

Appendix: Case Studies of Animal Grazing and Pasture Conservation Problems

In addition to above two sections, we append the memorandums of case studies which were conducted in Adana and Konya. It is because we need to get evidences for above mentioned theoretical explanations and get some images of grazing activities for further studies. The memorandums are summarized briefly as follows. (1) The size of pasture decreased tolerably in plain region of Adana, but pasture still remains and is still intruded by unjust farmers. The number of shepherds can be seldom found in plain region of Adana. (2) Huge size of pasture still remains as summer pasture ('yayla') on mountainous region of Adana. Pasture attack can not be found, because those pastures are existed on steep slope of mountain which is of no value except for grazing pasture. Natural forestry area is, however, damaged by animal grazing. (3) Huge size of pasture still remains in both plain and mountainous region of Konya. Pasture remains even in the middle of plain of Konya. There is no exact difference between pasture and crop land, so that this indifference makes pasture be attacked severely. (4) Shepherds are specialized to graze animals in mountainous regions of Adana and whole regions of Konya. They are asked by farmers to take care of farmers' animals with small fee.

(1) ADANA PROVINCE

PLAIN AREA

1) BELOREN

There are 200 farmers in this village who are mostly small farmers, that is the average size is 40-50da. Size of this village is 13,000 da, 8000da of whom is rain fed cropland (no fallows) and 4000da is pasture. Main crops are wheat, cotton and maize. Pasture consists of 1 big 2000da pasture and 10 dotted small pastures. 100 cattle are owned by 1 or 2 families and 700~1,000 sheep are owned by 10 to 15 families.

2) ABDIOGLU

This village is irrigated and specialized for citrus

production. The number of farmers is 255, 100 of whom have more than 200da size. There is one big farmer who has more than 10,000da orchard in area. Total size of agricultural area is 36,000da, 33000da of whom is irrigated by water use association that cover 8villages and 4 cities. 60 % of total area is used for citrus production and others are used for production of maize, wheat, cotton, and water melon (200~300da). Just after introduction of irrigation in 1968, wheat and cotton were main crops. But, because of market situation and cotton disease in 1980's, maize and citrus became main income resources instead of them. Registered population is 3,200, 40% of whom is farmers and others are wage workers such as workers in packaging factories. In addition, there are non-registered 1,200 workers who work for picking up fruits. This village is so commercialized that only 130 da of river side remains as pasture. Only 3~5 families raise 20 cattle and 2~3 families raise 30~40 sheep on this pasture for home consumption. This river side pasture is not attacked since 80 years before.

3) KILICLI

Population of this village is 3,000. Number of households is 600, 400 of whom are farmers. The agricultural land, which is rain fed, is 17,000da in area. Main crops are wheat, cotton and barley. Hilly natural open forest (Government land) is 2,000~3,000 da which is utilized for animal grazing. Another 2,000~3,000da is mountainous planted forest area (Government land) which is strictly forbidden to be used for grazing. Members of village don't know the precise scale of forest, because those belongs to government (so that the exact information of forest area can not be obtained). 3,000 sheep (goats) are raised by professional shepherds in the village. They mainly have animals graze on hilly natural forest area. There are also pastures for grazing in this village, but its size is only 30~40da. Shepherds nomadize on hilly area. They stay in yurts and take care of ani-

mals through whole summer season.

Planted forest area is protected by Ministry of Forestry. If animals invade and damage trees, the said shepherds are supposed to be punished with fines. On the other hands, area of natural forest has been intruded unlawfully by unjust farmers. The size of natural forest used to be 4,000da 20 years ago. But It is reduced to 2,000~3,000da now. The size of forest is decreasing year by year. Which could called as 'Pasture Attack' or 'Forest Attack'. 'Tapu' officials came to this village in 1960's and agricultural land was registered with 'tapu' at that time. But since then, hilly natural forest is continued to be attacked. Even though grazing area is reduced by intrusion, there is no conflict between farmers and shepherds. It is because the number of animals simultaneously decreased, so that size of grazing area is not deficient.

MOUNTAINOUS AREA

4) KARAKISLAKCI

Number of farmers is less than 100, 10 of whom are beekeepers who usually don't live in village. Population is around 500. Farmer has 30da of crop land, 3 cattle and 50 sheep in average. Main crops are wheat, barley, apples, and cherry. There is no irrigation system, but individual has each pump.

Summer pasture (Yayla) is 500da. It takes 2 hours by walk. There is also 1,000da hilly pasture. Those pasture is government land, but use right is assigned to this village. Pastures have not been attacked, because the pastures are steep slope area which can not be used for cultivation. Animals are grazed on summer pasture in summer season, which is from middle of April to middle of August. Pasture are divided into some plots and only one plot is permitted to be used in one summer. If a plot is used for grazing in this season, the plot is forbidden to be used in a few years. This system is called as rotational grazing for sustainability. Extension service worker introduced this system and board of village (head + elected 4 old men) decided to accept this.

