Pak. J. Agri. Sci., Vol. 45(2), 2008

TRENDS AND POTENTIAL IN DAIRY PRODUCTION OF BALOCHISTAN PROVINCE

M.A. Kakar, A. Raziq, K. Masood ul Haq and M. Faqir
Livestock and Dairy Development Department, Balochistan, Spinny Road, Quetta

Due to many factors, milch animals generally produce lower than their potential in Balochistan. The buffalo though small in number, is confined to canal-irrigated districts of the province while the indigenous cattle have lower milk production potential. On the other hand Balochistan has a success story in the acclimatization of pure breed of Friesian and establishment of Friesian crossbred animals all over the province by employing the artificial insemination techniques. Still the demand and supply gap of milk is very wide and many factors are considered to be responsible. The main constraints of transforming the traditional low producing dairy farming into high producing entrepreneur includes the lower or unexploited genetic potential of local breeds, no proper incentive from the government, lack of feed and water resources, small herd size, scattered nature of the farms, lack of the skilled hand in this field, poor health facilities and poor milk channelization in the province. Conventionally, many efforts have been launched to improve the situation but those neither gave better results nor sustain due to their faulty designs. The public sector infrastructure and institutional base needs to be strengthened and reorganized to meet the emerging needs of the growing human population in the province. The untapped potential breeds of camel and goat can also play an important role in provision of milk if properly utilized. However, so far no serious attempts have been made in this regards. The current situation of dairy and milk processing in Balochistan demands a review of the whole system and could be a blessing in disguise to correct the situation for future dairy development in the province.

Keywords: Milk, cow, buffalo, dairy production, artificial insemination, Balochistan

INTRODUCTION

Balochistan is the largest province of Pakistan; which makes about 44% of the total geographical area of the country. However, only 4.9% of the national population lives there. Most of the area is rangelands with only 5% arable. The livestock sector is very important with the province housing about 20% of the national stock. However, with the little manufacturing and under developed infrastructure, the province economy lags far behind than other part of the country (FAO, 2002). The nature has blessed this province with the diversity of animal genetic resource and moderate rangelands. The livelihood of about 80% of the inhabitants of the province relies directly or indirectly upon the activities related to this commodity (Wagenaar et al, 1997).

The total milk produced, cannot fulfill the milk requirement of the people of the province. The demand will be even greater than the population growth rate and rapid urbanization (Kakar et al, 2004). This gap between the demand and the supply can only be filled by the improved productivity (Afzal, 2003). A huge amount of milk is being produced in the far flung areas, which hardly reach to the consumers on as such basis, and the milk quality is being deteriorated. A reasonable amount of the milk is being converted in other products like ghee etc. A better collection system is must, and should be the top priority, so that the milk can be bring in the main streams of food chain which is otherwise not being utilize properly (Raziq, 2006). The production per milch animal is less due to the poor feed quantity and quality, lack of breeding and managemental skills, poor veterinary cover and lack of government interest. We have to fulfill the feed demand of our animal and to inform and educate the farmers for the exploitation of the actual worth of the animal. The other area, which needs special attention of the policy makers, is to improve and extend veterinary services to village level effectively. Again, due to scattered livestock herders in the villages, they should be organized in specific areas on community participation approach basis.

We must consider the untapped animals like camel and goat in the province. Both type of the animals are good milk producers but yet untouched for this purpose. In the remote areas of Balochistan the camel, goat and sheep milk forms the major part of the total milk produced. Dromedary camel in the province is one of the best milk producing camel of the world, with an average milk yield of 4179 liters per year. Average length of the lactation varies from 270–540 days. As much as 22 liters of milk were daily obtained from a few camels. Camel has the ability to produce milk under extremely harsh desert environments. While under normal pastoral conditions when water is plentiful, a good camel milkier can yield 20-40 liters of milk per day. By exploiting camel milk we can minimize milk shortage during hot summer season when the cattle and buffalo go under stress because of extreme hot waves and shortage of fodder.

