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Goat farming in State forest areas in Turkey: lessons learned over ten years

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Abstract. In this study, the pure hair goat (*Capra hircus*, L.) in Turkey was analyzed. Pure hair goat raising is an important means of subsistence for the villagers living, providing them with income and food security. In accordance with the provisions of the Forest Act No. 6831, the forest administration has prohibited the grazing of pure hair goats in areas which were part of state forests. Upon presenting the provisions of the above mentioned law as justification, lawsuits were being filed against villagers who grazed pure hair goats in forest areas, and those who were found guilty were fined and imprisoned. Furthermore, the forest administration was putting pressure on villagers to quit pure hair goat breeding. Consequently, the total number of goats throughout the country dropped dramatically. This decrease was stopped by the forest administration after 2009 and in 2011, the Turkish government made a radical change in forestry legislation and the state forests were allowed to pure hair goat grazing, and the number of goats increased to 7,126,862 heads in Turkey in 2011. At present, pure hair goat raising is one of the breeding models to be taken into account in terms of ecological animal farming. There are some problems in this breeding system. Therefore, the following interventions are proposed to ensure that the pure hair goat breeding system is productive, sustainable and stable: (1) The forest administration should allow villagers to use the forest resource and the forest areas should be classified as a separate business class entitled pure hair goat grazing class in the forest management plans; (2) Excessive and irregular grazing conducted by villagers should be stopped; (3) Grazing plans should be prepared according to the results of this research; (4) Pure hair goat breeders should be organized and the grazing program should be regulated by the organization of breeders; and (5) The forest administration should inspect whether grazing is performed in a sustainable manner.

Key words. Forest resources – Pure hair goat – Goat farming – Silvopastoral systems – Turkey.

L'élevage caprin dans les zones forestières domaniales en Turquie : enseignements tirés sur dix ans

Résumé. Cette étude fait l'analyse de la chèvre pure "à laine" (*Capra hircus* L.) en Turquie. Cet élevage caprin est un important moyen de subsistance pour les villageois, car il leur fournit un revenu et une sécurité alimentaire. En vertu des dispositions de la Loi sur les Forêts n° 6831, l'administration forestière avait interdit le pâturage de ces chèvres dans les zones faisant partie des forêts de l'État. En présentant les dispositions de ladite loi comme justification, des poursuites furent engagées contre les villageois qui faisaient paître leurs chèvres dans les zones forestières, et ceux qui étaient reconnus coupables faisaient l'objet d'amendes et d'emprisonnement. En outre, l'administration forestière faisait pression sur les villageois pour les pousser à abandonner cet élevage caprin. En conséquence, le nombre total de chèvres dans le pays a chuté de façon abrupte. Cette diminution a été freinée par l'administration forestière après 2009 et, en 2011, le gouvernement turc a remanié de façon radicale la législation sur les forêts ; ainsi les forêts domaniales ont été ouvertes au pâturage caprin et le nombre de chèvres a atteint 7.126.862 têtes en Turquie en 2011. À présent, l'élevage de la chèvre pure "à laine" est un des modèles à prendre en compte en termes de production animale écologique. Quelques problèmes subsistent pourtant dans ce système d'élevage. Ainsi, les interventions suivantes sont proposées pour s'assurer que le système d'élevage de ces caprins soit productif, durable et stable : (1) l'administration forestière devrait permettre aux villageois d'utiliser les ressources forestières et les zones de forêts devraient être classifiées comme une catégorie d'exploitation à part pré-

voyant le pâturage caprin dans les plans de gestion des forêts ; (2) il faudrait bannir le pâturage excessif et irrégulier concernant les villageois ; (3) les plans de pâturage devraient être préparés en fonction des résultats de cette étude ; (4) les éleveurs de ces chèvres devraient être organisés et le programme de pâturage devrait être régulé par l'organisation d'éleveurs ; et (5) l'administration forestière devrait mener des inspections visant à ce que le pâturage soit effectué de manière durable.

Mots-clés. Ressources forestières – Chèvre pure “à poil” – Élevage caprin – Systèmes sylvopastoraux – Turquie.

I – Introduction

The most commonly goat species raised in Turkey are the pure hair goat (*Capra hircus* L.). Although the pure hair goats are bred in every region of the country, it has gained intensity particularly in the Mediterranean, Aegean and Southeastern Anatolia regions (Ozder, 1997).

Goat population of Turkey has decreased during recent decades. The number of hair goat decreased from 11,295,000 head in the year 1986, to 6,095,292 head in the year 2007 (Kaymakci *et al.*, 2005; Bardakcioglu, *et al.*, 2007). The number of hair goat decreased to 4,981,299 heads in 2009. This decrease was caused by socio-economic and political factors. The designation of forest areas as forbidden for goat pasturing by governmental policies, and the migration of rural people from villages to the city centers had negative effects on the goat production. Goat producers did not have any other alternatives for their subsistence. Some of them did not give up the production in forest areas; even through it was forbidden by the regulations (Darcan *et al.*, 2005). This decrease was stopped by the forest administration after 2009 and, this number increased to 7,126 862 heads (Table 1) in 2011 (Tuik, 2012).

II – Goat farming in state forest areas in Turkey

Goat production is profitable because it adapts well to hard conditions without any additional feeding. Using proper management, goats have a significant impact in the fight against harmful herbs, in reducing fire risks and in the conservation of wildlife (Koyuncu, 2006; Yilmaz *et al.*, 2009). The main pasture areas for the goats are wide maquis and shrubbery rather than tree forest areas (Sengonca, 1974).