Number of cattle decreased, because of shortage of plain pasture resource, instead of increase of sheep. Cattle is grazed on summer pasture in summer, and are fed on barn in other seasons. Sheep is grazed on summer pasture in summer, and grazed on hilly pasture in spring and fall, and fed on barn in winter. Wom-

en of farm households dwell in yurt on summer pasture with animals to process milk. They come back to village once a week, stay in 15days, and return to summer pasture. Animals are taken care of by shepherds. There are 4~5 shepherds. Each shepherd take care of 5~ 7 families' animals. They are paid 4 million TL /head / 6months.

5) DAGDIBI

Number of households is 180. Population is 700. Number of shepherds is 20~30. Main crop is bean, wheat, apple, cherry, grape, and peach. There are 1,000 sheep, 9,000 goats and 10~15 cattle. Every family has 30 sheep and 700 goats in average. Crop land is 6,000da, 1,000da of whom is irrigated area from Korukun river irrigation association.

Summer pasture (Yayla) is 5,000~6,000da. There used to be another 300da hilly pasture. But now trees are planted and grazing is forbidden on that hill. It is because of protecting erosions on that hill since 5 years ago. Field has not been eroded yet. Summer pasture is used from 15 April to the beginning of October. There is unfenced forest mountainous area whose use right is not assigned to this village. But shepherds use these forest area for grazing from June to October. It could be called as "Forest Attack". However, original pasture has not been attacked by farmers.

Shepherds are asked to take care of animals in summer pasture. The fee of taking care is 6million TL / head /5month for cattle and 7.5million TL /head / 5month for sheep and goats. Shepherds shear wool and get the fee for shearing. Slaughter is done by not shepherd but butcher. 2~3 women and children per each family dwell in yurt for processing milk on summer pasture with animals. Man should keep houses during they are out. Number of cattle and sheep/goat decreases.

Summer pasture is controlled under rotational grazing for grass sustainability . According to ministry of forest project which is controlled by World Bank, fertilizers were spread on summer pasture in last year and grass seeds will be in this year. Actually, yield of grass increased. The purpose of this project is to protect 'forest attack'.

6) OMERLI

This village is mountainous fruits production region. The orchard is 1,000da in area, which is irrigated by 5 wells. Number of settled families is 100, who work as fruits farmers in the village. Other 250 families stay only in summer, who work as temporal trader of fruits produced in this village.

There are 2 shepherds who are asked to graze 90 sheep, 3,000goats, and 5-6cattles. Animals are grazed on 10,000da government forest. Grazing on forest is forbidden, but they can not but use forest for cash income. Young generation is willing to live in the city, so that settled population is decreasing. Because of decrease of population, the number of animals is also decreasing. 30 years ago, the number of animals was 10,000. It can lead to decrease of 'forest attack'. Shepherds stay and graze on summer pasture (yayla) from May to October. Women groups also stay on summer pasture in order to process milk. They come back to village to sell processed milk on market twice a week. Animals are fed by purchased feedstuff in winter. Because summer pasture is on steep slope, there is no pasture attack.

(2) KONYA PROVINCE

1) BUYUKBRNAK

The number of farmers is 147. As for animals, there are 23 cattle and 3,535 sheep(goat), that is 384 BBHB which is basic unit for 40da and 10 sheep. There are 1village and 4 grazing footholds, which is called as 'yayla' in this district. 10 shepherds stay in simple shanty ('cardak') on grazing foothold of pasture and graze animals in whole year. They have also their own herds. But mainly they are asked by farmers to graze animals and paid 3billion TL per 300sheep per 5-7months(summer) and 2billion TL per 4-5months (winter).

We can find severe pasture attack problems in this village. Farmers actually often don't know exactly the border between government pasture and private land. But in many cases they intruded government pasture, even though they know the fact of intrusion. In summer of 2003, boundary stones are set up by extension workers according to law of pasture. The agricultural land is 22,000da in area. The area of pasture is 21,026.00509da which is divided among 31plots. 397.733 da of whom was intruded and 100da is still intruded.

In other words, 5% of pasture in area was intruded. Only 2 % was returned to government, but 3% are still unlawfully occupied by big farmers.

2) AKORENKISLA

Number of farmers is 100 and population is 1,000. There are 1 village and 8 grazing foothold (yayla). The area of agricultural land is 50,000da and pasture is 69,973.8da, 7,474da of whom are donated to the poor as agricultural land. There are 19 shepherds who are asked to graze animals and paid 3billion per 7months (summer) and 1.5billion TL per 3-4months (winter). 60% of farmers own 11,000 sheep and 30 % own 130 cattle. The land was registered with 'tapu' in 1984. It is told that pasture attack and overgrazing problems are severe in this village, but we can not get the detailed data unfortunately.

3) YARMA

The numbers of population and households are 2,630 and 300 respectively. Total size is 60,000da, 10,000 da of whom is pasture and others are irrigated agricultural land (wheat 80%, barley 10%, sugar beat 10%). Lands were registered with 'tapu' in 1974. According to law of pasture, boundary stones are being set up on border between government pasture and private land. Because the members of this village are sensitive to pasture attack, there are few intruded cases. Just after intrusion was found, neighbors have complained to regional government.

