



Continuing Education Article

Prospects of Livestock Production in Balochistan

A. Raziq*, M. Younas¹ and Z. Rehman

Livestock and Dairy Development Department, Quetta, Balochistan; ¹ Faculty of Animal Husbandry, University of Agriculture, Faisalabad, Pakistan

*Corresponding author: raziq2007@gmail.com

ARTICLE HISTORY

Received: October 02, 2009

Revised: June 23, 2010

Accepted: June 25, 2010

Key words:

Livestock species

Balochistan

Animal genetic resources

Socioeconomic change

Global warming

ABSTRACT

Balochistan is the largest province of Pakistan and makes about 44% of the total geographical area of the country. Most of the area is rangelands with only 5% arable. Animal agriculture is centuries old occupation of the people of Balochistan. Livestock are one of the major important sectors of the province having about 20% of the national stock. However, with little manufacturing facilities and under-developed infrastructure, the provincial economy lags far behind other parts of the country. This is the cradle of many precious livestock breeds and livestock make an important part of the socio-cultural and socioeconomic survival of its inhabitants. The biodiversity of animal genetic resources plays very pivotal role in the economy of the province and each breed has its own uniqueness and socioeconomic importance. The exact value of such precious animal genetic resource has never been realized as yet and no serious steps have been taken for its improvement. It is the utmost need of the time to rethink on the policies relating to livestock production in the province while keeping the needs of the growing population, socio-cultural change and the global warming issues in mind.

©2010 PVJ. All rights reserved

To cite this article: Raziq A, M Younas and Z Rehman, 2010. Prospects of livestock production in Balochistan. Pak Vet J, 30(3): 181-186.

INTRODUCTION

Livestock production is an important part of the economy of Pakistan, as it provides the high quality food for the human population. Balochistan is the largest province of Pakistan and the major occupation of its inhabitants is livestock rearing on the communal and free/open access rangelands. Though the province makes 44% of the total geographical area but has only 5% arable land. The livestock sector in this province is very important, housing about 20% of the national stock (FAO, 2002) and shares the largest part of the rangelands in the country compared to other provinces (Fig. 1). This province is the cradle of many precious livestock breeds and livestock is the part of the socio-cultural and socioeconomic existence of its populace. The exact value of this precious animal genetic resource has never been realized, and no serious steps have been taken for its improvement, which resulted in stunted growth of livestock sector. It is the utmost need of the time to critically review the previous policies relating to livestock production while keeping the requirements of the growing

population, socio-cultural change and the global warming issues under consideration.

Balochistan largely has arid and semi-arid lands with hyper-arid climate (desert). It is the largest province of Pakistan with a landmass of 348,189 Km². The annual rainfall fluctuates with the time, season, topography and ecological regions. The rainfall varies from 50 mm in coastal areas and Chagai district to 400 mm in the North-Eastern parts of the province (GOB, 1999). Such an unpredictable and scanty rainfall had led the pastoral people of the province to develop highly adapted livestock and plant species. Major portion of the province depends upon natural precipitation, except Nasirabad and Jaffarabad districts having canal irrigation system. This implies that 93% area of the province comprises rangelands, of which just 28% are considered fair to good for livestock production, hence, barring some portions of upper and lower highlands in northeastern part of the province having best ranges of the province, which support 76% of its livestock. The southern plains with big land mass have the poorest ranges, which support only 24% of the livestock population (Nagy, *et al.*, 1991). Such situation has resulted in low carrying capacity of the

rangelands and cannot support livestock round the year, necessitating seasonal migration of nomadic and semi-nomadic graziers. Sheep make the major portion of livestock population, followed by goats, cattle, donkeys, camels and horses.

