

Review

Current Livestock Marketing and its Future Prospects for the Economic Development of Balochistan–Pakistan

MUHAMMAD SHAFIQ¹ AND MUHAMMAD AZAM KAKAR[†]

Department of Commerce, University of Balochistan Quetta, Pakistan

[†]Livestock and Dairy Development Department Balochistan Quetta, Pakistan

¹Corresponding author's e-mail: adagul@yahoo.com

ABSTRACT

In Pakistan, marketing of livestock and its products is dominated by the private sector. Information regarding the marketing of livestock and its products is necessary for knowing the current status and re-organizing these markets for increasing their efficiency. Secondly, it is the stated policy of the government to increase the export of agricultural products to lessen the net trade deficit. In the past, relatively more emphasis is placed on enhancing the production and productivity of livestock and its products ignoring the marketing aspects. Any lopsided production augmentation strategy could not be fruitful unless the marketing aspects are adequately addressed. Livestock marketing is the most important segment of livestock business. Hence, for ensuring reasonable returns to the producers as well as protecting consumers' interests, an efficient marketing system is necessary. Efficient marketing systems promote production and efficient production systems attract marketing agents. In Balochistan livestock are generally marketed either at village level by personal contact between buyer and seller at special places called livestock markets organized for animal trade. These livestock markets are organized at different levels such as; sub-tehsil, tehsil and district levels on daily, weekly, fortnightly, monthly and sometimes yearly bases. These markets are traditional; therefore both buyers and sellers are mostly well informed about these market days or dates, as they are remained un-changed since ages. In addition some special livestock markets are also organized on provincial/regional festivals. Daily-based special markets are also organized at least 2 - 3 weeks before the eve of Eid-ul-Azha, the Muslim festival. There are no public markets in Pakistan all are private sector. In general, both small and large ruminants are traded in the same markets, however at some places, buffalo, cattle, sheep and goats are also traded in separate markets. For instance, in *bakker mandies*, only small ruminants are marketed. In villages, depending upon the nature of need arisen, the farmers choose time, place and agency for disposing their animals. This paper is an endeavor to purport the marketing of livestock in Balochistan due to its magnitude role in the economy of Balochistan.

Key Words: Marketing; Economics; Ruminants; Balochistan; Livestock

INTRODUCTION

Livestock Balochistan comprises of sheep, goats, cattle, camels, horses, donkeys, poultry and in some area buffaloes. Sheep and goats are the most significant, because they are kept by all sorts of farmers and livestock traders. They can survive on the natural pastures of Balochistan, which are attributed by the dry land shrubs and small herbs that can only be benefited to small livestock of Balochistan. Balochistan, with large of arid to hyper-arid climate especially is the largest province of Pakistan with a total land area of 348, 189 square km. It is however, the smallest province in population having an estimated 6.5 million people in the year 1998 (Population & Housing Census of Pakistan, 1998). There is lack of water sources for the purpose of irrigation on large scale due to this agriculture cannot be adopted on commercial basis (Giles & Baig, 1992; Farooq & Ali, 2002). The low rainfall varying from 50 mm in coastal areas and Chagai district to 400 mm in the

North Eastern parts of Loralai and Zhob districts provides scanty facility for undertaking widespread crop culture operation. Consequently hardly 2% of the entire area is under crop culture rest 98% comprising almost 35 million hectares of wastelands is fit for nothing but inadequate grazing for livestock through part of the year. It is estimated that only 15% of this rangeland is located in areas having more than 250 mm annual rain fall, which can support perennial grasses and shrubs (Meteorological Department, Government of Pakistan, Quetta, 2005). Hence, barring some portions of Loralai and Zhob districts, rest of the land surface does not even support rearing of livestock throughout the year. Thus necessitating seasonal migration of nomadic and transhumance grazers, who move to lowlands in autumn and highlands in spring with a view to find feed for their livestock. In spite of the difficult conditions for livestock industry it occupies a pivotal place in the economy of Balochistan due to being the mainstay of more than 75% of the people inhabiting the countryside in

the relative absence of other means of subsistence. With the exception of the mountain areas, with altitude of 2, 436 to 3, 352 m above sea level (Geological Survey of Pakistan, Quetta, 2005), most of Balochistan is scantily vegetated and severely eroded. The valley floors and the lower slopes of the plateau areas are characterized by poor, patchy vegetation, which is heavily influenced by grazing and human interference. Open rangelands have un-restricted access and are usually in poor condition. Open rangelands have been increasing in area as common rangelands have undergone degradation and have been abandoned by their owners (Buzdar *et al.*, 1989; Khan, 1991; FAO, 2003).

In Balochistan, when market structure is cast a glance, we do not find any innovative livestock market structure. Market structure is based on traditions, culture and customs of people. The physical transportation of livestock begins from producer at village level, where local trader achieved from the local owner located in different places. Vehicles and animal driven carts are used for transportation of livestock from remote area to small towns/main roads. From small towns/highways the livestock are transported to big cities or where relatively large markets are situated. The transportation cost is an important factor that minimizes the profit of producer and distance is the major factor in the price determination. Household flocks are small having 5% of the sheep and 18% of the goat (Khan *et al.*, 1999; Afzal, 2003). The transportation cost of livestock carried by bus is lower as compared to other modes of transportation like vans, pickups and mini-trucks. The danger of expiry of animal during transportation is relatively high. In Balochistan, sheep/goat is the main animal that raised. The milk animals are mainly kept in urban and peri-urban areas. The pricing systems are also varying by location and type of intermediary involved (Ather & Raja, 2002). In big cities, the prices are relatively high compared to small cities. Prices are relatively high in the villages well connected with the urban centers as compared with those situated in deep areas (Farooq *et al.*, 1999). There is a need to quantify the contribution of various factors in determining the price of livestock in urban and rural areas in order to pinpoint the most crucial factor responsible for the consideration of the policy makers and planners (Schinzel, 1979). Effort should also be made to bring the quality of product rather than to increase the quantity (Younis & Yaqoob, 2002). Training and development are the better option to get favorable result from those involve in this traditional business (Hasan, 2001). There is need to pave the way for the solid market structure, which could bring the positive change in livestock business.

From the above table, the declining trend in the population of cattle indicates the gradual mechanization of agriculture, while negative growth in the population of pack animals like camels and asses reflects the use of modern transport. The negative growth in the population is however indicative of less use of mutton due to medical reasons and awareness of cholesterol contents in fat (Government of

Balochistan, Planning & Development Department, 1998). However, major reason can also be attributed to decreasing smuggling of sheep to Iran and Afghanistan and then to Middle East due to currency exchange rate, making the Pakistani goods quite expensive for these countries especially for the people of Iran (GOP, Economic Survey, 2003). Probably the main reason for dwindling/decreasing of sheep population and increasing number of goats is also, because when the range feed available diminishes, flock owners increase the number of goats, which can stand better with the feed shortages and also relatively resistant to drought condition. The traditional sheep and goat production system in Balochistan has been divided into three categories; these are nomadic, transhumance and household (FAO, 1987; MINFAL, 2003).