There are 439 cattle and 1,655 sheep which are charged to 20 shepherds on the fee base of 600million TL per 500heads per month. They live in 'cardak' (shanty) on 'yayla' (grazing foothold) in summer. 'Cardak' is built on government pasture, but they are allowed to use this for 10 years under contract with government. In spite of few pasture attacks, strong deterioration of grass quality is actualized in this village's pasture.

4) YAGLIBAVAL

The numbers of population and households are 1,500 and 354 respectively. Pasture is 70,405da and agricultural land is 50,000da in area, 50% of whom is, however, fallowed. There is no irrigation system, so that fallowing is used for keeping sustainability of soil. Wheat is planted on 80 % of 25,000da under

cultivation. Other 20 % is cultivated for barley and rye.

Before 1950, only one village named as ASAKLA was surrounded by one tremendously huge pasture. When KARADOINA village was became independent from ASAKLA in 1952, huge pasture was divided into 2 pastures and converted to agricultural land for new village. When this YAGLIBAVAL village became independent from KARADOINA in 1962 , pastures was divided more and converted to agricultural land. When dam construction brought about establishment of new grazing foothold (CSKURKVYV) in 1989, this village's pasture was divided more and converted. The size of government pasture became smaller in this way, because of establishment of new villages.

There is one common use pasture in mountainous area, which is shared among other 2 villages. Its size is 33,350da. Besides that, there is 70,405da pasture which only this village is permitted to use. The number of sheep and goat is 30,000 and cattle is 1,500. According to historical documents of this village, land of village was firstly guaranteed by government in 1932. In 1952, land of village was registered with the official documents named as 'tesbit olunan siniri (we know the border of village)'. In 1989, whole lands were registered with 'tapu'. Because members of this village live on many animals, they are sensitive to pasture attack. There existed a few cases of attack, but farmers returned the intruded area to pasture in 1989 when 'tapu' registration was completed. The boundary stones have been set up in 2003.

Animals grazing were charged by 25 shepherds on pasture in summer (from 23 March to 13 October). They are paid 350 million TL per herd (500~600 heads) per 1month with meals which farmers bring to him. In winter (from 23 October to 15 March), animals are taken care of in a shed. In spite of pasture attack, deterioration of grass quality has been intensive since 25 years ago, which is caused by overgrazing. According to head's opinion, climate change has affected crops on the field but not grass on pasture. Grass condition is closely related to over grazing.

5) CESMELISEBIL

Population is 5,000 and number of households is 700, 500 of whom are farmers. Agricultural land is 100,000da, 4000da of whom is fallowed for 1 year.

Wheat is planted on 70% of cultivated land and barley is planted on other land. In addition, 140,000da is used for pastures. Grazing pattern is as same as in other village. Boundary stones were set up in 2002. Registration with 'tapu' was conducted twice, that is 1983 and 1993. There was not pasture attack, but severe deterioration of grass quality has been actualized since around 1975.

300 cattle and 9,000sheep are taken care of on pasture by 30 shepherds in summer (from May to August). They stay in 'cardak' with animals on pasture. They are paid 500million TL per herd(500sheeps) per 7~8months. It stands for 4 million TL per day. Considering that average hired wage rate is 10million TL per day in this district, shepherds belong to low income strata.

One case of a shepherd in this village is introduced as follows. He grazes 280 sheep, 80 of whom are his own, 200 of whom is asked by one farmer. His family (wife and children) lives in village. His father was also shepherd doing farming on the side. He sometimes go back to the village with sheep, but almost stay on pasture until December. Income resource of shepherd is fee of grazing, sell of lamb, wool, and milk from his own sheep. We try to calculate his gross income. Wool is sheared with other shepherds on the base of labor exchange custom. 2month male lamb is sometimes sold in the village. Women's group, which consist of farmer's wife and 2 or 3 hired woman workers, engage in milking and processing milk. They come to 'yayla' to work every day. This shepherd is paid 500 million TL per one season by farmer as grazing fee. 80kg of wool can be sold on the price of 1 million TL per kg. 100 million TL of milk can be sold for 3 months. 20 lambs can be sold at the price of 160 million per head. Totally, grazing (500 million TL) + wool(80kgx1million = 800million TL) + milk(100million x 3momnth=300million TL) + lamb(20heads x 160million = 320million) =

2220million TL per year is his income, which is approximately equal to 22,2000 Japanese yen

6) BEYLERCE

There are two kinds of pastures in this village. One is normal government pasture and the other is village owned pasture. The latter was given from government to village as the horse draft threshing area, when

this village was established in 1950. But this area was converted to be pasture, when farmers started to use combines and the threshing area became needless. Land registration with 'tapu' was enforced in 1950 when this village started. But again, land was re-

registered with 'tapu' in 1980. There are 3 shepherds. Two of them are asked by big farmers to take care of their cattle. One is asked by other general farmers to graze.