Majority of the human population reside in rural areas and their social structure is based on tribal system. Each tribe and community has its own habitat with specific characteristics, which drives the needs of the people and characterizes the breeds of the livestock species. The province thus possesses a wide variety of animal genetic resources with diverse characteristics that enable these breeds to live in the hard and arid environment of the province. These breeds are versatile, highly adapted to their relevant environment and are used as a means to provide healthy and continuous food on one hand and to combat growing desertification and global warming on the other hand (Table 1). Table 1 also indicates the multipurpose role of animal genetic resources in Balochistan. It is the utmost need of the time to give a SOS (save our soul) call to save such a valuable animal biodiversity along with its habitat, ecosystems and the keepers of these breeds. Livestock keepers developed and evolved these breeds in the long and hard days of the history and pooled the genes of their liking and needs in the form of livestock breeds. Hence, any policy making without sharing the views of the livestock breeders will be void of the ground facts and realities and will not be fruitful like the previous efforts done in this regard.

Table 1: Multipurpose domestic animals produced in Balochistan

Type of animal	Produce				
	Draught	Wool/Hair	Milk	Meat	Fat
Camel	+	+	+	+	+
Horse	+	-	-	-	-
Sheep	-	+	+	+	+
Goat	-	+	+	+	-
Cattle	+	-	+	+	-
Donkey	+	-	-	-	-

Adapted from Raziq (2008).

Many constraints and problems exist which adversely affect livestock production trends and had never been addressed accordingly. In majority of the cases, the

flock/herd size in the province is small and its keepers are poor, uneducated and unskilled in the context of modern livestock production scenario prevailing globally. It must be very clear that we can't make place in the global livestock-marketing set-up on per unit productivity basis. No doubt, our herd size is small, productivity per animal is low, resources and facilities are scarce but our farmers produce environment friendly organic livestock products. It would be better if we struggle for getting a position in the global livestock business as producers of livestock being fed organic food, rather to stress on increasing per unit productivity or increasing livestock numbers and crossbreeding our national genetic resource with the exotic breeds which are prone to diseases in our environment. The productive and reproductive efficiency of exotic breeds in our environments is low and the medical and managerial cost is very high. High amount of foreign exchange is involved while importing high yielding exotic animals or their semen. Their adaptability and fulfilling their other requirements is another dilemma.

Though the local livestock are low yielding but they produce quality products in a very low input system. Their requirements are minimal and they survive in the hard dry environment of the province.

Status and trends of livestock

Except buffaloes and crossbred cattle, all other livestock depend upon the rangelands. These ranges produce far lower than the actual potential, and do not fulfil the dietary requirements of the livestock. The worst situation is in the Southwestern parts of the province, while the northeastern part is comparatively better. Poor grazing conditions of the ranges are one of the major causes of the low productivity, hence the animals are prone to many contagious diseases and worm infestation. Only improving the range vegetation on the modern lines can bring an abrupt and basic change in the production level of the livestock. The recent past drought badly affected the productivity of rangelands and that of numbers of livestock. Though, the requirement of local livestock is low but the number still far outstrips the actual carrying capacity of the rangelands, which have 6 to 7 times more pressure than their carrying capacity (Table 2).

Table 2: Annual feed requirement of range livestock of Balochistan

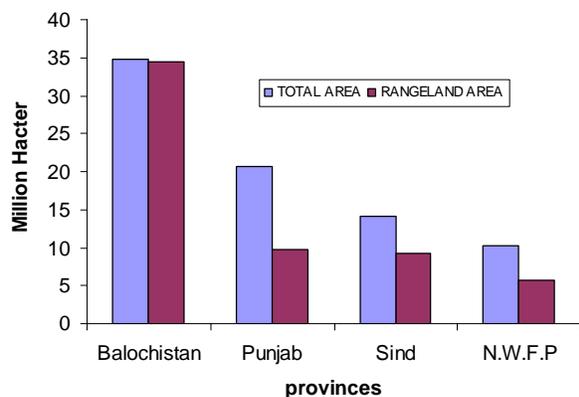
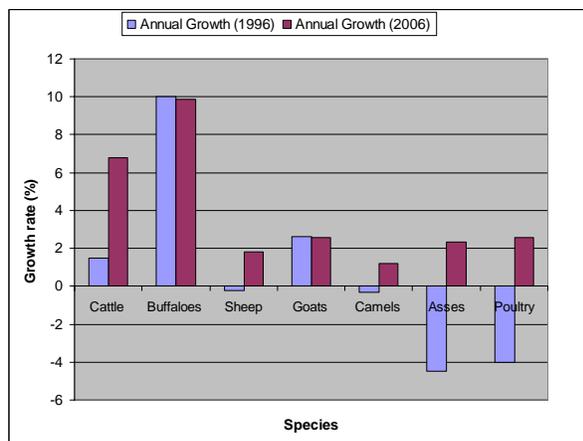
Species	Population (Million)	Livestock unit equivalent	Livestock unit* (Million)	Annual feed requirement (M Kg)*	Feed share by ranges (%)	Feed requirement obtained from ranges (M Kg)
Cattle	1.1	0.90	1.0	3000	40	1200
Sheep	11.1	0.07	0.7	2100	90	1890
Goat	7.3	0.06	0.4	1200	95	1140
Camel	0.3	0.80	0.2	600	95	570
Donkey	0.4	0.40	0.2	600	95	570
Horse	0.03	0.90	0.03	90	10	9
Total	20.23	--	2.53	7590	--	5379