Dairy Sector in Balochistan

The province of Balochistan possesses approximately 2.3 million heads of cattle and about 300,000 buffaloes (Table 1). The Red Sindi cattle found in the adjoining area of Sind province is an ideal dairy animal locally, but it has not been propagated in other parts of the province due to aridity other problems. Other two breeds of cattle namely Bhag Nari and Lohani are draught purpose and low milk yielder. Besides non descript cattle, there are now more than 5000 heads of purebred exotic European dairy type animals and about 150,000 crossbreds, the result of natural breeding or artificial insemination of indigenous non descript cows with these European breeds (Ahmed, 2003). Except some areas sheep and goats milk too is not available for market except meeting the domestic demand of livestock farmers especially due to nomadic nature of farming and seasonal milking period. Balochistan province does not possess any buffalo breed except off-shoot of Kundi buffaloes of Sindh and canal irrigated districts of Jaffarabad and Nasir Abad. Other buffalo population comprises peri-urban units in almost all towns of the province to meet demand of milk of urban population and according to 1996 livestock census consists of 161,000 heads but it then reduced to almost 100,000 heads due to long drought period (Wahab, 2002; Shafiq and Kakar, 2007). These buffaloes are usually of Kundi breeds of Sindh and Ravi-Nilli of Punjab. These buffaloes in milk are purchased from Sindh and Punjab on high prices. When these animals go dry these are usually sold for slaughter or are sent back through brokers to canal irrigated areas of Sindh or Punjab

Peri-urban commercial milk production has developed rapidly in recent years in response to growing urban milk demand in the province in general, especially in Quetta. There are more than 500 commercial peri-urban dairy units in Quetta town and its suburbs stretching from Kuchlak to Sariab with strength of more than 25,000 buffaloes and 5000 cows besides house hold dairy animals which also far exceed those maintained by the commercial units to meet domestic needs. There are as big commercial units as having even 500 to 600 buffaloes each. These animals are milked twice a day manually and raw milk sold mostly through dealers, vendors and milk shops with whom annually/six monthly agreements are made. There is not a single unit possessing milking parlous or milk cooling facility in and around Quetta rather whole of the province. Thus raw and un-chilled milk being favorable and good media for growth of bacteria gets deteriorated on one hand and becomes source of serious diseases like typhoid, T.B and cholera to human beings.

Table 1. Showing the livestock population from 1955 to 2006 in Balochistan province

Animal Specie	Pakistan Livestock Census-1955-2006						
	1955	1960	1972	1976	1986	1996	2006
Cattle	0.295	0.643	0.482	0.684	1.157	1.341	2.253581
Buffaloes	0.026	0.026	0.022	0.033	0.063	0.161	0.319854
Sheep	1.157	2.564	3.859	5.075	11.111	10.841	12.804217
Goats	0.702	1.596	3.238	4.441	7.299	9.369	11.784711
Camels	0.070	0.086	0.185	0.212	0.349	0.339	0.379528
Horses	0.014	0.010	0.019	0.023	0.029	0.043	0.059973
Asses	0.061	0.099	0.171	0.244	0.370	0.383	0.471942
Mules	0.002	0.004	0.001	0.001	0.004	0.006	0.006256
Poultry	0.283	0.454	1.183	1.958	3.295	4.637	5.911304
TOTAL	2.610	5.482	9.160	12.671	23.677	27.120	33.992

Source: Livestock Census Report, 2006

Role of Livestock and Dairy Development

Livestock and dairy development department of the province provides good service to the farmers in the form of veterinary cover, vaccination and artificial insemination. The artificial insemination fortified the non-descript animals with the high potential blood of the European breeds. The following graphical presentation predicts the annual progress in the artificial insemination. Quetta and the adjoining districts are in the leading position in AI because of the demand for high milk producing animals to coup with the increasing demand in the milk for the urban dwellers.