Image of Pasture Location on Each Village Map

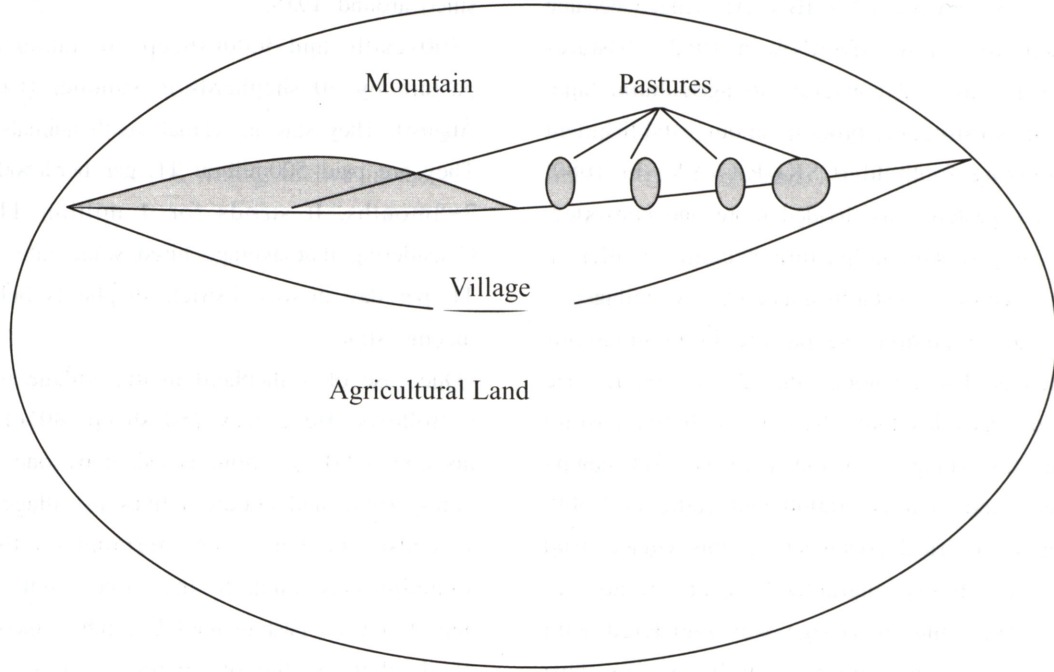


Figure 4 Image of Pastures in Beloren (Adana, Plain)

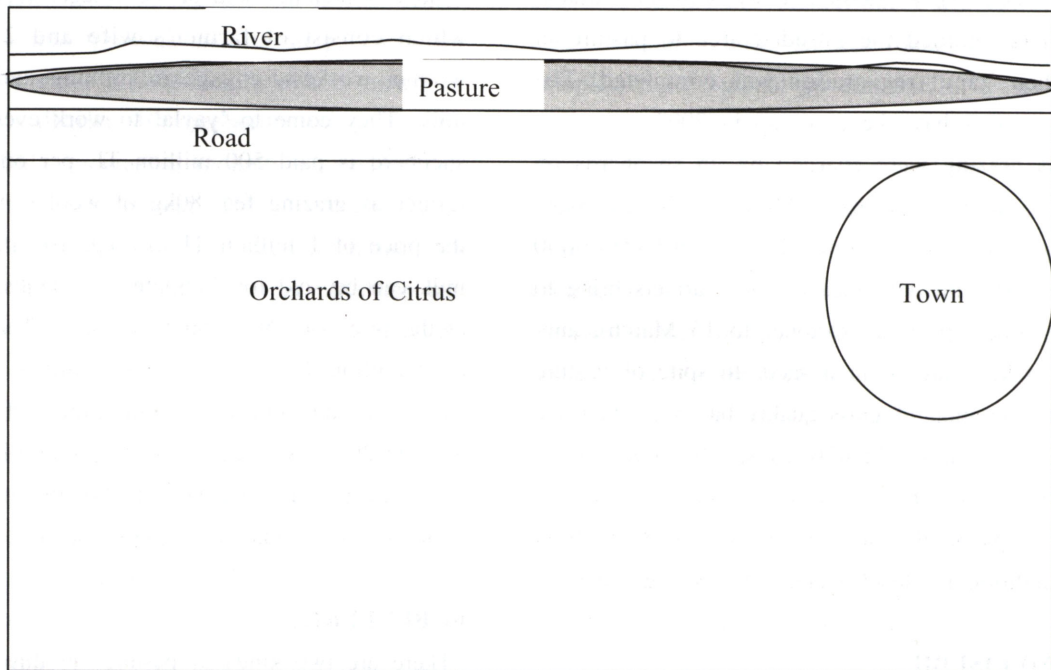


Figure 5 Image of Pastures in Abdioglu (Adana, Plain)

