

Adoption of Goat Production Technology at the Farm Level : A Case of Krishnagandaki VDC, Shyangja District

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Abstract

Adoption of goat production technology consists of health, breeding, nutrition, pasture and fodder and management. The study was conducted in Krishnagandaki VDC of Syangja district with the objective of exploring the existing goat production technology adoption at the farm level. The methodology of the study included household survey, participatory rural appraisal and secondary data analysis. Most of the farmers raised goats in the villages. Overall farmers reported that the average adoption of goat production technology was (42.2%). The study revealed that farmers adopted breeding technology (53.5%), health technology (34.8%), nutrition technology (36.2%), management technology (53.9%) and pasture, fodder and agro-forestry technology (32.4%).

Key words: breeding, health, nutrition, pasture and management

Introduction

Goat production technologies were generated first in research farms/stations then verified in outreach research sites and finally forwarded to the extension workers. The technology dissemination part is mandatory of Department of Livestock since Nepal Agricultural Research Council (NARC) established in 2048 BS. Furthermore, majority of goat farmers are not well aware of improved goat technologies available in research stations and developmental farms. The available literature and experience of the researchers indicate that there are many socio-economic, policy and technical constraints in the adoption, awareness and promotion of improved technologies. Therefore the gap shows a need to identify various types of constraints and realize the opportunities for adopting the technologies at farm level. Native production of goat is not meeting the national demand and the country imports goats from the neighboring countries. About 65% goats are reared under sedentary management (LMP 1993) of which more than 50% are reared in the hills. National sample census of agriculture for Nepal (1991/92) shows that 55% of the households in the hills and mountains raise goats and average human per capita goat population of 0.6 goats/

head is found in the hills (DFAMS 1991). In the hills and mountains of Nepal, where 53% of country's population inhabit, more than 60% of people living below the poverty line (APP1995) and despite considerable investment in agriculture development over the past few decades, life of the common people has remained largely unchanged (NPC 1991). For the improvement of the situation, Agricultural Perspective Plan (1995) has given considerable emphasis on improvement in livestock production especially milk and meat which will improve the cash generating opportunity of the farming families. APP (1995) has estimated the contribution of livestock GDP to increase from 31% of before APP level to 45% in the last period of APP in which the highest growth is estimated in the mountains and hilly regions of the country. Advantage with goats production is the wider acceptability of goat meat in all ethnic groups and the constant level of high demand of live animals for religious sacrifices and for consumption in the villages or in the urban centers. However, despite of 6.0 million goats in the country, the urban demand is generally met with importation from the neighboring countries. Goats are prolific breeders, and farmers can derive cash

income from selling young stock. They also produce manure, and some goats produce fine quality fiber. Study of urban meat trade, training of meat inspectors and meat quality production expands market opportunities. This study has tried to achieve the overall objective of the adoption status of present available goat technologies in Nepal.

Methodology

Adoption of goat production technologies by farmers was studied in Syangja district because it is the potential district for goat production. In comparison of other districts the number of goats was found more in Syangja. Therefore, this district was purposively selected. Krishnagandaki VDC was selected with the consultation of District Livestock Officer of the district in which farmers were participating with the income generation through goat raising. Within the VDC one commercially goat raising ward was purposively selected. In the ward 10% households of commercially goat raising farmers were selected for interview. A reconnaissance survey was conducted to collect preliminary information on the existing goat raising farm households in the study area. Group discussion and key informants survey were done to collect the primary data.

Results

Livestock number per household

In the study area, farmers reported that they had raised in average 4 goats, 3 chicken, 2 buffalo and 1 cattle per household.

Adoption of goat production technologies

Goat production technology is the combination of breeding, health, nutrition, management, pasture, fodder and agro-forestry. In the study area farmers reported that in average they adopted 42.2 % of production technologies. Where we further analysis the adoption of individual technology, the result is as follows: Breeding technology: 53.5%, health technology: 34.8%, nutrition technology: 36.2%, management technology: 53.9 and pasture, fodder and agro-forestry (fodder trees) technology: 32.4% respectively (Table 1).