Source: Developed from Livestock Census 1986, GOP & FAO Reports (1983).

* Animal requirements are calculated on the basis of dry roughages @ 3% of live weight.

Table 3: Livestock population from 1955 to 2006 in Balochistan (millions).

Animal species	1955	1960	1972	1976	1986	1996	2006
Cattle	0.295	0.643	0.482	0.684	1.157	1.341	2.253
Buffaloes	0.026	0.026	0.022	0.033	0.063	0.161	0.319
Sheep	1.157	2.564	3.859	5.075	11.111	10.841	12.804
Goats	0.702	1.596	3.238	4.441	7.299	9.369	11.784
Camels	0.070	0.086	0.185	0.212	0.349	0.339	0.379
Horses	0.014	0.010	0.019	0.023	0.029	0.043	0.059
Asses	0.061	0.099	0.171	0.244	0.370	0.383	0.471
Mules	0.002	0.004	0.001	0.001	0.004	0.006	0.006
Poultry	0.283	0.454	1.183	1.958	3.295	4.637	5.911
Total	2.610	5.482	9.160	12.671	23.677	27.12	33.991

**Fig. 1: Area of rangelands in each province of Pakistan (Source: FAO, 2002).****Fig. 2: Comparison of annual growth rate of livestock in Balochistan during two decades (1986-1996, 1996-2006).**

In spite of many constraints, livestock are still considered as a bank on hooves and can be converted into cash in the case of crop failure, for the purchase of food and other household requirements. A family without livestock is considered to be the poorest. Other than their land, it is the last item that a family can sell.

Ownership and production system of livestock in Balochistan fall into four categories, viz; nomadic, semi-nomadic, sedentary and household. The ranges of the province fall under two types of property regimes: common property rangelands, and open access rangelands. Tribes with customary institutional arrangements traditionally own common property rangelands for their

sustainability and effective management, as is being practised in Zhob, Killa Saifullah and Musakhel districts of the province. Open access rangelands have unrestricted grazing and are usually in poor condition. These rangelands have been increasing in area, as common property rangelands have undergone degradation and have been abandoned by their owners.

Table 3 presents the trend of livestock population in Balochistan province (Kakar *et al.*, 2008). The population of small ruminants in Balochistan (sheep 12,804,217; 48 %) and goats (11,784,711; 22 %) is still a significant portion of the total population of small ruminants in the country according to latest livestock census (ACO, 2006). It shows an enormous increase from previous census of 1996, where sheep population was 46% of the total population of the country.

Growth rate of various livestock species in Balochistan during two decades is shown in Fig. 2. A continuous increase in the population of buffaloes can be attributed to the establishment of more peri-urban dairy units in different towns of the province. The stock for such peri-urban dairy units is brought from provinces of Sindh and Punjab. Encouraging trend of increase in the cattle population seems to be due to popularisation of crossbred cows among farmers which is the result of programme for upgradation of indigenous nondescript and low yielding cattle through cross breeding (Artificial Insemination) by introducing blood of exotic high yielding milch breeds by the Provincial Livestock Department. Nominal rather static growth in the population in pack animals like camels and donkeys reflects the increasing use of modern transport. Presently, a small increase in sheep population as against negative growth during previous census of 1996 is due to more demand from consumers for animal protein. The people give good attention to sheep farming because of high prices of sheep and its docile nature. In spite of the deteriorating condition of rangeland vegetation, there is a constant increase in the number of goats which probably is due to the fact that goats can better withstand the feed shortage and are not selective browser like sheep.