Livestock major products for marketing. Every part of livestock is used to satisfy human needs and desires. Following are the major products of livestock in Balochistan:

Milk. Milk is an important product of livestock, which accomplish the need of people (Mohyuddin & Wahla, 1994). Now there are significant number of cattle, buffaloes and sheep and goat that are kept for dairy purpose. Unfortunately there is no system of proper marketing of milk by rural producers in the towns in Balochistan except some parts of canal irrigated areas of Nasirabad division and parts of Lasbela, where producers take it to Jacobabad and Karachi, respectively. Hence, there is big difference of milk price per liter between Quetta and rural areas situated near to Quetta. There is no surplus milk posing any marketing problem to the producers in most of the towns and cities of the province. Fresh liquid milk produced in few peri-urban dairy units in different towns of the province finds immediate market, rather supply in less than the demand especially in summers (Upton, 2001). The only milk pocket in the province is Nasirabad and Jaffarabad belt of canal irrigated areas, where cattle and buffaloes are kept for milk purpose also. The milk, which is produced, finds ready market in nearby cities like Dera Allahyar, Dera Murad Jamali and to Jacobabad. During summer milk is also transported to Quetta. Surplus quantity of milk is converted into *Khoia*, which is a milk product concentrated and evaporated through heat treatment. *Khoia* is supplied to distant places and use in traditional sweet dish preparation in big cities like Karachi. There is some seasonality in the production of milk. In winter, milk supply increases, because of calving pattern of buffaloes and cows leading to decrease milk prices in rural areas. However, middlemen harvest this benefit and urban consumers rarely get the due benefit. In Balochistan, the district and city government fixes the milk price on the recommendations of price committee. The urban consumers are although aware about milk prices but most of time they pay price much higher than the official price.

Mutton. Meat provides the protein to the human body; therefore it is considered as an integral part of human need.

Mutton is obtained from sheep and goat. Balochistan is self-sufficient as it has 45% of sheep and goat population of the country (Baig, 2005). It means Balochistan provides the major part of mutton to the country but development of the mutton industry is constrained by the largely traditional meat marketing system, which provides no incentive for the production of good quality meat. This is evident in the lack of facilities in live animal markets, the old-fashioned slaughter facilities and retail price structure. The main constraint to the development of mutton export, which Balochistan has the vast potentials, is the present high cost of processing compared to other large volume exporters (Heinz, 2000). Reducing costs would require sophisticated management and even if achieved, export opportunities are limited to those countries with few quarantine regulations. Due to non-grading sale system, the butchers are getting more profit to buy female culled animal for slaughtering. Although pre-and post mortem examination exists yet illegal slaughtering is taking place in the province. For instance, Quetta is the provincial capital having only one slaughterhouse (Ahmed & Alvi, 1988). The control price at end product is one of the negative factors on quality. Because of poor quality control, the mutton of old and diseased animals is sold in the markets in general (Iqbal *et al.*, 2000). The existing quality control system of livestock is poor. The fix pricing system produces poor quality of mutton. The butchers are interested in carcass weight, no meat grading system is prevailing and so the butchers always prefer to buy female culled animals than young healthy animals. Improvement in the existing quality control system is inevitable, as it does not suit to producers and consumers as producers are not fetching the desired price of a healthy animal and simultaneously the consumers are getting poor quality meat of diseased animals at the fixed retail price (Isani, 2002). For the improvement of the quality control system, it is a dire need to implement the legislation strictly, where exists and legislation should get approved where obligatory.

Beef. Beef can be obtained from cattle, buffaloes and camel but cattle are the main source of beef production to the meat markets. Cattle population of Balochistan is growing steadily at the rate of 1% per year for the last ten years. 10% of total population is marketed to slaughtered houses (Wagenaar *et al.*, 1997), which is not enough to meet the demand of the dwellings. The supply can meet the demand of Balochistan but due to massive smuggling of large and small ruminants to Afghanistan and Iran, there is always shortage of all sort of meat in Balochistan. Balochistan Nari Master (BNM), the first Pakistani beef breed developed by the scientists of livestock department Balochistan is now ready for propagation. In the near future, there will be new avenues for proper sale and beef cuts marketing in the province and for export.

Hides and skins. When animal is slaughtered, its hides and skins are used to generate some handsome income. Hides are obtained from large ruminants; such as cattle, buffaloes

Table I. Shows livestock population and comparison from 1986 to 1996

S.NO	Category	1986	1996	Difference %
1	Cattle	1,156,778	1,340,970	16
2	Buffaloes	63,154	161,063	155
3	Sheep	11,111,414	10,841,019	(2.4)
4	Goats	7,342,047	9,369,450	27
5	Camels	348,851	338,502	(3)
6	Horses	29,233	42,518	45
7	Mules	3,537	2,988	(15)
8	Asses	632,743	382,889	(39)
9	Poultry	3,295,353	4,693,908	42

Figure mentioned in brackets shows the negative growth of livestock.
Source: -Livestock census (1996)

Table II. Shows the comparison of animal population and growth trends (million) from 1972 to 1996

S. No.	Category	1972 Census	1976 Census	Annual %	1986 Census	Annual %	1996 Census	Annual %
1	Cattle	0.482	0.675	10.0	1.157	7	1.341	1.5
2	Buffaloes	0.022	0.033	12.5	0.063	7	0.161	10
3	Sheep	3.859	5.075	6.8	11.111	8.5	10.841	-0.2
4	Goats	3.238	4.445	9.3	7.342	5.5	9.369	2.6
5	Chicken	1.183	1.958	16.4	3.295	5.5	4.694	4
6	Camels	---	---	---	---	---	0.339	-0.3
7	Hoses	---	---	---	0.029	---	0.043	4
8	Mules	---	---	---	0.004	---	0.003	-1.5
9	Asses	---	---	---	0.633	---	0.383	-4.5

Source: - Livestock census, (1996).

and camels, while skins are collected from the small ruminants; like sheep and goat. These hides and skins are used for different propose of human need. Hide and skin consist of 4.3% of total value of livestock in Balochistan (Wagenaar *et al.*, 1997). A complex system of merchants has involved to process and to distribute the skin and hides of livestock in Balochistan. Those skins and hides, which import from Afghanistan and Iran has become a normal routine, sometimes butchers and traders collect the skin themselves for flaying. Skins and hides are sold to wholesaler for cash or on contractual basis. Quetta is the main distribution market; therefore hides and skins are arrived from different villages and small town to Quetta. Here in Quetta these skins and hides are salted graded and shipped to the destination mostly Sindh and Punjab (SMEDA, 2002). Often poor quality of hides and skins is the most important constraint affecting the marketing of hides and skin. Poor quality is due to poor flaying techniques, improper preservation and warble fly or tick damage. In this scenario, the butchers around the province need some good and modern training in flaying and salting of hide and skins before going for marketing to leather tanning and manufacturing industry.

