

## ASSESSMENT OF FEEDING TYPES, PRACTICES, AND COST FOR RAISING GOATS IN PUNJAB, PAKISTAN

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### ABSTRACT

House hold survey was conducted to assess feeding types, practices and cost for rearing goats at two sites (Bahawalpur and Faisalabad) in Punjab, Pakistan. Farmers (n=300) were interviewed regarding various types of feeding and watering management, and cost incurred on feeding goats. Common feed stuffs, management practices and involvement of gender in rearing goats was found similar at both sites. It is suggested that provision of pasture lands, soft loans, and other necessities would enhance goat productivity and lead towards efficient utilization of available resources.

**Keywords:** Household surveys, feeding types, feeding and watering practices, feeding cost.

### INTRODUCTION

Goats are important with regards to food security concern as well as supplementary income for the rural households. A major portion of people are inhabitants of rural areas and they are keeping a large proportion of livestock particularly goats. Goats are usually considered as zero input animals as no special feedings are offered. In order to know the type of feeding stuffs offered, management practices and cost incurred on feeding materials, the present study became essential. Household surveys are effective tools for studying in depth the activities of households. Therefore, household surveys were conducted in the rural areas of the Punjab, Pakistan to bring to light the above mentioned objectives.

### MATERIALS AND METHODS

Household surveys were conducted in two districts, Bahawalpur (Site-I) and Faisalabad (Site-II). Site-I is located south of the Sutlej River and lies in the *Cholistan* region. Three villages were selected randomly from this district. The second site (Site-II) is located in Faisalabad district. This district has an area of 5,856 sq km with the river Ravi flowing on the Eastern and the Chenab on the Western boundaries. The common livestock species found in these sites were cattle, goat, chicken and donkeys. Three villages were also selected randomly in Site-II.

**Household surveys:** The household (HH) survey was conducted for the goat owner and households were randomly sampled. In each village, from a complete list of households, owners of the goats were identified. The second step was the random selection of the required number (n=50) of owners and of non-owners of goats. Five “replacement” households were selected in each category (owners and non owners) in case a household refuses to participate in the survey. A community leader, or someone else, was tasked to inform the selected households in advance of the survey and make sure that they were willing and available for the interview.

The following information was collected as per questioner/ performa under different categories: general household characteristics, farm activities and facilities, livestock inventory, production of goat, type of production systems and parameters, management of goat (feeding, watering, health care), breeding strategies, marketing of goats and their products, training and skills, current sources of getting information about the breeding, feeding, production, marketing and any other schemes and techniques, sources of income and livelihood, etc. The data thus collected were analyzed using SPSS software (SPSS, 1999).

### RESULTS AND DISCUSSION

Common feeding stuffs at both sites are shown in Table 1.

**Feeding practices:** Farmers offered different materials to feeding their goats. Most of the farmers used commercial concentrates at Site-I and II. Majority of farmers grazed their goats at Site-I, but feed ingredients were provided to goats at Site-II.

**Table 1. Feed type used by farmers at two sites**

Feed type*	Site-I	Site-II
Rice straw	11	26
Wheat straw	8	9
Kitchen waste	9	9
Commercial concentrates	32	31
Grazing on cropland	70	8
Green fodder	1	18
Feed ingredients	23	37

\*Number of farmers is given at both sites

**Purchase of feed:** Average feeding cost per head was PKR 2439.6±3099.5 and 3260.5±5153.3 at Site-I and Site-II, respectively. It averaged 4504.2±3757.4, 823.9±1502.3 and 2080.3±3394.7 in Villages I, II and III at Site-I however, 1954±2226.3, 4892.9±6862.2 and 2091.25±3356 PKR in Villages I, II and III at Site-II, respectively. Average amount fed was 1.67, 1.57 and 1.67Kg at Site-I while 1.76, 1.76 and 1.60 Kg at Site-II in three villages, respectively.

Farmers got feed from different sources; market (Site-I, n=1; Site-II, n=6), local shop (Site-I, n=4; Site-II, n=26), and others places (Site-I, n=5; Site-II, n=34).

**Feeding management:** Number of farmers who did not provide grazing in Villages I, II and III was 29, 29 and 34 at Site-I and 4, 0, and zero at Site-II, respectively. On the other hand number of farmers those provided grazing in Villages I, II and III was 12, 11 and 8 at Site-I while 14, 10, and 10 at Site-II, respectively.

