3.5 **Greece** (Georgios Arsenos, Thanasis Gelasakis)

Since very little is recorded about the Greek dairy goat industry, a larger survey was initially carried out before the selection of the smaller sample of goat farms to participate in the rapid sustainability assessment. Overall, fitting the Greek dairy goat industry into the categories used by CEAS (2000), the Transhumant system is still practised with both sheep and goats mainly in Thessaly, Central Macedonia and Thrace while goats are found on low-input and organic mixed farms in Western Macedonia.

Initially, 60 dairy goat herds (comprising 23,426 goats), were randomly selected from 16 prefectures to undertake an initial survey to collect data about the Greek dairy goat industry. Data were collected during pre-scheduled, on-farm visits, using a case-specific questionnaire which comprised questions about livestock, facilities and equipment, environmental aspects, nutrition and management practices. The questionnaire was completed during visits to the farms (minimum duration 4 hours). Based on the results obtained by the questionnaire, ten of the farms were chosen to undertake the sustainability assessment using the rapid assessment tool. The selection of the farms was carried out on the basis that they were representative of the existing situation of low input and organic dairy goat farms in Greece and they were located according to the geographical spread of goat farms across the country.

In the initial survey of the 60 flocks it was found that the most common purebred animals belonged to the following breeds: the Indigenous Greek goat, the Damascus breed and the Skopelos breed. Moreover, there were significant numbers of crossbred animals of the aforementioned breeds as well as crossbreds of Alpine, Saanen and Murcia (*Murciana Granadina* that has been imported into Greece from Spain in significant numbers over the last four years). The overall majority of farms were selling milk to dairy companies with the exception of two farms that had their own facilities for

processing the milk into different types of cheese. In all cases, the milk was used for either production of different types of goat cheese or for the production of FETA cheese in combination with milk from sheep. The produced cheese was sold through local or national marketing channels.

3.5.1 Characteristics of the case study farms

The farms used for the rapid sustainability assessment were selected to cover the range of organic/low input systems; two farms were specifically selected as novel farms adopting "innovative" systems of particular interest. The general characteristics of the population of the farms selected for rapid sustainability assessment are shown in Table 7. Some of the farms chosen were also members of the SME partner PROODOS Cooperative. The number of these was limited as a result of a drastic reduction of the population of the goats that were milked in the cooperative due to low milk prices and low demand for goat milk.

One farm was fully vertically integrated producing pasteurized milk and different types of cheeses. The second novel farm was the largest flock raising purebred Damascus dairy goats in Greece under a semi-extensive system of production.

Table 7 Characteristics of farms in the Greek SME population and the farms selected

		SME population average (PROODOS)	Mean of farms selected[3]	Range of farms selected*
Farm size	ha	Unknown[2]	41.2	1.8 – 178.1
Herd size	No. of adult goats	100	558	200 – 1600
Stocking rate	Livestock units/ha	Unknown[2]	1.23	0.62 – 1.91
	Grazing livestock units/forage ha		1.0	0.02- 8.53
Milk sales	l/goat/year	48	220	47 – 615
Level of concentrate fed to milking animals	kg/goat/year	100	Unknown	Unknown
Total purchased concentrate per goat [1]	kg/ goat/year	Unknown	140	0 - 420
Milking goats per Annual Labour Unit	Goats/Annual Labour Unit	Unknown	173	80 - 400
Labour input per unit area	Annual labour units/100 ha	Unknown	1.5	0.08 – 5.79

[1]Data from the tool - may include some concentrate fed to other livestock on the farm, therefore not necessarily directly comparable with the line above
[2]The majority of flocks are mixed flocks grazing in communal areas and hence the stocking rate is difficult to estimate
[3]Farms were selected from a population wider than the SME

Other examples of best and innovative practice on the farms undergoing the rapid sustainability assessment included:

- Breeding of Skopelos goats under an extensive management scheme with high milk production
- Traditional farming of indigenous goats and production of high quality milk
- Cultivation of *Vicia ervilia* and *Vicia faba,* both chosen for their drought resistance and used as an alternative source of protein to replace the use of soya.
- Large family farm with a remarkably efficient crop management plan and satisfactory utilization of grassland
- A farm with its own butcher selling both goat meat and homemade dairy products direct to the public

The 14 Greek goat herds included six which had been organic for 2 – 10 years, the remainder being extensive but not organic. Nine grazed some common land; this meant that standard stocking rates were very difficult to calculate. The herds were much larger than the SME population mean, including a wider variety of farm structures and their yields were also higher.

