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## **Sustainability of sheep and goat production in North European countries – from the Arctic to the Alps**

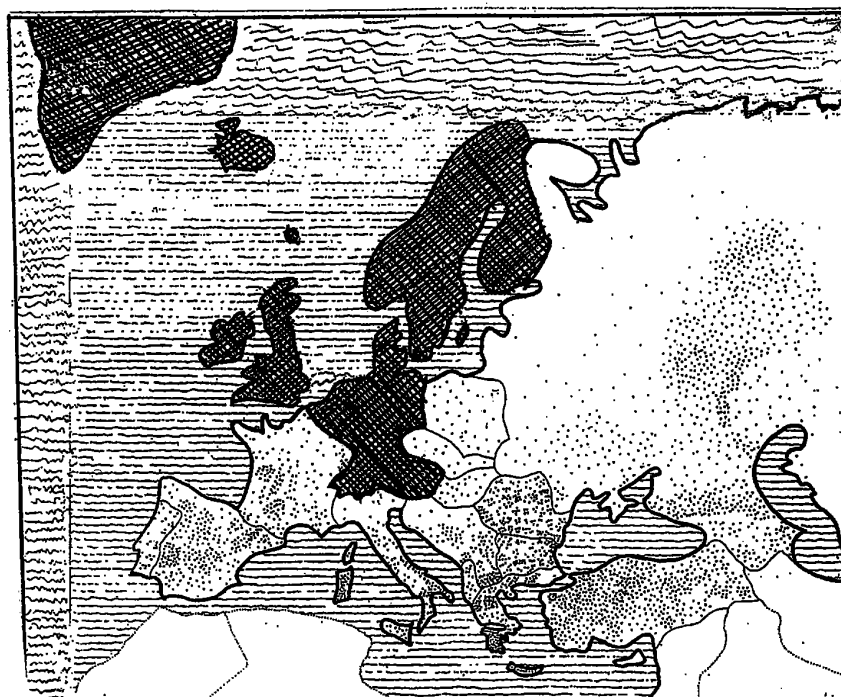
Commission on Sheep and Goat Production  
Session 1: Economics and profitability of sheep and goat production under new support regimes and market conditions

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### **Introduction**

This paper will review briefly the present situation of sheep and, to a lesser extent goat production, in North European countries ranging from the Arctic in the north to the Alps in the south (**Figure 1**). These traditionally grassland-based enterprises have developed in harmony with local conditions of climate, altitude and vegetation over centuries and sustainability of production has been strengthened by well adapted breeds of great genetic diversity. Since most of the North European Countries are members of the European Union (EU), or linked to it through international agreements, it is clear that both EU policy reform and global trade negotiations with the World Trade Organisation (WTO) will inevitably have a great impact on the future development and economic viability of sheep and goat systems in this part of Europe. Thus attempts will be made to generate discussion on the subject by special reference to certain criteria of sustainability, particularly in the sheep meat sector, and by speculating on future trends.

*Figure 1. Sheep and goat farming – from the Arctic to the Alps*



### **Production systems**

Although sheep and goat production systems in North European countries are under strong climatic influence, namely low temperature and high precipitation, there is considerable variation. Thus even under lowland conditions supplementary feeding is normally needed with or without housing in winter. Housing and indoor feeding is required throughout the winter in all Nordic and Alpine regions due to snow and frost, for several months of the year in most cases. Such systems depend largely on upland and mountain grazing in summer under marginal conditions while the lowland systems are more intensive and in many cases they share land resources with other agricultural enterprises. Thus, for example, there are great contrasts between sheep husbandry in Greenland and Iceland, on one hand, and in Denmark and the Netherlands, on the other hand. Flock size is also highly variable, ranging from several hundred on specialized sheep farms, for example, in Greenland, Iceland, England, Scotland and Wales, to less than one hundred sheep in Norway, Finland, Belgium, Switzerland and Austria. Goat flocks are generally small in this part of Europe. Stocking rates vary from several sheep/goats per hectare on productive lowland pastures to several hectares per sheep/goat on mountainous rangelands. Consequently, the intensity of production shows substantial variation and this is also influenced by the breeds involved.