The hide and skins provides basic input for a progressive export-oriented leather tanning and manufacturing industry. Due to poor production and marketing system, Pakistan is facing substantial loss (Qureshi, 2002). The poor production of hides and skins is due to poor flaying. The older butchers teach young butchers about flaying and meat cutting in the abattoirs and

Table III. Shows values in million rupees of different products of livestock

CATEGORY	VALUE	COMMENTS
1. Meat		
i) Sheep	4,028	This also includes more than 3.0 millions sheep and goats supplied alive to other provinces
ii) Goats	3,281	
iii) Cattle	1,080	
iv) Poultry	2,350	
Subtotal Meat	10,739	(28.76 %)
2. Milk		
i) Sheep	1,933	Domestic consumption only
ii) Goat	1,272	Domestic consumption only
iii) Cattle	2,132	This also includes value of domestic consumption.
iv) Buffalo	1,260	Domestic consumption only
v) Camel	1,200	Domestic consumption only
Sub – Total: Milk	7,797	(20.88 %)
3. Wool and hair		
i) Sheep	477	This also includes ten- percent domestic consumption.
ii) Goat	98	100 % domestic consumption
iii) Camel	Not valued	100 % domestic consumption
Subtotal wool and Hair	575	(1.54 %)
4. Hides and skins		
i) Sheep	252	
ii) Goat	140	
iii) Cattle	1,080	
iv) Buffalo	70	
v) Camels	70	
Sub - Total: Hides and skins	1,612	(4.32 %)
5. Draft power		
i) Cattle	4500	
ii) Donkeys	6,000	
iii) Camels	1,500	
Subtotal: Draft Power	12,000	(32.14 %)
6 farmyard manure		
i) Sheep	490	Includes 50 % domestic use
ii) Goat	322	Includes 50 % domestic use
iii) Cattle	876	Includes 40 % domestic use
iv) Buffalo	57.50	100 % marketed
v) Donkeys	109.5	
vi) Camels	82	
vii) Chicken	12.80	
Subtotal Farmyard manure	1,949.80	(5.22 %)
7. Eggs		
Poultry	1,840	(4.93 %)
8. Others		
i) Sheep and goats	720	Offal etc
ii) Cattle	105	Sale of live Bhagnari cattle
Subtotal: others	825	(2.21 %)

Source: Migratory systems and Livestock Marketing in Balochistan, IMPLAN Project, 997

meat shops. The provincial Livestock and Dairy Development departments have the primary responsibility of training butchers in a very old and primitive style in scientific ways of flaying and meat cutting. Un-fortunately, no such training is in the knowledge of the authors involved in the study. There is an urgent need to reap this potential benefit for increasing leather production and export as well as enhancing returns of the butchers from the sale of hides and skins. The hide and skin marketing system is relatively more developed in the Punjab and Sindh provinces. Both provinces have a number of tanneries for processing the hides and skins into leather. Balochistan has no tannery. The

hides and skins produced in Balochistan, most of the production from Balochistan province is marketed in Sindh. This is resulting in the relatively more depressed prices of hides and skins of livestock in Balochistan compared to Punjab and Sindh.

Poultry. Poultry products are the 11.3% of the total value of livestock (Wagenaar *et al.*, 1997). Poultry has emerged as a new industry in Pakistan for decade is due to rise in price of chicken meat. It is used as alternative to mutton and beef now. It has become a very significant industry, because of large demand (Choudhry, 1971). It is due to fluctuation in prices, which is a major stumbling block in its rapid growth of the industry, while the fragmented nature of the industry presents difficulties in matching supply with demand. Consumer resistance to frozen chicken is slowly departing with the installation of poultry processing plant in the country. Such plants would render the poultry wastes into valuable products. Efficient future development of the industry will depend on measure taken to regulate the wide fluctuations in supply and demand. Appropriate measures would include consumer education, but the solution lies in coordination between producers at all levels to minimize supply fluctuations (Bruinsma, 2003). This is entirely a private sector industry so the strategy for development should be to encourage producers to set up affective organizations for self-control of the industry.

Wool. Sheep are the source of wool production, used for further consumption. Wool production is 1.5% of the total value of the livestock (Wagenaar *et al.*, 1997). Wool production can be increased if scientific methods are used and it is properly managed. Again the lack of incentive for the producer to improve the quality of the marketed wool is not so much a reflection of price but of the value of wool produced, in comparison to the value of the animals for meat. Further constraints result from poor shearing techniques, lack of sorting and marking of wool (Cox & Thomas, 1969). In the sale of products such as wool, hair, and hides/skins, the chain is somewhat similar except that the wool, hairs of skins are finally sent outside the province either to the markets or agents in Punjab or Karachi. Wool is an important by-product of sheep farming activity and basic input for warm cloth and carpet industry. Although the quality of wool produced in Balochistan is not suitable for making fine quality thread to be used in garments industry, however, it is an important input for making thread used in carpet manufacturing. A number of other household products are also indigenously manufactured from using sheep wool thread. There are two sources of wool one is fleece wool and other is slip/clip wool. Wool shearing is performed twice a year i.e. once in spring or March-April and then in autumn or August/September. As sheep is found in all provinces of Pakistan, therefore wool marketing is spread throughout the country. However, wool and hair marketing activities are relatively more concentrated in the areas specialized in sheep and goat farming like hilly and desert areas of Balochiatan. There are only a few major

wool-trading centers in the entire country. Multan wool market is largest wool market of Pakistan followed by Jhang, Mianwali, Bahwalnagar, Quetta and Sahiwal. D.G. Khan wool market is also developing gradually as the big wool markets of Pakistan (Anjum, 1995).

Wool marketing system in Balochistan has remained un-changed since ages. Raw wool is either fleece wool or pulled (slipe) wool, recovered from the skin tanneries. The producer sells fleece wool to the collector or wool merchants in the nearest urban center. A wholesale trader then transports and resells the wool at the large wool markets, usually to a commission agent working on behalf of a processor or exporter. Export wool is handled through the grading centers in Karachi, Multan and Lahore and is sorted, washed/scoured, baled and graded according to the graded defined by Wool Test House, Karachi. Slipe wool is normally purchased by processors directly from the skin tanneries and most is exported (FAO, 1987). The price of wool is paid to the producers on weight basis. The white colored, clean wool fetches relatively higher price as compared with dirty and pale colored one. Similarly the mixed wool is also receiving low price. However, the reflection of incentive for quality wool production in wool price is very little compared to the amount of efforts needed to produce good quality wool (FAO, 1987; Delgado *et al.*, 1999).

