

MANAGEMENT OF COMMONS IN ARID AREAS OF INDIA AND
ROLE OF LOCAL GOVERNMENT

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Introduction :

The human race has been faced with the problem of allocating limited and scarce resources optimally so as to satisfy its unlimited needs. All the national government - cutting across international borders - endeavor to use available resources human and capital - both natural and man made - in such a manner that the welfare of its population gets maximised. The role of government assumes greater significance when the resource endowment of the region is poor. The arid areas in India present one such case where the resource endowment of the region is abysmally poor. The present paper is an attempt to study the importance of commons to the livestock enterprise which is the mainstay of agrarian economy in this region. Further, the successful management practices of traditional society has been studied and in the wake of present tragedy of commons the important role the local governments can play is suggested for the regeneration of commons and sustaining the agrarian economy.

Livestock : A mainstay of the arid economy :

In India the Thar desert (3,17,710 sq.kms.) of Rajasthan state accounts for 61 percent of country's hot desert of which 1,96,150 sq.kms. comes under semi-arid zone with a mean aridity index of 61 to 65 percent. It is located between 69° to 76° east longitudes and 24° to 30° north latitudes. Climatically, it is the driest part of India receiving an average annual rainfall varying from 100mm in the north-west to 450mm in the eastern region. The coefficient of variation of annual rainfall varies from 40 percent to 70 percent from east to west in the region (Krishnan, 1977). Nearly 79 percent of land in the Thar desert is unsuitable for high intensity land use involved in cropping (Jodha and Vyas 1979). Low level of irrigation, coupled with highly uncertain and erratic rainfall renders crop production a high risk and uncertain proposition. The crop income in the region is highly erratic and uncertain compared to livestock income (Joshi and Kalla, 1991). On the contrary, the livestock enterprise is of considerable economic

significance for arid regions of Rajasthan in India. It is only the livestock enterprise which is sustaining the economy of the region. It has been estimated that during a drought year, while agricultural production may fall to 10 percent of the production of favorable year the same for milk and wool production would be over 50 percent (Ghosh, et. al. - 1988) in the region. Mann and Kalla (1977), in a quantitative assessment of various asset-liability imbalances in agriculture sector of the Indian arid zone the Thar, observed that the livestock sector had consistently been more remunerative than the agriculture sector. Thus the livestock wealth contributes stability to agrarian economy in the Thar deserts.

Livestock products like milk, meat, wool, bones, hides and skin and hair are of considerable economic significance which provide productivity under unsurmountable constraints in resource endowments of this region (Jodha and Vyas, 1968). Bullocks, camels and donkeys provide indispensable traction power to the cropping sub-sector for carrying out transport and production activities. Also, animal wastes serve as an important source of manure and energy needs in rural areas. Apart from these output functions, livestock serves as a source of store value (Damodaran, 1988). The practice of storing animals on the hoof as insurance (Sen, 1986) from a bad agriculture year explains to a great extent the phenomenon of overstocking among farmers of the semi-arid and arid areas of the Thar in India as well.

Besides, being source of stable and unskewed income livestock enterprise contributes crucial nutrients to the diet of rural households (Joshi and Kalla, 1992) and generates productive employment both for male as well as female members of rural households (Joshi and Kalla, 1993, Bhattacharya, 1975) in the arid areas of the Thar. Dried animal droppings not used as manure for crop forms an important source of domestic energy in the region. By-products recovered from slaughtering and fallen animals support a number of industries in later stages of production like tanning, footwear and other leather products, bone meal, bonecrushing, bone and horn handicrafts and pharmaceuticals of animal origin and supplement the incomes of rural households in the region.

Most importantly, livestock enterprise has strong forward and backward linkages with crop enterprise (Joshi and Kalla, 1990) in the region which results in an overall increase in the economic activity. Thus the livestock enterprise is the mainstay of the economy of fragile region. During drought and poor rainfall year dependence of Thar rural economy on the livestock enterprise is almost complete (Kalla and Goyal, 1986, 1987) in the region. The utility of livestock to the inhabitants in the region is due to their

ability to convert otherwise useless vegetation into premium priced meat, milk, wool and other such products and thus being an important source of livelihood.

Commons : crucial contribution despite continuous degradation

Traditionally, livestock in the region derives its feed and fodder from vast available common community grazing lands like permanent pasture, uncultivable waste lands, cultivable wast land and fallows, village forests, and wood lands including the land dedicated for deities, "orans"—the land dedicated for deities, private crop lands available for grazing after harvest and community ponds of the region.