There are, moreover, some cases of extensive management in summer (free-range mountain pastures) and intensive management in winter (housing and indoor feeding) in Greenland, Iceland, Norway, Switzerland and Austria. In general terms it can be stated, with some confidence, that sheep and goat production systems in Northern Europe are in good harmony with natural conditions in each locality and thus fulfill most criteria of sustainable development in agriculture.

### **Products and production**

Traditionally sheep and goats have yielded several products in Northern Europe over the centuries; meat, wool, milk and skins being the main ones (Adalsteinsson, 1981; Ryder, 1983). The development from subsistence farming to the marketing of products has led to more specialized production. Meat has become the main product in the sheep sector while both wool and skins are now generally by-products and milk is normally produced in specialized units. In the goat sector milk has been, and still is, the main product while meat is secondary in most cases followed by skins and hair. Local variations are, however, known in this part of Europe, for example, grey sheep skins still have a fairly strong position on the Island of Gotland in Sweden and wool in natural colours of black, grey and brown maintain a special value for handicraft in Iceland and other countries. Most of the sheep products are facing increasing international market competition, the meat competing with other types of meat and imports of lamb, especially from New Zealand, and fine wool, must compete with imports and artificial fibres. Milk, both from ewes and goats, is often regarded as a niche product and thus is less visible in an open mass-market situation. Trends over recent decades may not be indicative of market demand for all sheep and goat products in years to come (Flamant, Boutonnet, Dýrmundsson, Jankowski, Morand-Fehr, Robinson, Treacher and Valls Ortiz, 1982). However, it is clear that sheep and goat meat consumption per capita has been fairly stable or somewhat declining over the last 40 years (EAAP Publication No. 108, 2003). Sheep meat consumption may continue to decline, especially in competition with pig and poultry meat in countries with traditionally strong demand for lamb. On the other hand, ethnic changes in the population may lead to increased demand for sheep and goat meat in some of the countries, especially in those with large numbers of immigrants. **Table 1** shows the present numbers of breeding sheep, sheep meat consumption and self-sufficiency rates in respective countries. The great variability is evident, the levels of sheep meat consumption ranging from 0.4-33.0 kg per capita and the self-sufficiency rates from 18-275%. While sheep meat has traditionally been important, and still is, in the meat diet of some northern countries it is clear that this

**Table 1 Sheep production and sheep meat consumption in Northern Europe**

<b>Country</b>	<b>Breeding sheep (numbers)</b>	<b>Consumption per capita (kg/year)</b>	<b>Self-sufficiency (%)</b>
Greenland	20.000	10.0	100
Iceland	465.000	22.0	138
Faroe Islands	75.000	33.0	60
Norway	1.093.000	5.8	98
Sweden	198.000	1.0	50
Finland	46.000	0.4	28
Denmark	122.000	1.1	27
Scotland England Wales } UK	16.600.000	5.0	85
Ireland	4.200.000	8.1	275
Netherlands	610.000	1.3	93
Belgium	87.000	2.1	18
Luxembourg	6.000	2.0	18
Germany	1.710.000	0.8	51
Switzerland	250.000	1.5	42
Austria	304.000	1.2	80
Sources:	EU, FAO and MLC statistics and information from personal communications in several countries		

type of meat is a minor item on the national menu in most of the North-European countries. The self-sufficiency rates, in most cases below 100%, underline the fact that this area is a net-importer of sheep meat in spite of considerable trade between countries in Northern Europe. Compared to the total population of nearly 26 million sheep, of which some 80% are on the British Isles, the estimated number of breeding goats is only 0.5 million in the North European countries covered by this paper. Generally speaking, goats are much fewer than sheep in all cases and in Greenland and on the Faroe Islands there are no goats at all. In some of the countries there is a strong tradition of goat keeping, mainly for milk production, for example, in Norway, Switzerland and Austria. The goat meat market is much smaller than the sheep meat market. Although the production of goat hair is limited, or none at all in some of

the countries, there has been considerable interest in fine goat hair (cashmere, mohair, angora) production and marketing within this part of Europe over a number of years.