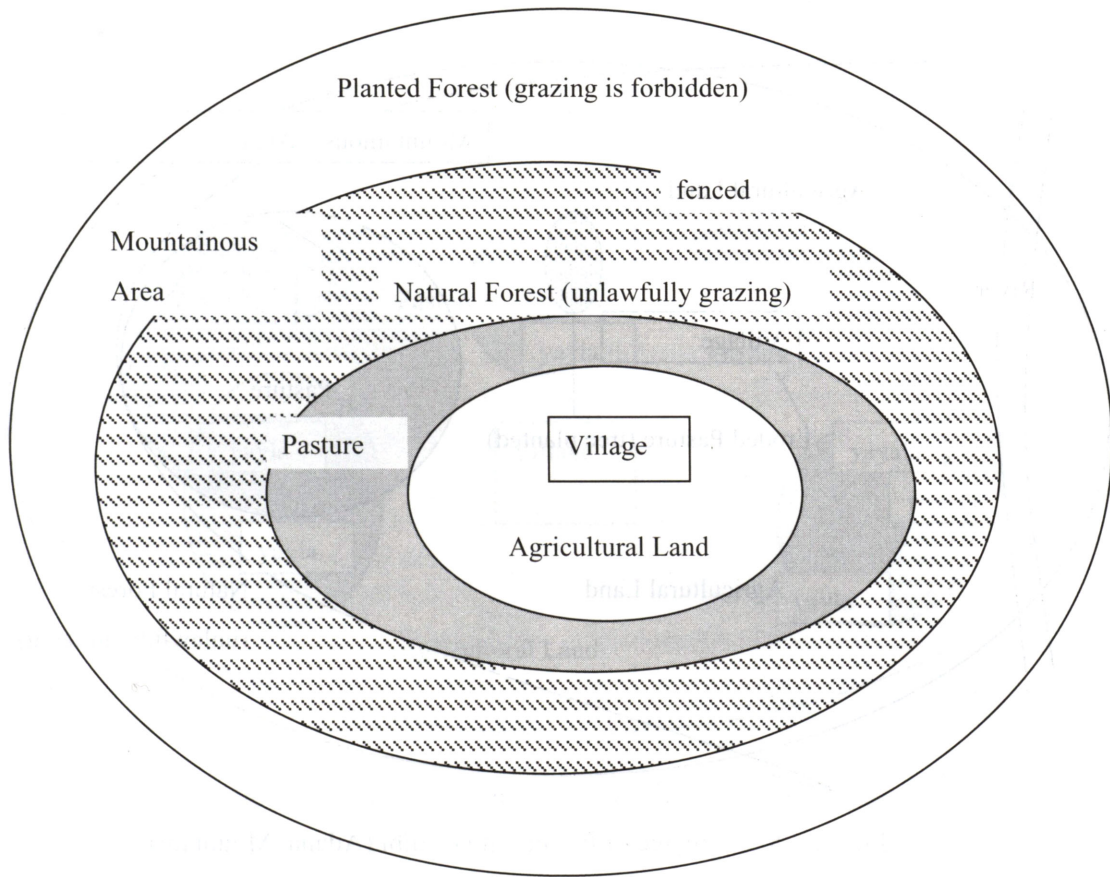


Figure 6 Image of Pastures in Kilicli (Adana, Plain)

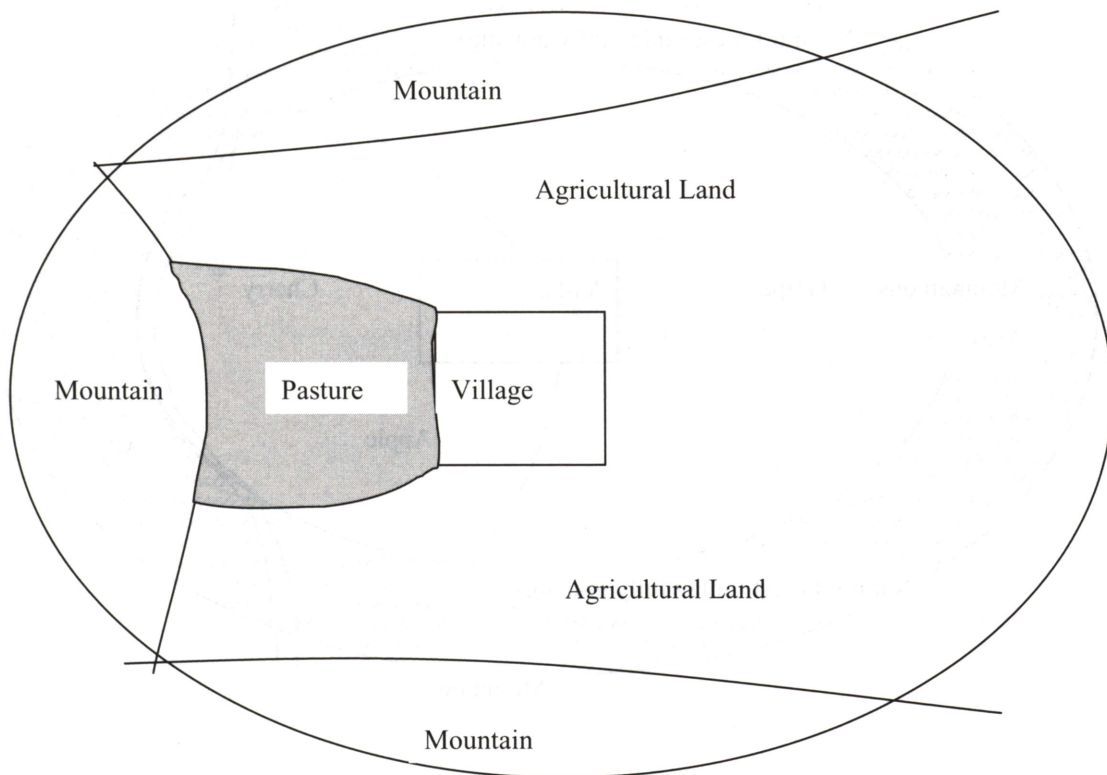


Figure 7 Image of Pasture in Karakislakci (Adana, Mountain)