The common property lands having free access in the region are estimated to be 75.7 lakh hectares, culturable waste land in the region accounted for around 60 percent of total area under common property lands. The relative contribution of forage and fodder for livestock indicated that the CPLs accounted for as much as 72 to 77 percent of demand, rest being contributed by the crop residues in the region (Anantharam, 1989 and Shankarmarayan and Kalla 1984). Thus in the fragile desert region these commons have been the principal source of feed and fodder for sustaining the livestock enterprise. Moreover, the commons have successfully supported the livestock raising, during feudal period prior to independence in the region. It is thus obvious that livestock production depends predominantly on social cost rather than personal in the desert region (Jodha, 1988). Over the years the unregulated freedom to use commons for personal benefits and resultant continuous over exploitation due to various socio-economic reasons has led to the 'tragedy of commons' in the Thar region of India too, as has been described by Hardin (1968).

In the arid areas of Rajasthan in India even by arid areas standards, over 70 percent of the grazing areas have a poor to very poor conditions of productivity status (Shanker, et. al. 1988). Also, increase in livestock population results in decline in effective area of grazing land available for each livestock in the region. The number of livestock increased to more than 23 million, an increase of nearly 71 percent during 1956-1983, as per the livestock census, 1983. However, it declined to around 18 million due to mortality and migration suffered during three successive drought years of 1985 to 1987 but increased again to 23 millions in 1992. Kalla et. al. (1977) has revealed that as a result of livestock population increase, there is no concurrent and automatic increase in the area and the productivity of land allocated to raise fodder in the region. It has been observed that the population growth of smaller livestock sheep and goat is much higher as compared to larger cattle and buffaloes. Anantharam K. (1989) has

indicated definite relationship between decline in areas under commons and the growth of smaller animals in the region. This is one way to cope up with the decreasing productivity of common lands in the region.

Another factor contributing to rapid degradation of common lands is the rapid increase in human population which has more than trebled between 1951 to 1991. This rapid increase is putting greater stress on the available land resources, leaving less for the livestock in the region. The net area sown in the region was 8.4 million ha in 1982-83 an increase of 29 percent between 1956-57 to 1982-83. During the corresponding period, both short and long fallows came down by 41.6 and 18.0 percent respectively (Anantharam 1989). This increased area under crops should not be a cause for concern provided crop byproduct supplement the grazing resources adequately. But due to erratic rainfall and uncertain crop production this is seldom achieved. Further the increasing energy demand of the higher population is satisfied from bio-mass in the region. In desert area 65 percent of cooking energy came from fire wood (Agarwal, 1982). This again leaves less for the livestock to graze. This results in an excessive demand for and reduced per capital fodder in the region.

These factors have contributed to both demand and supply side pressures on the livestock enterprise and has resulted in faster degradation and decline in productivity of common community lands in the region.

Mis-Management of Commons

Increased commercialization after independence and land reforms have also contributed to the faster deterioration of common lands in the arid region of Thar in India. As a result, commons have been more exploitatively used by relatively better off sections as compared to the economically poor strata of the society due to favorable socio-economic constraints and power structure. The land reform measures since 1950s in the country recognised individual ownership rights to land. This turned land to commodity which can be bought and sold for a price. On the other hand during pre-independence times the territory of western Rajasthan was vested in the crown or a central authority. The unallocated common waste lands were nobody's property now, having only a nominal ownership of Government. This led to over-exploitation and illegal appropriation of commons by the powerful and influential inhabitants of the region through manipulation of government documents and even otherwise, thus reducing their productivity.

The migration of livestock herds is one of the essential methods of livestock management in the arid areas of Thar to face scarcity of feed and fodder in the region. Apparently,

this practice not only saves the common grazing lands from total ruination but also protects as many herds of livestock as possible and further helps in finding new markets for livestock produce enroute. There are studies available now which shows that livestock rearing in arid region is losing its traditional economic edge (Mann, et. al. 1977 ; Kalla, et.al. 1977; Ahuja, 1977 and Jodha, 1985). One of the principal reasons for this has been the poor productivities of commons community lands which have sustained livestock enterprise, without adding to out of pocket costs of livestock owners.

Apart from traditional practices like migration etc. still practiced by the rural inhabitants, most of the social checks prevailing in the traditional society for maintenance and regeneration of common community lands have been broken due to changes like commercialization, modernization and land reform introduced by the government after independence. Earlier, the development and management of commons was part of traditional social system. The common property resources were owned and shared by the community as a whole. The production, maintenance and utilization of commons was a way of life which was inculcated in an individual since childhood. The village caste panchayat through existing social system practiced a strict and constant vigil, so that these resources are not damaged and over exploited. It used to collect nominal charges in cash or kind-goods or services from users. This strict vigil coupled with judicious grazing practices involving do's and don'ts and low pressure from demand and supply side for various products from commons were responsible for sustained contribution of commons to livestock enterprise in the region.

