

Chapter 8

Value Chain

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8.1 Marketing

8.1.1 Milk

(1) Distribution Channels

In Pakistan, 34.058 million ton of milk was produced for human consumption in 2007/08.¹ Cattle colonies in urban cities provide a plenty of milk to urban consumers, while most of rural producers consume milk by themselves and sell only surplus at the rural areas. Although the production of processed milk has been increasing, 97% of the milk sold is fresh milk.

In this section, the present situations regarding distribution channels, prices, mechanisms to determine prices of milk, and the related associations; and the limiting factors and the possible countermeasures for value chain improvement of milk are described as below.

- (a) Urban cities: In urban cities such as Karachi, Hyderabad and Sukkur, cattle colonies were established and provide large amount of milk to urban areas. Table 8-1-1 depicts the number of lactating animals and the size of production at those colonies.

Table 8-1-1 Lactating Animals and Milk Production at Colonies

	Name of Cattle Colonies	Animal Population (head)	Milk Production per day (liter)
Karachi			
1	Landhi Cattle Colonies and surrounding	345,416	2,763,328
2	Nagori Dairy Farming Society and Surrounding	171,873	1,374,984
3	Al-Madina Stat 11 and surrounding	75,130	601,040
4	Qurashi Colony and surrounding	142,144	1,137,152
5	Surjani Dairy Colony and surrounding	91,362	730,896
6	Baldia (Mawach Goth) Orangi Town and surrounding	200,849	1,606,792
7	Billal Cattle Colony and surrounding	122,364	978,912
8	ShairPaoGidder Colony and surrounding	105,274	842,192
	Total in Karachi	1,254,412	10,035,296
Hyderabad			
1	New Cattle Colony	6,049	n.a.
2	Old Cattle Colony	13,947	n.a.
	Total in Hyderabad	19,996	
Sukkur			
1	Cattle Colony	1,351	13,386

Source: Landhi Cattle Colony in Karachi, Sindh Agriculture University Tando Jam, and Survey by the Project Team

According to the Dairy Farmers Association Karachi, about 30 to 40 % of milk consumed in Karachi in summer is supplied from the surrounding areas.

- (b) Other cities and towns: Farmers sell their milk to middlemen, retailers, restaurants, consumers, etc. depending on the availability of transportation, sales amount, and so on. While milk is partly delivered through the wholesale market at the market price, it is also delivered from producers to middlemen, retailers, restaurants, or consumers directly. Distribution of milk from producers or middlemen to restaurants or consumers, but not through retailers, has been getting popular because restaurants and

¹ Pakistan Statistic Year book 2009

consumers can pay by credit for a month and receive milk at their restaurants or houses. According to the interviews to milk retail shops in the cities such as Hyderabad, Tando Muhammad Khan, Shikarpur, Jacobabad, and Kashmore, the volume of milk distributed directly to restaurants and consumers by credit has been increasing.

Milk supplied from the surrounding areas is partly brought by “brokers” who sell and buy milk at the market prices through the wholesale market or Lee Market in Karachi. The majority of milk in Karachi is however distributed by the “wholesalers” who handle milk between farmers and retailers at the prices fixed by their annual contracts. According to the Dairy Farmers Association Karachi, the Milk Wholesaler Association and the All Karachi Milk Retailers Welfare Association, approximately 80 to 90% of milk sold in Karachi are distributed by the wholesalers, while the rest are dealt by the brokers. Figure 8-1-1 shows these transactions.

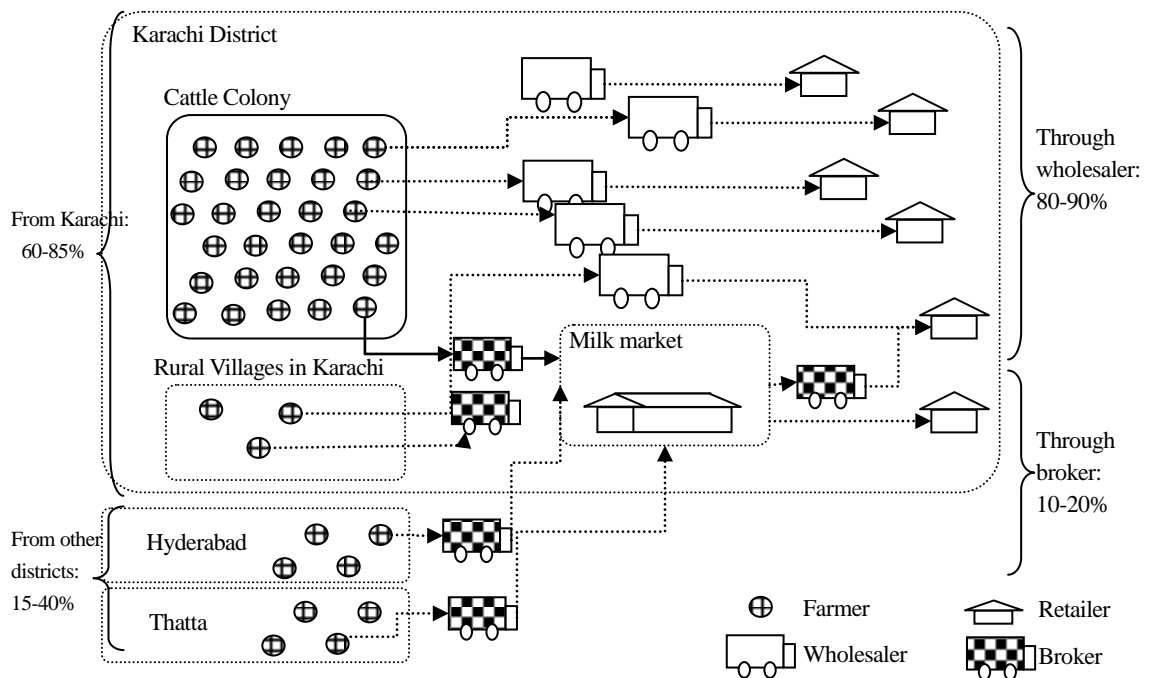


Figure 8-1-1 Milk Distribution Channel in Karachi

Figure 8-1-2 shows major milk supplying areas to large cities such as Karachi, Hyderabad, and Sukkur. During the distribution of milk, it is a common practice to put ice into milk for preserving it. There are also commercial people in Karachi, Hyderabad, and the upper Sindh who freeze milk for a few days storage or for long distance transportation. However, a proper cold chain for milk is not developed yet. Therefore the milk supplying areas to large cities are limited by its distance.

(c) Rural areas: Farmers normally sell milk in their communities, middlemen coming to the community, milk collectors linked to the milk processing companies, directly to consumers and/or retailers, or go and sell it at the nearby markets.

According to the Household Survey conducted in 8 districts, larger dairy farmers tend to sell their milk rather than medium and small dairy farmers; while 44% of small dairy farmers sell their milk, more than 60% of medium and large dairy farmers sell their milk as shown in Table 8-1-2. Also, the selling volume per production volume is larger for large dairy farmers than small and medium dairy farmers.

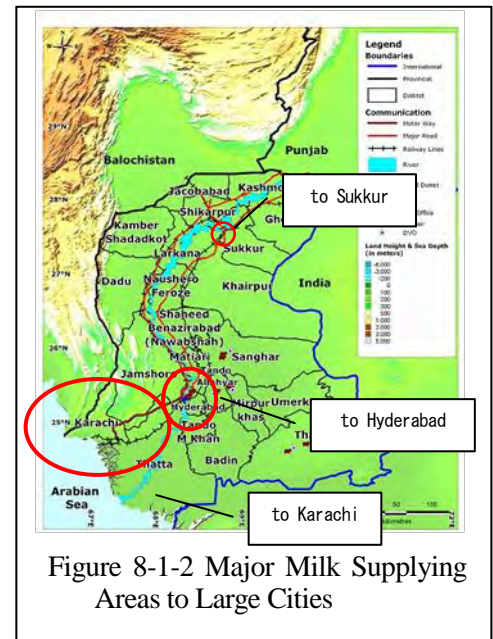


Figure 8-1-2 Major Milk Supplying Areas to Large Cities

Table 8-1-2 Ratio of Milk Selling Households and Selling Volume

	Sample HH	Ratio of Milk Selling HH	Selling Volume/Product ion Volume
Colonies	45	100%	98%
Large Dairy Farmers	61	62%	46%
Medium Dairy Farmers	91	61%	43%
Small Dairy Farmers	421	44%	28%
Total	618	53%	38%

Source: Household Survey

Table 8-1-3 shows to whom and where the farmers sell milk. The sample villages are grouped into three categories depending on the accessibility to large towns. Selling milk to middlemen at the village is the most common. Also, farmers are more likely to sell to middlemen if the access to the major towns becomes more difficult.

Table 8-1-3 Buyers of Milk (ratio to the HH who sell milk, multiple answers)

	Middlemen at village	Friends at village	Relatives at village	Processor at village	Marker at Town	Shop at Town	Individual houses at town	Processor at Town	Other at town
Easy Access to Town	30%	14%	23%	10%	10%	9%	3%	2%	9%
Moderate Difficulty of Access	67%	0%	11%	0%	22%	0%	0%	0%	0%
Difficut to Access	69%	4%	10%	0%	4%	17%	0%	0%	10%
Total	38%	12%	20%	8%	10%	10%	2%	2%	9%

Source: Household Survey

The milk processing companies such as Nestle, Engro Foods, etc. have started purchasing milk at the rural areas in Sindh. The volume of processed milk (UHT) has been increasing by 20%, according to “White Paper on Pakistan’s Dairy Sector” published by PDDC in 2006. The places where the processing companies purchase milk are where distribution channels are not well established in the rural areas.

Figure 8-1-3 shows the milk collection system of Engro Foods. The details are described in Box 8.1.

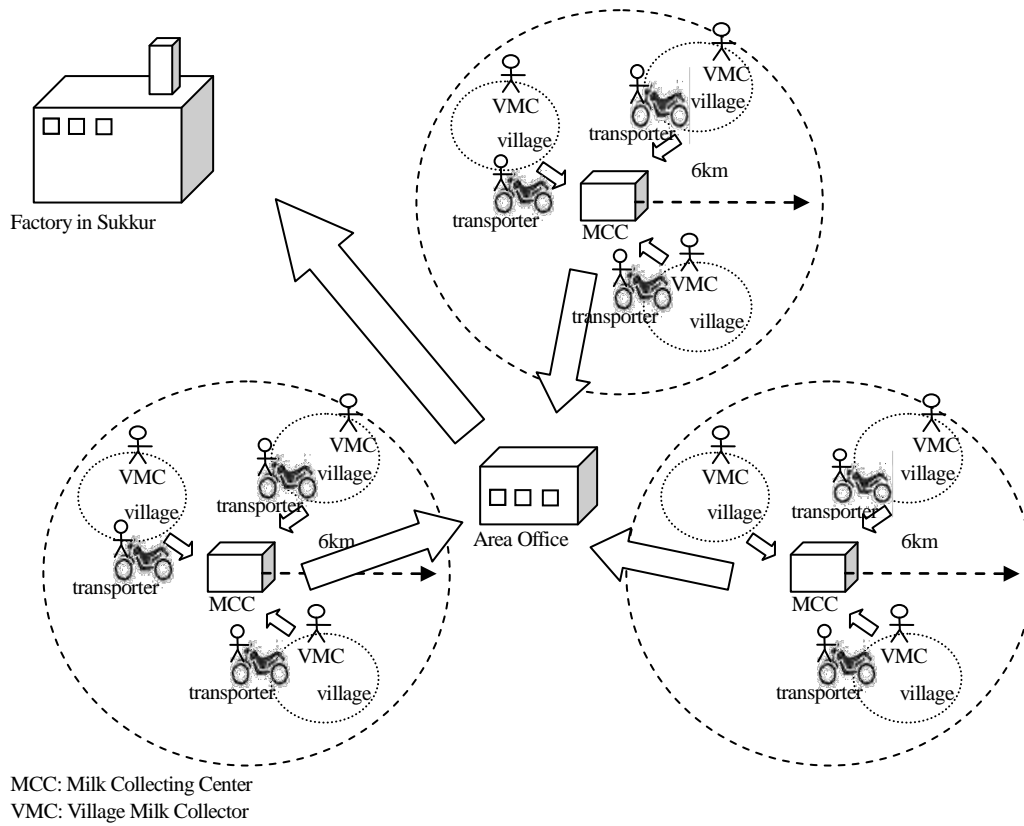


Figure 8-1-3 Milk Collecting System of Engro Foods

Table 8-1-4 shows the number of milk chiller tanks installed by major milk processing companies in each district. The total amount of processed milk in these areas is relatively small, but the areas the companies purchase milk have been expanding.