3.5.2 Results of the sustainability assessment

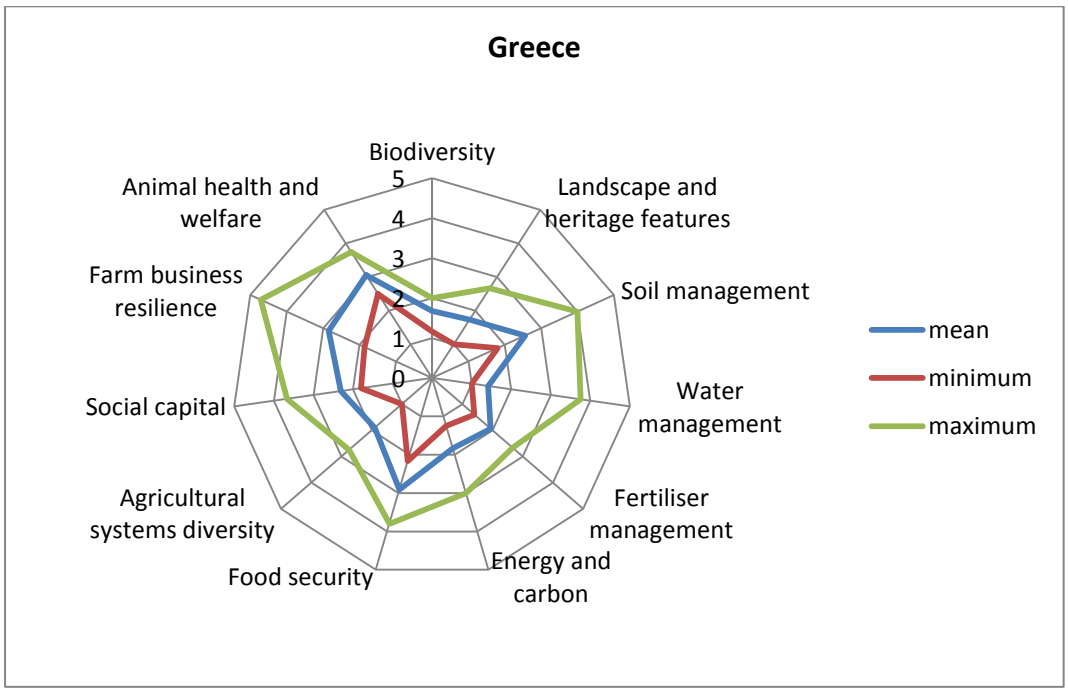

Figure 10 Spur diagram for Greece

A wide range of responses was observed within the spurs across the Greek farms (Figure 10). Relatively high scores were assigned to “Animal Health and Welfare” and “Food Security” spurs. “Biodiversity” and “Water Management” were assigned the lowest average scores.

The lack of financial incentive was a common explanation for the lack of practices which might promote “Biodiversity” and facilitate “Water Management” and secure “Landscape and Heritage Features”. The maximum value for “Biodiversity” was relatively low.

In general, farmers did not seem very interested in taking measures towards the preservation of biodiversity on their farms. Nevertheless, there was diversity in the ecosystems which goats encountered during grazing which the tool did not identify. All the farmers were unaware of the red species list, with the exception of some endangered species of mammals. However, it was very interesting to notice that the majority of them knew in detail the flora and fauna of the pastureland used for grazing by their flocks. Furthermore, field boundaries such as hedges, which increase landscape and biodiversity scores in the assessment, were not commonplace among the farms.

"Water Management" showed low scores across farms with one exception. This was possibly associated with the rather extensive management scheme linked to low investments in facilities supporting the efficient management of water resources. Interestingly, although the lack of sufficient water resources during grazing was commonly observed, the importance of *ad libitum* fresh water was in some cases underestimated.