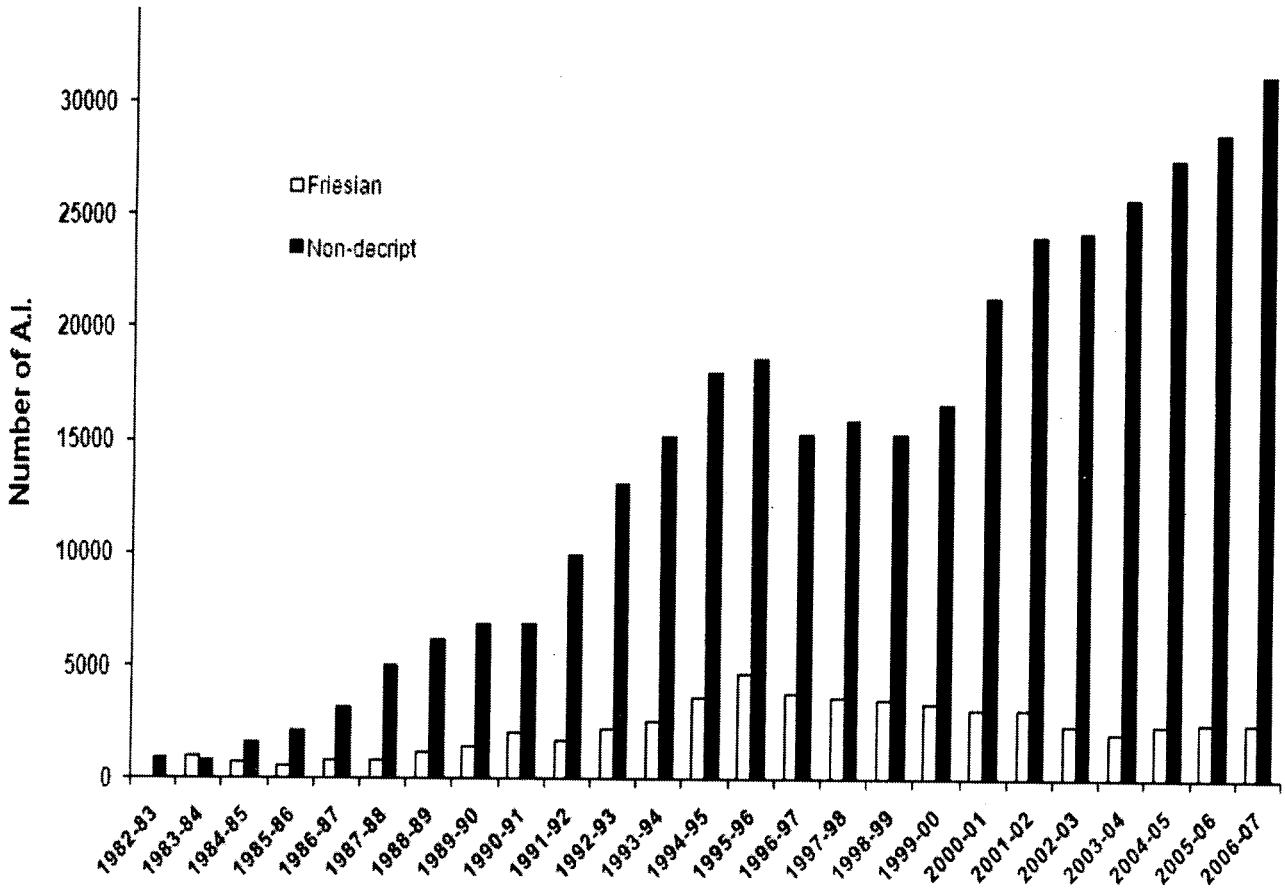

Figure 1. Showing the A.I performed from 1982-2007 at different A.I. center in Balochistan

