[北海道農業経済研究　第8巻第2号　2000.2]

SUMMARIES OF ARTICLES

A Regional and Environmental Policies for the Development of Large Scale Upland Agriculture

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This paper aims to create regional and environmental policies that are needed to develop upland agriculture in Hokkaido under the new "Food, Agriculture and Rural Basic Law."

Japanese economists have discussed regional development policy and an environmental policy mainly for paddy agriculture and livestock farming in Japan, however, upland agriculture plays as an important role in preserving natural resources and in providing rural amenities as paddy farming. On the other hand, there has been significant environmental stress caused by the application of large amounts of fertilizer and pesticides, and by specialized farming. Thus, upland agriculture is as damaging to the environment as livestock farming.

The scale of upland farms in Hokkaido is larger than in other areas. They also have a crop rotation system that changes between potatoes, sugar beets, wheat and beans. This farming style began in the 1960s and was later promoted by the "Agriculture Basic Law." Since the latter half of the 1980s, in response to price reductions for their main crops, upland farmers have either chosen to expand their land area or do intensive farming by cultivating vegetables.

These new practices were found to have a negative impact. In a case study from the Kitami Region, introduction of vegetable production caused confusion within the old rotation system and in soil productivity methods. Furthermore, the fields that were distant from the farmhouse are used extensively for wheat production and green fallow. If the price of wheat were to fall, these lands would be left unplanted.

Under the "New Basic Law," policy making must consider the overhaul of the crop rotation system for the continued development of upland agriculture in Hokkaido. A system of rural land preservation that is supported by the government, agricultural cooperatives, and other all agri-organizations is needed to protect these lands in the long-term.

The Development of Diary Farming in Grassland Areas and Governmental Policy for Dairy Farming Regions and the Environment in Hokkaido

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Hokkaido's dairy farmers have enlarged their farm sizes significantly while reducing labor requirements. This enlargement was possible because of the introduction of labor saving techniques such as machinery for harvesting roughage, facilities for managing cows, group work organizations for harvesting roughage, a dairy farm support system and feed concentrates. Despite these changes, Japan's milk production costs have become the highest in the world. The reason for this is the typical management system of keeping cows in sheds all year round while using a land system where farmers raise grass and fodder crops on scattered parcels of land. This also results in manure piled around the sheds that pollute rivers and underground water sources.

The way to resolve these problems is to adopt a farm system based on unit land and an intensive grazing system. This is a strategy that can be adopted from the system used by the agricultural investment company in New Zealand.