Challenges and constraints

There are a number of constraints that affect the productivity of animals in the province, including diseases, scarcity of vegetation on ranges and poor marketing facilities. The policies relating to livestock are not always friendly and the pastoral people had never been kept in view while making policies about their livestock. In most of the cases, the experts who make the

policies, do not know about the actual scenario and nature of livestock production. No institution has been established for the livestock farmers, where they may either be trained according to the modern changes or their experience can be shared with the urban experts. One of the most important constraints in livestock production has been long lasting drought during 1994-2004 that caused feed scarcity. This scarcity badly affected fertility, weight gain of animals and caused diseases and production losses. It also increased cost of production and decreased breeder's interest. There are a number of technical, traditional, marketing and financial constraints to animal production. Some details are presented in the ensuing lines.

Production constraints

The basic and radical constraint of livestock production (mainly ruminants) is the scarcity of vegetation. The ranges are already depleted and overgrazed, and deforestation and uprooting of the range vegetation is taking place fastly.

As a consequence of last drought, when the animals of the small farmers were perished, they started cutting the range vegetation to earn their daily needs. There is a fear that the situation will be worst in the coming decades. Rare research has been conducted on the improvement of rangelands and there is no research facility on fodder and other feed resources in the province.

The livestock production in the province is subsistence in nature and the number of animals with majority of the livestock producers ranges from 20 to 50. Hence, improvement on per head basis is difficult.

Lack of breeding policy is another major issue in livestock production in the province. A livestock policy has been chalked out in the recent years for the country but it does not have any legal binding. Livestock breeding issues and animal genetic management has been the core issue of animal agriculture at international forums in the recent years. It is globally accepted that local breeds are the building stones and the precious animal genetic resource that must be judiciously maintained.

The milk demand of the urban and semi-urban (large villages near the towns) dwellers is usually fulfilled by the peri-urban milk production system; buffaloes and the crossbred cattle are used for this purpose. Foot and mouth disease and low reproductive efficiency are the major constraints of crossbred cattle, while silent heat and the arid environment are the major problems of the water buffalo brought from Sind and Punjab provinces.

Marketing constraints

The milk prices are very low in the urban area. Majority of the urban dwellers are not quality conscious because of the low income and other reasons. The milk is adulterated and sold at cheaper rates.

Controlled prices of milk and meat are another dilemma of the livestock marketing. The Municipal authorities fix the prices without keeping in view the production cost.

The traditional butchers produce the skins and hides without any care for their quality. No proper tools and techniques are being used while removing the skins/hides. Cuts and other aberrations deteriorate the quality of the

skins/hides which do not fetch good prices (Mahmood and Rodriguez, 1991).

Livestock products like hair, wool and skins/hides have never been declared as niche products, which fetch very good prices internationally and are used as a tool for the conservation of the breeds and lifestyle of the producers of livestock.

Lack of infrastructure facilities in livestock marketing is one of the major issues of livestock business. Animals are still sold in the open area locally known as Ganj. There are no weighing, watering, feeding, shelter and health facilities in the Ganj (Raziq *et al.*, 2008).

Lack of value addition facilities to make livestock a more profitable enterprise is an important issue. In the international scenario, livestock products are value added and very precious products are produced, keeping in view the liking and eating behaviour of the people. Some flavours and colours are added to improve their preferences for consumption. The goat and camel milk with value addition has high demand in international markets.

Institutional constraints

Poor planning due to deficiencies in data and untrained staff and lack of coordination between the livestock keepers and the experts are big constraints for livestock development. The policies are planned in the cities while the needs of the farmers are not kept in mind.

Poor animal production extension programmes are lethal for the livestock production. Policies are applied without taking feed back from the farmers. Usually, the extension workers belong to the urban masses and do not know how to negotiate with the rural people and most of the time they consider the livestock producers as third grade citizens having very poor knowledge about livestock.