Hair. Goat provides the hair, which is used, for domestic consumption. Proper strategy is required to increase the production of hair of goats having constructive demand in the domestic and in the nearby countries.

Farmyard manure. As it is said earlier that nothing is the waste of livestock, manure is also utilized and is sold item. Whether it is poultry waste or waste of any animal, it is used as fertilizer for agriculture land. Part of manure produced remains un-utilized or is dried for fuel purpose.

Offal. Animals' offal is also a sale item, which is not only eaten but also utilized in making the string of sports goods.

Livestock Pricing and Marketing System

Pricing. Pricing is a significant factor of any product. Price determines the profit of any product; hence it is very important for the profit determination in the product. Likewise it has a major role in livestock business. Low producer price for many livestock products are major constraint to the adoption of more intensive production techniques (Pizadeh & Islam, 1981). Although prices have risen in recent years; yet they are low as compared with some neighboring countries. The prices of animals are settled through negotiation, demand and supply position and bargaining skill. Prices of the products are fixed on the basis of demand and supply, season of demand and supply, season of the year and pressure of the Government, sometimes, on implementing the fixed prices of the products.

Pricing mechanism of livestock in Balochistan. In case of live animals, pricing mechanism depends upon the type and location of the market under consideration. At village level,

Table IV. Shows the average price and profit margin in livestock marketing in Balochistan as compare to the other provinces and Pakistan

Items	Punjab	Sindh	NWFP	Balochistan	Pakistan
Sale Prices (Rs./animal)					
Dairy	15250-	15400-	16000-	15250-35550	15250-35550
Animals	35000	32000	22125		
Beef	4000-	9000-	10000-	4000-22000	4000-18000
Animals	18000	18000	17000		
Mutton	1000-	1700-2800	900-1700	800-2875	800-2875
Animals	3000				
Profit Range (Rs./animal)					
Dairy	800-2600	1400-2290	1100-1475	800-4100	800-2120
Animals					
Beef	500-2000	1200-1540	1010-1500	358-1870	358-1870
Animals					
Mutton	200-500	425-645	120-215	200-485	200-485
Animals					

Source: Social Sciences Institute, National Agriculture Research Center and Agriculture Organization of United Nations (2003).

Table V. Shows the comparison of products prices of livestock for a decade

S. No	Product	Price (1997) Rs./Kilogram	Price (2006) Rs./Kilogram	Difference Rs./Kilogram	%age Change
Beef (Rs./kilogram)					
1.	With bone	45	100	55	55.00
	Boneless	60	130	70	53.85
Mutton (Rs./kilogram)					
2.	With bone	100	220	120	54.55
Chicken (Rs./kilogram)					
3.	Undressed	60	75	15	20.00
	Dressed	85	120	35	29.17
Milk (Rs./Liter)					
4.		16 to 18	26	10	38.46
Egg (Rs./Dozen)					
5.	Desi	36	65	29	44.62
	farmi	30	55	25	45.45
Butter (Rs./Kilogram)					
6.		150	150	-Nil-	-Nil-
Wool (Rs./Kilogram)					
7.		25	40	15	37.5

Source:- 1996 prices taken from Balochistan Sub Strategy, livestock 1998; 2006 prices were collected from the current market by the authors.

livestock traders visit the producer and price is negotiated. In such cases, the producer (or seller) calculates reservation price based on his village level information obtained from co-villagers and various attributes (i.e. species, health status, age, sex etc.) of his animal. The urgent cash needs arising also play important role (Mustafa *et al.*, 1995). On the other hand, the livestock traders consider the factors like value of animal in the intended market, where the animals shall be sold, the distance, transport and personal costs involved and some profit level. Seasonality and some social or cultural events (e.g. Eid-ul-Azha) are also affecting the price level finally determined (Mustafa *et al.*, 1995; GOP, 1988, 1994 & 2002).

In livestock markets, the sellers are consisted of farmers, livestock traders or "beorparies" whereas the buyers are comprised of livestock traders or "beorparies" farmers and butchers. Regarding the determining

Table VI. Shows the destinations, mode of transportation and source of supply of livestock in Balochistan

Exit Market Location	Destination	Mode of Transport	Species	Source of supply
<u>South-East</u> Sibi, and Jacobabad (Sindh)	Karachi, Hyderabad, Sukkur, and Parts of Punjab	Rail/Road	Sheep and goats Cattle and camels Horses Donkeys	Balochi Tribes Brahvi Tribes Marri Tribes
South – West Bella, Doreji, Kanraj	Karachi (Sindh)	Road / On hoof	Sheep and goats Cattle	Transhumant grazier from Khuzdar, Awaran and Lasbela
<u>North - East</u> Rakhni	Lahore (Punjab) Faisalabad (Punjab) Multan (Punjab)	Road / On hoof	Sheep and goats	Khetran Tribe Bugti and Marri tribes Pathan tribe Musa Khel
<u>North – West</u> Kuchlak Quetta	Quetta city Karachi (Sindh)	Road	Sheep, goats and cattle	Pashtun and Brahvi tribes

Source: Migratory Systems and Livestock Marketing in Balochistan, IMPLAN Project, 1997

reservation price, farmers estimate their prices. The livestock traders calculate it after adding all costs (i.e. transport, octroi, various taxes & fees & personal expenses) to the buying price. On the buyers' side *beoparies* make estimations like livestock traders. The farmers are mostly interested in lackluster animals, male to be used as sire or draught purposes. For lackluster animals, besides general health status and appearance, obviously milk yield and stage of lactation are important. In draft animals, the muscle power matters more. In case of meat animals, butchers give more considerations to age, general health, live weight, fattiness and skinniness. The butchers generally do not like fatty and very skinny animals; however, the price offered is determined by back-calculation from the prevailing/retail meat price fixed by city or district administration. The deals are finalized either through brokers or one-to-one personal negotiations. When brokers are involved, the deals are always secret, whereas in one-to-one based deals, it is open. On the finalized deals, a fixed percentage of the value of animal (or fixed money by animal type) is paid as commission to the market contractor. There is no grading or classification system of livestock in Balochistan. Therefore, lot of variations exists in the prices of livestock of the same category within the same market. Some cyclical factors such as drought prevalence and disease outbreaks also affect the prices of live animals. Various intermediaries obtain about one third of the final price as the services rendered by them (Khalid & Rodriguez, 1991; Rodriguez, 1992; NMC, 1997). The profit margins are higher in Balochistan. The profit margins in mutton animal are almost similar across the country with some variation. The degrees of importance of above discussed factors vary by market and province (Mahmood, 1990) found negative association between sheep/goat prices and their live weights. This implies that beyond some live-weight, the value of animal for meat purposes decreases rather than increases. The following issues need to be considered by the policy makers regarding pricing mechanism of live animals. The producer has much less information about the true value of his animal than the buyer or various marketing intermediaries. The producers are least informed about the specifications required by various types of buyers. This weakness on the part of the producer benefits the intermediaries by selling the animals in right type of animal in right market. The price information in cattle markets is mainly of localized nature.

