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Animal feed resources and their management in Nepal

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Nepal is an agriculture-based country and livestock is an integral part of the Nepalese economy, contributing about 26 percent to the Agricultural Domestic Products (AGDP). Livestock provide meat, milk, eggs for human nutrition; wool and hides for the industry and manure for crop production. Nepal has a large livestock population consisting of cattle 7 million, buffaloes 5 million, goats 10 million, sheep 1 million, pigs 1 million and fowl 48 million. The buffalo population ranks 4th among buffalo rearing countries but their production is very low as compared with those in neighbouring countries such as India and Pakistan. The overall low production of livestock is mainly due to low supply of quality animal feeds and inefficient use of available feed resources. In order to rationally use the available feeds, their assessments and use were studied in three ecological belts and five development regions in Nepal. This study is based on review of various journals, conference proceedings, project reports, statistical data from the statistics department, expert opinion and analysis by the team members. Livestock herd composition and sizes vary in the three ecological zones (mountains, hills and Terai). Majority of the livestock holdings are small (5-7 animals per household) in size. Among the ruminant animals, the buffalo population has increased from 4 to 5 million in the last ten years. Buffalo contribute approximately 72 percent of milk and 65 percent of domestic meat supply. Lime, Parkote and Gaddi buffaloes are native breeds, while Murrah and their crosses are the improved breed of buffalo in Nepal. The cattle population has remained stable (7 million) for the last decade and its contribution is 28 percent to the national milk supply. Shree, Pahadi, Khaila and Terai cattle are native while Jersey and Holstein are exotic breeds of cattle in Nepal. The sheep population has decreased from 0.82 to 0.81 million in the last ten years, while goat numbers are steadily increasing (from 7 to 10 million in the last decade). Among the non-ruminant livestock species chicken numbers increased considerably from 23 to 48 million in the last decade to supply eggs and meat to fast growing urban human population. Extensive and semi-extensive livestock production systems exist in the mountain zone and in the high-altitude alpine regions transhumance grazing system is practiced where livestock are grazed on local pasture in foothills and forest during winter (November to March) and spend late spring and summer months (April to October) on high altitude pastures. In the hills, extensive and semi-intensive production systems are common while small numbers of animals are raised in intensive system. Tree fodder, grasses and legumes collected from forest and cultivated lands and rice straw are the major feeding resources in semi-intensive and extensive system in the hills of Nepal. Locally made semisolid (Kundo) from kitchen waste and maize flour mixed with rice bran is given to productive animals during evenings. Livestock rearing in Terai resembles to that in hilly region with respect to extensive and semi-extensive production systems. Near to urban and semi-urban areas commercial livestock production exists to cater for the demand of urban populations. Crop residues, rice and wheat straw, maize stovers, tree fodder, leaf litters and other green fodder collected from cultivated lands and forest are the major feeding resources in Nepal. In concentrate, maize is the main feed ingredient followed by rice bran, wheat bran, soybean meals, mustard cake, sunflower cake and other legumes by-products. Due to fast growing poultry and dairy farming, the local production of maize and soybean does not meet national feed demand and these are imported from India and other countries. The native feed supply in Nepal is not adequate to meet the demand of existing livestock and poultry. There is a deficit of 33 percent in dry matter, 38 percent in crude protein and 42 percent in metabolizable energy. The human edible protein output per unit of human edible protein consumed by livestock is higher in ruminants, especially in sheep and goats, than in pigs and poultry. This demonstrates greater scope of ruminant livestock contribution to food security in Nepal with scarce feed resources.

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Biography

Netra P Osti expertise in animal nutrition, established animal nutrition laboratory in Nepal and published many papers in journals and proceedings. He holds M.Sc. Animal Science degree from Tribhuvan University Nepal, and Laboratory Quality System, short training, from Texas A&M University USA. He was senior scientist in National Animal Science Research Institute (NASRI) Khumaltar Nepal in the field of animal nutrition and feeding, previously livestock development officer in Department of Livestock Services (DLS) Nepal now freelancer.

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