CAMEL REARING

A HOPE FOR THAR DESERT FARMERS

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India is a highly populated country with many states/ UT's with 81 regions having their varying regional perspective. The total population that nears 1000 million with 50% females among them, with 46%

people is between the age group of 19 yrs and 60 yrs i.e they are eligible to be in employment. But the opportunity of organised employment (salaried jobs) are limited to less than 3%. About 70% of country's population

is dependent on agriculture /animal husbandry. As crop fields are low in deserted land, because of recurrent drought the farmers of the Thar desert region rely heavily on livestock enterprises for their sustenance. Animal husbandry under such degraded lands can be successful only if the livestock are basically a stable protective resource having long term viability employment- absorbing capability and income generating capacity. The livestock

should be compatible with crop cultivation instead of competing with it for land and water resource. Camel rearing enterprise fits well with such requirements. The abbreviation of CAMEL may be expanded

as 'C' - Carrier, 'A' - Arid zone, 'M' - Multipurpose, 'E' - Ecofriendly, and, 'L' - Livestock. The Camel, "Ship of the Desert" uses various adaptive mechanisms for survival in the desert. In the dryland ecosystem camel

Camel in Thar desert

Photo by Author

rearing is regarded as a fairly resource for sustenance. The camel possesses many unique qualities, which make it distinctly superior to other domestic livestock in the hot arid desert and semi - arid desert ecosystem. The total world camel population is estimated to be 19.32 million of which India has of 1.03 million. Indian camel population is mainly confined to north - western states viz. Rajasthan, Gujrat, Haryana and Punjab (93.12 % of total Indian

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camel) with highest intensity of camel in eleven arid district of Rajasthan (70.13% of total Indian camel population). In India nearly 41.4 percent of the country's total landmass of 3.28 million sq. km falls in the category of arid (11.8%) and semi- arid (29.6%) zones. The camel is a useful component of desert ecosystem where the flora of usually marginal land can hardly meet the requirement of human food and energy. It is associated with social culture of the societies inhabiting in the dry lands. Marketing of camel is an important trade in the Rajasthan where it is widely used as draft animal. Camel carts continue to play a crucial role in the farm economy as a cheap mode of short distance transportation of different agricultural commodities. Since 85% of the gross cultivated area of the Thar region is nonirrigated, camel carts hold a significant potential for financing. Camel is associated with social culture of the societies inhabiting in the dry lands. Marketing of camel is an important trade in the Rajasthan where it is widely used as draft animal. Camel carts continue to play a crucial role in the farm economy as a cheap mode of short distance transportation of different agricultural commodities. Camel power for farming use is more economical than a pair of bullocks and in the sandy terrain the camel energy is not only cost effective but also profitable and remunerable. Rapid change in agroecological condition and industrialisation in the recent past has its impact on camel management practices. In order to obtain optimum profit from camel, it is essential to adopt scientific management practices.

The average family size of camel keepers ranges from 5 to 8 with overall average of 6.70 individuals. The overall

number of female members is more than male members. The literacy percentage varies from 26.22 to 32.11. Most of camel keepers are having maximum non- irrigated land. The overall average land holding was 29 to 32 ha/farmer (Non irrigated) and 15 to 17 ha/farmer (irrigated). Among the different categories, marginal farmer formed the major group (92.50 to 96.14%) and few progressive farmers (3.86 to 7.50%) are also there. National sample survey 1991-92 indicates that there are 62.8% marginal farmers and 17.8% small holders. It was observed that under village condition the female members of camel keeper's family devoted maximum time (81.85%) as compared to male members (18.15%) with day-to-day management of camel. The major crop of kharif season are Guar, Moth, Bajra, Mung, Til etc. where as under irrigated belt, the Rabi season's crops are Mustard, Chana, Wheat etc.

The ratio of camel to other livestock species in different villages of Thar districts was analysed. The camel to sheep & goat ratio was highest (1: 12.45), followed by cattle ratio (1:8.56) and buffalo ratio (1:0.31). The overall Camel and Herbivore ratio was 1: 21.36. Some experts have suggested that the population cattle, buffalo, sheep and goat should be reduced to the optimum level and that camel based livestock system should be encouraged in the periphery of deserted land. In that event there will, in all probability, be no loss to the land, food and milk production as camel will cause much less damage to the ecology than other livestock.

CAMEL REARING SYSTEM:

The overall average of dry fodder consumption of an adult camel was 6-7 kg/ day during daytime where as 5-6 kg/ day during evening time. The average time

spend in ranged land for pasture grazing varied from 6 hrs/day to 10 hrs/day. The frequency of watering was twice in summer and once in Rainy and winter season. As a special feeding farmers supplemented Molasses (300 to 700gm), oil mainly of groundnut / sesame (250 to 600gm), Alam (hydrated Aluminum potassium sulfate salt) (250 to 600gm). Occasionally ghee, methi, haldi are also offered to their studs, and breeding females and to their cart camel. The average number of services required for conception varied from 1-2. Common breeding season / rutting months is from December to March.