Table 8-1-4 Number of Milk Chiller Tanks of the Companies in Sindh

	District	Engro	Haleeb	Milac	Nestle	Pakola	Dairy Land	LDDB
1	Ghotki							
2	Sukkur	2						
3	Khairpur	29	21					
4	NausheroFeroze	20	9					
5	Shaheed Benazirabad	12						
6	Kashmore	4						
7	Shikarpur	15	7					
8	Jacobabad	2						
9	Kamber Shadadkot	15	7					
10	Larkana	24	12					
11	Dadu	7	1					
12	Jamshoro							
13	Thatta	1		1		5		2
14	Matiari	2						
15	TandoAllahyar	1						6
16	Hyderabad							
17	Tando Muhammad Khan					1	1	5
18	Badin	3		5		6	7	8
19	Sanghar	24		7		4		
20	Mirpurkhas	5		1		6		
21	Umerkot							
22	Tharparkar			1				
23	Karachi							
	Total	169	62	15		22	8	21

Note: The information of Nestle has not been provided although the company has 175 chiller tanks in Sindh.

Source: Survey by the Project Team

BOX 8.1 Milk Collection by Engro Foods Ltd.

Engro Foods Ltd. divides Sindh Province into five zones, and sets up five to six Area Offices in each zone. Each Area Office has 30 to 40 Milk Collection Centers (MCC). As shown Figure 8-1-3, Village Milk Collectors (VMC) are hired from the villages to collect milk in their villages and bring it to the MCC located within 6 km from the village. Female VMCs receive Rs.2 per one kg of collected milk while male VMCs receive Rs.1 per one kg as their commission. Transporters, who bring milk from the village to the MCC, receive



Milk tankers, the Area Office of Engro Foods in Sanghar.

Rs.0.5 per one kg of transported milk. Villages which have more than 150 households and more than 450 animals are targeted villages for Engro Foods to collect milk. The farm gate price depends on the percentage of fat contents and non-fat-solid as well as market price. For example, the farm gate price of milk with 6 percent of fat and 14 percent of non-fat-solid was Rs.29.95 per one liter at the MCC in Sukkur. As mentioned above, Engro Foods not only purchases milk at the rural villages but also provides income source to people who work for Engro Foods as VMCs or transporters at the rural villages.

In Tharparkar Engro Foods as well as other private companies seasonally collect milk by milk collecting mobile. Since migrated people and animals come back to their homes in Tharparkar during the monsoon season, private companies come and collect milk during only that season.

(2) Price of Milk

The following trends have been observed on milk prices:

- (a) Increase in retail price of fresh milk: Table 8-1-5 shows the changes of the retail prices of unboiled fresh milk in Karachi since 1998/99 to 2007/08. The price of milk has been increasing since 2003/04. Particularly in 2010, when the flood devastated and damaged agricultural lands and livestock in Sindh, the prices of feed and livestock have been increasing. The Project Team had interviews with 46 milk retail shops in all 23 districts. Six retail shops among 16 shops, who think their sales have been decreasing in the last few years, have raised inflation as a reason of less sales.

Table 8-1-5 Retail Price of Unboiled Fresh Milk in Karachi (unit: Rs/liter)

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Karachi	21.36	22.00	22.00	22.00	22.33	23.72	25.88	28.67	30.67	34.47

Source: Pakistan Statistical Yearbook 2009

- (b) Low milk prices in winter: The distribution of milk from the surrounding areas to Karachi shrinks largely in winter because its price becomes much lower. The low price and absence of buyers discourage farmers to produce milk.

(3) Price Determination

The prices of milk are determined in the different ways among Karachi, other cities and towns, and rural areas as mentioned below.

- (a) The farm gate price of milk in Karachi is determined jointly by the Dairy Farmers Association Karachi, Karachi district office, and other stakeholders including the Milk Wholesalers Association and the All Karachi Milk Retailers Welfare Association based on the production cost (See Appendix I-4). The prices in other districts are determined based on the price in Karachi. When the price of milk is determined, they also determine the wholesale as well as the retail prices of milk in Karachi. They usually change the prices twice a year.

In Karachi, the price of milk that the “wholesaler” buys is fixed based on annual contracts as mentioned above. However, the milk price at the wholesale market dealt by the “brokers” fluctuates every day and changes seasonally. In summer, the price of milk becomes high because the demand of milk increases and its supply is low. In winter however there is little milk coming from the surrounding areas to Karachi because prices at wholesale market become low. The milk processing companies instead keep purchasing milk even in winter especially. Thanks to those companies, the rural farmers can have buyers in winter.

- (b) In the other cities and towns, the retail prices of milk are determined by local government. The Sindh government enacted the Sindh Essential Commodities Price Control and Prevention of Profiteering and Hoarding Act to control retail price of essential commodities in Sindh Province. However, the prices of milk as well as other livestock products such as beef and mutton have been rising rapidly and have exceeded the government-determined prices in some districts. As a result, the act has been emasculated

in those districts. Table 8-1-6 also shows that the milk retail prices at the urban area are slightly higher than ones at the rural area in each district.

Table 8-1-6 Milk Retail Price in Sindh Province (Dec 2010 to Jan 2011)

District	Government price	Market Price		District	Government price	Market Price	
		Urban	Rural			Urban	Rural
Ghotki	40	50	40	Thatta	35-40	40	40
Sukkur	40	44	48	Matiari	36	45	50
Khairpur	40-50	50	-	T. Allahyar	46	55	45
N. Feroze	42	35, 40	40	Hyderabad	50	52	-
S. Benazirabad	40	50, 55	-	T M Khan		45	-
Kashmore	40	40	40	Badin	35	60	40
Shikarpur	40	40	-	Sanghar	40	50	40
Jacobabad	45	50, 60	-	Mirpurkhas	44	48	45
K.Shahdadtot	40	50	35	Umerkot	45	52	35, 40
Larkana	40	45	40	Tharparkar	30-40	50	40
Dadu	26-28	36	40	Karachi		60	40
Jamshoro	49	50	48				

Source: Survey by the Project Team

(c) The farm gate prices of milk at the rural areas are not determined by any organization. According to the field study done in December 2010 and January 2011, the farm gate prices vary from Rs.25/kg to Rs.52/kg (see Appendix I). The lowest farm gate price was Rs.25/kg observed at the rural villages in Larkana, Tando Allahyar, Badin, Sanghar and Karachi among 10 surveyed districts. Some farmers however cannot sell their milk at all because of distance and poor transportation to market. Farmers at the rural villages in Tharparkar complain that although they are willing to sell milk, the demand in the village is low and there is no transportation to sell their milk to town.

Additional data was obtained by the household survey. Table 8-1-7 describes the average selling prices of milk per liter for different places. It shows that the selling prices at shops and processors at town are relatively high.

Table 8-1-7 Average Selling Price of Milk by District and Place to Sell (Rs.)

	Middlemen at village	Friends at village	Relatives at village	Processor at Village	Sale of fresh milk in market at Town	Shop at Town	Individual houses at town	Processor at Town	Other at town
Badin	27.6		40.0		42.5				40.0
Jamshoro	40.0	35.0	38.8	40.0		38.5		38.3	
Karachi Colony	47.4					48.2		50.0	
Karachi Other	29.0		50.0		42.5	47.5			39.5
Larkana	33.1	39.8	41.7	30.9	40.0				33.3
Sanghar	10.0		32.5	33.3	32.6	27.5			25.0
Sukkur	27.8	35.8	35.0	35.8	30.0	32.5	33.6		35.0
Tando Allahyar	29.5	40.0	34.7	35.0	32.5	40.0	32.5		
Tharparkar	24.0								
Total	35.3	38.9	39.0	32.6	35.7	41.3	33.3	43.0	36.2

Source: Household Survey

Although it was not obtained by the household survey, milk processing companies also are one of the

buyers at rural area. The prices of milk that major milk processing companies buy vary based on the percentage of fat contained in the milk. While some of the milk processing companies fix the buying price, others change it frequently based on the market price. In both cases, it is said that the price of milk at the rural area have increased after the milk processing companies started buying milk.

(4) Associations

In Karachi, milk producers in the colonies have established farmers associations such as the Dairy Farmers Association Karachi and the Karachi Dairy Farmers Association. Both associations work for milk farmers’ welfare and have strong voice to determine the farm gate price of milk. Wholesalers and retailers of milk also organize their own associations such as “the Milk Wholesaler Association” and “the All Karachi Milk Retailers Welfare Association”.

The major milk processing companies such as Nestle, Engro Foods, Haleeb and Millac, established the Pakistan Dairy Association (PDA) to foster processed milk industry in Pakistan. In addition to install the modern facilities in their value chains of milk by themselves, the members of PDA jointly work for improving the quality of processed milk.

(5) Limiting factors

The following is considered as the limiting factors for improving the current distribution channels and eventually increasing the amount of milk sold in the markets:

(a) Shortage of good quality milk: Based on the interviews with 46 milk retail shops, one of the major constraints of the milk retail shops is a difficulty to get good quality of milk. Figure 8-1-4 shows major constraints raised by the shops. The number of shops who raised issues related to milk quality including feed and adulteration was 26 among 46 shops, about 56.5%. Some shops complained that they are forced to buy water-mixed milk because they have no other way in summer, while some complained that no one can get milk afternoon in summer in the town. Since consumers prefer good quality of milk, shops need good quality of milk to increase their sales.

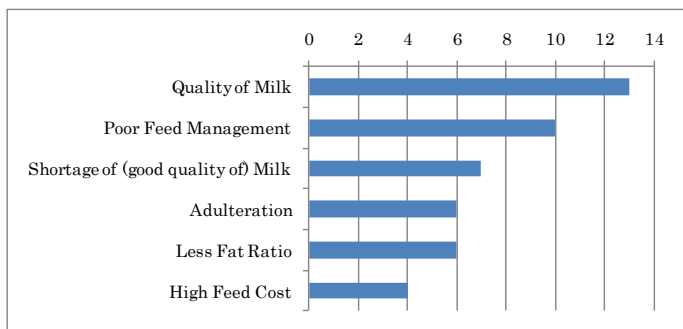


Figure 8-1-4 Major Constraints for Milk Retail Shops

(b) No quality check system: As there is no cold chain in traditional distribution channels of milk, the milk processing companies have established their own cold chains. Farmers or middlemen put ice into milk to keep milk cold, and the quality of milk becomes degraded.

In addition, the adulteration by putting water or other materials to increase milk volume is common and a serious issue. However, there is no scientific quality check system in the traditional value chains of milk. On the other hand, some of the milk processing companies are making efforts to maintain the quality of milk. They have installed chiller tanks and facilities to examine the quality of milk at their milk collecting centers; however, even their activities are not always properly managed.

- (c) Lack of business-orientation of farmers: It seems that farmers at the rural areas do not recognize dairy activities and livestock rearing as business but rather consider it as a means of self-sufficiency for themselves. As a result, the surplus of milk is not efficiently maintained for sale. In addition, the limited number of buyers and/or low price of milk discourage farmers to produce and sell milk.
- (d) The poor road condition at the rural area: The road conditions of highways are good while those at the rural areas are relatively poor. This poor road condition poses difficulty especially in the rainy season to collect and/or transport from producers and chiller tank to processing factories.
- (e) Scattered villages at the rural areas: It is said that the villages at the rural areas in Sindh are located far from each other as compared with the villages in Punjab. This is a disadvantage to collect milk efficiently.
- (f) Migration: Many people at the desert area migrate seasonally to seek for water and feed for their animals. It is said that the seasonal migration makes milk collection difficult because the people migrate far from the milk collecting points.

(6) Countermeasures

To take the above limiting factors into consideration, the following is the possible and effective countermeasures for the improvement of milk distribution:

- (a) Increase of milk supply from the rural areas to the urban areas with market assessment: It is an urgent issue to supply milk to meet the demand of the urban area, especially Karachi. For this purpose, the possible countermeasures are to develop or improve distribution channels from the rural areas to the urban areas. Especially in summer when the milk supply decreases and its demand increases, 30 to 40 % of milk in Karachi come from the surrounding areas. Installing chiller tanks is worth consideration for this purpose. There is a lesson to be considered in the case of LDDDB. Although LDDDB installed chiller tanks, some of the chiller tanks are not used. This is because farmers sell their milk to the local markets where the price of milk is higher than that the chiller tank of LDDDB. This indicates that market needs assessment and the identification of potential buyers are most important. This also requires to understand how rural society can be connected to markets.
- (b) Reduction in the production costs by recycling business: Reduction of the production costs is necessary to maintain the income of the producers and stabilize the retail price of milk. Improvement and expansion of the recycling system of dairy animals can increase the number of milking animals and decrease their prices when the producers purchase. In the cattle colonies, producers keep only milking animals. Once the lactation period is over, dry animals are sold. If a rural farmer buys and keeps such dry animals until when the animals deliver and start lactation, it can be sold at higher price. This is called “recycling system” or “recycling business”, which is shown in Figure 8-1-5. The recycling business can bring cash income to the rural farmers. Currently in Badin, dry buffaloes are sold at Rs.50,000 to Rs.70,000 while milking buffaloes are sold at Rs.75,000 to Rs.100,000. The recycling of dairy animals has been already practiced in Badin and other areas. Improving and/or expanding the system would bring further benefits to not only cattle colonies but also the rural farmers.

