RANGELAND DEVELOPMENT MODELS ADAPTED IN HINDU-KUSH HIMALAYAS-SELECTED EXAMPLES

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Abstract

Nepal is one of the members of Hindu Kush Himalayan (HKH) countries. It is undeniable fact that Nepal's rangeland is featured by altitudinal difficulties, inaccessibility, and poor summer growth accompanied by high stocking rate. Thus, interventions are necessary to raise the productivity of rangelands thereby bridging up the increased numbers of livestock in these areas. Strategies to increase the productivity is directly related to the livelihood of the mountain people, where livelihood exists relying on livestock farming under grazing in these cheaply available natural resource. Keeping such facts, a review of development models adapted in HKH region regarding to the rangeland development has been focused in this paper which may add benefit to formulate the new strategies in line to raise the mountain livelihood.

Introduction

For sustainable rangeland management, resource base, physiographic situation, social, economical, and institutional aspects have to be considered while devising possible developmental models for Nepal's rangeland development. The models also take market linkages into account. The following figure depicts a general model of determinants and interactions of a typical rural livelihood system (See annex-1).The other considerations in sense of Nepal for the development/proposition of model should include the following ones:

Tibetans market focused development-production and services

This region is linked with Tibetan autonomous region. The dominant ethnic group is Bhote. This is the topmost landmark of Nepal in the North. The livelihood and culture is similar to that of Tibetan peoples.

National and Indian market focused development product and services.

Features include heterogeneous society friendly, based on local resources and market potentials in national and Indian markets; product/ services having comparative advantages aimed to contribute for rapid income growth.

Regional market focused

Features include heterogeneous society friendly approach, based on local resources and regional market potentials; product/ services having comparative advantages, and aimed to contribute for rapid income growth.

The examples of some development models in HKH region is presented hereunder:

1. Livestock and rangeland based models in China and Mongolia

1.1 Community based natural resource management

This type of range management system was initiated in Altay mountain of Xinjiang. One of the key characteristics of pastoral tenure is the persistence of group ternure arrangement. The existing pastoral tenure system raises the facilitation of numerous benefits, external inclusion, economies in herd supervision, social insurance, abatement of environmental risk, and the seasonality of pasture use (Banks, 2004).

1.2 Chinese grassland tenure system

Current grassland tenure system in China was incorporated in 19880s with the establishment of the pastureland Contracting system .Pasturelands remain under the ownerships of the state or collective unit and is contracted to the households for long term use. The grassland related policies are envisioned by the carrying capacities for allocating the households to introduce the sanctions and incentive with the assessed stocking limits (Mearns, 2000).

1.3 Communal grassland management system of Mongolia

This system was popular in Mongolia before the demise of Socialism in 1990. Pasture use after 1990 has not been formally controlled. During thirty years of socialist government (1960-1990), pasture use was regulated by the state through the collective mechanism directed by the seasonal movement which was dismantled in 1992. Although some customary forms of social organization quickly re-emerged notably .privatization of natural pasture still remains unconstitutional (Schwarzwalder et al., 2004).

1.4 Integrated Rangeland Development of China

This system of rangeland management was introduced successfully in Maqu rangelands of Gansu Province of China. In this system, useful traditional grazing management practices (i.e. no tilling of ranges, winter forage cultivation, summer and autumn pasture protection etc) are kept in pace where participants (herders groups ,women and weqak community members, concerned institutions, and for the beneficiaries) were given technical skills of pasture management (fencing and enclosure, grassplantation, control of burrowing mammals, fertilizer application, replanting of grasses and removal of noxious weeds etc.) (Qun et al.,2004).

2. Rangeland Improvement Modalities in Tibetan Plateau Area

These hypothetical resource tenure models were developed for the improvement of Tibetan Plateau rangelands.

2.1 Government –driven:

The example of government-driven model was established by the Sichuan Animal Husbandry Bureau in the Honguyan County, as a demonstration site for the livestock and pasture development programs. In this model, families have been forced to settle on individual allotments for year round use and household management (Yan et al., 2003), where allocated contracts and management are assigned by the households.

The benefits of this model have been highlighted such as reduced overall labour demand for households and increased survivality of herds in winter. However, increased cost of fencing, restricted household access to the other households for water sources, increased bank erosion, overgrazing and significant social impacts such as conflicts for pasture, widening gender gaps and reduced child access to school have been identified as the negative impacts(Richard and Jingjheng, 2004).

2.2 Co-management model:

This model has been in operation in Gansu Province of China and Tibetan Autonomuos Region (TAR)of China. In Gansu Province, families have been legally allocated individual winter pastures and manage them at an individual level as well for the net outcomes. In TAR, communal pastures are given legal rights as administrative villages comprised of many herding groups. Rules for the use of the collective pastures,

including stocking rates and timing of grazing have been set by the village governments and vary among sites. Grazing fee is collected and distributed within the herders group(Richard and Jingjheng,2004).

2.3 Local autonomous control model:

This model of rangeland improvement represents the historic use rights of ranges in the Tibetan Plateau where majority of herding communities move their animals collectively. Herders move their animals despite the claims of government where the government refuses to give the subsidies to the herders. They have simply chosen to retain autonomous control and have set their own rules for pasture access and management using social fencing or collective herding of border control, a means to enforce boundaries. Here in this model, fencing cost is nil, however, higher labor requirements are inevitable in this mode l(Richard and Jingjheng,2004).

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Annex-1

Figure:A general model of determinants and interactions of a typical rural livelihood system (Modified from Beets, 1991).