### **Economic viability**

Sheep and goat farming, as indeed other livestock enterprises, are under great economic pressure. In addition to pressures of trade liberalization, technical evolution in production and greater emphasis on processing and distribution there are great changes taking place in consumer demand. These impacts are likely to increase. In a recent EAAP report (EAAP Publication No. 108, 2003) attention is drawn to the facts that consumers are buying more services and less products due to complex changes in lifestyles and consequently the cost of processing and presenting the food to price/quality-conscious consumers is increasing. As a result of these changes the primary producers' share, in our case sheep and goat farmers', is declining. They are getting less and less of the consumers expenditure since food prices are going down and have been doing so under great political pressure for decades. It should also be noted that the by-products wool and skins are in most cases yielding poor returns. Small producers have in many cases difficulties in marketing their wool and the income from it may only cover the cost of shearing. It can be stated, in general terms, that farm income for sheep and goats in the whole area from the Arctic to the Alps is declining and is usually lower than in other types of farming. This development is taking place in spite of support regimes which provide substantial direct subsidies, particularly in marginal areas. To give an example, Croston (2002) stated that total direct subsidies represented between three and four times the level of net farm income on cattle and sheep farms in Less Favoured Areas (LFA) in England. In such areas in the UK direct sheep subsidies have at times in the past approached 50% of gross margins according to Connor (personal communication, 2003). To quote another example, in Iceland direct payments from the Treasury amount to approximately 50% of the total price per kg of sheep meat (lamb) received by farmers holding quota rights (Dýrmundsson, 2004). Thus, looking only at the economics of sheep and goat farming characterized by low income and poor profitability, presents a gloomy picture. A more holistic view is needed paying due attention to certain principles of sustainable development. By doing so both sheep and goats may acquire new, viable roles amongst sustainable agricultural systems.

### **Sustainable sheep and goat farming**

Sustainable development is on the agenda of all governments in Europe and many steps are being taken to ensure that natural resources will not be used to the detriment of future generations. Sustainable agriculture and food production are indeed highly relevant issues, closely related to regional development and thus sheep and goat farming (Schweisfurth, Gottwald, and Dierkes (2002). Moreover, the concept of “sustainability” has clearly influenced EU agricultural policy makers for over a decade, possibly over since the publication of the Brundtland Report (1987). As indicated above there is a good case for arguing that sheep and goat farming practices in Northern Europe are to a large extent environmentally friendly, socially and culturally compatible, desirable or even necessary for rural development and beneficial to landscape conservation. Furthermore, sheep and goat farming contributes substantially to the maintenance of biodiversity since genetic diversity, now accepted internationally as a valuable resource, (FAO & ILRI, 1999; EAAP & FAO, 2003) is still fairly well maintained in locally adapted breeds and strains of sheep and goats in the best possible ways, i.e. by sound husbandry and utilization. By better grazing management and avoidance of overgrazing it is possible to overcome negative effects of loss in botanical diversity and soil erosion on alpine and other sensitive pastures (Lüchinger Wüest, Schneeberger and Troxler, 2003). Small ruminants can indeed play an important role in the sustainable use of grassland (Ringdorfer, 2003). The great flexibility and variation in sheep and goat production systems, so as to suit local needs and conditions, help to ameliorate problems such as those due to diseases and predators. This leads to the conclusion that sheep and goats should not be compared to other agricultural enterprises in terms of economic factors only. They do not fit well into intensive, industrialized mass-production systems aimed at producing food at the lowest possible cost. Whether specialized, mixed farming, full-time or part-time, sheep and goat production in North European countries should be aimed at quality, safety, security and harmony with the environment, both locally and globally. We need to demonstrate to policy makers and society at large that sheep and goats have an important role to play in sustainable development in our part of the world.

