

Landscape Management in Germany

1. Introduction

The natural vegetation in southern Germany is deciduous broadleaf forest which main constituent is European Beech (*Fagus sylvatica*). However, due to high ratio of dairy product in German diet, meadow area takes a large percent. Villages are scattered in extensive meadow areas. This idyllic landscape is still commonly seen in rural areas in Germany. The rural landscape in southern Germany is said to have not been changed since 13th century. It is considered that the ratio of land use between forest and grassland was inseparable and was converged naturally.

However, the rural landscape is influenced deeply by agricultural and environmental policy. The initial purpose of Common Agricultural Policy (CAP) which was implemented in 1960s by EU was the stability of farmers' income and self-sufficiency in food. After the policy establishment, agriculture of several EU countries was thrown into temporal chaos because of excessive competition and production. Among them, Germany was quick to shift into more environmental-conscious rural development policy by making a fundamental revision in their rural developmental law in 1976. EU also has changed the focus of CAP on preservation of rural environment and assistance for sustainable production. Moreover, EU has developed its environmental policy by establishing Council directive on the conservation of wild birds in 1976, Council directive on the conservation of natural habitats and of wild fauna and flora in 1992, and Natura2000 Network which comprehended both Bird directive and Habitats directive in 2004.

This is a field report on farmers, who are “the managers of rural environment”, environmental ministry which governs the environmental policy, and regional forestry office which enforces the Natura2000 in Bavaria (Bayern) state in Germany.



Photo1 Common German countryside landscape 1



Fig. 1 Study Area

2. Diversification of Agricultural Management

The idyllic landscape has been unchanged, but the farmers who manage the landscape have overcome major disturbances and troubles with their farm operation. Many of former farmers who reside in rural areas have become corporate employees or factory workers. It made those who continued to be farmers to be able to lease more land and enabled them to operate larger farms.



Photo2 Goat Hovel of Farm 1

Two dairy farms interviewed are; Farm 1: Goat farm (goat cheese production and sales), and Farm 2: Cow breeder (direct restaurant management). The land use of each farm is; Farm 1: 170ha of total managed area, of which 100ha is pasture and 70ha is farming land, and 29ha is self-owned property, Farm 2: 170ha of total managed area, of which 140ha is pasture and 30ha is farming land, and 35ha is self-owned property. The major revision of rural development policy is contributing to the reduction of farm managers and increase of farming area.

The number of farmers decreased, and even those who continue to operate farms have difficulty in turning a profit by farm products alone; therefore they attempt to diversify their management such as by selling value-added processed products or partnering with tourism. In the case of Goat farm interviewed, they switched from cow to goat, and started producing and processing goat milk into cheese. They acquired advanced manufacturing technology, which enabled them to earn an award from Agriculture and Forestry Minister, and then they have been promoting their sales activity to supermarkets and coops for two generations.

In the other farm, the direct management restaurant owner has their main income source from cow breeding, but they have a restaurant business which has become a major tourism spot with people coming in sightseeing buses. The restaurant is mainly run by daughter and son-in-law, and the parents manage the farm and they provide meat, sausage, ham, cheese, butter, bread, cakes, vegetable and fruits to the restaurant. It is literally direct delivery from producing area, and the beef is also produced within the farm to be served fresh to the restaurant customers. Not only is this restaurant located in the center of pasture, it also serves as a touring farm.

Moreover, the governmental subsidy and technical support were granted for recycling and bio-gas generation to this farm about 15 years ago. Since then, the cow dirt which is a byproduct of



Photo 3 Farm 2. Cow Breeder

(Left: pasture, Middle: Meadow of Clover, Right: bio-gas producing plant)

breeding is converted into bio-gas and liquid fertilizer which is applied to the grass as high quality manure in this farm. The bio-gas, on the other hand, is used in electric generation for the lighting, refrigeration facility, and heating. There is no odor which often is associated with breeding farms. In winter when there is snow accumulation, the cows are kept in the cattle shed. During that time, the cow dirt can be collected in concentration and be recycled; therefore the electricity becomes almost entirely self-sufficient.



Photo4 Beech Forest in Spessart

(Right:NATURA2000 Monitoring Site with Dead Biotop Trees)

3. Natura2000: The forest management to maintain trees in biotopes

The forest spread behind the meadow is managed by timber industry and other forestry business. The timber market in Germany has been dominated by conifers such as fir, but broadleaf trees are coming back to the market recently. Spessart is an upland region of deciduous forest dominated by Beech (*Fagus sylvatica*) and Oak (*Quercus petraea*) lying at the altitude of about 500m about 60km east of Frankfurt. Beeches naturally regenerate profusely, but historically, Oak acorns have been seeded in the Beech forest to harvest Oak timbers. This Beech forest has the highest biodiversity in central Europe, and is actively protected as a natural park that has the ecosystem with highest natural tendency by Natura2000, EU's common nature preservation policy.