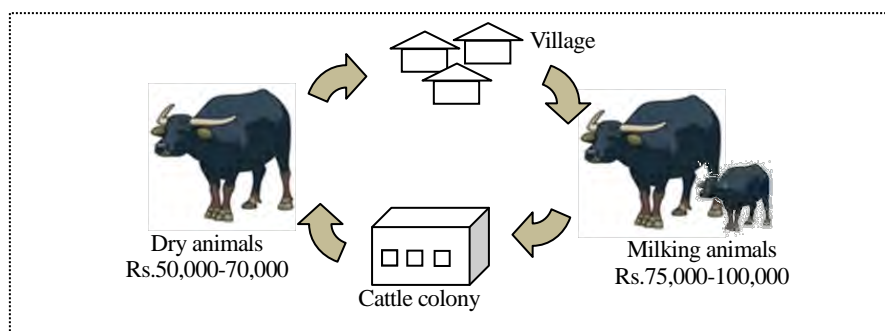


Figure 8-1-5 Recycling Dairy Animals

(c) Introduction of quality check system: The quality check system for milk should be considered if the value chain needs to be successful. If simple and affordable tools to check quality of milk are available in Pakistan, such tools should be introduced by private stakeholders such as farmers, middlemen and retailers as well as by government to improve quality of milk. The awareness campaign to reduce adulteration also may be needed.

8.1.2 Dairy Products

(1) Lassi and Yogurt

Farmers produce Lassi and yogurt at the household level mainly for household consumption, but not for market. The milk shops also produce Lassi and yogurt and sell them at their shops.

(2) Ghee, Cream, and Butter

Table 8-1-8 shows major brands of dairy products sold in Pakistan. Some processing companies produce dairy products such as butter, margarine and cheese, and sell them at supermarkets and other retail shops. Some milk shops sell ghee with price of Rs.450 to 500/kg at their shops. Some sweet shops also produce ghee, butter, and Khoya and sell their products at their shops. Farmers produce ghee, cream, and butter at the household level, and some of them sell their products to market.



Khoya sold at Juna Market in Karachi. There are about 35 retail shops of Khoya. The prices are Rs.200 - 260/kg.

(3) Khoya

Khoya is a product made after boiling milk for hours. The quality of Khoya can be kept good for 15 to 16 hours in summer and 30 hours in winter without refrigerating it. There are some Khoya markets in Karachi, and the demand of Khoya is increasing according to the retailer of Khoya in Karachi. There is no cold chain in the distribution channel. Rural farmers in Dadu, Larkana and other places in Sindh daily produce Khoya and send them to retailers in Karachi every night. In addition to bringing Khoya to Karachi, it can be sold at towns near the villages. Khoya can be one of the good income sources for those farmers.

Table 8-1-8 Major Brands and Companies of Dairy Products in Pakistan

Products	Brand Name	Company	Made in	Price
Butter	Nurpur	Nurpur Foods	Pakistan	Rs.42/100g
	Lurpak	Danish Dairy Board	(middle east)	Rs.159/250g
Margarine	Blue Band	Unilever Pakistan	Pakistan	Rs.84/250g
	Dawn	Dawn Margarine	Malaysia	Rs.58/200g
	Mumtaz	United Foods	UAE	Rs.59/200g
	Nawar	United Foods	UAE	Rs.140/250g
Cheese	Nurpur	Nurpur Foods	Pakistan	
	Happy Cow		Austria	
	President	United Foods	Saudi Arabia	
	Baga		Austria	
	Societe		France	
Cheese (Mozzarella, Cheddar)	Adam's	Adam's Milk Foods	Pakistan	Rs.90/200g

Source: Survey by the Project Team

8.1.3 Meat (Beef and Mutton)

(1) Distribution Channels

A cold chain for meat is not established well in Sindh since livestock is mostly sold alive at cities or towns mainly where it is slaughtered and sold as meat. Livestock are mainly transported through livestock markets or directly from the rural areas to their destinations. While some farmers in villages take and sell their animals at livestock market by themselves, others sell them to middleman living in the same village or coming from outside of the village. Then, the middlemen take them to the markets nearby or intended places. In small towns, shop owners or shopkeepers of beef and mutton go and buy them at livestock markets. After slaughtered at a slaughterhouse or somewhere nearby the shop, meat and internal organs are sold at the shop.

Figure 8-1-6 shows major flows of livestock in Sindh passing through livestock markets. It indicates the majority of the livestock is coming into Karachi, or other large cities. Those coming to Karachi are partly exported. Besides the one through livestock markets, there are direct transports from the villages to the designations as mentioned above.

As the result of the household survey shows in Table 8-1-9, about 63% (277 out of 440 households) of goat holding households sell their goats, mostly to middlemen or markets. The selling prices tend to be higher in the irrigated area than non-irrigated area.

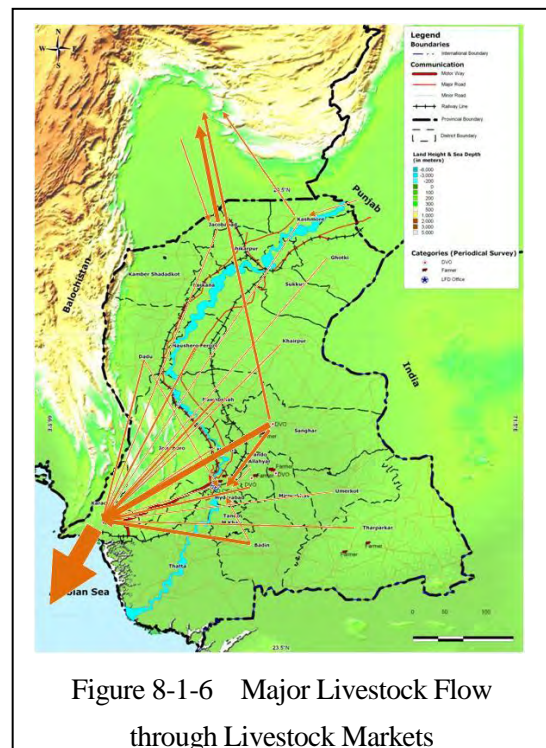


Figure 8-1-6 Major Livestock Flow through Livestock Markets

Table 8-1-9 Households that Sell Live Goats

	Goat Holding HH	HH that sell live goat	HH that sell to middlemen	Selling Price/Head to Middlemen	HH that sell at market	Selling Price/Head at market	HH that sell at other places	Selling Price/Head at other places
Colony	4							
Irrigated	268	131	70	6,131	67	6,507	3	10,100
Non-irrigated	168	146	124	4,713	27	4,519	1	4,000
Total	440	277	194	5,225	94	5,936	4	8,575

Source: Household Survey

As shown in Table 8-1-10, about 65% (62 out of 95 households) of sheep holding households sell their sheep, mostly to middlemen or markets as well. The selling prices also tend to be slightly higher in the irrigated area than non-irrigated area.

Table 8-1-10 Households that Sell Live Sheep

	Sheep Holding HH	HH that sell live sheep	HH that sell to middlemen	Selling Price/Head to Middle-men	HH that sell at market	Selling Price/Head at market
Colony	2					
Irrigated	35	15	6	5,500	10	5,350
Non-irrigated	58	47	31	4,352	17	4,000
Total	95	62	37	4,538	27	4,500

Source: Household Survey

In Sindh, there are 1 to 8 livestock markets in each district as shown in Table 8-1-11. Most of them are opened weekly, and the total numbers of livestock sold in a week at these markets are also indicated in Appendix I-1. The livestock markets are managed by private companies, and the local governments grant permission to them for opening and operating the livestock markets. The companies operating the livestock markets charge sellers and buyers entrance fees, selling and/or buying taxes. The rates are not fixed by the government but determined by the companies. Some portion of the collected fees and taxes are paid to the government.

(2) Price of Meat

As discussed in Chapter 6, the numbers of cattle, buffaloes, goats, and sheep have been increasing, but at the same time the prices of meat has been increasing. According to the Meat Merchant Welfare Association Karachi, which consists of meat retailers, wholesalers and butchers, the supply of meat in Karachi does not meet the demand. The association therefore does not support the idea of increasing the exports. In addition, they claim that smuggling of livestock is a serious issue². Nevertheless, the government has set up two meatless days in a week, normally Tuesday and Wednesday, in order to prohibit and reduce the number of slaughtering by law.

² The association has sent letters to the government asking to take necessary action against the smuggling of livestock.

Table 8-1-11 Number of Livestock Markets and Total Number of Livestock sold per week

District	# of livestock market	Buffalo	Cattle	Sheep	Goat
Ghotki	5	890	800	830	1,945
Sukkur	2	290	145	60	250
Khairpur	8	408	513	970	4,630
N. Feroze	5	618	560	105	2,755
S. Benazirabad	5	550	832	1,755	6,030
Kashmore	3	1,615	1,275	1,385	1,585
Shikarpur	1	270	120	100	500
Jacobabad	6	1,450	2,166	2,425	5,300
K.Shahdadkot	1	250	150	450	350
Larkana	3	600	320	850	1,400
Dadu	7	1,200	1,700	1,850	2,700
Jamshoro	5	510	485	1,000	3,700

District	# of livestock market	Buffalo	Cattle	Sheep	Goat
Thatta	4	565	691	607	608
Matiari	2	500	1,000	150	2,000
T. Allahyar	3	3,070	1,460	490	3,710
Hyderabad	1	188	275	700	1,800
T. M. Khan	4	1,075	550	120	500
Badin	14	6,050	7,300	8,050	13,950
Sanghar	6	10,400	14,265	9,480	18,800
Mirpurkhas	4	645	510	240	1,530
Umarkot	5	210	145	410	1,500
Tharparker	3	27	262	750	2,650
Karachi	4	29,500	8,000	22,000	35,000
Total	101	60,506	42,774	54,665	111,693

Source: The Livestock Department

At the time of Eid-ul-Azha, the demand for animals becomes sharply high, and their prices get much higher than usual. It is estimated that at least half of the animals sold at that time in Karachi and Hyderabad come from Punjab³.

Table 8-1-12 Sales Trend for the Last Few Years

Sales Trend	Answer		Average Change in Sales	Reasons
Increase	3	8%	20%	
Decrease	28	78%	43%	Inflation: 12 Chicken Price:9 Livestock Price:6 Poverty: 2 Flood: 1
No change	5	14%		
No answer	-	-		
Total	36	100%		

Source: Survey by the Project Team

Table 8-1-13 Sales Trend for the Last Few Years

Sales Trend	Answer		Average Change in Sales	Reasons
Increase	4	11%	45%	Population:1 Good Cotton Crop:1 Meat Quality:1
Decrease	29	76%	38%	Inflation: 11 Animal Price:3 Shortage Animal: 2 Poverty, Smuggling, Export:1
No change	4	11%		
No answer	1	3%		
Total	38	100%		

Source: Survey by the Project Team

Inflation and the rising prices of livestock are acknowledged by the retail shop owners. Tables 8-1-12 and 8-1-13 show the perceptions of beef and mutton retail shops on their recent sales. About 80% (28 out of 36 shops) of the beef retail shops said that their sales have been decreasing in the last few years while only 8% or 3 shops said that they increase their sales. Same situations are observed in the mutton

³ In Karachi a livestock market, where about 290,000 cattle, goat and livestock are sold, is temporary opened for Eid-ul-Azha. Approximately 80% of the animals come from Punjab to the market according to a person in-charge of operating the market.

retail shops. 76% (29 out of 38 shops) said that their sales have been decreasing while only 11% or 4 shops said that they increase their sales. Inflation was the biggest issue which was pointed out by 23 shops as a reason why their sales have declined. The second issue was that prices of livestock have been rising. In addition, 6 beef shops mentioned that their sales have declined because the price of chicken has been relatively cheaper than beef.

(3) Price Determination

The retail prices of beef and mutton are determined by the respective district offices. Tables 8-1-14 and 8-1-15 show the government prices and market prices of beef and mutton. The market prices of beef and mutton exceed the government prices in some districts as the price of milk does. The prices differ from place to place, but there is no remarkable tendency between urban and rural.

