) failed to find a demand and remained unprivatized, their territory being left contaminated.

Availability of rural public utilities remains an urgent problem. Earlier, in the pre-reform period, they belonged to former agricultural enterprises which were often multifunctional. Though public management institutions at district and republican levels also provided public utilities, transfer to them of further responsibilities has proved difficult because of lack of financial means and of the technical skills required for their operation. For this reason, many rural communities lack public utilities of the most basic kind.

At present there are three main users of agricultural land. Agricultural companies (reformed former agricultural enterprises derived from kolkhozes and

sovkhozes) occupy 45 per cent of the total area, their average size being 500 ha. Family farms occupy about 30 per cent of agricultural lands, and individual households 25 per cent. In Lithuania, 2–3 hectares were granted to rural households immediately after independence and currently these plots are under privatization.

During the agrarian reform, state regulation of agricultural production also underwent significant change. Liberalization of prices for agricultural products began at the end of 1990 and was completed by the end of 1992. However, prices for inputs used were liberalized much more rapidly and earlier, compared with those for outputs. For this reason, and because of virtually one-channelled supply of energy resources and agricultural equipment from the former USSR, a great gap appeared between input and output price indices. For instance, in Lithuania in 1992 input prices increased three times more rapidly than output prices. In 1993, the price changes differed insignificantly (since supporting prices were introduced for some outputs), though the gap established in 1992 remained. Paradoxical as it was from the environmental standpoint, there was some benefit. Consumption of mineral fertilizers decreased by four times and that of pesticides by five times in 1992–3, compared with 1989.

EFFECTS OF AGRICULTURE ON ENVIRONMENT

One of the main problems in Lithuania is pollution of surface and underground water. Though the country generally has abundant underground supplies, the exception being Middle Lithuania, its purity is a problem. Water with excessive hardness is used by only 8 per cent of people, though there are greater difficulties with excessive iron content, particularly in rural localities, where it is removed from water only in 24 water reservoirs out of the 960 available. Around 60–70 per cent of bore-wells for decentralized supply use water with an iron content three to four times greater than the maximum permissible concentration established by official standards. The problem is particularly marked in the karst region of North Lithuania.

An even greater weakness is the quality of drinking water used from well-pits which are only sunk 3–15 metres. About one million people derive supplies from them, despite the fact that they are increasingly polluted by surface and subsoil water. Pollution has been estimated to affect 40–60 per cent of the installations. At present, also, about one in nine of the 3500 rural villages have defective sewage-treatment installations, and many which do exist need substantial reconstruction, repair and modification.

Animal residues present a particular difficulty around large-scale pig-breeding farms. In Soviet times, 33 such units (annual capacity 12 000–54 000 pigs) had been established. Their system of manure removal was, and still is, defective and it is often suggested that they should simply be closed. However, since they supply around one-quarter of pork production and provide much-needed rural employment, the solution appears to lie in extensive investment in improved facilities. There are fewer adverse effects from large-scale cattle and poultry complexes since, in general, their average size is relatively low by European standards (Meyers and Kazlauskiene, 1992).

Soil degradation, though an urgent issue in some republics of the former USSR (Bobiliev and Libert, 1993), is less severe in Lithuania, though even so some 14 per cent of agricultural land is affected. The problem of soil compaction from the use of heavy machinery was evident in the pre-reform period, but is also now losing its urgency following the establishment of small family farms and the division of former agricultural enterprises. However, there is still a problem with land drainage and reclamation. Of the area needing treatment some 80 per cent is covered, though it can be argued that the process, which was especially rapid in the 1980s, was performed too quickly. What developed countries of Europe did in about one hundred years, Lithuanian specialists in land reclamation accomplished in one generation. In the process there was excessive straightening of rivers, large field tracts following removal of bushes and woods were created, high marshes were needlessly drained, and lakes were lowered. There was great disturbance of the ecological balance. Land reclamation has now almost stopped, though problems remain. The process was centrally funded, and land drainage and reclamation installations have been left in state ownership, largely because the newer farmers do not have the means to maintain them adequately. Means have to be found to manage them within the context of the post-reform situation.