Prior to independence the crown or central authority used to allocate lands to individuals - Jagirdars - as free or low cost land grants for various services rendered to the central authority. These Jagirdars with their authority and inbuilt social checks were responsible for managing the commons of the land allocated by central authority. Often a part of the revenue collected by Jagirdars was passed on to the central authority while remaining was utilized for himself and development of land under his authority. Besides, common lands like-waste lands, fallows and village pasture lands, earmarking of "orans" in the name of God, Goddesses and Village deities was the essential manifestation of socio-religious land management (Amin-1992).

With the independence of the country some basic fundamental changes were introduced in land tenure system. Through these changes individual ownership rights to the land was recognised there by commodatising land and the unallocated common waste lands became no body's property, having only nominal ownership of government, managed through local elected bodies called Panchayats. Panchayats are directly

responsible for taking decisions regarding productivity and regulation of consumptive use of natural vegetation in common community lands. However, the absence of past element of authority exercised by Jagirdars and personal interest over these lands by the local inhabitants has led to an over-exploitation and illegal appropriation of common lands thus reducing their productivity. The existing management does not have necessary will to impose grazing taxes, compel members to contribute for the development and reinvestment. Even the harvest, lopping and cutting of trees by panchayat management is commonly given on sub-contracts. These sub-contractors having an eye only on profits do not reinvest anything for development of common lands. It result in accelerated degradation in productivities of these lands. Menace of encroachment upon common property lands by influential individuals or groups has in recent past been increasing at an alarming rate (Jodha, 1985). The age old practice of maintaining commons by community action gave way to ad-hoc piece meal work funded and managed by government (Jodha, 1985). Even state government has allocated meagre funds for soil conservation and forestry development for the region during 1962-1983 (Anantharam, 1989). Besides, any authority exercised by the management for implementing laws for protection and development of commons is fraught with danger of losing the next elections. Thus the elected bodies are usually wary of imposing strict authority for management of commons and at times their members are also a party to exploitation of common lands. As a result the productivity of common lands are usually lowest resulting into accentuation in deterioration in common community lands.

Local Government : decisive role

There are ample evidence and studies to show that livestock rearing in arid region of Thar in India is loosing its traditional economic edge. One of the main reasons for this is deteriorating productivities of common lands due to various socio-economic and political factors prevailing particularly after independence of the contry. In such a scenario only a responsible local government panchayats in arid regions of Thar can save common lands from total ruination and contribute to regeneration of commons. Thus in the wake of paramount importance of livestock enterprise to the economy of the region the role of local self government in regeneration of commons community lands become imperative. Even the 1993 Panchayat act has failed to address the problems and difficulties faced in commons of arid areas in Thar. The public intervention measures often ignore the CPR dimension of the grazing lands. Unless the institutional problems are given due importance, the technical solution based on reseeding of range lands and cross breeding of cattle and other livestock species may not help (Jodha, 1985) for an economically viable and

sustainable harnessing of commons. However, specific action plans are suggested to be undertaken by government, in particular the local government. Any one of the action plans in isolation would not be enough for the regeneration of commons and increasing their productivities for sustaining the economy of arid region.

The specific action suggested are :

- (1) making available adequate supply of feed and fodder for livestock in the region particularly in times of lean periods. This will prevent excess use of commons and will help quicker regeneration during better periods of the year.
- (2) better and scientific regulations of cropping pattern which will necessarily include fodder production on marginal lands, and crops having higher fodder residues. This again means addition to supply of fodder in the region and less demand for produce of commons.
- (3) Scientific and planned efforts through involving various agricultural scientists and institutions for conservation and regeneration using various exoitic plants suitable for the region.
- (4) regulating and maintaining livestock population at an optimum level according to carrying capacities of commons in the area. Emphasis should be on improving quality of livestock.
- (5) regulating use of commons produce by imposing suitable users taxes. This on the one side will mean judicious use of commons and on the other it generates revenue which can be utilized back for regeneration of commons.
- (6) efforts be made to restore the social checks and values prevailing in traditional society (minus the feudal exploitaion) to encourage individual voluntary participation from inhabitants.
- (7) usefully involving NGOs and other institutions for funding and making available experts.
- (8) diversification of economic activities in the region, particularly based on livestock product processing etc.
- (9) central and state government should provide initial funds and experts to panchayats for developing initially a part of commons. The revenues generated from these may later on be utilized by them for futher development and conservation of commons.

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