

A Study on Yak Production in High Hills and Mountains of Nepal

K.R. Joshi, S.K. Shakya and C.N. Baidya



Yak, Nepal. Photo K.R.Joshi

The main objective of this study is to identify yak production in high hills and mountains of Nepal. The study was conducted from mid July to September, 2005. Methodologies and different tools have been used and a multidisciplinary team was formed for the study. The study area covered Taplejung, Sankhuwasabha, Solukhumbu, Okhaldhunga in the Eastern, Dolkha in the Central, Humla in the Western and Darchula and Bajhang in the Far Western Region.

Yak (*Bos grunniens*) is a multipurpose animal living at altitudes from 3,000 m to 5,000 m. Yaks only thrive in extreme environmental conditions. The yak's genetic capabilities to survive harsh winters with minimum feed are unmatched. Yaks provide milk, butter, cheese, meat, leather, wool and transport to the people of the Himalayas and of the plateaus of Central Asia. From a socio-economic point of view, the yak is a very important animal in the mountainous country of Nepal.

Yak production

The total population of yak and chauri in Taplejung is 503. Sankhuwasabha has the second highest number of yak and chauri (8,391). The main trade route from this district to Tibet is via Kimathanka from where the export and import of yaks and yak products takes place.

Solokhumbu has the highest number of yak and chauri with 18,565 animals living in here. This district boasts the highest mountain in the world and many tourists come for mountain expeditions to Mount Sagarmatha. This is why there are several cheese factories and many farmers rearing yak and chauri

Okhaldhunga does not seem to have pure yaks or naks but about 29 yaks seem to have been brought to cross breed with local cows to produce chauri. Dolkha has total population of 2,972 yak and chauri. Similarly, populations of yak and nak in Humla, Bajhang and Darchula are 3,187, 195 and 506 respectively.

According to the National Sample Census of Agriculture in 2001/2002, the population of nak and chauri was 55,089 (57.7 percent) and yak 40,357 (43.3 percent). Thus total population of nak, yak and chauri came out to be 95,446 (100.0%) (CBS, 2001/02). A recent survey conducted on the Tibetan plateau by American and Chinese scientists found an increasing population of wild yak compared to a previous survey taken 10 years earlier (Schaller, 2003).

It is seen that Solukumbu has highest number of yak, with 3,977 (46.1%) and Bajhang has the lowest number with only 34 (0.4%). Regarding herd composition, the numbers of breeding adult female were highest (33.8 %) and breeding adult male were the lowest (3.3%)

Looking at chauri herd composition, Solukhumbu had the highest number of chauri (9,279). Similarly in herd composition, breeding adult female were highest in number (33.9%) whereas heifers were least (2,095). Bajhang had the lowest total number of chauri (79).

Processing of yak products

A group discussion about milk and milk products from yak and chauri was held with DLSO, ADO, farmers and entrepreneurs in the survey districts. Solukhumbhu has a potential to produce 43,978 litres of milk from naks and 424,716 litres from chauri, or 52% of total milk produced. Similarly, other survey districts also have a potential to produce milk and milk products. Milk generally starts to be produced 10 to 15 days after calving, which occurs in April and May, then continues for 5 months until winter comes. Production is highest in July, when grass is abundant and nutritious (Cheng, 1984).

Economic situation and income generating opportunities

Yaks are shorn every year between May and June. On an average, the weight of yak hair from one yak is 12 kg. Ropes are prepared from the outer hair whereas liu chauripot, Pakhi are prepared from fine inner hair. The yak tail is called chamer, which is used for religious purposes. A white chamer may cost Nrs. 800 – 1200. In addition, yak skin (hide) is equally important. From the skin, docha (warm shoes) and boots are prepared. Besides this, yaks are used for ploughing and transporting goods in mountainous areas. An adult yak or chauri generally can carry 60 – 75 kg of weight and can walk up to 13 – 16 km per day for several weeks. The cost of an adult yak is about Nrs. 25,000 – 30,000 whereas a nak is slightly cheaper and costs about Nrs. 22,000 – 25,000.

