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Socio-economic and Biophysical Conditions for the Sustainable Livestock Management: A Case Study of Nepal

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Abstract

Livestock is an integral and important component of Nepalese farming system. Agriculture contributes about 33% to the total gross domestic product (GDP) whereas livestock contributes about 35% of the total agricultural gross domestic production, which has been envisaged to increase at 45% by 2015. In relation to the amount of land per person, the livestock population in Nepal is one of the highest in Asia. However, the productivity of livestock is very low. The livestock production system in Nepal is characterized with harsh agro-climatic conditions, geographic isolation, small holding, degrading soils and diverse socio-economic structures. Nevertheless, livestock products are an important source of supplementing income for more than 80% of the total farming population of the country.

The analysis of livestock data for the past 14 years in Nepal revealed that the most noticeable change is the significant increase in the buffalo (2.1% per year) and goat (2.14% per year) population between 1990/1991 and 2003/04. A mountain/hill household raises, on an average, 6 to 10 livestock, including large and small ruminants. A survey carried out from June to August 2006 to investigate biophysical and socio-economic conditions for sustainable livestock management in Nepal revealed that the herd-size was significantly correlated with the land-size of the household. Milk selling by women was significantly correlated with the household head's education. Year-round forage production was also significantly correlated with the land-size.

In addition to these socio-economic characteristics, biophysical conditions, for example, adoption of the livestock species across different agro-climatic zones, forage digestion ability, existence in low plane of nutritional regime, cold tolerance and relatively smaller body size, were found to be significantly correlated to sustainable livestock management in Nepal. Hence, along with the biophysical characteristics, education, land size and women involvement in milk selling are found to be the most important socio-economic determinants for sustainable livestock management and its improvement in Nepal.

Keywords: Biophysical, livestock, Nepal, socio-economic, sustainable management