### **Policy reform**

Having outlined briefly some basic facts about sheep and goat production in North European countries it is important to consider recent changes in EU agricultural policy which has now become more of an European rural policy, namely the 2003 CAP reform (OECD Report, 2004). Thus EU agricultural support policy is increasingly being directed towards

supporting rural development and the agricultural environment rather than farmers' production and incomes (CAP Reform Agreement, 2003). Since most of the sheep and goat production in North European countries depends heavily on support payments, as indicated above, the new CAP reform is likely to have a great impact in the future. Taking also into account prospective WTO trade agreements it is clear that sheep and goat farming in European countries outside the EU, such as Iceland and Norway, will also be influenced in the long run. The decoupling of farm subsidies from production was certainly the most important innovation in the CAP reform and the following factors are likely to have the greatest effect on the sheep and goat sectors:

- 1. A single farm payment (SFP) will replace most of the existing premia as of 2005 or at the latest 2007. The payments allotted to farmers will be based on historical reference amounts received during the period 2000-2002. On sheep and goat farms all land used for these enterprises will be eligible. Payments can be established at either the farm level or the regional level.*
- 2. The SFP rules do not include a requirement to keep any specified number or type of livestock. This is potentially highly significant and is likely to influence flock size, particularly on sheep farms. This is an incentive to reduce numbers, especially of sheep, perhaps more for older than younger farmers. They may even produce nothing at all.*
- 3. A maximum of 50% of the sheep and goat premia can remain linked to production. This includes the supplementary premium in Less Favoured Areas.*
- 4. According to compulsory cross-compliance rules the SFP and other direct payments will be linked to several statutory environmental, food safety, animal and plant health, and animal welfare standards. In addition, all agricultural land needs to be kept in good agricultural and environmental condition.*
- 5. According to modulation rules a proportion of the SFP and other direct payments for farms receiving more than EUR 5.000 per year will be channelled into a new fund to create additional resources for rural development. Sheep and goat farming in marginal areas could benefit from such measures.*

Only time can tell how sheep and goat farmers in the respective countries react to the new rules. However, it seems clear that they encourage flexibility to manage sheep and goat systems in accordance with market requirements and the decoupling of subsidies from production may result in better management, increased product quality and better returns. On

the negative side there are, for example, losses in the value of quota rights and in the direct sheep subsidies (Connor, personal communication, 2003) but her observations and speculations also indicate regional variation, even within countries, in the likely positive and negative impacts of the new CAP reform. With the outcome of the WTO negotiations still to come it is a matter of concern to sheep meat producers in North European countries if, or when, competitive pressure will be increased by the EU granting more access to sheep meat imports from countries outside Europe. It seems likely that the WTO negotiations will lead to further reductions in agricultural support and protection thus increasing further the economic pressure on sheep and goat farmers. One wonders for how long the WTO can continue to ignore environmental issues and the concept of “sustainability” which is often at variance with the concepts of “free trade” and “globalization”. It seems to be a commonly held view that sheep numbers, and possibly goat numbers too, will go down as a result of these changes in agricultural policy.

## **Conclusions**

When speculating on future trends in sheep and goat production in North-European countries one is bound to pay special attention to new support regimes and market conditions. How will the sheep and goat sectors adapt to inevitable changes in the near future? How can sheep and goat farmers with low incomes respond to mounting competitive pressure and yet at the same time respect economic, environmental and social criteria of sustainability? Can they continue to utilize grassland for sheep and goats, which may not have any alternative use, for producing high quality food and fibre? How can these enterprises be best integrated with tourism, forestry and landscape care? To what extent can local value added products, direct farm sales, integration with off-farm work and conversion to organic farming improve net farm income so as to sustain a fair standard of living for the sheep and/or the goat farmer and his family? Is there going to be increasing demand for novel or alternative uses of ecolabellad products such as ewe and goat milk for health food, wool for ecological insulation of houses and ram lamb testes as natural sex stimulants? These and many other questions are arising and need to be discussed. We know that most of the support will be quality and environmentally orientated, fitting into the “green box”, it will have to be acceptable to taxpayers who mainly live in urban areas divorced from primary food production, and we also know that marketing will be more demanding, both nationally and internationally. We are likely to see changes in traditional sheep systems. Large and specialized flocks where conditions are favourable will continue to benefit from economics of scale. Medium and smaller flocks clearly have roles in mixed farming

systems such as in organic growing. They will also help to maintain breed diversity in harmony with future development of sustainable agriculture. There is likely to be a growing trend towards part-time sheep and goat farming. In facing the challenges ahead sheep and goats may be given new roles and it is certain that this development will have to proceed within the framework of sustainability.

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