Table 8-1-14 Retail Prices of Beef in Sindh in Dec. 2010 and Jan. 2011 (unit: Rs/kg)

District	Gov't Price	Market Price		District	Gov't Price	Market Price	
		Urban	Rural			Urban	Rural
Ghotki	160	180	160-170	Thatta	180-200	200	240
Sukkur	230-240	270	-	Matiari	150	180	160
Khairpur	200-220	200	-	T. Allahyar	180 - 190 (calf)	220	200
N. Feroze	180-200	200	200	Hyderabad	180-200	200	
S. Benazirabad	160	240	-	T M Khan		180	
Kashmore	150	200	180	Badin	100 - 180 (calf)	200	200
Shikarpur	200-220	190	-	Sanghar	180	200	-
Jacobabad	220 (cow)	200	-	Mirpurkhas	180-200	200	180-200
K.Shahdadkot	150	200	200	Umerkot	180	180	200
Larkana	200-220	200	200	Tharparkar	N.A.	-	-
Dadu	130	200	200	Karachi	220	220	-
Jamshoro	220	200	-				

Source: Survey by the Project Team

Table 8-1-15 Retail Prices of Mutton in Sindh in Dec. 2010 to Jan. 2011 (unit: Rs/kg)

District	Gov't Price	Market Price		District	Gov't Price	Market Price	
		Urban	Rural			Urban	Rural
Ghotki	300	380	340	Thatta	325-350	360	
Sukkur	380	400	-	Matiari	260	440	340-400
Khairpur	300-340	360	-	T. Allahyar	340	400	400
N. Feroze	300-320	250	380	Hyderabad	340	440	
S. Benazirabad	230-250	400	-	T M Khan		400	
Kashmore	260	400	400	Badin	280	350-400	400
Shikarpur	380	420	-	Sanghar	300	400	-
Jacobabad	350	460	-	Mirpur khas	350	440	300-400
K.Shahdadkot	260	400	400	Umerkot	320	400	380
Larkana	380	400	-	Tharparkar		400	380
Dadu	220	400	380	Karachi		440	440
Jamshoro	340	450	400				

Source: Survey by the Project Team

(4) Limiting factors

(a) Lack of animal fattening business: As mentioned above, the supplies of beef and mutton are not sufficient to meet the demand of the people in Sindh. In addition, at least half of cows and goats for Eid-ul-Azha in Karachi and Hyderabad come from Punjab. One of the reasons is that animal fattening business is not much seen in Sindh.

(b) Quality and prices are not linked: The prices of beef and mutton are determined by the district governments as mentioned above. In Karachi, there are 2 kinds of prices for mutton and 4 kinds of prices for beef as shown in Table 8-1-16, depending mainly on the appearances of meat. The prices are not linked to tastes, tenderness, safeness, etc. The old animals not utilized for dairy purpose anymore can be sold for domestic consumption. If there is no big difference in meat prices between such old animal and heifer, however, farmers are not encouraged to produce good quality (tasty, tender, and hygienic) meat.

Table 8-1-16 Prices of Beef and Mutton in Karachi (December 2010)

Meat	Class	Price (Rs./kg)
Mutton	A Class	450
	B Class	415
Beef	With bone	220
	Without bone	250
Beef(heifer)	A Class	260
	B Class	255

Source: Survey by the Project Team

(c) Poor facilities and management of livestock market: Many livestock markets do not have necessary facilities such as clean water supply, electricity, shade, security, etc. The lack of these facilities was one of the serious concerns of those who use livestock markets as shown in Figure 8-1-7. Moreover, if veterinary services, weighting, loading/unloading facilities, etc. are equipped with the livestock markets, it will be more appropriate for producing meat more efficiently and safely. In this aspect, facilities and management of livestock markets need to be improved.

(d) Slaughterhouse: In some cities, a slaughterhouse is not established or is occupied and used for another purpose. In addition, some existing slaughterhouses are criticized because of uncleanness.

(e) Smuggling/Buyers for Iran, Afghanistan, and Dubai: The retail shop owners of beef and mutton, who buy livestock at livestock markets, complained that buyers for Iran, Afghanistan, and Dubai come to every livestock market and purchase a large number of livestock with higher price than local people pay. Many retail shops also insist that the buyers for Iran, Afghanistan, and Dubai are one of the biggest reasons why the price of livestock has been rising and why the number of livestock has been decreasing⁴.

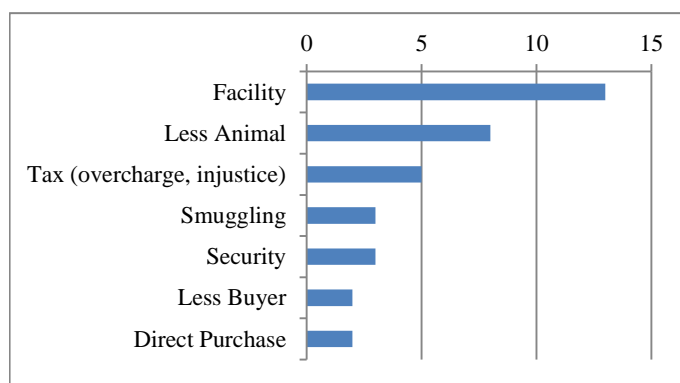


Figure 8-1-7 Major Concerns of those who use Livestock Market

Source: Survey by the Project Team

⁴ Nevertheless, the export of livestock does not appear on the statistics at all.

(5) Countermeasures

- (a) Better use of livestock resource/calves at livestock markets: Milking buffalos are usually sold with their calf at livestock markets. For example, average 2,000 milking buffalos are sold every market day in the Shehdadpur livestock market in Sanghar. About 1,400 milking buffaloes or 70% are purchased by dairy farmers who do not keep the calf. As a result, 1,400 calves are sold to butchers for meat purpose. In addition, it is said that even if calves are purchased by local people for rearing purpose, 60% of calves die because they have no mothers. In order to utilize livestock resources better, rearing the calves should be encouraged.
- (b) Promotion of animal fattening business: As mentioned above, animal fattening business will bring a considerable profit to the owners particularly at the time of Eid-ul-Azha. It is a good opportunity for the farmers to increase their incomes if they can be provided proper technical guidance, basic business skills, and initial investment.
- (c) Consumer needs: With the increase of per-capita income and the urbanization, there is a potential that the people in Sindh will demand a good quality of meat in future as this trend has been already seen for milk. To facilitate such changes, awareness creation on meat quality among the consumers needs to be considered.
- (d) Improvement of the livestock market: Improvement of livestock markets by providing water supply, shades for livestock, electricity and other necessary facilities need to be made. The information on well-managed livestock markets or good practices of livestock management should be distributed to the managers of livestock markets.
- (e) Improvement of slaughterhouse: Improvement of slaughterhouses should also be made. The better management practices of slaughterhouses need to be shared among the managers of slaughterhouses.
- (f) Government control against smuggling of livestock: Making and enforcing a law which bans smuggling of livestock is necessary. Initiatives and strong actions of the concerned authority are essential.

8.1.4 Poultry

Although the majority of chicken sold in Sindh are broilers, meat and eggs of local poultry are also popular among the consumers. The price of broiler poultry is determined daily by the Sindh Baluchistan Poultry Dealers Association, but the price of desi poultry is not determined by any organization. The desi poultry is not sold often at poultry retail shops, but the eggs of desi poultry is often sold with commercial eggs at retail shops. The poultry retail shop at Khairpur sells only desi poultry (live animal) among 42 shops interviewed in 23 districts. The market prices of poultry and eggs are summarized in Tables 8-1-17 and 8-1-18. As it is shown, the prices of desi poultry and

Box 8.2 Price Determination for Poultry

The Sindh Baluchistan Poultry Dealers Association consists of 200 members who merchandise chicken from farmers to markets. About half of the members also farm poultry for themselves. The representative of the Association said that 70 % of chicken sold in Karachi is supplied by only 7 members of the Association. Those 7 farmers assume that 3 to 3.5 million chickens are consumed in Karachi per week. They count the numbers of chicken which remain in the major markets in every evening and estimate how many chicken have been brought to Karachi. If the number of chicken brought to Karachi is considered to exceed 3 to 3.5 million, which is the estimated consumption volume in Karachi, the prices are lowered. Otherwise they maintain the price high.

eggs are higher than commercial ones by 10 to 100%.

Table 8-1-17 Market Price of Poultry in Sindh in Dec. 2010 to Jan. 2011 (unit: Rs/kg)

District	Urban		Rural	
	Live	Meat	Live	Meat
Ghotki	110,115	175,180	105	200
Sukkur		200		220
Khairpur	115	190		
N. Feroze	125	200	135	200
S. Benazirabad	120	180		
Kashmore	110	200	130	200
Shikarpur	120	200		
Jacobabad		210		
K.Shahdadt		230	115-120	200
Larkana	120	200		220
Dadu		200	150	210
Jamshoro		230		240

Source: Project Team

Table 8-1-18 Market Price of Eggs in Dec. 2010 to Jan. 2011 (unit: Rs/doze)

District	Broiler		Desi	
	Urban	Rural	Urban	Rural
Ghotki	90	85-90		
Sukkur	94	96	130	120
Khairpur	90			
N. Feroze	75	96	100	156
S. Benazirabad	86		110	
Kashmore	110	80		120
Shikarpur	90			
Jacobabad	90		140	
K.Shahdadt	90	90-	120	
Larkana	95	108	130	
Dadu	96	85		
Jamshoro	93	76	140	

Source: Project Team

The issue is that local poultry grow slower, and the laying frequency is lower than commercial poultry. In addition, the production volume of meat and eggs of local poultry is limited. As a result, they are not much commercially attractive; however, local poultry can be promoted as locally-special products in selected areas in Sindh.

8.1.5 Wool

The number of sheep has remained at the same level since 1990/91 according to Pakistan Economic Survey 2009. The major processed product of wool in Pakistan is carpet. The quality of wool yarn is better than the one made in New Zealand according to the Pakistan Wool and Hair Export Association. Although the export of wool yarn had declined in 2005, it recovered in 2009. The farm gate price of wool is quite low, Rs. 25 to 40 per kg, or sometimes it is traded for free. In order to increase income of farmers from wool, installing small processing facilities at the production areas may be considered.

8.1.6 Leather

Leather and leather products are one of the most important export products in Pakistan. According to the Trade Development Authority Pakistan (TDAP), the export value of leather and leather products was USD1,114,760, 5.9% of the total export value, in 2007-08. The export value of leather and leather products has been around USD 1 million from 2005-2006 to 2007-08,. Sialkot where 9.05 million pieces of leather products are annually produced is the largest manufacturing area of leather products in Pakistan while Karachi where 4.64 million pieces are annually produced is the second largest⁵.

Skins are pored and preserved in salt at village or town after being slaughtered. Buyers come to villages and towns to buy those skins with hair.



Figure 8-1-8 Cured skins: Skins are preserved in salt at village or town, and sold to buyers

8.1.7 Bone and other parts

Bones, hooves, and horns of cattle and buffalo are utilized as feed of animal or fertilizer after being crushed. In Karachi there are several manufacturers and exporters of these products. Name of the companies and their products are shown in Table 8-1-19.

Table 8-1-19 List of Companies Dealing with Bones and Other Parts of Livestock

	Company	Type	Products	Location	Annual sales
1	Zaheer Traders	Manufacturer	Crushed bones, meat bone meal,	Karachi	
2	Grey Impex	Manufacturer	Crushed bones, crushed hooves, steamed bone meal, steamed Horns and hooves meal, bone grist, animal horns, cattle bones	Karachi	US\$1 - 2.5 million (export %: 41% - 50%)
3	Sana Industry	Manufacturer, trading company	chicken feet, chicken paws, bone meal, feather meal	Karachi	
4	Junaid Brothers	Trading company	Steamed leather meal, meat bone meal, steamed bone meal	Karachi	

8.1.8 Export Markets

Major exportable products are milk, meat (beef and mutton) and livestock (buffalo, cattle, goat, mutton, and camel). It is said that there is a huge potential of Halal products of Pakistan for export. However, in Sindh there is no Islamic organization authorized for export although there is one in Punjab. This may be a disadvantage to promote export of Halal products. Besides those products, processed products such as mozzarella cheese produced by buffalo milk are also the potential.

⁵ Feasibility Study on the Leather Garment Industry, JICA(2004)

Since Pakistan is one of the countries which is contaminated by foot and mouth disease (FMD), meat cannot be exported to the countries which have restriction on the import of livestock products from the FMD contaminated countries.

(1) Current situations and potentials

(a) Dairy Products

According to FAO, although the amount of exported milk has been increasing since 2001 in Pakistan, Pakistan is a milk-importing country as the quantity of import exceeds the export. The major destination of export from Pakistan is Afghanistan. There are milk processing companies in Pakistan whose products may meet international quality standards. This can be recognized as an advantage for promoting milk export.