The information about prices prevailing in other cattle markets are conveyed to one-another on personal links bases. This interchange of price information is limited to intermediaries and producer is not informed at all.

Livestock markets in Balochistan. The markets called "Pirrhi" are located near the main towns and are devoid of any infrastructure or facility. "Pirrhis" are held on daily basis in Balochistan as compared to the other provinces, where markets are held on weekly basis. The facilities at livestock markets are very primitive. There is no meat grading system, however the consumer usually asks for cuts of his choice, which the butcher with some reluctance provides. Generally, all the carcass cuts are sold at the existing market rates. Butchers has tendency to sell low priority cuts in early hours and keeps the best cuts in high demand for later part of the day. There is no proper system for carcass hanging, washing and splitting. The prices of the products are fixed by the district administration without any consultation with the livestock department, consumers or butchers. The products are seldom sold at the fixed prices and the retailer charges according to his own will.

Improvement of livestock marketing. It is proposed that the meat animals be sold on live weight basis so that producers get enough benefit. The meat should be sold on quality basis and to start with simple grading system may be introduced. Marketing infrastructure should be improved by improving existing large markets. This could be done by providing shelter, water and access to feed and fodder. A nominal fee may be charged to meet the running expenses of the facility.

The large traders, who handle bulk of trade need to be involved in developing proper marketing strategies. They may be trained to develop the system by improving the facilities in their stock yards and offer better services to the farmers. The marginal amount, which they will spend on creation of these facilities can be covered through increase in the volume of trade. They will have also better working conditions for themselves. It has been observed that the animals transported over long distances are sometimes immediately slaughtered without giving them some rest and over come the shrinkage losses. It is important to mention here that shrinkage due to long traveling and improper transport may go up to 16%. If the live animals or meat export is started, a step government is seriously thinking to

undertake the itinerant traders will have important role in it and therefore will require extensive training at this stage.

Livestock marketing system in Balochistan. Marketing of livestock or their products is the essential function in livestock production. Marketing and distribution involves many agents. It is difficult to be precise about their exact number and their role in the marketing process.

The nomadic families follow a seasonal grazing movement utilizing tracts of rangeland under the control of local tribes (Klawik, 1996; Sadiq *et al.*, 2003). Annual Horse and Cattle Show held at Sibi also provides farmers an opportunity to market their livestock within province as well as to other provinces i.e. Sindh and Punjab. A transaction of more than 20 Million rupees has taken place during this event. Although livestock marketing is not well established in Balochistan, however there are livestock markets usually called "Pirri" scattered through out the province. These marketing structures have very limited basic facilities both for farmers and animals, but provide farmers an opportunity to bring their animals and sell them to the customers. According to a survey (IMPLAN, 1997) livestock marketing involved many stakeholders; producers, dealers (usually from village or adjoining areas) wholesalers, butchers and consumers. The marketing takes place on individual animal as well as on lot basis (GOP, 2003; FAO, 2003). The government has very little control over the prices. Meat prices are fixed according to demand of butchers and on the recommendation of price control community and by the city and district governments.

Market agents and their position in the market chain producers. Livestock producers are widely dispersed and they rarely coordinate with each other. They sell their livestock basically at the village level. Since they sell small ruminants to meet urgent cash demand that's why the producers are not in position to bargain very effectively. The followings are the market agents and their position in the market chain producers in Balochistan:

a) Village dealers. Village dealers purchase animals from surrounding areas and sell them to wholesalers in the town markets. They have to pay the animal transportation costs, feeding costs and their own transportation and food costs.

b) Wholesalers and commission agents. Wholesalers buy livestock and their products from village dealers in small towns and transport it to Quetta and the major consumption centers in other provinces such as Karachi and Lahore. They also sell livestock through commission agents in the consumption centers. These agents are considered as an essential link between producers and buyers and undertake the bargaining and arrangements of livestock and its by-product sales.

c) Butchers. Mutton and beef are sold fresh without preserving it in cold storage in small shops after 8 - 10 h of slaughtering in traditional type slaughterhouses, which lack proper hygienic facilities. Little if any meat is carried over to the following day. Most of the gross income returns to butchers come from meat sales but a substantial portion is

Table VII. Supply demand gaps in major livestock products of Pakistan (Million Tons)

Product	2003			2020		
	Supply	Demand	Gap	Supply	Demand	Gap
Milk	27.8	31.32	3.52	43.43	98.91	55.48
Beef	1.05	1.21	0.16	1.43	3.74	2.31
Mutton	0.70	0.80	0.10	1.03	2.50	1.47

Note: The information was extrapolated from the projected demand and supply estimated by MINFAL from 1999-2000 and 2004-05 Source: GOP, 2003 and FAO 2003.

Table VIII. Overtime changes in production of livestock products

Livestock Product Type	Unit	Production		Annual Growth (%)
		1989-90	2002-03	
Fresh Milk*	000 tons	11886	27811	10.3
Beef	000 tons	729	1060	3.2
Mutton	000 tons	621	702	0.9
Poultry Meat	000 tons	157	364	9.7
Eggs	Million Nos.	4670	5616	1.4
Hides	000 Nos.	5780	8177	3.2
Skins	000 Nos.	31580	40308	2.1
Wools	000 tons	47	40	-1.0

*Human availability: Source: Agricultural Statistics of Pakistan, 1994 MINFAL, GOP, updated data on Livestock and Livestock Products in Pakistan, September 2003; FAO 2003.

received from by-products such a skin, head, trotters, stomach, lung and liver etc.

d) Consumers. The butchers in their shops, where poor hygienic conditions exist sell non-graded meat to the consumers. The Government regulates consumer prices of essential commodities one of which is meat, but does not guarantee minimum meat quality standards. This has one of the obstacles towards providing quality product to the consumers, who are the ultimate payer of high meat prices.

Market places. Livestock markets are however not working in regular premises and hence are not well established. Spontaneous and irregular markets have almost sprung up in each town of the province but having very limited basic facilities, both for producers, traders and animals.

