

The Increase of the Value of Goat Hair Versus the Reduction of Goat Production an Example of the Villages of Bozdogan, Aydin

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Abstract: This study was conducted in order to determine the importance of goat hair and technical and economical characteristics of the workshops where goat hair processed into products in the villages of Olukbasi, Kizilca and Dutagac in the Bozdogan district of Aydin, Turkey. The material of the study consists of 45 enquiries, carried out using the randomly select method to the weavers from these three villages. The ratio of hair-only-weavers and cotton-only-weavers was 68.9 and 17.8%, respectively whereas the number of weavers doing both hair and cotton was 13.3%. The number of people manufacturing hair thread to order was 39 and the ratio of this in the other production forms was 86.7%. Female workers manufactured 3-5 kg of threads daily whereas male workers manufactured 7-10 kg⁻¹ day. The main market enterprise (75.5%) was the sale of the manufactured threads; the other 24.5% of thread was used on their own looms. In conclusion, it could be said that besides processing hair in factories and marketing it, the sustainability of goat hair weaving in traditional family workshops and the increase of their market share will increase the value of goat hair and employment rate positively in the region.

Key words: Goat hair, goat production, hair weaving, hair thread production, family enterprise, Turkey

INTRODUCTION

With respect to previous year, the number of goats decreased 11.2% and became 5,593,561 heads and goat hair production decreased 11.75% and became 2,238 ton in 2008 in Turkey (TUIK, 2009). Goat is generally, bred for its meat and milk in the country and goat hair which is sheared once or twice a year is sold to wholesalers 35-50 cent kg⁻¹ and a small additional income is provided in this way. This sheared hair gains value turning into many products we use in the daily lives being processed in few certain regions. Goat hair industry which has been converted into a production branch recently and which has been a source of income for many people has started to grow during recent years. A good example to this change is the villages producing goat hair in Bozdogan, Aydin.

There are 1,009,153 head goats in Aegean region and there is a 379 ton goat hair production, goat and hair production of Aydin is about 58109 and 19 ton, respectively (TUIK, 2009). About 250 ton tent material woven from goat hair was marketed in only a factory in

Olukbasi village. According to the given numbers, it will be noticed that three villages of Aydin process much more hair than the hair produced in this city.

The natural fibers used in industry or small handicrafts are separated into two groups, animal fibers and herbal fibers. The fibers obtained from goats are very important animal fibers. The fibers obtained from goats are of two types as harsh-up fibers and fine down fibers. The harsh-up fibers are of greater quantity and are used in the making of tents, headscarves and packing cloths. The down fibers, obtained from goats are known as cashmere. Even though, these fibers are less produced than the harsh-up fibers they are of greater importance (Tuncel, 1997). Three villages (Olukbasi, Kizilca and Dutagac) in the Bozdogan district of Aydin earn their livelihoods by utilizing the goat fibers. Goat breeding in these villages was known to be widespread 30-40 years ago and there were approximately 5000-6000 goats in the area. However, due to restriction of pasture fields and afforestation of available land, goat breeding has decreased. According to data in 2006, the number of hair goat in Olukbasi, Kizilca and Dutagac villages was 450,

250 and 180 heads, respectively (Anonymous, 2006). These villages extended their goat production only into a production centre for manufacturing of goat fibers also. In the 1980's, goat fibers were handled by the family enterprises within these three villages. These enterprises have a rooted history regarding goat breeding fibers were turned into thread by spinning. Afterwards, they were woven into tent cloth, saddlebags, sacks, small carpets and rugs on looms in the home and then the end products were marketed. Hair weaving factories were built in Olukbasi village and the Nazilli district in the 1990's. The factories set up a tent market and the hair produced by the family enterprises was supplied upon factory demand. In 1992, a hair weaver cooperative was founded in these villages but it ceased to be after just one year. In a study conducted by Environment and Forest Directory of the Aydin province, it was determined that there were 2500 spinning wheels used to make thread fibers, 50 combing machines for selecting goat fibers and 600 looms in these villages (Anonymous, 2003). In recent years, hair weaving factories have largely controlled hair weaving and marketing. However, due to the market for good quality hand made products, some family enterprises still continue to weave hair to the present day.

Those family enterprises which marketed self products many years ago had a good income by making tent cloth to order hair weaving factories of this period. Later, they began to weave rugs from strips of cotton textile cloths because they could not supply to demand.

To date, no research has been conducted to evaluate the situation of the goat hair weaving family enterprises in Turkey. This study was conducted to determine the technical and the economic traits of goat hair weaving family enterprises in the villages of Olukbasi, Kizilca and Dutagac in the Bozdogan district of Aydin, Turkey.

MATERIALS AND METHODS

The material of this study consisted of a total of 45 questionnaires. The persons selected to take part in this study were chosen using the randomly select method. The participants all hair weavers from Olukbasi, Kizilca and Dutagac villages in the Bozdogan district of Aydin Turkey completed the already prepared questionnaires. These enterprises were surveyed, the general situation of the villages was observed and studies concerning each stage of hair weaving to end product were carried out. The persons having the enterprises were chosen randomly and questionaried already prepared queries. The data with regards to incomes of the weaver family enterprises were analyzed by one way ANOVA. Fisher's exact Chi square test was used for data with none-brand

production (SPSS INC, 2002). SPSS 11.0© Packet program was used for the statistical analysis of data.