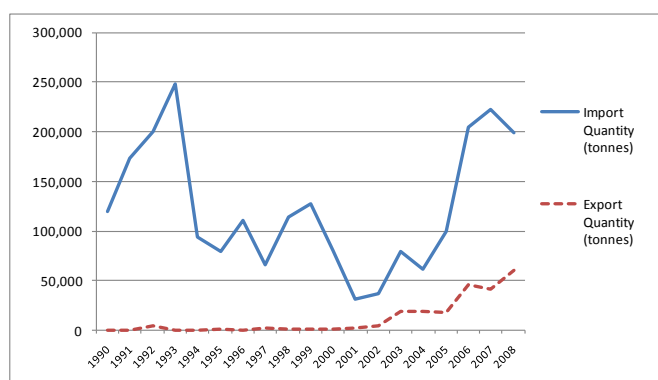


Figure 8-1-9 Imported and Exported Volume of Milk (unit: ton)

Source: FAOSTAT

Table 8-1-20 Major Milk Export/Import Countries of Pakistan in 2008

	Country	Ton
Export		
1	Afghanistan	5,438
2	Japan	686
3	Liberia	161
4	Côte d'Ivoire	46
5	Mozambique	28
Import		
1	New Zealand	7,168
2	USA	1,242
3	India	586
4	Netherlands	405
5	Singapore	206

Note: There is no milk import from Pakistan to Japan according to the trade statistics provided by Japanese government. Therefore it seems to be exported not to Japan but other another country such as Afghanistan as food aid.

(b) Beef and Mutton

As mentioned already, there is a huge potential to export halal meat to Islamic countries especially to the Middle-East. Figure 8-1-9 shows the exported and imported volumes of beef from/to Pakistan in the period of 1990 to 2008. The statistics shows that the beef export has been increasing since 2004. Table 8-1-20 shows the major destinations and origin countries of the export/import to/from Pakistan. Although about half of destinations of Pakistan beef are not specified, Islamic countries including Kuwait, Oman, and Qatar are the major destinations.

Figure 8-1-10 shows the exported and imported volume of live buffalo and cattle from 1990 to 2008. Even though it shows that the exported volumes of buffalo and cattle are small, the actual figures should be much bigger according to various interviews at livestock markets in Sindh and other places. It is assumed that the large number of buffalo, cattle, and beef are smuggled.

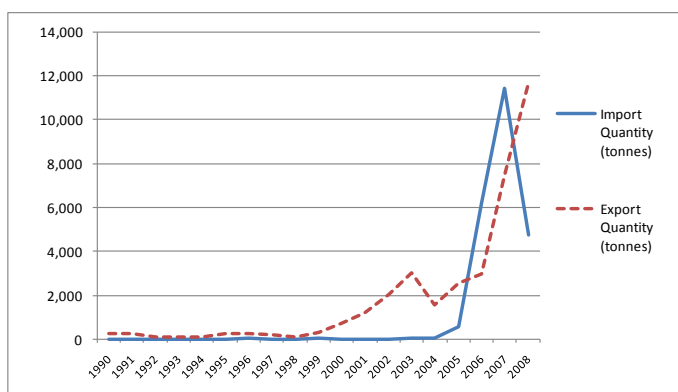


Figure 8-1-10 Imported and Exported Volumes of Beef (unit: ton)

Source: FAOSTAT

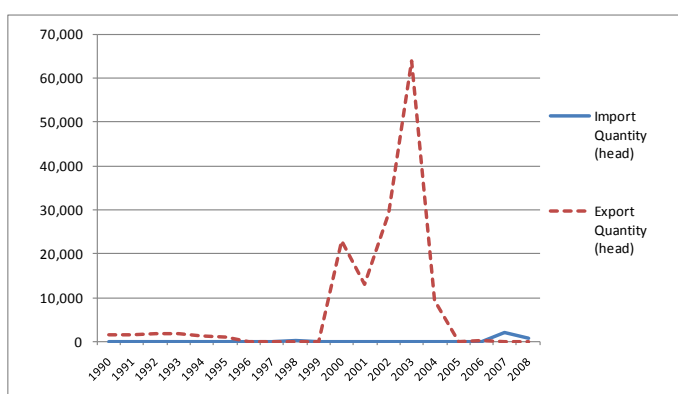


Figure 8-1-11 Imported and Exported Volumes of Buffalo and Cattle (unit: head)

Source: FAOSTAT

Table 8-1-21 Major Beef Export/Import Countries of Pakistan in 2008

	Country	Ton
Export		
1	Unspecified	5,061
2	Kuwait	3,350
3	Oman	1,271
4	Qatar	1,036
5	Saudi Arabia	468
Import		
1	India	3,303
2	Brazil	225
3	Australia	27
4	Saudi Arabia	22
5	China	21

Table 8-1-22 Major Buffalo and Cattle Export/Import Countries of Pakistan in 2008

	Country	Head
Export		
1	-	
2	-	
3	-	
4	-	
5	-	
Import		
1	Australia	820
2	United Kingdom	7
3	United States of America	3
4	Canada	3
5	Italy	1

In South and Western Asia, the biggest beef importing country is UAE followed by Iran, Israel, Saudi Arabia, and Jordan. As shown in Figure 8-1-11, UAE imports beef from India, Pakistan, Australia, Saudi Arabia, and so on.

Table 8-1-23 Major Export/Import Countries of Beef in South and Western Asia in 2008

	Country	Ton
Export		
1	India	466,516
2	Jordan	12,608
3	Pakistan	11,689
4	UAE	9,263
5	Saudi Arabia	6,045
Import		
1	UAE	114,353
2	Iran	105,592
3	Israel	95,540
4	Saudi Arabia	68,137
5	Jordan	44,157

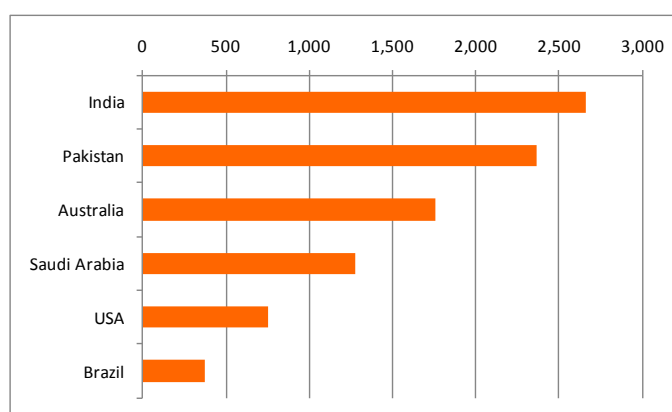


Figure 8-1-12 Major Countries Exporting Beef to UAE (unit: ton)

Source: FAOSTAT

On the other hand, the biggest buffalo/cattle importing country in South and Western Asia is Lebanon followed by Yemen, Israel. Lebanon does not import buffalo but only cattle. The biggest cattle exporter to Lebanon is Brazil. Its share in Lebanon is about 75%.

Table 8-1-24 Major Export/Import Countries of Buffalo/Cattle in South and Western Asia in 2008

	Country	Head
Export		
1	Georgia	2,253
2	UAE	1,491
3	Oman	976
4	Jordan	580
5	Cyprus	477
Import		
1	Lebanon	178,544
2	Yemen	135,277
3	Israel	96,367
4	Palestinian	43,000
5	Jordan	36,112

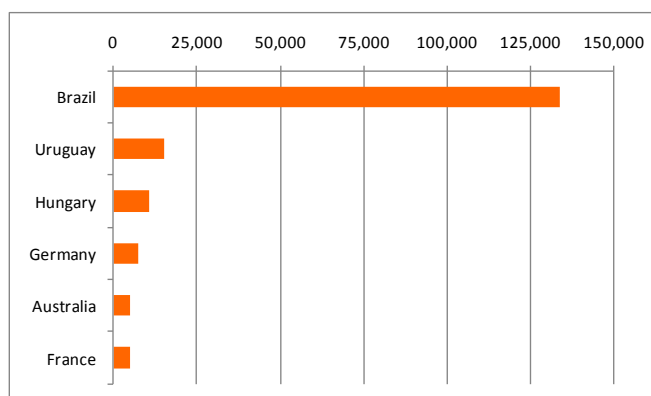


Figure 8-1-13 Major Countries Exporting cattle to Lebanon (unit: head)

Source: FAOSTAT

As seen in the case of buffalo, cattle, and beef, the discrepancy between the statistic data and the real situations is also observed for mutton and sheep/goat. According to FAO statistics, there was no export of goat and sheep from Pakistan in 2008. However, many livestock business people insisted that the large number of goat and sheep were exported from Pakistan.

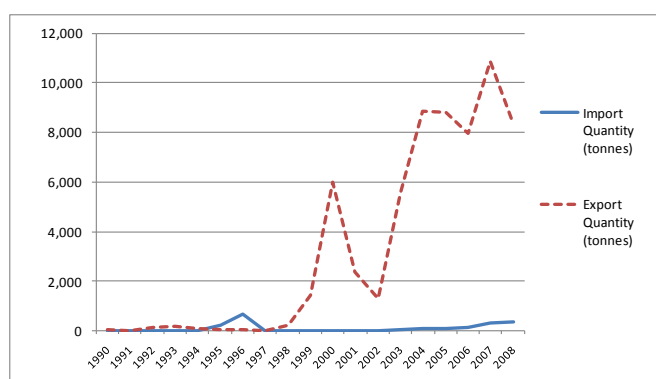


Figure 8-1-14 Imported and Exported Volume of Mutton (unit: Ton)

Source: FAOSTAT

Table 8-1-25 Major Export/Import Countries of Mutton in 2008

	Country	Ton
Export		
1	Afghanistan	3,163
2	Albania	900
3	Argentina	656
4	Australia	485
5	Austria	331
Import		
1	India	351
2	Australia	11
3	-	
4	-	
5	-	

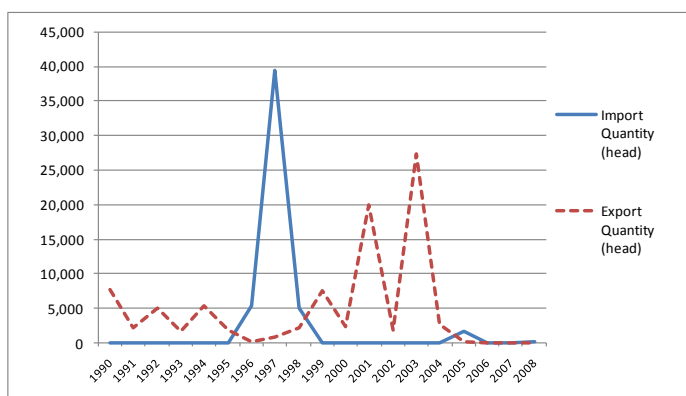


Figure 8-1-15 Imported and Exported Volume of Sheep and Goat (unit: head)

Source: FAOSTAT

Table 8-1-26 Major Export/Import Countries of Sheep and Goat in 2008

	Country	head
Export		
1	-	
2	-	
3	-	
4	-	
5	-	
Import		
1	India	116
2	-	
3	-	
4	-	
5	-	

Table 8-1-27 Major Export/Import Countries of Mutton in South and Western Asia in 2008 (ton)

	Country	Ton
Export		
1	India	37,113
2	Pakistan	5,834
3	Saudi Arabia	2,872
4	UAE	871
5	Qatar	407
Import		
1	Saudi Arabia	65,991
2	UAE	59,970
3	Kuwait	15,826
4	Qatar	15,697
5	Jordan	14,589

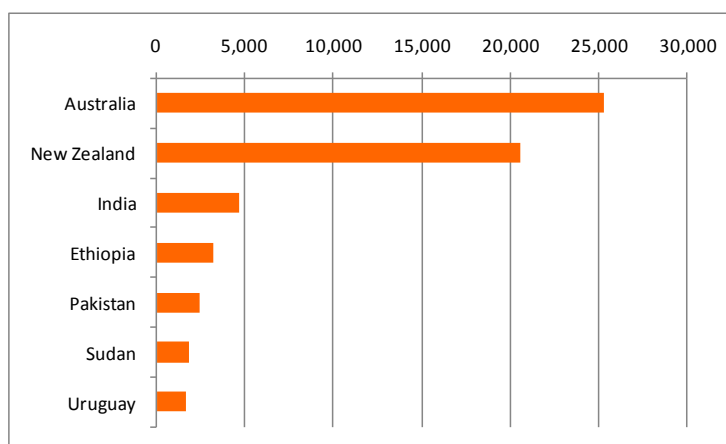


Figure 8-1-16 Major Countries Exporting Mutton to Saudi Arabia in 2007 (unit: ton)

In South and Western Asia, the biggest mutton importing country is Saudi Arabia followed by UAE while the biggest mutton exporting country is India followed by Pakistan and Saudi Arabia.

The large number of goats and sheep are dealt in international market. In South and Western Asia, Oman is the biggest importer followed by UAE, Saudi Arabia, Kuwait and Yemen. Oman also exports the large number of goat and sheep. Although Pakistan does not appear in the list as the biggest exporter of goats and sheep, it actually may be one of the biggest exporting countries. As shown in Figure 8-1-16, Iran is the biggest goat/sheep exporting country followed by Australia for Oman. Since it is said that the large number of livestock are sold to Iran and the other countries from Pakistan, a part of livestock from Pakistan may be exported through Iran.