Wholesale market locations. Sheep and goats belonging to nomadic and transhumant grazers of Balochi and Brahwi tribes are marketed, besides Quetta, in Sibi and Jacobabad. They come down from their summer pastures in the highlands of Quetta, Mastung Noshki, Kalat and Khuzdar districts to spend the winter in the lower plains of Kachhi and Nasirabad Districts. Grazers of the Bugti and Marri tribes also market their surplus animals next to the local markets in Jacobabad and Sibi alongside flock owners from the Bolan, Sibi, Jaffarabad and Nasirabad districts (Sheep & goats to the sedentary & transhumant grazers of the Khetran tribes are of Barkhan the Marri tribes of Kohlu agency & Duki tehsil of Loralai District). The Pashtoon tribes of Musakhel district and Bugti tribes of Dera Bugti agency (Baker & Phailawag) market their livestock in Rakhni (Barkhan district) a border check-post located on road to Punjab for further transport and consumption in various towns of Punjab. The different agents are involved therein

with schematic representation in the marketing chain as presented in table No. VI:

Marketing constraints. In the agriculture sector of Balochistan, the production side has public support, while marketing side is dominated by the private sector. The marketing of livestock and its products is also facing numerous constraints of various natures.

General constraint. An important factor affecting the marketing of virtually all livestock and livestock products is the relatively small rate of return on its investment. This is true at each stage of largely traditional marketing systems.

International impacts. Although there are bright prospects of exporting live animals and “Halal” meat to Middle East and other Muslim countries. However, due to heavy subsidies extended by the governments of developed countries to their livestock sector is a serious concern to compete by a country like Pakistan.

Planning procedure. For the sustainable development of any sector proper planning is necessary. Livestock sector as an important sub-sector of agriculture was suffered due to inadequate planning.

Price policy. Like any other economical and viable industry, livestock can survive and flourish only if reasonable dividend on inputs is assured. Unfortunately due to political, urban and social pressures, arbitrary curb on the prices of livestock product like milk and meat etc continued.

Absence of quality or grading and quarantine measures. In general, there is no grading and quality standards practically applied in the marketing of livestock in the country. Absence of grading and split price system is the major factors causing poor quality of the products supplied.

Other constraints are as follows. There is no market regularity authority or department in the marketing of live animals in any province of Pakistan.

- Almost all livestock markets are lacking in various basic facilities like watering, fodder availability, services of veterinary doctors, animal sheds, loading/un-loading arrangement, weighing arrangement etc.

- There is no specific export oriented livestock farming trend. We have lot of rangelands, which mainly due to mismanagement are not properly harnessed.

- Moreover, there is no market information system prevailing. The introduction of cellular phone has eased many large sized traders for exchanging information with different cattle markets.

- The meat price is fixed by the local administration. The quality of meat supplied at this price is very poor. Slaughtering of un-healthy and diseased animals is relatively more common in rural areas than urban centers.

- The slaughterhouses are also in serious shortage of basic facilities like light, water, hanging arrangements, disposal of wastes, processing of byproducts.

- Milk is a highly perishable commodity and it demand for very careful handling during travel from producer to

consumer. The quality of milk available to the urban consumers is poor in many ways. Moreover, the general hygienic conditions of the milk shops and tea stalls are poor.

- The middlemen make various types of adulterations ranging from mixing of water to the addition of various chemicals injurious to health.
- The UHT treated milk is ideal for consumption; however, it is highly expensive from consumer point of view.

- The hides/skins collection system in remote rural areas is very poor. Therefore the frequency of spoilage of hides and skins is relatively higher in rural areas than urban centers.

- The major constraint in wool marketing are wool shearing by scissors and lack of grading at producer and primary markets intermediary levels.

- Infection and parasitic diseases of livestock remain important constraints to more productive and profitable livestock production and marketing in Balochistan.

- There is no proper training and awareness to the farmers about the preventive methods to save their animals from the mortal diseases.

Recommendations. Government must shift livestock growth responsibility to the private sector for its implementation and on free market prices to determine production and the allocation of resources. Some of the services provided by government would be supplied by the private sector, freeing government funds to be focused on areas, which are un-likely to attract private sector investment.

(a) It must be realized to the people related to livestock that feed resources in the form of grazing and rangelands are finite and there are limits to the extent that such resources can be increased. Similarly, the capacity of animals to produce particularly sheep and goats is limited by their environmental and genetic potential and there are biological limitations to the rate at which such potential can be improved. In this way better result may be obtained.

(b) Social factors must also be taken into consideration, as the majority of livestock producers are rural small-holders and traditional and it would not be possible to radically alter their life style and the numbers of small holders keeping livestock, even if it were desirable purely for reasons of production.

(c) Extended services must be provided for farmers' education regarding the livestock and the quality nutrition for their livestock to reduce the seasonal fluctuations in the demand and supply of livestock products could be reduced.

(d) Like in advance and developed countries of the world, producer organization should be formed in order to handle difficulties in marketing small quantities of produce and few surplus marketable sheep/goats, in areas that are often remote from the markets.

(e) There is a need to educate the users of livestock products, as many consumers of livestock products are insufficiently aware of the benefits. For example, there is

often a lack of discrimination over the quality of fresh milk, which may be severely adulterated by adding raw water of any source or skimming off the cream. Similarly, there is consumer resistance to processed poultry.

(f) Since, livestock markets are not working in regular premises. Spontaneous and irregular markets have almost sprung up in each town of the province but having very limited basic facilities for producers, traders and animals. Existing market premises in few towns of the province, which are normally under the control of Municipalities and Town Committees need provision of sheds, weighing balances, water supply and troughs and feed stalls. Municipalities are already charging entry fee for the purpose. Hence the local government department must be persuaded to ensure establishing of livestock markets with proper premises and facilities in each town.

(g) Price system on live-weight and quality basis on the pattern of poultry, must be introduced. In addition, provision of weight-bridges will have to be made in the existing livestock markets.

(h) Quality of the available livestock products needs improvement. Quality improvements would have to be linked to improve marketing arrangements and consumers' education.

(i) Measures must be taken to establish the meat markets. First of all, encourage a gradual up-grading of the traditional slaughter trade through provision of up-graded and improved slaughtering facilities ensuring measures to improve slaughter techniques, hygiene and sanitation and handling of valuable by-products such as hides, skins and blood.

(j) There is need to sensitize the farmers against all external parasitic infestation in animals through media campaign. Trainings of farmers to make them realize of economic losses and importance to the external parasites so that they care about these to manage properly and act accordingly to save their flocks.

(k) Integrated fattening and slaughter enterprises can easily be established in and around the catchments areas of mega dams and canal irrigated areas of the province.

(l) There is no tannery in Balochistan and all the hides and skins produced here and even brought from Afghanistan and Iran are taken to Sindh and Punjab provinces for processing. There is a dire need for the establishment of the tannery in Balochistan to fetch higher skin/hide prices by the farmers and reduce the middleman share. Mostly these large tanneries operate efficient modern process and techniques and require quality raw material. Such scenario, immediate demand tannery installation at several places in Balochistan particularly in areas near to Karachi like Hub.