Agriculture is greatly influenced by industry, public utilities, transport and other urban activities. The main polluter is transport (58 per cent), though half of that is agriculture-related. Zones of protection have been established at the sides of roads, with their width being fixed in relation to the density of traffic. These zones are indispensable, as the quality of engines and fuel used in Lithuania is very low.

The other group of problems is varied in nature. Ecological danger is presented by the Ignalina atomic power plant, there is still a great deal of damaged landscape around former military bases, the Nemunas river (the largest in Lithuania) is being polluted both locally and in Belorussia and the Kaliningrad region of Russia, and contamination of the Curonian lagoon spit is at critical level. Even the Baltic Sea suffers from the effects of waste disposal, the international character of which is requiring joint efforts by the Baltic states and Nordic countries (Swedish University of Agricultural Sciences, 1993; Kjolholt *et al.*, 1993).

TRENDS IN ENVIRONMENTAL POLICY IN AGRICULTURE IN TRANSITION TO THE MARKET ECONOMY

As noted earlier, the economic situation of Baltic countries, including that of agriculture, is far from satisfactory. With transition proving so difficult, it would be tempting to give only minimal attention to environmental problems, even though this would mean that they were simply being transferred to future generations. However, it does appear that the easy option would result in many of the problems becoming insuperable, and that has had the effect of prompting more urgent action. Part of this has involved the setting of broad goals which need to be attained in the near future. These include:

- setting up a legal framework corresponding to those in force in developed countries;
- developing an efficient system of monitoring;
- joining international conventions on environmental subjects;
- providing the motivation for production of high-quality food and fibre products in a sustainable manner;
- beginning a fee system for charging for environmental pollution and for use of natural resources;
- applying measures specific to environmental protection needs associated with agriculture.

In the transition process, all state regulatory institutions are experiencing changes in their structure and functions. Preconditions are favourable to strengthening the integration of policies of agriculture and environment protection. In defining a new structure for the Ministry of Agriculture, it is crucial to include environmental specialists, who will be involved in drafting policy and laws concerning agricultural reform and analysing its environmental impacts. Such specialists could take the lead in convening interdepartmental working groups and task forces to develop integrated agricultural and environmental policies.

The most urgent issues to deal with are those in particularly sensitive territories, notably the karst zone in the northern part of the country. North Lithuania is dominated by soluble gypsum and carbonate rocks which are barely covered by deposits of the quaternary period which, in some places, have a thin layer of soil. In this zone the natural geological processes are speeded up by waste and, what is of most importance, waste can reach underground waters rather easily. The karst zone crosses the Lithuanian border and extends to Latvia, giving the issue an international dimension. It is being tackled through a target programme for 'Protection of Ground Water Against Pollution and Development of Sustainable Agriculture in the Intensive Karst Zone of Lithuania' (Gutkauskas, 1994) for the implementation of which a special executive body, the Karst Zone Fund (TATULA), has been created. Supporters of the fund, according to its statute, may include local businessmen as well as foreign contributors. The main goals are:

- to formulate measures to discourage point pollution (from cities, settlements, production units and farmsteads) and non-point pollution (from agricultural fields);
- to create economic incentives for cultivation of a more organic nature, aided by various tax incentives and subsidies;
- to establish an ecological education and training system for those living and working in the region;
- to provide for the development of special agroservicing and food processing activities suitable for a sensitive region.

The lessons which are learned from the initiative will be used in the design of environmental projects in other, less sensitive, territories.