Table 8-1-28 Major Export/Import Countries of Goat/Sheep in South and Western Asia in 2008 (unit: head)

	Country	Head
Export		
1	Iran	1,710,497
2	Oman	1,471,870
3	India	856,993
4	Syrian Arab Republic	314,118
5	Saudi Arabia	110,697
Import		
1	Oman	2,199,239
2	UAE	1,902,787
3	Saudi Arabia	1,691,328
4	Kuwait	1,258,000
5	Yemen	1,227,409

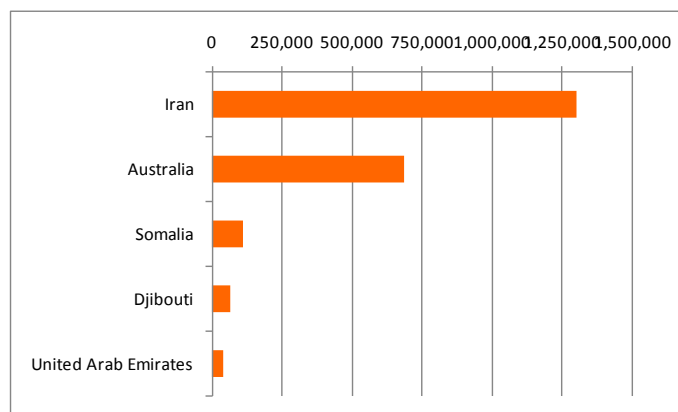


Figure 8-1-17 Major Countries Exporting Goat/Sheep to Oman (unit: head)

Source: FAOSTAT

(c) Camel

The number of camel is large in the desert and coastal areas. In addition, it is said that the demand of camel for export is increasing. The price of camel has been increasing; a farmer at the camel market in Badin said that he sold his camels at Rs.70,000 to 80,000 in 2008, Rs.100,000 in 2009, and Rs.150,000 in 2010. Camel rearing seems to be profitable. Farmers in Thatta and Badin have been engaged in camel rearing business already. The price of a small camel ranges from Rs.30,000 to Rs.40,000 while the adult camel after 2 or 3 years can be sold at Rs.100,000 to Rs.200,000. But some said that traders from abroad purchase camels at higher price.

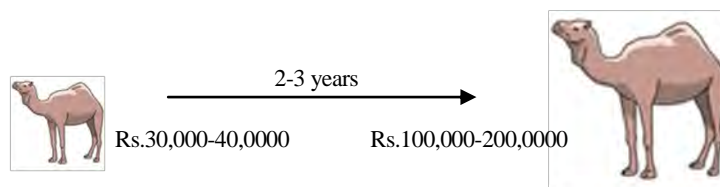


Figure 8-1-18 Camel Business

Figure 8-1-18 shows the imported and exported volumes of camel (livestock) to/from Pakistan from 1990 to 2008. The statistic data shows that certain amounts of camel were exported in 1990, 2001, and 2002 from Pakistan. The major destinations of camel (livestock) from Pakistan are Iran, Saudi Arabia, and UAE in 2002. The import and export of camel meat does not appear on FAO statistic data.

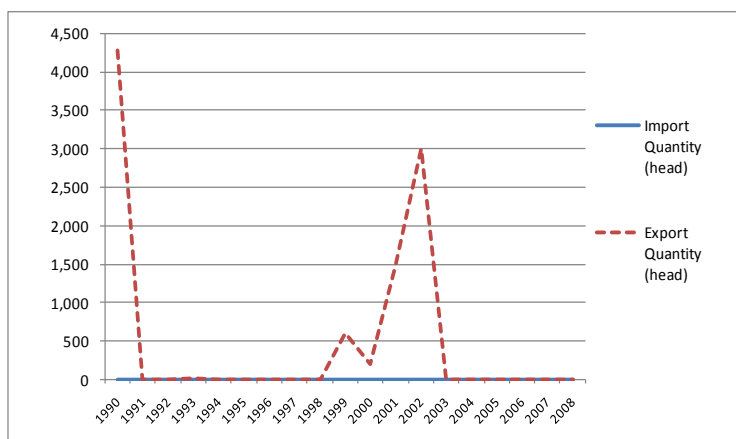


Figure 8-1-19 Imported and Exported Volume of Camel (unit: head)

Source: FAOSTAT

Table 8-1-29 Major Camel Export/Import Countries of Pakistan in 2008

	Country	Head
Export		
1	Iran	2,248
2	Saudi Arabia	610
3	UAE	145
4	-	
5	-	
Import		
1	-	
2	-	
3	-	
4	-	
5	-	

Many countries including Pakistan and the other countries in South and Western Asia do not trade camel meat. As Table 8-1-29 shows, only Qatar traded camel meat in 2008 among South and Western Asian countries.

Table 8-1-30 Major Export/Import Countries of Camel meat in South and Western Asia in 2008

	Country	Ton
Export		
1	-	
2	-	
3	-	
4	-	
5	-	
Import		
1	Qatar	509
2		

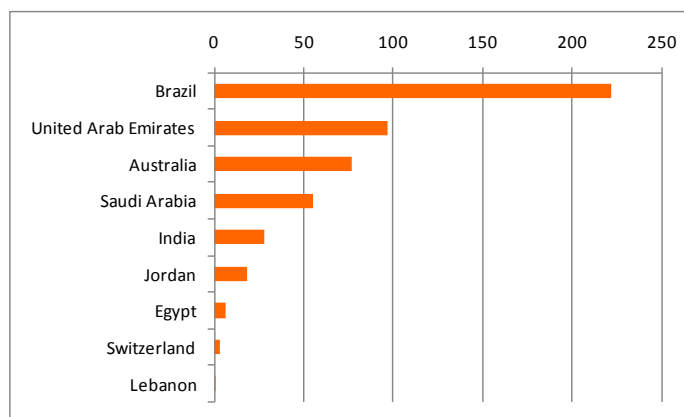


Figure 8-1-20 Major Countries Exporting Camel Meat to Qatar (unit: ton)

Source: FAOSTAT

The biggest camel importing country in South Asia and Western Asia is Qatar followed by UAE, Saudi Arabia and Kuwait. Saudi Arabia, UEA, Qatar and Kuwait are also the biggest camel exporting countries. Oman and UAE import camel more than export while Saudi Arabia export more than import.

Table 8-1-31 Major Export/Import Countries of Camel in South and Western Asia in 2008

	Country	Head
Export		
1	Saudi Arabia	40,000
2	UAE	30,000
3	Qatar	20,017
4	Kuwait	3,000
5	Bahrain	59
Import		
1	Qatar	55,750
2	UAE	40,000
3	Saudi Arabia	6,919
4	Kuwait	3,500
5	Bahrain	9

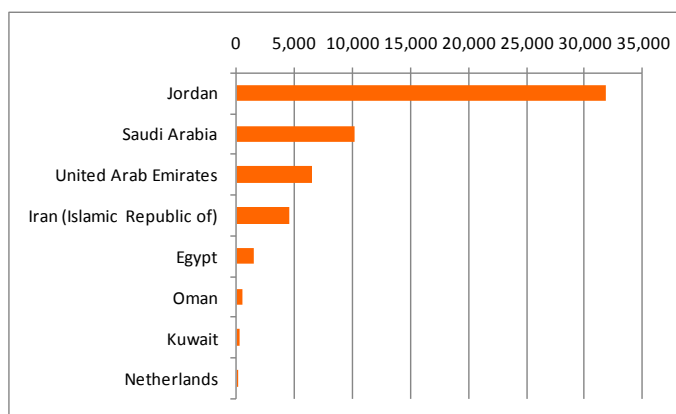


Figure 8-1-21 Major Countries Exporting camel to Qatar (unit: head)

Source: FAOSTAT

(2) Limiting Factors

- (a) Dairy products: Although the export volumes of dairy products have been increasing since 2000, their imports exceed the exports. One of the major issues for export promotion is that the production and distribution of dairy products are not of international quality.
- (b) Beef and mutton: The productions of beef and mutton are not sufficient for export, and it is said that the slaughterhouses and storages hardly meet the international standards. In addition, the rearing cost of livestock has been increasing, which affects the prices of meat. In order to keep Pakistan beef and mutton competitive, production costs need to be controlled. Besides those factors, smuggling of animals is also a serious issue.
- (c) Camel: The number of camel has been decreasing since 1990/91 in Pakistan. Since the purchase price of a small camel is higher than the other animals, farmers may not be able to start camel rearing business because of lack of finance or they may hesitate to start high risk business.

(3) Countermeasures

- (a) Export authority for dairy and meat products: An effort to enhance the quality of dairy and meat products to international level is essential. It is said that the Sindh government has recently started the process of establishing an Islamic organization authorized for exporting dairy and meat products. It is therefore necessary to ensure that such organization is established and starts its operation at the earliest time.
- (b) Reduction of production cost: Livestock rearing has become costly activities along with the raise of input cost. The ways to reduce the production costs need to be identified and disseminated, such as i) efficient farm management, ii) group production and marketing, etc.
- (c) Control of animal smuggling: The government should take actions for controlling the smuggling of livestock. Strong commitment and hard work of the government is needed.
- (d) Efforts for eradicating FMD and other diseases: The status of FMD contamination prevents the country from exporting meat to many countries. If FMD is eradicated in the country area or at least confined in an isolated zone, the requirements for obtaining permits and licenses for export, recommended by World

Organization for Animal Health (OIE), will become less. There are 65 FMD free countries without vaccination, and 13 FMD free zones without and with vaccination as of May 2010⁶. According to the OIE regulation, FMD contaminated countries are almost unable to export animal products to FMD free countries. Those countries include the developed countries such as France, Germany, UK and USA. On the other hand, FMD free zones can export animals to FMD free countries. Although Pakistan is the FMD contaminated country, the seacoast area in Sindh can be developed as the FMD free zone since FMD virus is difficult to spread across the sea. In addition to FMD, Tuberculosis and Brucellosis are also crucial disease.

8.2 Private Sector

8.2.1 Associations

As mentioned above, 97% of the marketed milk is fresh and distributed from producers to retailers through various channels. In the value chain of milk, producers, middlemen (wholesalers and brokers) and retailers play major roles. In Karachi, producers in cattle colonies, wholesalers and retailers organize the associations as a means to increase their benefits. Major associations in Karachi are shown in Table 8-2-1.

Table 8-2-1 Major Associations in Karachi related to Milk Distribution

Producers in cattle colonies	Dairy Farmers Association Karachi Karachi Dairy Farmers Association
Wholesalers	Milk Wholesaler Association
Retailers	All Karachi Milk Retailers Welfare Association

One important role of those associations is to determine the farm gate price, wholesale price and retail price of milk in Karachi. These prices are settled based on the profits of producers, wholesalers and retailers through the meetings among such stakeholders. In addition to these associations, there are other associations in Pakistan related to meat, wool, and leather production. Table 8-2-2 lists those associations. The members of the meat association consist of butchers, wholesalers, and retailers of meat, and those of poultry associations are composed of poultry farmers and dealers.

The veterinarians working for both the public and private sectors organize the association named the Pakistan Veterinary Medical Association to enhance their expertise and increase their welfares. The association indicates that there are about 2,000 veterinarians in Sindh, but only 400 veterinarians are employed by the government, and many veterinarians are unemployed. In January 2011, the association went on strike, requiring the Department of Livestock and Fisheries on; i) countermeasures for unemployed veterinarians in Sindh, ii) transparency on promotion of government veterinarians, iii) travel allowance for government veterinarian, iv) permission for government veterinarians to provide private veterinary services or making exclusive working contract with the government which comes with a special allowance, and v) reopening some veterinary facilities and assigning them to work at those facilities.

⁶ Website of World Organization for Animal Health (OIE). FMD free country with vaccination is only Uruguay as of May 2010.

Table 8-2-2 Major Associations in Pakistan related to Livestock Products

Sector		Name of associations
Meat		Meat Merchant Welfare Association, Karachi (Karachi branch of the national organization)
Poultry	Producers	Pakistan Poultry Farmers Association (Karachi branch of the national organization.)
	Producers/ Wholesalers	Sindh Balochistan Poultry Dealers Association (This organization determines price of poultry in Sindh and Balochistan)
Wool		Pakistan Woolen Mills Association Wool and Hair Exports Association
Leather		Pakistan Tanners Association

8.2.2 Public Corporations

There are several public corporations in the livestock sector. The major organizations and their outlines are shown in Table 8-2-3. Those organizations depend on the government budgets for their operations, and at present all of them face difficulties for continuation or initiation of themselves due to budget cut or suspension.