(m) Poor preservation of raw hides and skins by traders is in part, due to the high cost of salt, as only domestic type is available. Rock salt is a poor substitute. Industry should encourage the production and distribution of de-natured salt.

(n) Balochistan government must provide incentives to private sector desirous of setting up breeder farms,

hatcheries and poultry processing plant and feed mills. Rebates can be in taxes and duties to import machinery or equipment. Rebate may also be given in the form of income tax and even district council tax elimination.

(o) Ban on illegal import/export and adoption of strict quarantine measures would lessen the chances of spread of contagious problems in the area and affect the prices and marketing of local animals and their products favourably.

(p) Training is the utmost need to producers in sorting and grading of wool before offering it for sale to bring improvement in quality. This should involve training department staff and progressive farmers in appropriate skills at wool Test House, Karachi or in any academic institute, who could train the producers in new shearing technique to their animals.

(q) Livestock entrepreneurs, who are able to attract to Pakistan the special status manufacturing facilities under joint venture arrangements with foreign investors might also be supported.

(r) A long-term strategy for improving wool quality and quantity would depend on the introduction of wool breeds or improvement of the existing breeds; hence measures are needed to be taken.

(s) The livestock by-products could be exported provided that abattoirs operate on scientific lines by preventing the products from avoidable damage. Skin and hides plus an important by-product the intestines have its great market value overseas for use as sausages.

(t) A Quality Control Feed Act exists in Punjab and similar legislation is required for all the provinces particularly in Balochistan for quality and hygienically tested livestock.

(u) The present practice of many producers of mixing their own feeds is likely to continue as the cost of purchasing ingredients is less than that of prepared commercial feed. This may be encouraged with assistance and education in feed preparation as well.

(v) In order to fulfill the WTO requirement and standards, there is a need to establish standards quarantine facilities especially at export outlets.

CONCLUSION

Livestock contributes the major income in the national economy from the agriculture sector. More than one third of people of Balochistan are directly or indirectly involved in livestock business especially sheep and goats but poor marketing techniques based on traditional marketing have overshadowed this business. It is certain that good marketing of livestock in Balochistan is the key to progress of the common man. There is significant production of livestock, which is increasing day by day but due to lack of proper marketing technique this sector's performance has never been up to the mark. Livestock of Balochistan has the sustainability to survive in the natural calamities but poor marketing practices in the province do not allow it to

flourish in its full scale. Livestock sector's performance all over the Pakistan is much better than the crop yields. Hence, it requires the proper attention for the shortcomings to overcome the difficulties facing by the livestock holders. When we glance over the Balochistan economy we find that livestock is the only field, which can bring the future prosperity in the lives of people of Balochistan. Since each part of livestock is salable, which means each part needs marketing effort to help the livestock holder to give them reasonable price. Livestock provides the raw material to many industries particularly to carpet, wool, food, sports and leather. Therefore, on these bases government can provide an infrastructure to establish these industries, which could pave the way for the industrialization in Balochistan. Additionally, it would provide the employment to the inhabitants of Balochistan. Government should provide the better marketing opportunities to the people living in remote areas of Balochistan in particular. Roads must be built to link the Balochistan cities and towns not only with the Quetta but also to the other parts of the country. There is immense need to build permanent market places, which must be equipped with all prerequisites. Selling of animals must be done on live weight bases rather than on expectation of quantity. Wool collection requires the proper channel for its collection after which a handsome quantity of wool can also be collected within Balochistan. This may also be supplied to other parts of the country on initial stage, while later on it has the potential to export to the other countries of the region, where there is acute demand. Hence integrated marketing effort is the need of time for the bright future of people of Balochistan in particular and of Pakistan in general.