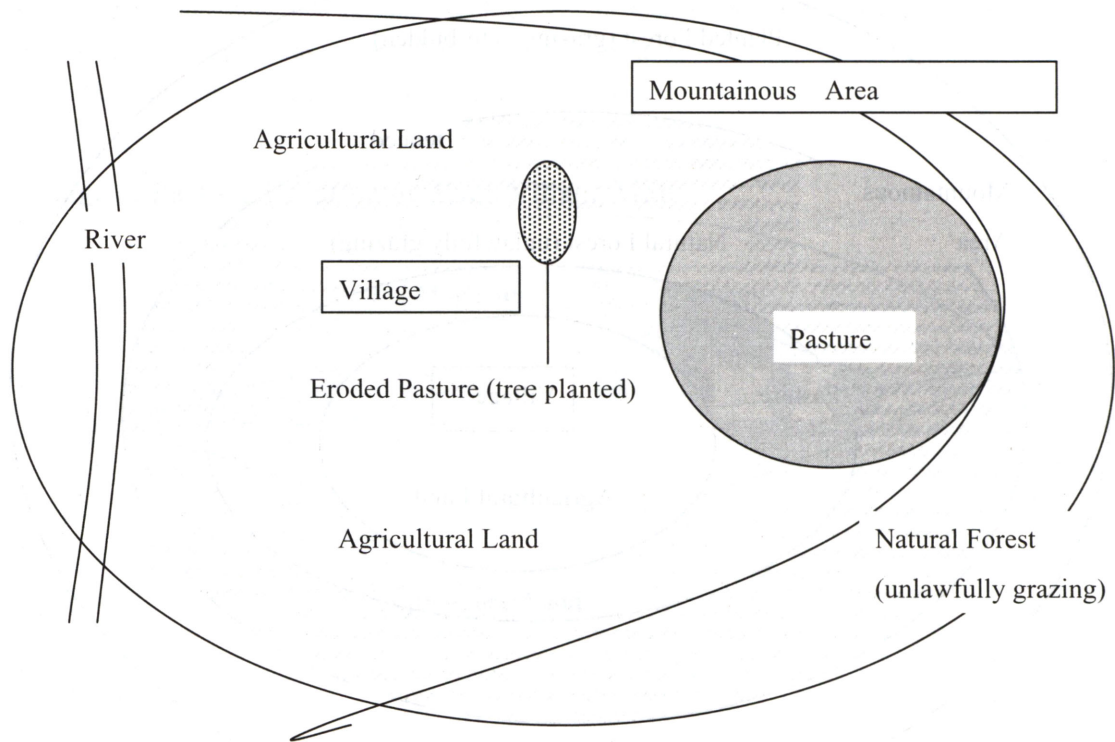


Figure 8 Image of Pasture in Dagdibi (Adana, Mountain)