Goat breeding technologies

Goat breeding technology consist of goat breeding phenomenon such as progeny and pedigree status of

the goat. It has to deal with maintenance of pure breed, cross breed and improved breed. There are some criteria for breed improving such as selection of goat for breeding purpose, goat breeding strategies for indigenous breed available, husbandry practices of goat and new technologies such as dimensional characteristics of buck spermatozoa in relation to fertility and repeatability, effect of the size of does on the weight traits of their progenies and availability of breeding buck.

Table 1. Adoption of goat production technologies in average

SN	Technologies	Average (%)
1	Breeding technologies	53.5
2	Health technologies	34.8
3	Nutrition technologies	36.2
4	Management technologies	53.9
5	Pasture, fodder & agro-forestry technologies	32.4
	Total	42.2

In average, the farmer's reported that they adopted breeding technologies (27.3%) for improving their goats. If we classify them for each and every breeding technology, farmers gave priority for selection of goat for breeding purpose (96%), goat breeding strategies for indigenous breed available (29.4%), husbandry practices of goat (31.4%), dimensional characteristics of buck spermatozoa in relation to fertility and repeatability (100%), effect of the size of does on the weight traits of their progenies (51%) and availability of breeding buck in the villages (13.7%). Besides these, farmers conducted different activities for goat breeding. Farmers have given more emphasis for the selection of local goat breed (98%), improved goat breed (2%), select one of healthy buck for breeding purpose (35%), select one of healthy doe (35%), giving priority to sale buck (28%), select buck from their own flock (15%), bringing buck from other flocks (35%), healthy buck offering to God (30%) and they wanted to cross local goats with improved breed (31%).

Adoption of goat health technologies

Different types of goat health technologies were generated for the goat production purpose and about 34.8% of these technologies were adopted by the farmers. The adoption of these technologies (in percent basis) in individual cases are follows: Effect of

coccidiosis on growth performance (25.5%), gastro intestinal nematode infection (78.4%), foot rot (5.9%), respiratory problems (11.8%), verification of Bozo and Titepati for the control of ecto-parasites and gastro intestinal helminthes infection (0%), surveillance of goat disease in the study area (78.4%), pox outbreak (11.8%), treatment to nasal leeches (9.8%), incidence of respiratory disease and their causes in relation to management condition (88.2%), Knowledge on mortality due to PPR (62.7%), and effectiveness of sodium thiosulphate against aconite poisoning (45.1%).

Adoption of goat nutrition technologies

Different types of technologies were generated for goat nutrition. Overall technology was adopted by the farmers on nutritional aspects was 31.1%. When we analyse specifically all the technologies, the adoption rate was found different. Farmers reported that feeding stylo to pregnant goats and its impact on growth performance of kids was 7.8%, effect of feeding Banmara (*Eupatorium adenophorum*) on reproductive performance as well as fattening of goats was 96%, effect of feeding on goat for meat production (was 90.2%, effect of rice straw, tree leaves and concentrate feeding on goats was 5.9%. Further more, the adoption of the optimum feeding management was 96%. The adoption of conventional and conventional fodders on growth of goats was 4% and possible use of crop residues supplemented with urea and molasses in goat diets was 5.9%). Incase of the effect of mineral mixture on the performance of castrated male goats, effect of protein supplementation (mustard cake) and anthelmintic and potato feeding to goats in winter showed no adoption at all.

Adoption of goat management technologies

Farmers revealed that the overall adoption of goat management technologies was 53.9%. The specific management technologies were the effect of slaughter ages on meat production of fattening goats adoption was 29.4%, effective goat rearing model based on pasture management for poor farmers was 86.3%. Stall

fed management system for goat was 86.3%, flushing of goat treatment was 25.5%, and control of external parasites was 43.1%. Further more 52.9% farmers reported that meat production performance of different color types of goat ranged from 1 to 3 kg according to the black, red and white color. Brown and black color goat had the higher percentage of lean meat.

Adoption of pasture, fodder and agro-forestry technologies

Farmers reported that overall technologies adoption on pasture, fodder and agro-forestry for the supplementation of fodder and forage for goat was 32.4%.

It is recommended that goat raising farmers, extension workers, researchers, non government organizations and other stakeholders need to support to disseminate the package of goat production technologies to reach at the farmer's field. The demand of goat meat is high in the urban areas with the increasing price therefore; goat farming entrepreneurs need to be support by the stakeholders to transfer the available technologies up to the farmers field level to boost up the farmers economy by raising goats.

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