Table 8-2-3 Major Public Organizations and their Outlines

Organization	Outline
PDDC	<p>Pakistan Dairy Development Company (PDDC)</p> <p>In August 2005, PDDC was established to drive the development of the Pakistan dairy sector. PDDC is a joint initiative of the public and private sectors, and aims to bring about long-term structural changes in the dairy industry in Pakistan.</p> <p>PDDC was established under the guidance of the Ministry of Industries. The board of directors of PDDC is made up of the representatives of both the private and public sectors, with one representative of an agricultural university. A majority of the directors are from the private sector, and according to the articles of the company, the chairman must always be selected from the private sector.</p> <p>PDDC published “White Paper” and identified many programmes that would bring about the development of the sector. Major programs are the following:</p> <ul style="list-style-type: none"> • Model Farm, Cooling Tank Programs (2006 -) • Bio Gas, Community Farm Program, Rural Service Provider, PDDC Extension
LDDB	<p>Livestock and Dairy Development Board (LDDB)</p> <p>Ministry of Food, Agriculture and Livestock presented the Livestock Development Policy to the Prime Minister in April 2005, and the policy highlighted the necessity to develop this agency. LDDB was finally established on August 19, 2005.</p> <p>The branch of Sindh Province is located in Hyderabad. The major projects of LDDB</p>

Organization	Outline
	in dairy sector include organization of milk production groups, installation of chiller tanks, implementation of progeny test, and setup of the facilities for the A.I. center. LDDDB also works for the meat industry through supporting fattening, adding value to meat and improving the capacity of meat production and processing. In 2011, LDDDB is officially closed in Sindh although a succeeding organization, Punjab Livestock and Dairy Development Board, PLDDDB, was established in Punjab.
SDMDC	Sindh Dairy and Meat Development Company (SDMDC) SDMDC will be a non-profit company which works for the development of the dairy and meat sectors in Sindh Province, and is planned to be established in the near future. The government of Sindh has provided a seed budget for SDMDC to start its operations. However under the new secretary, the scope of work was redesigned and the recruitment of CEO and other important posts of SDMDC have been suspended.

8.2.3 Private Companies

In the livestock sector, many kinds of private companies are actively involved. Among them, this section examines; a) milk processing companies, b) meat processing companies, c) pharmaceutical companies, and d) packaging companies.

(a) Milk processing companies: Although most of milk is distributed as fresh, the production of the processed milk has been increasing by 20% per year according to “White Paper”. Since milk processing companies have started purchasing milk in the rural areas in Sindh, the farm gate price of milk has been increased. In addition, some milk processing companies such as Engro Foods and Nestle provide agri-services to rural farmers. Nestle and Engro Foods have worked with UNDP in Punjab and Sindh on the Community Empowerment through Livestock Development and Credit (CELDAC), and they are willing further to collaborate with the public sector. Major milk processing companies, which collect milk and/or have processing plants in Sindh, are shown in Table 8-2-4.

Table 8-2-4 Major Milk Processing Companies Collecting Milk and/or Having Processing Plants in Sindh

Name (Brand)	Outline of Company	Activities in Sindh
Nestle	<i>Head Office:</i> Lahore, Punjab <i>Factory:</i> 2 factories in Punjab (Capacity: 1.3 million liters per day, Average production: 1.04 million liters per day) <i>History:</i> Nestle merged a local company named Milpak Ltd in 1988 and started their business in Pakistan. The company has two processing factories in Punjab which have the total capacity of 1.3 million liters per day. The sales of 2008 and 2009 reached Rs.34.18 billion and Rs.41.156 billion respectively. The company also exports milk, and its value reached Rs. 2.2 billion.	<ul style="list-style-type: none"> • Milk collection (collecting about 30% of total volume of milk with 175 chiller tanks in Sindh) • Sales
Haleeb Foods Limited	<i>Head Office:</i> Lahore, Punjab <i>Factory:</i> 2 factories (Bhai Pheru and Rahim Yar Khan) in Punjab (Capacity: 900,000 liters per day, Average production: 720,000 liters per day) <i>History:</i> Haleeb Foods Limited was established in 1986, and its first product was Haleeb milk. Its annual turnover was Rs.9 billion in	<ul style="list-style-type: none"> • Milk collection (74 chiller tanks in Sindh) • Sales

Name (Brand)	Outline of Company	Activities in Sindh
	the fiscal year of 2006, but it was decreased to Rs.6 billion in 2009. Its business is shrinking, and it is said that its milk collection centers in Sindh may be sold to Nestle.	
Millac Pakistan Limited	<i>Head Office:</i> Lahore, Punjab <i>Factory:</i> 2 factories (Manga Mandi and Jhang) in Punjab, and 1 factory (Karachi) in Sindh <i>History:</i> Pakistan Milkfood Manufactures Limited, the predecessor of Millac Pakistan Ltd, was established in 1967. The company had the current name in 1973, and started producing powder milk in 1999.	<ul style="list-style-type: none"> • Milk collection • Processing(capacity of the factory in Karachi: 100,000 liter per day) • Sales
Idera-e-Kissan (Halla)	<i>Head Office:</i> Lahore, Punjab <i>Factory:</i> 1 factory in Punjab (Capacity: 150,000 liters per day, Average production: 120,000 liters per day) <i>History:</i> Idera-e-Kissan, which is a milk producers' cooperative, was established by the Punjab government and GTZ through German Technical Cooperation Programme in 1992.	• Idera-e-Kissan tried to rehabilitate a milk processing factory in Sindh with Sindh government in 2004, but it could not do it because it failed to organize farmers' organization.
Engro Foods	<i>Head Office:</i> Karachi, Sindh <i>Factory:</i> Sahiwal in Panjab (capacity: 600,000L/day capacity) and Sukkur in Sindh (capacity: 700,000L/day) <i>History:</i> Engro Foods Limited was established in 2005. The company has factories in Sukkur in Sindh and in Sahiwal in Punjab. The factories have capacity of 600,000 liters and 700,000 liters per day respectively. The average production of milk reached 500,000 liters per day in 2010 (sales was 480,000 liters per day).	<ul style="list-style-type: none"> • Milk collection(12 regional offices in Punjab and 5 regional offices in Sindh) • Dairy farm in Nara • Processing • Sales
Mehran Bottlers (Pvt) Limited (Pakola)	<i>Head Office:</i> Karachi, Sindh <i>Factory:</i> 1 factory (Karachi) in Sindh <i>History:</i> The company has a factory in Karachi, and mainly produces flavor milk.	<ul style="list-style-type: none"> • Milk collection • Processing • Sales
Dairy Land (Pvt) Limited	<i>Head Office:</i> Karachi, Sindh <i>Factory:</i> 1 factory in Thatta <i>History:</i> Akhtar Group was founded by Mr. Akhtar Saeed Sheikh in 1968 and is one of Pakistan's oldest business groups comprising of 4 operating companies such as raw cotton, paper cones, textile machinery, textile garments, leather garments, sugar mill equipments and so on with an annual turnover of more than US\$ 90 million.	<ul style="list-style-type: none"> • Milk collection • Dairy farm • Processing • Sales
Buffield (Pvt) Ltd	<i>Head Office:</i> Karachi, Sindh <i>Factory:</i> Karachi, Sindh <i>History:</i> The mother company of Buffield is Doctor's Dairies & Feeds (Pvt) Ltd who own about 1400 cattle. They started producing pasteurized milk 3 years ago. The current production volume is 7,000L/day.	<ul style="list-style-type: none"> • Dairy farm • Processing • Sales

The number of chiller tanks installed by Engro, Haleeb, Millac, Pakola, Dairy Land and LDDDB and the number of villages receiving agri-services by the major milk processing companies are shown in Table 8-2-7.

Major milk processing companies in Pakistan established an association named the "Pakistan Dairy Association (PDA)". The number of the member companies is said to be 14 at present.

There are several milk processing companies in Pakistan as shown in Tabel 8-2-5. But their main focus

is not Sindh but Punjab.

Table 8-2-5 List of other major milk processing companies which mainly focus on Punjab

Name of companies	Outline
Nirala Group	<p><i>Head Office:</i> Lahore, Punjab <i>Outline:</i> An integrated milk & milk powder processing plant has been set up at Tandlianwala, near Faisalabad, under the name of Nirala Dairy (Private) Limited. Nirala Doodh, the UHT packaged milk of the Company was launched in June 2005 and is now the favourite brand in many households. Nirala Private Limited is the custodian of the brand name Nirala. <i>URL:</i> http://www.nirala.com</p>
Nurpur	<p><i>Head Office:</i> Lahore, Punjab <i>Outline:</i> The company was incorporated in 1966, with a paid up capital of Rs.5 million and a total investment of Rs.18 million. In the private sector, Noon Pakistan Ltd., was the first company in Pakistan to operate a Spray Dryer for milk powder manufacturing. The installed capacity of the plant is 72,000 liters/2 shifts. The plant commenced its operation in June 1972 and its products namely, milk powder, butter and cheese are marketed throughout Pakistan under the brand name of “Nurpur”. Annual sales revenue amounts to Rs.957 million. The total no. of employees is 200. The company has recently (2004) put up a UHT Tetrapak milk plant. Nurpur Group has a cement company and a sugar company. <i>URL:</i> http://www.nurpurfoods.com</p>
Premier Dairies	<p><i>Head Office:</i> Lahore <i>Outline:</i> Premier Dairies was incorporated in 1999s an organization. The Head Office & Plant is located in Lahore. Commercial production of dry milk powder was started in 2000. The powder was introduced in the market in bulk form and in consumer packing. In 2004, Premier Dairies installed UHT & Tetra Pak and launched its product with brand name “VANIA Milk” pack size of 250ml. Premier Dairies has its distribution network in all major cities of Punjab, NWFP and Baluchistan. Major customers of Premier Dairies Powder Products are LU Biscuits, EBM, Unilever, Walls Ice Cream, Hico Ice Cream, Silver Lake Foods, Asian Foods (Mayfair), Pakistan Army and many Pharmaceutical companies. <i>URL:</i> http://www.premierdairies.com</p>
Prime Dairy	<p><i>Head Office:</i> Lahore <i>Outline:</i> Prime Dairies Limited (PDL) belongs to Prime Group, and it was incorporated in 1982 as a public limited company (unquoted). The company is engaged in manufacturing of dairy products and ice cream. It is equipped with imported plants from Sweden and Italy capable of producing yogurt, pasteurized milk, condensed milk, cheese and complete range of ice cream. The production facility is located at Manga, Lahore. Prime’s ice-cream is being manufactured and supplied under the well established brand name of “Rocco” while the other dairy products are sold with the brand name of “Prime”. Rocco Dairy Ice Cream is one of the few ice cream companies which uses fresh dairy ingredients for its products. <i>URL:</i> http://www.prime-service.com/dairies.html</p>
Unilever Pakistan Food	<p><i>Registered Office in Pakistan:</i> Karachi <i>Outline:</i> Unilever is represented in 150 countries with over 200,000 employees. In Pakistan, Unilever made its debut in 1948, and today it is one of the most prominent multinationals in the country operating though two affiliated companies viz. Unilever Pakistan and Unilever Pakistan Foods. Unilever Pakistan Foods Ltd. has consistently provided high quality, branded products such as Energile, Knorr and Rafhan. (On 24th April, 2007 Rafan Best Foods Limited was renamed Unilever Pakistan Foods) <i>URL:</i> http://www.unilever.pk/</p>

- (b) Meat processing companies in Karachi: There are several meat exporting companies in Karachi. The major companies are listed in Table 8-2-6.

Table 8-2-6 Major Meat Exporting Companies in Karachi

Name	Outline of Company
PK Livestock and Meat Company (Pvt) Ltd	<i>Head Office:</i> Karachi <i>Outline:</i> One of Pakistan's leading exporters of fresh chilled Halal meat. Based in rural Karachi, the property is strategically positioned within close proximity of both the international airport and seaport. PK is an innovative company constantly upgrading its quality assurances to keep up with the continued improvements in food security. The Company is an ISO9002, HACCP certified company. Using Australian technology, our beef and mutton plants are equipped with the most up-date systems available. The company 's main customers are from the Gulf region and include such countries as Saudi Arabia, UAE, Oman, Qatar, Kuwait, Bahrain and Iran. <i>URL:</i> http://www.pkmeat.com/livestock.html
Foodex	<i>Head Office:</i> Karachi <i>Outline:</i> Foodex was established in 2005 and started export of chilled meat in 2008. The company started export of frozen meat in 2009. Volumes increased gradually and company became leading exporter of meat to Saudi Arabia and United Arab Emirates, Bahrain, Masqat, Kuwait, and so on. Sales volume of 2009 is 960 ton. The company has a factory in Lahore (Capacity: 25 ton/day) and another in Karachi (Capacity: 40ton/day) <i>URL:</i> http://www.foodex.com.pk/
Snow King Frozen Food	<i>Head Office:</i> Karachi <i>Outline:</i> Snow King Frozen Food was established in January 2005, and deals with chilled and frozen Pakistani meat and seafood. The company is certified by HACCAP. The slaughtering capacity is more than 200 large animals and 1500 small animals per day. <i>URL:</i> http://www.snowkingpkfoods.com/
Al Shaheer Corporation	<i>Head Office:</i> Karachi <i>Outline:</i> Al Shaheer Corporation is one of the leading meat exporters of Pakistan. The company specializes in exporting free range grass fed beef and mutton to the Middle East, including Dubai, Kuwait, Oman and Muscat. The company is certified by ISO 9001:2008 and HACCP as complying with international quality control requirements and food safety standards. Their facility can process 80 tons of beef and mutton on a daily basis. <i>URL:</i> http://www.alshaheer.net/

- (c) Pharmaceutical companies: Pharmaceutical companies jointly work with the public sector on the events such as the Field Day organized by government, and provide and/or sell their products to farmers at such events. As this episode indicates, pharmaceutical companies can be considered as the potential partners of public-private partnership. According to a pharmaceutical manufacturing company, there are about 25 companies which import, manufacture and/or sale medicines and vaccines. There are some associations in the pharmaceutical sector. One of them is the Pakistan Pharmaceutical Manufacturing Association, and its members consist of the manufacturers which manufacture medicines and/or vaccines for both human and livestock.
- (d) Packaging company: The packaging company, Tetra Pack, also provides agri-services to farmers in Pakistan. The company supported PDDC to publish "White Paper" and is currently working for the Community Dairy Development Program called Kassowal model in Punjab with Engro Foods, aiming

to increase productivity of milk in the rural area. In addition to milk processing companies, pharmaceutical companies and packaging company have a potential to collaborate with the public sector.