Although hair goats are produced in every region of Turkey, in particular, they are more important in the Mediterranean, Aegean and Southeastern Anatolia regions, where pure hair goat breeding is most widely conducted. There are similarities between the borders of the regions where pure hair goats are bred and natural distribution borders of some types of trees and shrubs within the Mediterranean scrub vegetation (Fig. 1). This similarity is demonstrated clearly in Kermes Oak (*Quercus coccifera* L.) and Boz Pinal Oak (*Qercus aucheri* Jaub.&Spach.) types. Both types of shrubs are woody types, whose leaves are eaten fondly by pure hair goats. Pure hair goats have selected as their habitat the natural distribution area of these two types of shrubs (Tolunay *et al.*, 2009; Tolunay *et al.*, 2010).

There are 20,430 villages situated in and around forests, and approximately 7,5 million people live in these areas in Turkey (Anonymous, 2008). These people have been raising goats in forest areas for thousands of years. For this reason, this animal is like a natural part of the forest. The migration to this district decreased in recent years as mentioned above. Many families were enforced to leave nomadic life because of prohibition of grazing gotas in forest areas by the forest administration and the high fiscal penalties.

Table 1. The number of goats by years In Turkey

Year	Pure hair goat (head)
1991	9,579,256
1992	9,439,600
1993	9,192,000
1994	8,767,000
1995	8,397,000
1996	8,242,000
1997	7,761,000
1998	7,523,000
1999	7,284,000
2000	6,828,000
2001	6,676,000
2002	6,519,332
2003	6,516,088
2004	6,379,900
2005	6,284,498
2006	6,433,744
2007	6,095,292
2008	5,435,393
2009	4,981,299
2010	6,140,627
2011	7,126,862

Fig. 1. Pure hair goats (*Capra hircus* L.) in forest areas.

Nomads living in these areas have been breeding pure hair goats in the upper basins of that region for centuries (Boyazoglu *et al.*, 2005; Ocak *et al.*, 2007). An important part of the goat flock in Turkey is made up of nomadic flocks in Aegean and Mediterranean regions. Since maquis and forested areas are suitable for goats in the Mediterranean and Aegean region, Nomadic flocks follow the seasonal growth of the vegetation on a migration route from the lowland mountain ranges in low altitude districts to highland summer pastures in interior Mediterranean and Aegean districts and back. However, there is a dramatic decrease observed in not only the number of nomadic families, but also in the number of the goats belonging to the remaining nomads in those areas (Yilmaz *et al.*, 2009).

The Ministry of Environment and Forestry in Turkey prepared a plan to decrease goat population of Turkey in 2008. According to this plan, trees were to be planted in empty areas, and the number of goats was to be reduced. In accordance with the provisions of the Forest Act No. 6831, the forest administration had prohibited the grazing of pure hair goats in these areas which were part of public forests. Upon presenting the provisions of the above mentioned law as justification,

lawsuits were being filed against villagers who graze pure hair goats, and those who are found guilty are fined and imprisoned. Furthermore, the forest administration was putting pressure on villagers to quit pure hair goat breeding.

However, this trend indicated a radical change as result of the efforts by the related departments of universities and the support of Sheep and Goat Breeders Association, and the above application of government was given up. It was accepted by the government that goats are useful for the forest, not harmful as long as they are grazed according to some rules, and that the forest is a grazing space for goats. The effect of this change gave its positive results in a short time. The number of goats had decreased until 2009, but after this date, this fall stopped.

In 2011, the Turkish government made a radical change in forestry legislation and the state forests were permitted for pure hair goat grazing. Making a new law, they determined the rules to graze goats in the forest. This new application, which is a far better development with regard to the previous one, also contains some lacks and incorrect practice within. In the new regulation, the areas, where grazing is not allowed, are in fact the areas which are regarded as forests. Nevertheless, there are spaces and slopes composed of bushes and maquis where no farm animal can be grazed other than goats, which have no forest character even though they are accepted as forest. For this reason, rather than the determination by only the Ministry of Forestry of the grazing areas, which could play a significant role in the survival of goat breeding, it would be a better choice to co-operate with the Ministry of Agriculture, the Sheep and Goat Breeders Central Association, the universities and the representatives of breeders on determining the framework.

At present, pure hair goat raising is one of the breeding models to be taken into account in terms of ecological animal farming. There are some other problems in this breeding system as well. Therefore, the following interventions are proposed to ensure that the pure hair goat breeding system is productive, sustainable and stable: (1) The forest administration should allow villagers to use the forest resource and the forest areas should be classified as a separate business class entitled pure hair goat grazing class in the forest management plans; (2) Excessive and irregular grazing conducted by villagers should be stopped; (3) Grazing plans should be prepared according to the results of this research; (4) Pure hair goat breeders should be organized and the grazing program should be regulated by the organization of whose members these persons are; and (5) The forest administration should inspect whether grazing is performed in a sustainable manner.

III – Conclusion

Traditional goat production is quite profitable in Turkey (Yilmaz *et al.*, 2009). The economical value of hair goat production has been ignored for a long time; whereas, this production system is the cheapest and most ecological production system so that the goats utilize the maquis and bushes, which the other livestock animals can not consume. In conclusion, goat grazing at the forestry and maquis areas would be useful for not just forest but the raising of goat number and production as well. The research towards a planned breeding program should be carried out on a countrywide scale. If the goat production is discouraged in the region, migration from rural areas to the cities can occur and will create unemployment problems. A well planned hair goat production that considers the sustainable forests ecosystem and life styles of nomads should be arranged by the government. The widespread opinion of “goats damage forests” has changed in Turkey. This is a very important development for the goat breeding of Turkey and goat is important for forest areas. The Turkish government made a radical change in forestry legislation and the state forests were allowed to pure hair goat grazing, and the number of goats increased to 7,126,862 heads in Turkey in 2011. At present, pure hair goat raising is one of the breeding models to be taken into account in terms of ecological animal farming.

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