Animal breeding is the main driving factor of the livestock policy. There is no institution in the province to undertake research on the breeding issues of the local breeds. In fact, livestock improvement is only possible through improvement in the feeding and breeding of the stock and there is no institution to effectively handle these issues in the province.

Farmers training facilities are rare in the province and the institutes for the technicians mostly lack knowledge about the production issues of livestock. The technical staff is trained only for animal health services and there is no training for the breeding, feeding and management aspects as well as production extension services.

Livestock keepers are usually neglected while making any policy and they are rarely granted with credits for uplifting their enterprises. Due to inactive role of credit institutions towards small livestock farmers, the credits are granted to the influential people, discouraging the real stockmen.

There is lack of coordination with crop extension services in fodder production and forestry people in the development and management of rangelands (FAO, 1987). Rangelands are in the control of Forestry Department and there is no coordination between the Livestock & Dairy Development Department and Forestry Department. The Forestry Department makes policies for

the rangelands development and livestock issues are rarely addressed in their policies.

Potentials (revenue and employment)

Raising livestock is one of the major activities and economic sources of livelihood for people living in the rural areas of Balochistan. A significant portion of national livestock population, particularly small ruminants, is reared in this part of the country (sheep 48% and goats 22% of the national flock). About 75% people of the province are dependent on agriculture and livestock, mixed farming being only sustainable (ACO, 2006).

Livestock provide the best quality food in the form of animal products like milk, meat and eggs. They also provide motive power for farm operations and transportation, especially in the poor infrastructure parts of the province.

Wool, hair, hides, skins and numerous other animal bi-products also fulfil the needs of mankind. The manure produced by the livestock makes an important contribution to the maintenance of soil fertility.

Livestock by-products form precious components of foreign exchange earnings through export of wool, carpets and leather products in addition to cottage industries within the country and a huge set up of market chains.

Animals are also considered a financial security and can be converted into cash by selling a few animals to purchase food and other household requirements in the case of crop failure. Animals are also used for bridal dowry, to pay debts and to meet several other emergent situations.

Contribution of livestock sub-sector to the economy in Balochistan far exceeds other sub sectors of agriculture. Livestock contribute more than 50% towards agriculture share in the provincial economy, which in turn occupies about 52% share in the provincial Gross Domestic Product (Pakistan Economic Survey, 2007-08).

Livestock sector, an attractive avenue for investment

As discussed earlier, though per head productivity of our livestock is low compared to the commercial livestock breeds but their products are quality rich and organic in nature. In most of the cases, various types of livestock in the province graze on natural vegetation, which have the medicinal peculiarities, for example camels browse the saltiest (*Halloxylon spp*) and bitter taste (*Artemisia spp*) plants (Noor, 1989). Our livestock products are health friendly and free of any drug residues and thus can attract more consumers from the European countries and Middle East, where the people are highly health and quality conscious.

Meat is the major product of local livestock breeds and possibly may be used as the largest enterprise of the livestock industry in the province. Bibrik breed is the major mutton producing breed of sheep in the province and its meat is highly appreciated by the consumers for its taste and tenderness. In this connection, establishment of a modern slaughterhouse at Rakhni for slaughtering and processing organic sheep meat for export can be a good source of investment for the investors. Rakhni is the centre of the Bibrik sheep producing area and is the main market. It is well connected by roads to the adjoining areas of Kohlu, Barkhan, Musakhel and Zhob, which are

the main habitat of Bibrik sheep. The same area is the homeland of Kohi camel, hairy goat and Lohani cattle, which are also the potential sources of quality meat.

International trend of trading 'Halal' foods especially the meat and its increasing demand in Muslim countries offer a good opportunity. Balochistan possesses good prospects of entering into this trade. With global demand for livestock products, which is rising rapidly, the market for such foods presents exciting opportunities. This is a sector for our investors and needs to be looked into closely.