REFERENCES

- Afzal, M., 1998. *The Determination of Goat and Sheep Prices in the Markets of Balochistan, Pakistan*. The thesis presented for the degree of the master of philosophy, Department of Agriculture, University of Aberdeen, U.K
- Afzal, M., 2003. *Livestock its Role in Poverty Alleviation*, Pp: 6–8. Farming Outlook January-March
- Ahmed, W. and A.S. Alvi, 1988. "Goat Meat Production in Pakistan". In: Devendra, C. (ed.), *Goat Meat Production in Asia*", Pp: 161–8. Workshop proceedings held in Tandojam, Pakistan 13 - 18 March
- Anjum, M.S., 1995. "Survey Report on Wool Marketing in Pakistan". Coordinated Research Project for the Development of Sheep and Wool, PAK/88/032, FAO, Pakistan
- Ather, I., H. Razaqat and H. Raja, 2002. *Milk Production, Collection, Preservation and Processing in Pakistan*. Animal Sciences Institute, National Agricultural Research Center, Islamabad
- Baig, I.A., 2005. *Report on Meat in Balochistan*. Daily Jang, Quetta
- Bruinsma, J., 2003. "World Agriculture: Toward 2015/2030", Earth Scan, FAO
- Buzdar, N. Nagy, J.G. Sabir, G. Farid and J.D.H. Keatinge, 1989. *Animal Raising in Highland Balochistan: a Socio-economic Perspective*. MART/AZR, Research Report No. 50, Arid Zone Research Institute, Quetta, Pakistan
- Chaudhri, M.A., 1971. *Government Participation in Livestock Marketing Programs: Situation Report on Pakistan*. Cento Workshop on Marketing of Livestock and their Products
- Cox, R. and S. Thomas, 1969. A look at channel management'. In: McDonald, P.R. (ed.), *Marketing Involvement in Society and the Economy*, 50: 687–701
- Delgado, C., M. Rosegrant, H. Steinfeld and S. Ehui, 1999. "Livestock to 2020: The Next Food Revolution". International Food Policy Research Institute, FAO, ILRI, Food Agriculture and the Environment Division Paper 28
- Farooq, U., T. Young and M. Iqbal, 1999. "An Investigation into the Farm Households Consumption Patterns in Punjab, Pakistan". *Pakistan Develop. Rev.*, 38: 293–305
- Farooq, U. and M. Ali, 2002. "Combating Micronutrient Deficiency in Pakistan by Increased Vegetable Use". Asian Vegetable Research and Development Centre (AVRDC), Tainan, Taiwan
- FAO, 1987. "Pakistan Livestock Sector Study", Vol. 1 and 2. FAO/Asian Development Bank Cooperative Programme. Food and Agriculture Organization of the United Nations-Rome
- FAO, 2003. "Action Plan for Livestock Marketing Systems in Pakistan". TCP/PAK/0168: Livestock Action Plan. ASI, NARC Islamabad
- Geological Survey, 2005. *Government of Pakistan, Quetta*. Government of Balochistan, Planning and Development Department, 1998. Concept Eight Year Plan 1993 - 1998, Quetta, Pakistan
- Giles, H. Van and S. Baig, 1992. *Environmental Program Balochistan, Pakistan*. Land Resources and Urban Sciences Department, International Institute for Aerospace Survey and Earth Sciences LARUS-TC, Enschede, the Netherlands and Ecology unit - Soil survey of Pakistan EU- SSP, Lahore, Pakistan
- Government of Pakistan, 1988. *Report of the National Commission on Agriculture*. Ministry of Food and Agriculture. Government of Pakistan, Islamabad
- Government of Pakistan, 2002. *Economic Survey*. Finance Division, Economic Adviser's Wing, Islamabad
- Government of Pakistan, 2003. "Milk Production, Processing and Marketing in Pakistan". Ministry of Food, Agriculture and Livestock (Livestock Wing), Government of Pakistan
- Government of Pakistan, 1994. *Economic Survey, 1993 - 94*. Government of Pakistan, Finance division, Economic Advisors Wing, Islamabad
- Government of Pakistan, 2002. *Economic Survey*. Finance Division, Economic Adviser's Wing, Islamabad
- Government of Pakistan, 2003. "Household Income and Expenditure Survey 2002". Preliminary Results downloaded from Internet
- Government of Pakistan, 2003. *Economic Survey*. Finance Division, Economic Adviser's Wing, Islamabad
- Hasan, S., 2001. "More Attention Needed for Livestock". Daily Dawn
- Heinz, G., 2000. "The Supply of Livestock Products to Asian Cities". Paper Presented in the Regional Seminar on "Feeding Asian Cities"
- Iqbal, M., U. Farooq, A. Bashir, N.A. Khan and S.Z. Malik, 2000. "A Baseline Survey of Development of Livestock Sector in Cholistan". Pakistan-German Technical Cooperation. Commissioned by Deutsche Gesellschaft Fiir Technische Zusammenarbeit (GTZ), GmbH and GTZ, P.N. 91
- Isani, G.B., 2002. "Marketing of Livestock in Sindh"
- Khalid, M. and A. Rodriguez, 1991. *Marketing and Processing of Small Ruminants in Highland Balochistan*. MART/AZR Project. Arid Zone Research Institute, Brewery Road, Quetta, Pakistan
- Khan, A.R., 1991. "Marketing of Livestock and their Products in Pakistan". *Progressing Farming*, 11: 127–31
- Khan, M.A., M.I. Khan, A.D. Sheikh, N.A. Khan and B. Tariq, 1999. "Baseline Survey of Livestock Management in the Rain-fed Farming Systems of the Pothwar and Shakargarh, Punjab". Study Conducted by SSI, NARC for the Pak-German Technical Cooperation, GTZ, Lahore
- Klawik, M., 1996. *Characteristics of Wood Collection in the Pilot Areas*. IRLDP, Field Note No. 5 UNDP/ FAO PAK/88/071, Quetta
- Mehmood, K., 1990. "Marketing of Small Ruminants and Meat in Highland Balochistan", in the Annual Report of the Highland Regional Program of the MART/AZR, project Pakistan AZRI - ICARDA
- Mehmood, K. and A. Rodriguez, 1991. *Marketing and Processing of Small Ruminants in Highland Balochistan*, MART/AZR Research Report No. 71 Arid Zone Research Institute Quetta, Pakistan
- Meteorological Department, 2005. *Government of Pakistan, Quetta*
- Migratory Systems and Livestock Marketing in Balochistan, 1997. IMPLAN Project

- MINFAL, 2003. "Data on Projected Supply and Demand, 2002 - 03". Livestock Wing, Ministry of Food, Agriculture and Livestock, Islamabad
- Mohyuddin, Q. and M.A. Wahla, 1994. Improving Marketing System of Milk in the Punjab. *Econo. Rev.*, 11: 29-31
- Mustafa, U., K. Mehmood, S.I. Ali, N.A. Shah and M. Afzal, 1995. "Marketing of Small Ruminants in Highland Balochistan". *Progressive Farming*, 5 (2), Pakistan Agricultural Research Council, Islamabad
- NMC (National Management Consultant), 1997. "Migratory Livestock and the Marketing System in Balochistan". NMC (Private Limited). M.T. Khan Road Karachi Pakistan
- Pirzadeh, T. and U. Islam, 1981. *Consumption Patterns of Milk and Meat in Lahore*. Results of a Consumer Survey. Livestock Production and Marketing Survey Punjab. Report No.11. Directorate of Livestock Production Extension and Artificial Insemination Service, Punjab, (LPE/AI), Lahore and GTZ, Eschborn
- Population and Housing Census of Pakistan, 1998. *Census Bulletin -5*, provisional Results Balochistan, Population Census Organization, Statistics Division, Government of Pakistan
- Qureshi, A.H., 2002. Markets and Marketing. In: Bashir, M. (ed.), *Diagnostic Survey Report of Northern Areas Development Project*. Agriculture of Northern Areas, Technology Transfer Institute (PARC) Gilgit
- Sadiq, G.M. Ishaq and S.H. Saddozai, 2003. *Economics of Livestock Keeping in the Arid Mountain Agriculture of Northern Areas*. Technology Transfer Institute (PARC), Gilgit
- Schinzel, H. Uwe, 1979. System and Channels of Milk Marketing in concentration areas of Districts Sahiwal-Gujranwala-Sargodha with special Reference to Buffalo and Cattle
- SMEDA, 2002. "Pre-Feasibility Study on Abattoir", Small and Medium Enterprise Development Authority, Government of Pakistan
- SMEDA, 2002. "Pre-Feasibility Study on Animal Casings Processing", Small and Medium Enterprise Development Authority, Government of Pakistan
- SMEDA, 2002. "Pre-Feasibility Study on Calf Fattening Farm", Small and Medium Enterprise Development Authority, Government of Pakistan
- SMEDA, 2002. "Pre-Feasibility Study on Pasteurization Unit", Small and Medium Enterprise Development Authority, Government of Pakistan
- Rodriguez, A., I. Ali, M. Afzal and N.A. Shah, 1992. *Marketing of Goat and Sheepskins in highland Balochistan*. Mart/AZR Project Arid Zone Research Institute, Quetta
- United Nation International Children Education Fund, 1995. An analysis of the situation of women and children in Balochistan
- Upton, M., 2001, "Trade in Livestock and Livestock Products: International Regulation and Role for Economic Development". Livestock Information and Policy Branch, AGAL, Food and Agriculture Organization
- 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
- Younas, M. and M. Yaqoob, 2002, "Rural Livestock Production in Pakistan", [www.pakissan.com]

(Received 31 July 2006; Accepted 01 August 2006)