The overall average annual ploughing by camel was 30 days during kharif and Rabi season each. It depends on land holding of camel farmers. The overall average of utilisation of camel in ploughing was 8-10 hr/day in Kharif season and 9-10 hr in Rabi season. In this Thar region average milk yield varied from 3 to 4 kg/day and the lactation length ranged from 8 to 11 months. The average annual hair yield in camel calves was found to be higher as compared to that of adult. The average hair yield for camel was 0.8 to 1.5 kg. Camel hair is used in village cottage industry for preparation of common utility items viz: rope, blankets, floor rugs, bags and mattresses etc. The handicraft articles made up of camel hair, provide work to rural women in the field of grading of hair, tops preparation, spinning of hair, weaving, embroidery with 100% specialty hair and blending with sheep wool, goat hair, cotton and other products.

ECONOMIC ANALYSIS:

An economic analysis of agricultural production of camel keepers revealed that the per hectare average productivity of Guar (4.89 q/ha) was higher than Desi Moth (2.75 q/ha). The average cost of cultivation were

Rs 3200 /- per ha and Rs 2525 /- per ha for Guar and Desi Moth, respectively where as gross return from guar was higher (Rs 10758 /-) than Moth (Rs 5,775 /-). A similar trend was found in case of net return. Guar provides higher net return (Rs 7558 /-) than Desi Moth (Rs 3250 /-). Return per Rupee invested was higher in Guar (Rs. 3.36 /-) as compared to Desi Moth (Rs 2.29 /-). It is evident that due to higher production potential, increase market price and economic advantage guar cultivation for camel keepers is more profitable than traditional moth cultivation.

The analysis of economic return of camel keepers from animal husbandry revealed that the average return from cattle and Buffalo was 10 kg milk /day/ animal and from sheep was 2.50 kg wool/ year/ animal where as camel delivered return through carting. The average cost of rearing of camel (Rs 40 /-) was comparatively low as compared to cattle and buffalo (Rs 55 /-). The sheep were reared in zero input basis (mainly on kitchen waste / grazing land). The net return from cattle and Buffalo was high (Rs. 45/day/animal) as compared to camel (Rs 36/day/camel). The similar trend was observed in case of gross return. The gross return from cattle and buffalo, sheep and goat, camel were Rs 100/-/animal/day, Rs 213/- / animal/year and Rs 76/- /camel/ day, respectively. But finally return per Rupee invested was quit high in case of camel (Rs 1.90 /-) as compared to cattle and buffalo (Rs 1.82 /-).

MAJOR CONSTRAINTS OF CAMEL KEEPERS:

The first major problem of camel keepers is non-or less availability of fodder for feeding the camel due to shortage of common grazing lands. This problem intensified during lean period (March to

July). The second major problem is skin infection of camel. This is mainly due to Mange (*Sarcoptes scabiei*) infection and the third major problem is costly treatment of diseases of camel.

CONCLUSION:

The greatest advantage of this study is to create awareness among the otherwise

ignorant farmers regarding the usefulness of camel in drought prone hot arid Thar Desert. Though the income from the farm is low and the variability in income is high due to the constraining environment. But there is a sign of hope to explore the income through camel rearing that exists for turning the farmer's economy viable.

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that the various inputs required by the farmers should be provided at subsidized rates, while sufficient credit be made available to the sericulturists at reasonable interest rates. The Government agencies should develop a sound marketing system for silk cocoons and also provide remunerative rates so as to motivate the farmer towards undertaking the enterprise.

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effectively, however, users need to know a great deal about managing pests.

To determine the relative toxicity of any pesticide to humans, check the signal word given on the pesticide label. **Least toxic products** carry the signal word **CAUTION** on their label. Products with the signal word **WARNING** on the label are **more toxic**. The **most toxic** pesticides have the signal word **DANGER** on their labels. Signal words are not an indication of the potential for environmental harm. All pesticides, according to law, can only be used exactly according to label directions. The user must be sure about the label of any pesticide, when and where the label says they can be used and must follow

the instructions exactly as they are written.

Biological pest control is an acceptable and necessary part of modern agriculture. If today these nonchemical methods or Biopesticide are not as popular as chemical ones, it is basically due to lack of understanding of the host-pest-environmental relationships. Hence, there is an acute need for basic and fundamental research, which can provide backup technology for formulating ecological pest management programs for various pests. The necessity is being strongly felt in the third world countries as many of these non-chemical methods are simple, easy to follow and economical, with least fear of environmental pollution.