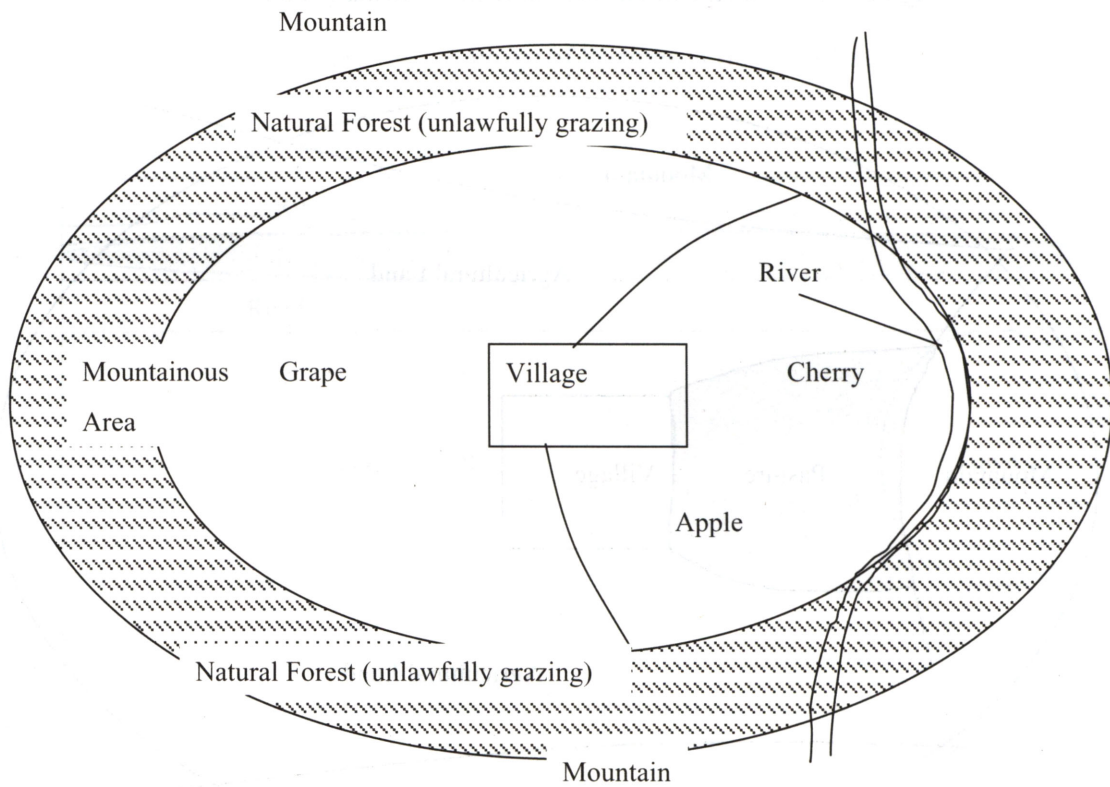


Figure 9 Image of Pasture in Omerli (Adana, Mountain)

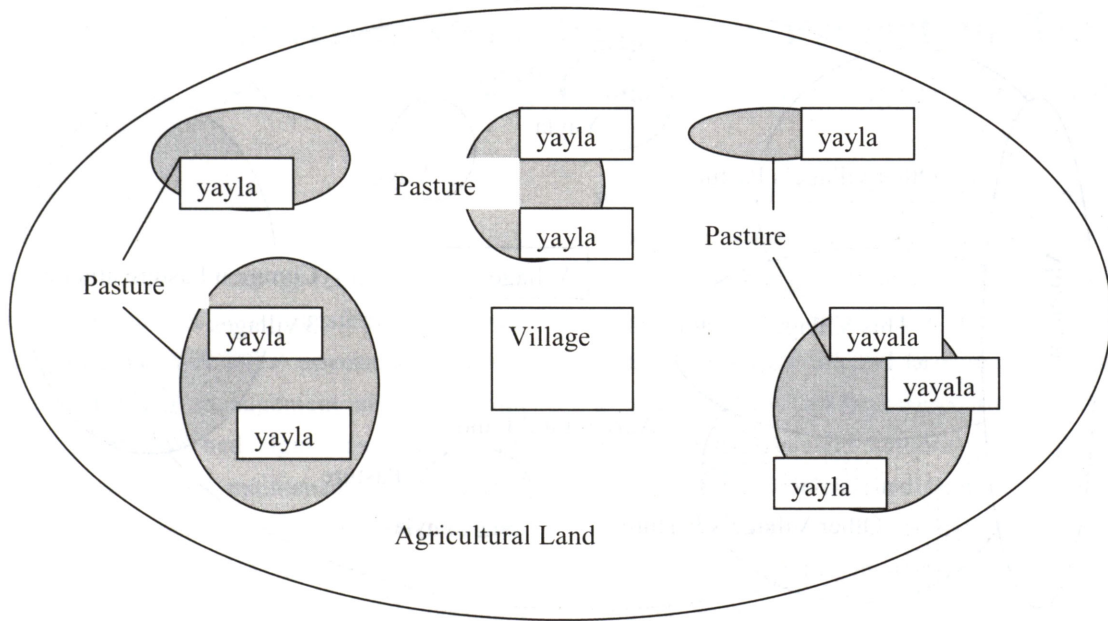


Figure 10 Image of Pastures in Akorenkisa (Konya, Plain)

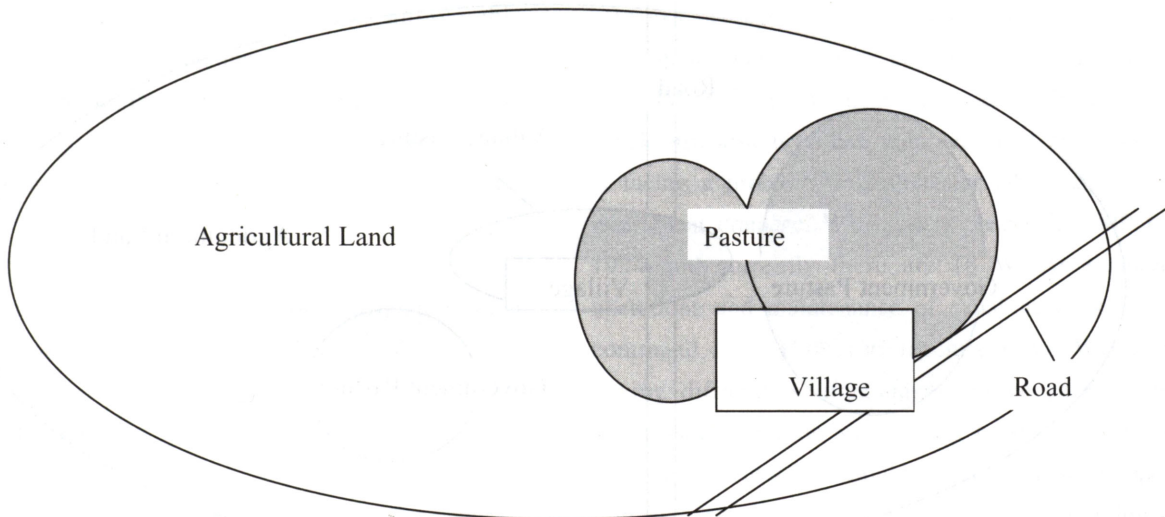


Figure 8 Image of Pastures in Yaruma (Konya, Plain)