Table 8-2-7 Number of Chiller Tanks installed and Number of Villages Receiving Agri-services by Major Milk Processing Companies

	District	Engro		Haleeb		Milac		Pakola	Dairy Land	LDDDB
		MC	Agri	MC	Agri	MC	Agri	MC	MC	MC
1	Ghotki		15							
2	Sukkur	2	5							
3	Khairpur	29	60	21	18					
4	Naushero Feroze	20	34		4					
5	Nawabshah	12	15	9						
6	Kashmore	4	3							
7	Shikarpur	18	20	12	10					
8	Jacobabad	2	2							
9	Kamber Shadadkot	15	23	7	4					
10	Larkana	24	72	12	17					
11	Dadu	7	19	1						
12	Jamshoro									
13	Thatta	1				1	1	5		2
14	Matiali	2								
15	Tando Allahyar	1								6
16	Hyderabad									
17	Tando Muhammad Khan							1	1	5
18	Badin	3				5	5	6	7	8
19	Sanghar	24	40		1	7	7	4		
20	Mirpurkhas	5				1	1	6		
21	Umerkot									
22	Tharparkar					1	1			
23	Karachi									

Note:

“MC” columns show the number of places where chiller tanks are installed by the milk processing companies.

“Agri” columns show the number of villages where agri-services are provided by the milk processing companies. Engro Foods provides the vaccination of HS and FMD and other agri-services. Haleeb provides agri-training to farmers, and Millac distributes Megalac products to farmers.

Chapter 9

Rural Society and Farm Households

Chapter 9 Rural Society and Farm Households

9.1 Socially-bounded Groups

(1) Biradari Society

In Sindh, a socially-bonded group is thought to be a basis for peoples' daily activities. They bear a common name, speak the same language and share ancestry. The bond among the members is very tight and they share the culture of reciprocity and mutuality of obligations. Marriage is arranged among the members of the same group, and cousin marriage is common mainly because of the necessity to keep their assets within the group. This further strengthens the relationship among the group. This kind of a group of people is called Biradari in Sindh. One village consists of one or more Biradari groups, and several sub-groups are often seen in the same Biradari group. The size of a group varies from thousands to millions of people. Same group is often observed in different villages in different districts in Sindh. Even though people do not know each other, they may feel certain kind of sympathy if they belong to the same Biradari group, while social relationship with people in other groups is commonly weak.

(2) Collective Work

In a day-to-day life, some particular relatives and neighbors are very close to a family, and the relationship with them is most important for the family. They help each other quite often including production activities related to agriculture and livestock. Table 9-1-1 is the results of the household survey on collective work, and indicates that 81% of the sample households are engaged in collective work, and 60% of them work with their close relatives. In Table 9-1-2, most cited reasons of why they work together are collective work is custom (56%), or it is effective (50%).

Table 9-1-1 Answers to "Does your household conduct collective work with other households?" (Ratio to Sample Households, Multiple Answers)

Number of sample HH	No, we do not	Yes, with my close relatives	Yes, with same community members	Yes, with other community members (Same village)	Yes, with members of the CO/CG we belong
717	19%	60%	26%	5%	0%

Source: Household Survey

Table 9-1-2 What are the reasons for doing/not doing such collective work? (Ratio to households conducting collective work, Multiple Answers)

Number of sample households	No. of households conducting collective work	Landlord order us to do	I can work together with when I trust	It is a obligation of the CO/CG members	It is more effective way of working	It is our custom	Others
717	658 (92%)	2%	8%	2%	50%	56%	0%

Source: Household Survey

Figure 9-1-1 illustrates the relationships among the people, and with whom the collective

activities are organized in a village. The figure shows that product marketing, input purchase and some other activities are collectively done only within the limited people, i.e. close relatives, neighbors¹, and close friend (same Biradari group). On the other hand, any community people can be the members of the agri-cooperative or the fundraising group together.

It therefore indicates that the size and members of a group and the kind of activities by the group should be carefully considered, but organizing a farmers’ group seems to be feasible since they have the custom of collective work. The validity of small groups’ activities seems to be acknowledged also in the projects of the other organizations. For example, TRDP has organized farmers who share the same grandfather into a group as a minimum unit for its projects. The unit is normally consisted of very close families who are often neighboring each other. When PDDC starts their activities in a community, they also first organize a small-group farmers consisted generally of neighbors and relatives.

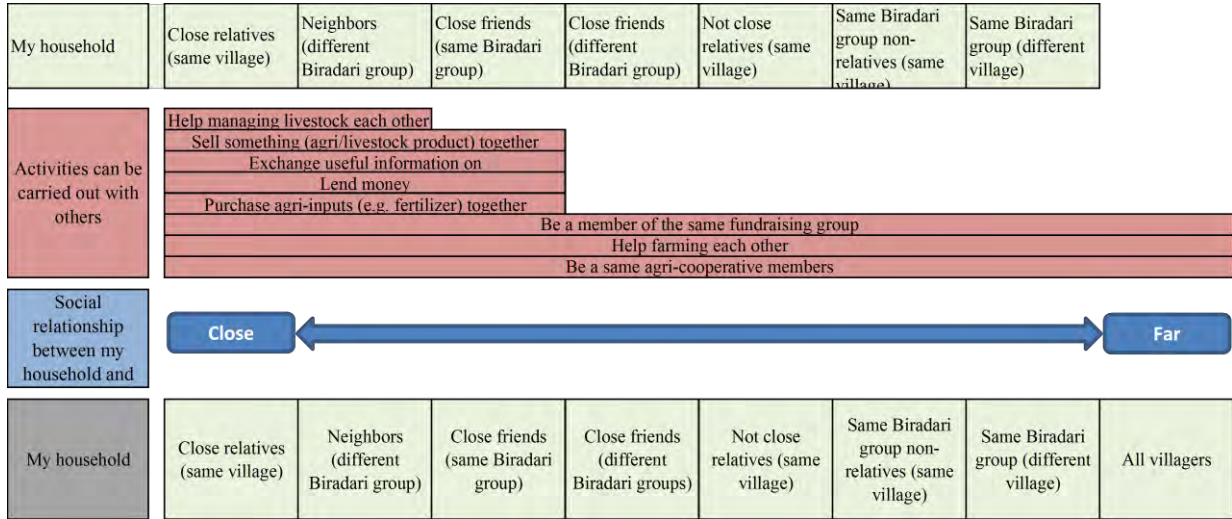


Figure 9-1-1 Collective Activities and Social Relationship among the Community People, Lakhadino Unhar village, Badin

Source: Field survey by the Project Team

9.2 Community Organizations

Community organizations (COs) are generally organized by governments and/or NGOs as a part of their development activities, but rarely initiated by community people. The COs widely observed in Sindh are farmers groups (both agriculture and livestock), microcredit groups, water committees and multipurpose groups (often organized for contributing (in kind) to community infrastructure construction projects). As shown in Table 9-2-1, 33% of the farmers in cattle colonies belong to the COs on livestock, while little portion of the others participate in such COs. The ratio of participation to a CO in the non-irrigated areas is relatively higher than that in the irrigated areas, but participating to any CO is not popular in the both areas.

¹ In general, most of neighbors are relatives in rural Sindh. In Lakhadino Unhar village it is interpreted that there are exceptionally closely-related neighbors of the different endogamous group for the participants.

Table 9-2-1 Households that Belong to Any Community Organization or Community Group (Ratio to Sample HH, Multiple Answers)

	Agriculture	Agriculture processing	Livestock	Livestock Processing	Youth Group	Women Group	Microcredit/Committee	Rreligious Group	Irrigation Group/FUA/F O	Others
Cattle Colony	2%	13%	33%	18%	0%	0%	0%	0%	0%	0%
Irrigated Areas	0%	0%	1%	0%	6%	3%	3%	0%	0%	1%
Non-irrigated Areas	0%	0%	0%	0%	17%	2%	15%	0%	0%	8%
Total	0%	1%	3%	1%	9%	3%	7%	0%	0%	3%

Source: Household Survey

According to several government departments and NGOs, forming a CO is possible for most of the communities if community people are properly mobilized, but making the CO functional and sustainable is possible only with several conditions as summarized below.

Table 9-2-2 Conditions for being a Functional CO

Items	Contents
Landlord	Support by landlords is necessary.
Development needs	There must be various development needs even in one community, but if a community as a whole agrees on the priority of their needs, the community people will effectively work together under a CO. It has often been observed that COs in remote areas are more successful than the ones in urban/peri-urban areas since peoples' needs and interests are diverse and people are more individualistic in urban/peri-urban areas.
Biradari group	A CO cannot be functional in a community where conflicts exist on resources or politics. If a community consists of multiple Biradari groups, the risk of conflicts generally becomes higher.
Religion	Difference in religion among the community people does not affect formation and functionality of a CO.
Educational background	Educational background or literacy of people does not affect formation and functionality of a CO.
Decision making	To have a CO functional, democratic way of decision making in a community is important.

Source: Interviews with SAWFCO, SPO, TRDP, SIDA, Department of Agriculture and Department of Livestock and Fisheries

9.3 Decision Making

(1) Discussion in a Village

There is a custom in the rural areas to discuss issues among the residents when they have to make some decisions to solve problems related to individuals as well as the community. The participants in such meetings vary community by community and issue by issue. In some communities, several respected persons are elected from the families related to an issue for managing the discussion and settling the dispute. In some other communities, all household heads are invited to the meeting for arranging a wedding ceremony. The ways of such discussions are called Jirgo, Panchayat, etc. Table 9-3-1 shows the result of the

household survey that decision is made in a meeting which all households participate (27%) or some households participate (31%).

It is generally observed that the landowners actively participate more than the tenants in community meetings/workshops. The tenants tend to discuss with other tenants and labors, but seldom discuss directly with the landowners. One can often see that once the landlords start talking, the tenants become silent and just agree to the opinions of the landlords.

Table 9-3-1 Decision Making in Villages (Ratio to Sample Households)

	Decide in a meeting of all household heads	Decide in a meeting of nominated wise people	Decided by a head of village	No decision making system
Cattle Colony	100%	0%	0%	0%
Irrigated Areas	25%	40%	33%	2%
Non-irrigated Areas	17%	19%	63%	1%
Total	27%	31%	40%	2%

Source: Household Survey

(2) Decision Makers

Each community has its own head, having been inherited within the same family. A community head has a strong influence on decision making in the community. In some communities, he chairs the community meeting for making decision democratically, and in some other communities he makes final decision based on the result of the community meeting. Table 9-3-1 reveals that 40% of the sample households replied that decisions were made by the village head. The influence of the community heads' is strong. The conclusion by the community head is sometimes different from the result of the community meeting, but there is no room for further discussion or negotiation once the decision is made. The following table shows the decision making system in a village.

Table 9-3-2 Ways for Decision Making in Allahdino Soomro Village, District of Badin

Topics	Decision makers	Processes
Political issues	Head of Village	<ul style="list-style-type: none"> ➤ Conduct village meeting ➤ Take opinion collectively ➤ Take decision
Village Development	Head of Village and villagers	<ul style="list-style-type: none"> ➤ Same as above
Dispute on livestock and agriculture	Head of Village	<ul style="list-style-type: none"> ➤ Listen to both parties ➤ Check the records and others ➤ Take the decision
Steal and Robbery	Head of Village	<ul style="list-style-type: none"> ➤ Same as above

Source: Field survey by the Project Team