Production of beef and mutton and its export in the form of chilled carcasses to Kingdom of Saudi Arabia and other Gulf States has already been initiated by a few firms availing the facilities of Metropolitan Slaughter Houses at Lahore and Karachi during weekly meatless days. In Balochistan, a modern slaughterhouse is needed to prepare Halal meat for export purpose and it may be initiated in the Rakni area, which is the hub of Bibrik sheep marketing and one of the important production areas.

Establishment of a cottage industry on new lines is another attraction for the investors. Balochistan is the home of many coloured sheep breeds. The preference for naturally coloured wool products is increasing in international markets. So, establishment of cottage industry on the modern lines, keeping in mind the international demands, will be helpful for the improvement of sheep industry. Camel wool produced in the North Eastern Balochistan is of high quality and has never been used before for cottage industry. New products like camel wool yarn, wall hangings and other rugs made from the naturally coloured wool are playing a major role in the conservation of local breeds in international scenario.

Leather products have a good market internationally and Balochistan is the main source of producing skins/hides of small ruminants and also a corridor for receiving skins and hides from southern Afghanistan and southeastern parts of Iranian Balochistan via Taftan gate way. This industry can be a good source of earning for the investors and way of consumption for the raw material of leather. Earmarking suitable chunks of land in the command areas of newly built dams like Mirani, Subakzai and Kachhi canal for livestock farming as joint ventures bringing in foreign investment can be considered by the provincial or federal governments.

In spite of the above facts, financial resources available with the provincial and even federal governments are distributed among various other sectors such as irrigation, roads and communication network on priority basis. Livestock receives the lowest priority in resource allocation.

Conclusion

Balochistan province is the habitat of very precious livestock genetic resources, which can be used judiciously for the economic uplift of the province in general and the livestock keepers in particular. Such a valuable genetic resource is the building block to meet future needs and can be used to combat the growing desertification and global warming. Balochistan has a vast land in the form of ranges, which rightly support the animal agriculture. A good team of professional experts in various disciplines

and subjects including those from crop culture, irrigation, forestry and rangelands, academia, research stations/institutes at provincial and federal level be formed to study existing inventory of resources and prospects, keeping in view the international and national demand of the products coupled with employment opportunities. Steps may be taken to bring a radical change in the system and priorities and, of course, financial resources and to prepare policy guidelines for the provincial government. Such policy guidelines should serve as beacon light to all who matter in the affairs of the government.

REFERENCES

- ACO, 2006. Agricultural Census Organization, Government of Pakistan. Livestock Census. Statistics Division, Gulberg-III, Lahore, Pakistan.
- FAO, 1987. Pakistan's experience in rangeland rehabilitation and improvement. FAO, Rome, Italy.
- FAO, 2002. Facts files. FAO, Rome, Italy.
- GOB, 1999. Balochistan District Database. Planning and Development Department, Government of Balochistan, Quetta, Pakistan.
- GOP & FAO Reports, 1983. Developed from Livestock Census. National Agricultural Research Center, Islamabad, Pakistan.
- Kakar, MA, A Raziq, K Masood-ul-Haq and M Faqir, 2008. Trends and potentials in dairy production of Balochistan province. Pak J Agri Sci, 45(2): 259-262.
- Mahmood K and A Rodriguez, 1991. Marketing and processing of small ruminants in highlands of Balochistan. Research Report. International Center for Agricultural Research in the Dry Areas, pp: 14-19.
- Nagy JG, GF Sabir and JM Stubbs, 1991. Sheep and goat production in Balochistan, Pakistan. Small Rum Res, 4: 109-113.
- Noor M, 1989. Rangeland Management in Pakistan. International Center for Integrated Mountain Development, Kathmandu, Nepal.
- Pakistan Economic Survey, 2007-08. Government of Pakistan, Finance Division. Economic Advisor's Wing, Islamabad, Pakistan.
- Raziq A, 2008. Portrayal of Camelids in pastoral economy of northeastern herders of Balochistan. PhD Dissertation, Dept Livestock Management, Univ, Agri, Faisalabad, Pakistan.
- Raziq A, A Iqbal, M Younas and MS Khan, 2008. Role of camel in the pastoral economy of Marri Tribe in Balochistan, Pakistan. J Camel Pr Res, 15(1): 131-138.