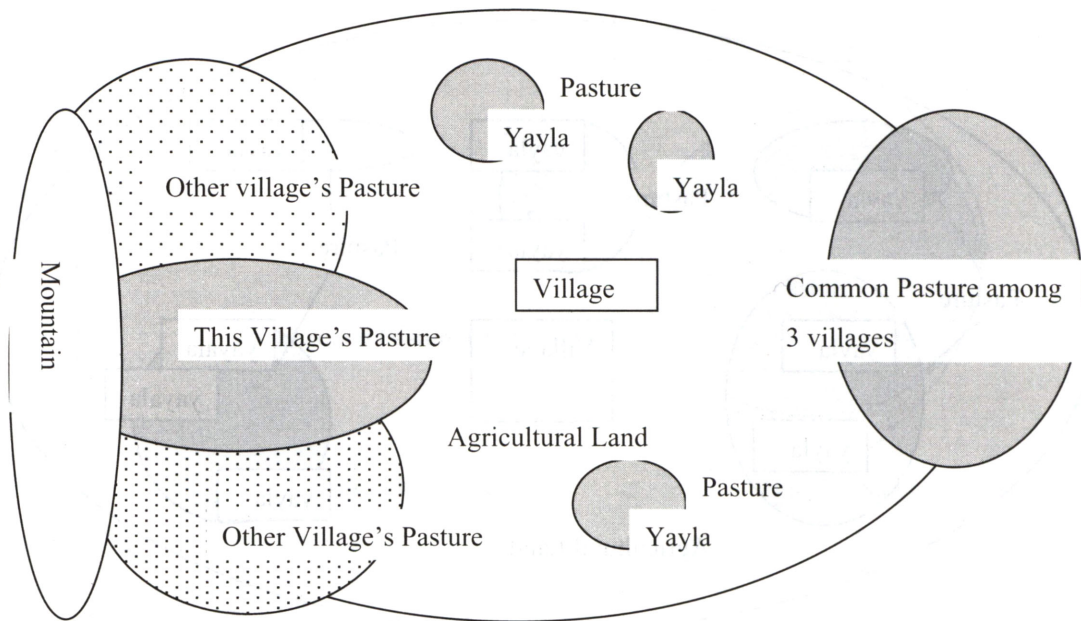


Figure 11 Image of Pastures in Yaglibaval (Konya, Mountain)

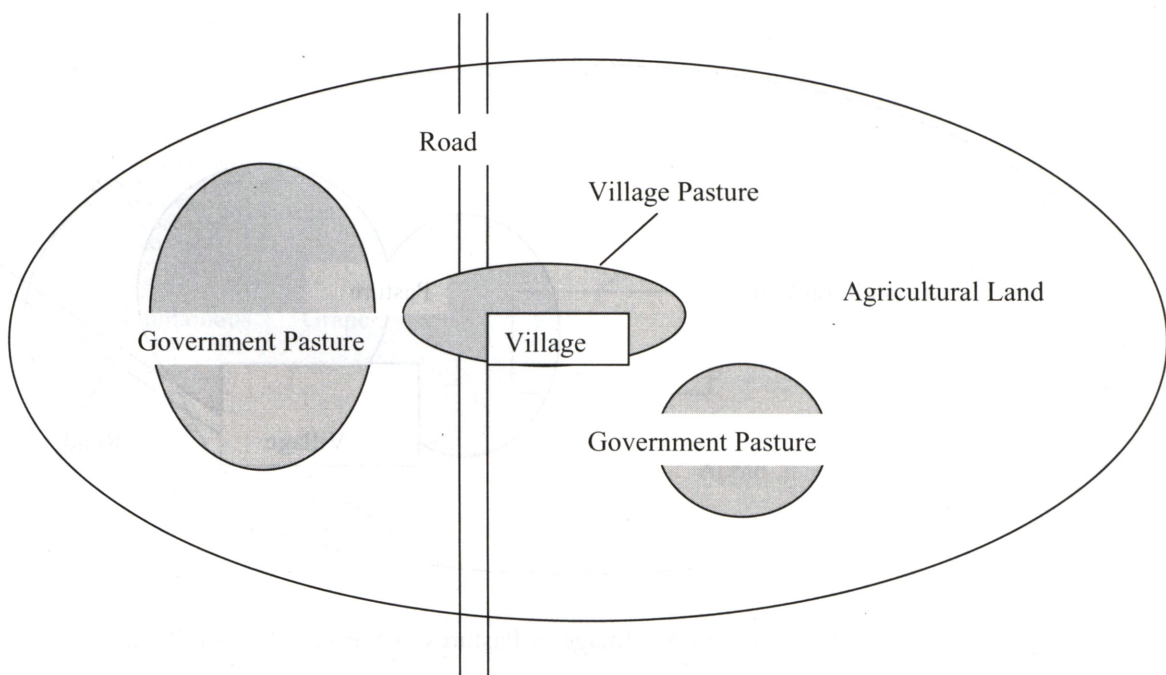


Figure 13 Image of Pasture on Beylerce (Konya, Plain)