Natura2000 is a comprehensive nature preservation policy which aims to develop ecosystem networks within EU. It was developed by integrating Council directive on the conservation of wild birds in 1976 and Council directive on the conservation of natural habitats and of wild fauna and flora in 1992. The Habitats directive was originally intended to complement the former Bird directive, so the newest Natura2000 was created to preserve local areas rather than focusing on species, which was the purpose of former orders, to evolve the local ecosystem into more diversified networks. The preservation of dead trees in a Beech forest is a typical occurrence within the monitoring site of Natura2000. The dead trees in the biotopes were purposely left in the forest to preserve habitats for insects, terrestrial snails (such as snails), and fungi, which accommodates many species of woodpeckers and bats.

4. Activities of Landscape Management Office: Bayern State Ministry of Environment

This is the summary of an interview with Landscape Development Unit52 of Section5, which oversees nature protection, landscape management, and ecology in Bayern State Ministry of Environment. The key to the landscape management is a continuous effort to create harmony between landscape essences by through discussion of stakeholders including area people and NGOs, according to the officer.

For example, in Hessen, important landscape essences would be meadows for grazing goats and forests behind them. The forest has a historical reason for its existence. It has been inevitably managed as a forest because of geological reason as well as historical and economical reasons. On the periphery of the forest there is a wetland where beavers make a habitat. On the well drained

slopes of forest, vineyards were made to make wines. There are area peoples' lives behind such landscape. Hikers who enjoy such landscapes from nearby cities are also one of the essences comprising the landscape.

Changing society always brings developmental issues such as highway construction, large scale supermarkets and factories expansion to a rural area. In such cases, the "landscape development" officers make an effort to reach a harmony by coordinating discussions. The stakeholders are comprised of each level of area representatives, but actually all the people in the area. If there is a problem regarding development, it is important to start the discussion as early as possible. The key task is to balance and harmonize all the landscape elements. In Germany, a concept which structurally views area's natural resources and social economic level and elements called "Raumordnung"(setting land and space in order), is prevailing and it contributes to the broad environmental protection.

5. Summary: Landscape management in Germany

Agriculture in West Germany in 1980s was in difficult situation within EC's common agricultural market. In order to improve the issue, Germany has transformed its agricultural policy based on its fundamental revision of rural development law in 1976, to achieve "infrastructural development and improvement of rural area". German agricultural policy is no longer viewing agriculture as mere producer, but extending its role as "manager of rural environment" (Ishii, 2007).

Table 1 The Reconciliation between Agricultural Policy (CAP) and Environmental Policy (NATURA2000) in European Union

Year	Main Items
1958	EEC was established with six countries. ; France, West Germany, Italy, Holland, Luxembourg and Liechtenstein : The Common Agricultural Policy (CAP) was born; The Stability of Farmers' Income and Self-sufficiency in Food
1967	EU First Environmental Directives (Hazardous Substances)
1976	West Germany, Revised Land Consolidation Act. Obligations to nature conservation and landscape conservation
1979	EU Council : Birds Directive
1992	EU Council : Habitats Directive CAP Agricultural policy reform through the introduction of direct payments
1993	EU established with 15 countries participating: based on the Maastricht Consensus

	in 1991
1999	CAP Agri-environmental measures of the rural development Regulation 1257/99
2001	EU Council: Biodiversity Action Plan for Agriculture
2004	NATURA2000 Network comprehended both Birds Detective and Habitats Detective

EU is striving to develop its environmental policy to protect biodiversity by shifting its target from preserving species to area as a whole, and make a network of diverse ecosystem areas. Natura2000 emphasizes the importance of rural landscape and biodiversity. Germans pay high cost to achieve these benefits to all human kinds.

For instance, people who live in rural areas but no longer practice agriculture still have opportunity to make statement about rural environmental management as a member of rural community. This attitude could be arising from traditional community mind that the people who live on the land “must protect their own land”. People’s high level of environmental conscience enables the high cost of direct payment toward small number of farm businesses.

References

- Bavarian State Ministry for Environment, Public Health and Consumer Protection: Nature.Diversity.Bavaria., 2008
- Bundesministerium für Verkehr, Bau und Stadtentwicklung: Perspektiven der Raumentwicklung in Deutschland, 2006
- Der Ökonomische Wert der biologischen Vielfalt und der Dienstleistungen der Ökosysteme, 2008
- Yutaka Ishii, Kouzaburo Kanuma et al.,Forest Management in Europe, 2005(In Japanese)
- Motosuke Ishii : Philosophy of Land Conservation - of land use in Japan is good at it -, Kokin Shoin",2007(In Japanese)