RESULTS AND DISCUSSION

According to the questionnaire, the fibers sheared from goats in various provinces of Turkey, especially Izmir and Isparta were brought to the district in which this particular study was conducted.

Firstly, the fibers were separated according to their colors and then dried in open areas. Next, the long fibers were separated from short down fibers by passing them through hair separating machines. The fibers are then sold to the hair weavers. It is known that weavers buy long fibers at a cost of 0.4-0.5 United States Dollar (USD) kg^{-1} while the traders buy down fibers known as cashmere at a cost of 4-7 USD kg^{-1} and then market the fibers to China.

Women workers turn the long fibers into thread using traditional fiber spinning wheels. In all three villages, there is a minimum of one loom and one spinning wheel in either the garden or hired area in almost every household. The men weave the threads from the spinning wheels on looms and turn them into saleable products. It was determined that the family hair weaving only enterprises, not only take national and international private orders but also supply on demand. In recent years, the hair weaving factory in Olukbasi village has begun to make thread to order. However, it is said that the quality of the thread is lower than the quality of thread spun on the spinning wheel because of the inclusion of some artificial fibers and tannery hair.

Tents made from fibers produced in the factory are more flimsy than those threads made by hand. Therefore, attached importance of thread making upon a spinning wheel and hand weaving should be noticed as the family enterprises can actually market the hairs weaved hair directly. Not only the fibers are spun in the factory they are spun by women for the factory also. The production in the villages could be put in order as shown:

- Families that have good economical situation and enough capital to buy raw hair and are able to market the hair after handling (1-3 persons per village)
- Business people have a particular economic power and make the working families in the villages weave carpets from strips of textile cloth obtained from companies in Istanbul and Izmir
- Those persons who weave tents or carpets from handled hair and market their products internationally
- Those persons who weave hair/textile cloth on a supply and demand basis to traders

- Those persons spinning fiber to order (the women spin handled hair in the factory)
- Those persons working in factories or families for a daily wage

In this study, the mean age of the persons who completed the questionnaires was 42.62 and the age range between 24 and 65 years old. Most of these workers who completed questionnaires graduated from primary school, a ratio of 93.3%. The proportion of enterprisers graduated from secondary and high school was 4.4 and 2.3%, respectively. The mean number of person in a family was 4.29, number of family members varied between 2 and 6. The number of hair weavers only was 31 and the ratio of their in the total was 68.9%. The proportion of them who wove textile cloth only was 17.8% wove both hair and textile cloth 13.3% and those who had income from other agricultural productions also was 46.7%.

The number of hair weavers in the study was 39, a ratio of 86.7%. The number of person working at looms was generally 1 per house but varied according to the number of capable working persons. Generally, the men work at looms while the women spin the fiber and make the yarn. The thread production from hair generally, continues all year long. Amount of thread production daily varies according to sex of the worker. Women produce 3-5 kg of thread daily whereas men produce between 7 and 10 kg daily. The average daily wage for women is 0.5 USD kg⁻¹ are. A weaver who weaves a carpet of which the width is approximately between 50 and 70 cm, weight between 75 and 80 kg daily earns, approximately between 15-18 USD daily. Marketed ratio of the threads produced from hair by family enterprise only is (8.9%) whole saler only (13.3%) and both family enterprise and wholesaler (53.3%). In this study, the results of income from other agriculture productions and none-brand production compared the family enterprises working to order are shown in Table 1.

The conclusion of the analysis showed that those persons doing none-brand production and having income from other agricultural productions was approximately the half the number of the persons doing brand production with order (43.6%) and amount of 2.3 of those not doing none-brand productions with order (66.7%) had not income from other agricultural productions ($X_y^2 = 0.379$, $p > 0.05$).

It was observed that those persons doing none brand production and having income from other agricultural productions had membership of milk cattle breeding cooperative, although their main income sources was from weaving. The results of analysis with regarding to the dairy cooperative membership and production with order

are shown in Table 2. It was determined that 82.1% of the weavers doing none-brand production had dairy cooperative membership whereas 33.3% of the weavers not doing none-brand production were not member of any organizations. The difference between none-brand production and the members of the dairy cooperative was statistically significant ($X_y^2 = 4.305$, $p < 0.05$). From the questionnaire results, it was determined that the proportion of the persons being content from none-brand production was 13%, the proportion of those discontents was 87%.