There is a need however, to upgrade the existing indigenous technology to produce safe and hygienic yak milk products at a commercial scale (Thapa, 1996).

Existing marketing situation of yak and chauri and opportunities:

The existing marketing situation of yak and chaur in the mountains and high hills of Nepal is very critical for people's livelihoods. Yaks are imported from Tibet/China to Taplejung, Sankhuvasabha, Solukhumbu, Dolkha and Humla because Tibetan yak breeds play a very important role for yak populations to increase productivity in mountainous area of Nepal. Similarly, yak cheese, chhurpi and ghee are high value and low volume products that are in high demand in overseas countries. Export of yak cheese to overseas countries brings valuable foreign currency to Nepal, which helps to develop the economy.

Effective marketing channels should be established from the domestic market to the international market for income generation by the people in the high hills and mountains.

Problem and issues

Yak herd composition in the mountains and high hills is decreasing trend due to breeding problems. Nak and chauri milk production also is not sufficient for yak cheese processing. These problems are due to lack of proper knowledge, training and skills.

Recommendations

- Chauri calves are in high demand in Tibet, so that a chauri breeding research programme should be carried out in livestock farms in Solukhumbu. Besides that, research and pasture management should be carried out in Rashuwa district.
- At present, yak cheese is in great demand for human consumption in the national and international market. It could be exported to South Asian Regional and European countries. However, yak cross breeding would need to be improved genetically to increase milk production.

Conclusion:

It was found that production of quality cheese and chauri calves are potential income generating opportunities for mountain and high hills people of the study areas. These commodities could be exported to Asia and overseas, providing an enhancement in the economic development of the country as well as addressing the issue of poverty reduction.

References:

- APROSC (1998) Poverty situation analysis of Nepal, Agricultural Project Service Centre, Kathmandu, Nepal
- CBS, 2001/02 National Sample Census of Agricultural Nepal, Central Bureau of Statistics, Kathmandu, Nepal 2002
- Cheng P. (1984) Livestock breed of China Animal Production and Health paper 46 (E.F.S) Published by FAO, Rome 217 pp.
- Cox, T. (1985) Herding and socio-economic change among Lantang, Tibetans, Contributions to Nepalese Studies, pp. 12, 63-74
- DDPON (2002) District Demographic Profile Of Nepal, Informal Sector Research and Study Center, Kathmandu, Nepal.
- Luke, A. Colavito (1997) High Hill yak Cheese Production In Nepal: An analysis of Privatisation Policy Incorporating in Impacts of Market for Agro-industries in Developing Countries, Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University, July 8, 1997
- Joshi, D.D (2001) yak in Nepal based on Information supplied, Kathmandu, Nepal.
- Joshi, D.D., Awasthi, B.D. and Sharma, Minu (1999). An assessment of the yak Cheese factories in Nepal, National Zoonoses and Food Research Center, Kathmandu, Nepal, 75

Paudyal, R.M. (1993) The yak and its importance in the Central Asia and particularly Nepal, M. Sc. Thesis, Centre for tropical Veterinary Medicine, University of Rdinburgh, pp. 67.

Schaller, P.B.S (2003). A survey conducted on wild yak in Tibet (China).

Shrestha P.K. (1990). yak husbandry in Khumbu and Role of Livestock Development Farm Syangboche to Encourage it, Khumbu, Nepal

Thapa T.B (1997) diversification in processing and marketing of yak milk products, DSP/National Development Board, GPO Box 7445, Kathmandu, Nepal.

World Bank (1980) Poverty and human development, Oxford, University, New York, United State America.

Dr K.R. Joshi is a Senior Agri-Economist. S.K. Shakya is a Senior Livestock Officer and C.N. Baidya is a Senior Agri-Extension Officer, all at NARC.