Most of the farms shared common land in order to graze their goats, with the major type of grazing land being scrublands. During the survey it was revealed that almost none of the farms kept accurate records of production traits, financial indices and health status (including prevalence and incidence of diseases, preventive medicine and treatments) and thus most of the data provided should be considered as estimates. In general, the farmers were not convinced of the value of record keeping. Moreover, a detailed farm-plan was rather rare and when it existed it was often inappropriate.

Figure 11 shows the mean values for individual activities contributing to the overall scores for the rapid assessment tool's spurs. "Crop protection and pesticides", "local food" and "ability to perform natural behaviours" were assigned high values (around 4), whereas, "3rd party endorsement", "management of boundaries", "fertilizer management and application", "greenhouse gases" and "CSR initiatives and accreditations" were assigned the lowest values (around 1). Nutrient balance levels were relatively low (mean 72 kg N, -0.5 kg P and 5.3 kg K/ha).

Only on one farm was a well-designed management plan implemented, which explains the reason why that farm was assigned the highest scores on most of the spurs. Of course, the specific farm was selected on the grounds of representing an innovative management scheme and in no case can be considered as representative of the majority of existing management schemes. This single farm was fully vertically integrated, producing pasteurized milk and different types of cheeses and was a good example of a farm working towards sustainability. However, even on this farm the marketing channels were only partially efficient.

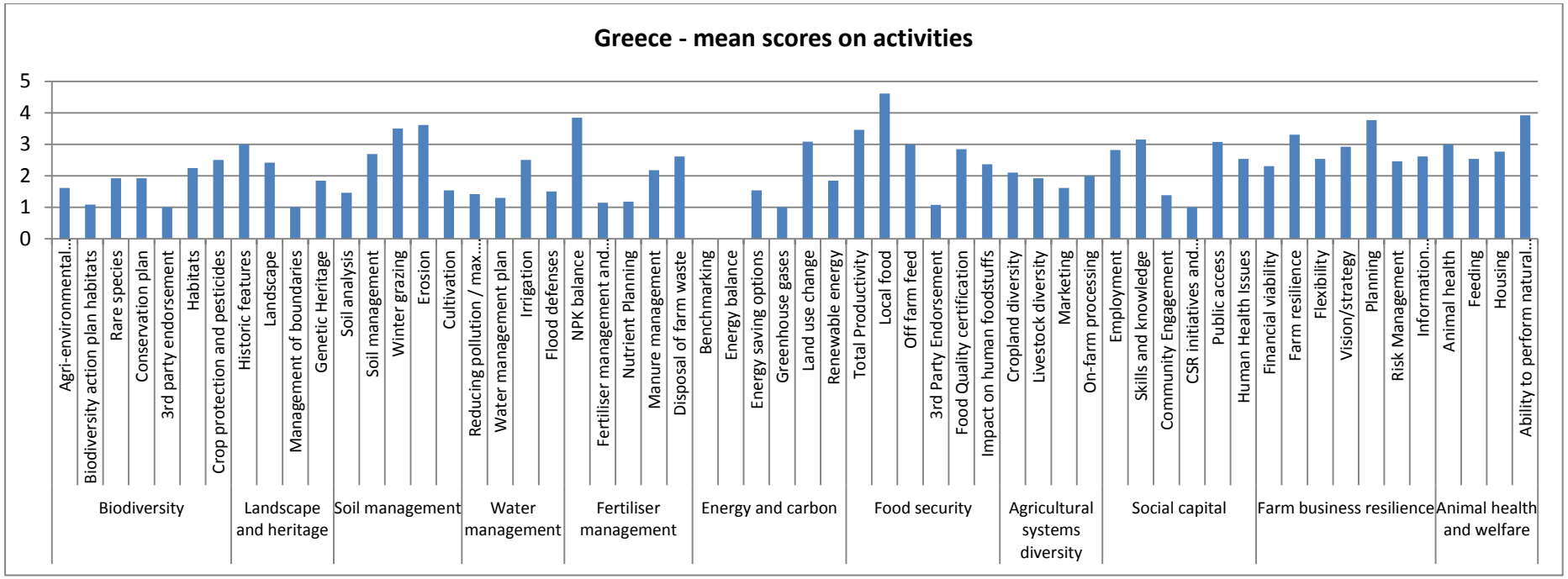

Figure 11 **Mean scores for activities for Greece.**