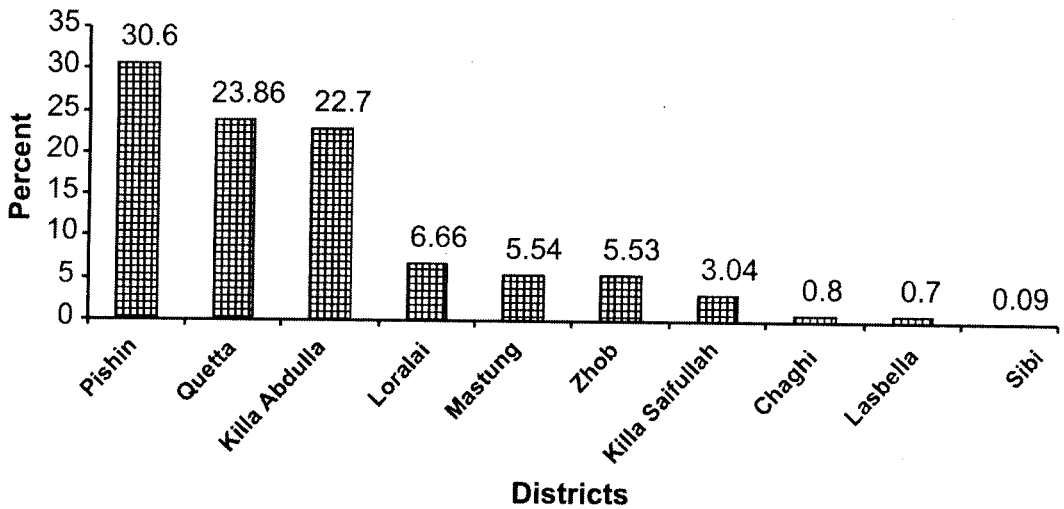

Figure 2. Showing the extensive A.I districts of Balochistan province

Future Prospects of Dairying

Balochistan has a large livestock population well-adapted to the local environmental conditions, feed resources and production systems. However, productivity per unit animal is low. Low productivity is generally attributed to low genetic potential of a vast majority of animals, poor nutrition and inadequate health cover.

It is anticipated that demand of milk would increase in Quetta and Gawader markets at the rate of 10 to 15 percent annually in view of income elasticity, awareness for using better and hygienic milk products and less supply of such milk products to Quetta during summer as the plants operating in Punjab are not capable enough to meet local demand. The distributors have informed that their supplies are almost drastically reduced to 40 to 50 percent by such plants during summer, thus leaving big gap in Quetta market. Considering and appreciating ever increasing demand of milk, the private dairy farmers are increasing the strength of their farms by putting more milking animals, using modern techniques of breeding like Artificial Insemination and better semen besides establishing new farms. Even some progressive farmers have introduced machine milking to produce hygienic milk and tide over the shortage of milkmen due to their heavy demand of salaries with other incentives and concessions.

SUGGESTIONS

Short term strategies of improved nutrition and disease control, productivity can be increased by approximately 50%. Genetic improvement offers the greatest potential in long term as genetic gain in productivity is permanent provided that properly planned and executed.

We must consider the untapped animals like camel and goat in the province for milk production. Camel and goat is efficient milk producer and produce under the low input system of the rangelands conditions. They had the ability to produce milk under extremely harsh desert environments. While under normal pastoral conditions when water is plentiful, a good camel milkier can yield 20-40 liters of milk per day. By exploiting camel milk we can minimize milk shortage during hot summer season when the cattle and buffalo go under stress because of extreme hot waves and shortage of fodder.

Sizeable chunks of state land be reserved for livestock grantee farms in command areas of Mirani Dam, Patfeeder and Kachhi canal to produce pure bred livestock. Similarly suitable areas should also be reserved as Salvage Cattle/Buffalo Farms to save precious stock from being slaughtered when these animals no longer produce milk and owners find it difficult and expensive to maintain dry animals in cities and towns till they are again impregnated.

We can improve the milk production by adopting the modern breeding principles and practices. The Government Cattle Farms could be exclusively made responsible to produce elite cattle bulls to use for AI. The non-descriptor bulls must not be allowed for breeding. Similarly the non- descript cattle breeds should be improved by cross breeding with qualified indigenous and exotic semen to produce properly identified and registered F1 animals. All males born calves in this cross breeding be castrated at young ages and raised for beef.

The other area, which needs special attention of the policy makers, is to improve and extend veterinary services to village level effectively. Again, due to scattered livestock herders in the villages, they should be organized in specific areas on community participation approach basis.

REFERENCES

Afzal, M. 2003. Livestock and its role in poverty alleviation. Farming Outlook January-March, 2003. pp.6-8.

Ahmed, El Aish. 2003. Livestock production systems & rangelands in Balochistan. Consultancy Report. FAO.

FAO. 2002. Facts Files. FAO, Rome, Italy.

Kakar, M.A., S. Babar and M.A. Bajwa. 2004. Reproductive biotechnologies and their future in Pakistan. Int. J. Agric. Biol. 6(4):723-731.

Livestock Census. 2006. Government of Pakistan, Lahore.

Raziq, A. 2006. Milk as food security in Pakistan. The Veterinary News and Views Faisalabad. 1(13): 5.

Shafiq, M. and M.A. Kakar. 2007. Effects of drought on livestock sector in Balochistan Province of Pakistan. Int. J. Agric. Biol. 9(4): 657-665.

Wagenaar J.P., F. Muhammad, S. Hassan, A. Rebaz and A. Wahab. 1997. Final report on migratory livestock and the marketing system in Balochistan. National Management Consultants (Pvt.) Ltd.

Wahab, A. 2002. Research paper on drought in Balochistan, Livestock Department, Government of Balochistan, Quetta.