In the study, the income obtained from weaving of the family enterprises is shown in Table 3. The persons weaving both hair and textile cloth only obtained more income than those weaving hair or textile cloth only ($p < 0.001$). Although, the income of the persons weaving textile cloth only was higher than the hair weavers only the difference between the groups was insignificant. When put into perspective, it can be said that weaving textile cloth only or weaving hair only an adequate level of income for the weavers could be obtained by weaving hair only thus, this traditional production method could continue and old traditions survive. The various products such as tents, rugs, saddle bags,

Table 1: Income from other agricultural productions and none-brand production

Types of income	The persons doing none-brand production	The persons not doing none-brand production	Total
The persons having income from agricultural productions			
n	22.0	2.00	24.0
%	56.4	33.30	100.0
The persons not having income from agricultural productions			
n	17.0	4.00	21.0
%	43.6	66.70	100.0
Total (N)	39.0	6.00	45.0

$X_y^2 = 0.379$ ($p > 0.05$)

Table 2: Values of none-brand productions of the dairy cooperative membership

Types of production	Cooperative members	Cooperative non-members	Total
None-brand production			
The persons doing			
n	32.0	7.0	39
%	82.1	17.9	100
The persons not doing			
n	2.0	4.0	6
%	33.3	66.7	100
N	34.0	11.0	45

$X_y^2 = 4.305$ ($p < 0.05$)

Table 3: The income obtained from weaving of the family enterprises (USD day⁻¹)

Types of production	N	Mean±S.E.	Min.	Max.
The persons weaving textile cloth only	6	8.40±1.02 ^b	7.22	10.80
The persons weaving hair only	26	6.94 ^b ±0.75 ^b	1.20	12.00
The persons weaving both hair and textile cloth	13	18.20±1.10 ^a	10.80	21.18

^{a, b}Row means with common superscripts differ significantly at $p < 0.001$

brushes are made from goat hair. It is reported that the products such as tent and carpets are made traditionally by one or two workers per village on demand. Apart from this, nearly all villagers produce tents and carpets in their homes using their own looms for factories. Tent production is especially important for these villages because they are exported to Arabian countries in great numbers.

Factories have taken over the marketing of these products on a large scale. For this reason, the family enterprises have to make none-brand products for these factories. The hair products weaved on hand looms the thread made in a classical method in homes are of better quality than those weaved in the factory. Therefore for a higher quality production, family weaving must be supported and a cooperative must be established for the classical family production and must be supported by the government.

The results of questionnaires determined that the expectations of the weavers from the government were establishment of a cooperative, support of traditional production, give credit with low interest and extend the market by increasing export. Products obtained from the goats such as meat and milk are mostly used for national consumption. However, the ratio of the hair of goat marketed in Turkey is 40% (Kaymakci and Taskin, 2007). The rest is exported to various countries.

Another goat hair product, cashmere is reported to be exported from these villages to China by the traders. Economic value of cashmere is depending on fibers diameter and length. In these days, one kilogram pure cashmere value in global markets fluctuates between 75-150 dollar (Saghi *et al.*, 2007) but in these villages, the traders buy down fibers known as cashmere at a cost of 4-7 USD kg⁻¹ and then market the fibers to China. It is understood that China is the most important cashmere production country in the world with ratio of 60% (Ryder, 1991). Europe has some problems obtaining cashmere products from China. Goats were improved in Europe for a greater cashmere production. If there are no problems about organizations with regards to animal breeding, animal products and marketing, improved studies can be done more easily (Jacobsen, 1996; Russel, 1998). The workers satisfied from the none-brand productions were generally, traders and those persons who could market their own products however, the persons dissatisfied were the persons doing none-brand productions only.

Generally, the hair of goats used to be appreciated for the making of products such as tents, rugs and saddlebags used for only the breeders own needs because there was no need for a weaving industry in the past (Sengonca and Kosum, 2005). However, the weaving industry has become a must in recent years and it has started to gain importance in international marketing

especially for rugs, tents and carpets. Modernization struggle with regards to the usage and development of the weaving machines used in the textile industry for goat hair weaving has been going on. Although, there are 5,500 heads goats in Turkey, they cannot be used effectively in fibre production. With regards to the goat hair weaving, it was determined that the production made with hand looms in family enterprises has decreased significantly depending on economical and social factors in Turkey.

In spite of this decrease, new developments can also be observed in some regions such as Aydin and Usak. In these regions, the weavers have started to use machines in weaving goat hair (Dellal *et al.*, 2001). In this study, it was determined that the most important problem was the individual and non-organized production.

This production field, namely classical family weaving could be developed and the income from this field could be increased if the production and marketing of the goat hair products are done under a well organized structure.

Thus, goat breeding and goat hair handling could be made more positively effective if the hair weavers are able to join a hair weaver cooperative. It can be said that an adequate level of income for the weaver can be obtained by hair weaving only. Thus, this traditional production method can continue to survive in the old tradition way.

CONCLUSION

In this study, it could be said that sustainability of goat hair weaving and the increasing market share of these families could affect hair goat production positively in this region. As an example for the increase in the value of goat hair which is sold for 35 cent kg⁻¹, a tent woven from goat hair can be given; it is sold about 1500 USD. It can be seen here that goat hair which is thought as an unimportant material when processed can be turned into valuable products multiplying thousands times.

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