Though there are some specific efforts to seek wider funding, the main source for financing environmental measures is the state budget. Allocations

for environmental protection are increasing, though, despite that helpful sign, it is estimated that the requirements are double the amount actually committed. Furthermore, the major part of the sum is to be used for the construction of effluent processing installations in towns, management of toxic waste and the cleaning of contaminated areas, leaving very little (apart from small allocations for national parks and reservations) to meet rural environmental objectives (Ministry of Economics of the Republic of Lithuania, 1993). There are small contributions only from the 'Nature Protection Fund' and the budgets of municipalities, derived from the recovery of part of the value of damage to the environment and natural resources associated with violations of laws and regulations. From the legal standpoint there is the power to levy fees for natural resource use and emission of pollutants, though these are not rigorously enforced and even when they are, their real value is eroded by inflation since there is a lack of indexation.

The wider setting

In looking at environmental issues it is also important to bear in mind the general situation of the agricultural sector. Basically, two potentially opposing tendencies are evident; increased prosperity may lead to intensification and environmental damage; on the other hand, it may lead to finance being made available to foster more careful use of natural resources. As already mentioned, liberalization of the prices of inputs preceded liberalization of prices for agricultural products. Though that caused a decline in agrochemical use, it did spell difficulty for farmers. Recently, under the influence of the Ministry of Agriculture the government has actually increased support for agriculture. Analysis shows that this assistance is greater than at the beginning of the reform, and that it is higher than in other Baltic states (in particular Estonia, which does not support agriculture and has fully liberalized foreign trade of food products). This government action was taken to improve the financial state of farmers on the smaller enterprises which existed after land reform, not least to improve their techniques by enabling them to acquire mineral fertilizers and chemical means of plant protection. Certain professionals have fears that unlimited intensification provoked by support measures will lead to worsening environmental conditions, as suggested by the example of Western Europe (Karpowicz and Hopkins, 1993).

There are two ways of countering such tendencies. The first lies in education. Most new farmers in Baltic countries were members of former kolkhozes and sovkhoses and their knowledge is narrowly specialized and lacking in environmental awareness. Others, owing to the restitutional nature of land reform, are former town dwellers to whom agriculture is unfamiliar. Therefore educational and extension services for new farmers are urgently needed. At present the training programmes of most educational institutions do not include environmental subjects. It is now intended to remedy this defect by employing foreign specialists and seeking the necessary funds both locally and from international organizations. A system of extension services, which did not exist during the soviet period, is being restored with financial assistance

from the European Union and is aiming to provide information on environmental issues.

Second, more attention is being paid to rural development in its widest sense. In the soviet period, non-agricultural activities were virtually eliminated in rural localities. Now direct and indirect support is needed to develop, not only agriculture, but also agrotourism (foreign experts consider that the landscape of the Baltics has potential), crafts and other small enterprises. The latter would include agricultural processors and suppliers on a smaller scale than in the past, and would be accompanied by the abolition of the large and troublesome livestock complexes.

In the longer term, the Baltic states intend to sign a free-trade agreement with the European Union, and eventually become full members. The motivation is obvious. Export of agricultural produce is heavily restricted by current policies in the Union and in north European countries which pursue protectionist policies to assist their own farmers, leaving few opportunities for Baltic exporters to enter their markets. It is hoped, however, that these longer-term aspirations will not lead to the joining of a heavily subsidized agricultural system, but to one in which there is much more emphasis on environmental needs and on sustainability.

CONCLUSIONS

Agricultural and environmental problems in Lithuania and other Baltic states have to be tackled against the background of a difficult economic situation of continued depression, shortage of state finance, weakness in the position of agricultural partnerships and small farmers, and absence of willingness to make long-term investments because of the uncertain prospects for food producers and processors. The legacy is also unfavourable since there has been a neglect of ecological issues. That is evident in pollution of surface and ground water, and in the damage being caused by large-scale livestock complexes built under conditions of a centrally planned economy. The problem is being exacerbated by some of the small farms, established in the transition period near lakes and rivulets, which are not themselves properly equipped to mitigate pollution. Tackling the issues will require major initiatives in certain particularly sensitive areas. More generally, it will require the framing of appropriate rules and regulations relating to pollution control, and a considerable increase in education and training in improved agricultural practice.

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