**Watering practices:** Sources of water in spring season included river (Site-I, n=26; Site-II, n=9), well (Site-I, n=2; Site-II, n=3), pond (Site-I, n=52; Site-II, n=3), pipe water (Site-I, n=2; Site-II, n=0), hand pump (Site-I, n=7; Site-II, n=96), and others (Site-I, n=34; Site-II, n=12). Sources of water in summer season were river (Site-I, n=26; Site-II, n=9), well (Site-I, n=2; Site-II, n=1), pond (Site-I, n=52; Site-II, n=5), pipe water (Site-I, n=2; Site-II, n=0), hand pump (Site-I, n=7; Site-II, n=96), and others (Site-I, n=34; Site-II, n=12). In rainy season farmers obtained water from river (Site-I, n=26; Site-II, n=9), well (Site-I, n=2; Site-II, n=2), pond (Site-I, n=52; Site-II, n=4), pipe water (Site-I, n=2; Site-II, n=0), hand pump (Site-I, n=7; Site-II, n=96), and others sources (Site-I, n=34; Site-II, n=12). In winter season farmers fetched water from river (Site-I, n=26; Site-II, n=10), well (Site-I, n=2; Site-II, n=2), pond (Site-I, n=52; Site-II, n=3), pipe water (Site-I, n=2; Site-II, n=0), hand pump (Site-I, n=7; Site-II, n=95), and other resources (Site-I, n=34; Site-II, n=12).

**Frequency of watering:** Majority of farmers offered water to their goats twice a day. Watering frequency at two sites is given in Table 2. Water should be available ad lib to the animals. But most farmers usually provided two times at both sites whereas only a few farmers offered water throughout the day at Site-II.

**Table 2. Watering frequency at two sites**

How often watering*	Site-I	Site-II
Once a day	4	27
Twice a day	87	71
Thrice a day	28	17
Through the day	0	2
Others	1	5

\*Number of farmers

**Who collects water:** Water was fetched by HH head (26 vs 29), spouse (35 vs 34), all household (19 vs 20), head's father (1 vs 0), head's mother (1 vs 0), son/daughter (19 vs 23), hired labour (2 vs 1), all or any (11 vs 8), and other (2 vs 2) at Site-I and II, respectively. Cost of water averaged PKR 52.85±117.4 and 90.5±240.6, at Site-I and II, respectively.

**Feed preparing person:** At Site-I, and II, 64 and 59 men prepared feed for animals, respectively. Among other members of household, 26 and 19 women, 1 and 8 children, 14 and 6 all or any adult, and 6 and 13, all or any household members, respectively showed their involvement in feed preparation at two sites.

**Feeding animals:** Number of farmers those fed the goats at Site 1 and II were 113 and 112, respectively. Sixty adult males at Site-I and II fed the goats. Number of adult female, children, any adult, any household member feeding goats for Site-I and II, were 31 vs 27, 1 vs 7, 15 vs 6 and 6 vs 13, respectively. Number of farmers (121 and 107 at Site-I and II), offered water to the goats, respectively. Watering person were men (53, vs 49), women (42 vs 28), children (2 vs 8), any adult (17 vs 7) and any household (7 vs 14), at Site-I and II, respectively.

The feeding stuffs those are normally used for feeding goats were almost similar at both sites. Feeding practices depended upon the availability of pastures, household labour and time. Usually no other labourers were hired for feeding or watering goats. Some keeper offered commercial feeds in order to optimize growth to get maximum profits. Panin (2000) reported that farmers showed interest in keeping small ruminants, also supported the present findings. The reasons would be lesser investment, less expenditure and ease of keeping and potential source of income, and most probably a potential alternative source of agriculture farm income. Ayalew *et al.* (2003) reported net benefits from goats showing the interest of farmers in crossbreds. Study of Ellis (2003) revealed that poverty was strongly associated with lack of livestock and agricultural land. It means that livestock/goats would provide additional income thus supporting the family. Study of Ellis (2003) revealed that poverty was strongly associated with lack of livestock and agricultural land. Finan (2011) revealed the participation of women in goat keeping, supporting present findings to some extent. It meant that livestock played a major role in poverty reduction and can help eradicate this by facilitating poor farmers through proper marketing facilities of their product and produce.

**Conclusion:** It was apparent that rural people offered cheaper and easily available feed stuffs to goats. The involvement of household members in rearing and managing goats was normal. The gender involvement showed active participation of both sexes. Availability of pure and fresh water was not cheaper and drew sufficient expenses in keeping goats. It is foreseen that increase in flock size, development of grazing lands and pastures, enough watering facilities would lead towards enhanced productivity and upgrading the social status of rural poor.

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