CAMEL CARTING SUPERIOR OPTION THAN BULLOCK CARTING IN DESERT

Dr. Champak Bhakat

As Thar desert land region is prone to frequent draught, the small and marginal farmers of this area depend on livestock enterprise for their sustenance because animal husbandry on such degraded land is successful. Livestock is 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 total world camel population is estimated to be 19.32 million of which India has 1.03 million.

In fact animal drawn carts continue to play a crucial role in the farm economy of the country as a cheap mode of transportation of different agricultural products. Actually, the livelihood of maximum cart owner is dependent only on this type of transport system. Animal carting provides gainful source of employments and a regular flow of income to the farmers and other deprived groups in society. The supplementary and complementary connection between the crop sector and draught animal add to the importance of maintaining draught animals. Agriculture and draught animal go side by side in boosting farming business into a profitable enterprise. Heifer Project International (HPI), a private non-profit development agency is assisting tribal minorities who seek gainful employment using camel for transporting agricultural and industrial products. There has been constant increase of camel driven carts even around big cities. Evaluation of IRDP in the arid lands has indicated that average increase in the income of the beneficiaries was one of the highest amongst people who has given loan for the purchase of camel and camel carts. In comparison to other livestock species camel remained neglected until this century when it draws attention because of its unique adaptive characteristics for survivability in the harsh conditions.

*Scientist (S.S.) and Incharge Camel Management Unit, National Research Centre on Camel, Bikaner - 334001, Rajasthan.

of the desert Eco-system. The camel "Ship of the desert" uses various adaptive mechanism rather than bullock for survival in the desert. For instance cattle in the central desert of Australia with daily temperature of 40°C were reported to have died without water in four days while camels survived for more than 15 days in the same environment. It has been estimated that a well-fed camel could carry some six months energy on its back while cattle are unlikely to have more than two-three months. Therefore, camel can tolerate high temperature, solar radiation and water deprivation and subsists on poor quality, thorny, vegetation. Since 85 per cent of the gross cultivated area of the Bikaner district is non-irrigated camel carts hold a significant potential for financing. Camel energy is not only cost effective but also profitable and remunerable. It is therefore, necessary to investigate the main features and economics of camel and bullock carting in order to know whether or not these animals are efficiently utilised by farmers and to find out the economic viability of both type of carting system in hot arid of Thar desert.

Salient feature of camel and bullock carting systems

In the arid district land is dune and soils are low in nitrogen and organic matter content. It is natural eroded by winds during summer and the crop yield are low and unstable. Some of animal keepers follow a trans migratory system of animal management. Animal husbandry in this region depends on the economic and social aspects of land use management. Animal drawn carting system is very much used in hot arid Thar region for all kinds of material transportation within the cities or from nearby villages to cities and vice-versa. Both type of animal keepers are using their cart to transport different materials viz. crop yields, grain bags, fuel wood, fodder, *bhusa*, water, gas cylinders, synthetic yarn and building materials etc. Camel rearing in Rajasthan is animal power for pulling a cart. Two-wheeled pneumatic tyre wooden cart is made up of sheesham, babool, neem, desi sagwan etc.

The average working life period of camel (14.50 year) is higher as compared to bullock (10.00 year) used under carting operation where as the average life period of animal drawn cart is almost same. Maximum farmers involve themselves for the carting operation in both cases. But few are also keeping some hired person by which they perform this operation. The average cost of camel cart is about 17 per cent high as compared to bullock cart. Maximum farmers prefer male camel (96.43 per cent) rather than female (3.57 per cent) for carting operation. The average working days in a year are almost equal in both type of carting system. The average working time hours/day for male cart camel is 9.25 and for female camel is 8.00 where as the bullock is 8.65. The average weight / load carrying by bullock cart (8.00 quintals) is quite low as compared to camel cart (14.5 quintals). Although a wide range of age of cart camel and bullock are used under both type of carting systems. The average daily total income from camel carting is estimated to be higher than bullock carting. The average number of grain bags transporting per round are double in case of camel carting (18.00) as compared to bullock carting (9.00) where as the average estimated carrying cost of each grain bag is quite less on camel cart than bullock cart. Most of the farmers are purchasing their draft animal as well as cart on cash payment followed by installment and loan basis. The camel cart covered maximum average distance (21.45 km) per day than bullock cart (14.85 km).

Economic analysis

The camel cart (Rs. 1800) requires higher interest on investment than bullock cart (1292). The depreciation on camel cart (Rs. 885) is also high as compared to bullock cart (Rs. 720) when the junk value of wooden cart is considered @ 10 per cent of average initial cost. The expenditures for insurance of camel (Rs. 449) is somewhat more than bullock (Rs. 298), when premium rate is considered @ 5 per cent of average initial cost along with overall service tax @ 5 per cent etc. The insurance charges for cart is estimated to be higher in case of camel (Rs. 147).

than bullock (Rs. 128). Here various subcomponents like basic value (Rs. 30/-), liabilities (Rs.5/-), one per cent of average actual value of cart along with five per cent overall service six, etc. are considered. The overall total fixed cost is high in camel carting (3331) than bullock carting (Rs 2438) due to higher initial investment.

(Rs.61345/-) as compared to bullock carting (Rs.47284/-). The profit is high in camel carting (Rs.21889/-) than bullock carting (Rs. 7971/-). The pay back period (PBP) is almost double in case of bullock carting (1.81 year) as compared to camel carting 0.91 year), where as the Benefit Cost Ratio (BCR) is 3/4 the time high in case of camel carting (1.55) as compared to bullock carting (1.20).

Conclusion

The different components of variable cost are considered on yearly basis. The repairing and maintenance cost of camel cart (Rs 1550) is high as compared to bullock cart (Rs. 1450), when various subcomponents like repairing of tyre puncture, replacement of tire and repairing/replacement of different body parts, etc are considered. The expenses towards yearly maintenance (feeding and health cover) to camel (Rs. 15330) and bullock (Rs. 14965) are used in the city area require to replace/change their shoe 1-2 times per month and yearly expenditure is Rs.800. The total variable cost is observed to be high in bullock carting (Rs 36929) then camel carting (Rs 36125) mainly because of that shoeing component. Shoeing is not require at all for camel due to its well adapted anatomical structure of foot pad. Camels have soft elastic feet with thick skin around which is good for travel in long sandy terrains. The total expenditure for camel carting is Rs. 39456/- and for bullock carting is Rs. 39367 which are almost equal. Total earning from camel carting is quite high

To ensure a regular income and sufficient food for farmers and better living standards, it is necessary to go for some other alternate which will provide more income and employment to the unemployment youth of farmer's family. Such enterprises include camel carting over the bullock carting. Camel holds practical values for cost effectiveness, sustainable, environmentally friendly and socio culturally acceptable. In fact camels are life line of the rural population in the remote village of Thar desert. The idea of sustainability of agriculture and livestock production revolves around better utilisation of time, money, resource and family labours of the farmers. Due to short pay back period and higher benefit cost ratio camel carting is profitable and advantageous over the bullock carting for small dry land farmer.(IA)