

MARKETING SYSTEM OF LIVE CAMELS IN THE DESERT ECOLOGIES OF PAKISTAN

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ABSTRACT:- Livestock markets are trading places for live animals where suppliers and buyers can make transactions. This study was designed to investigate the existing marketing system of live camels in the desert ecologies of Pakistan. Out of 220 camel farmers that were randomly interviewed for the study, during past one year sale of live camels was reported by more than half of the camel farmers. On an average two camels per farm mainly to meet urgent family cash needs. Mean ages of adult males, milking and non-milking females, male and female young stocks at the time of sale were 8.3, 10.8, 12.3, 1.8 and 2.3 years, respectively, with average sale prices of Rs.102523, Rs.84643, Rs.57800, Rs.43215 and Rs.45833, respectively. The camel markets are generally located far away from the villages. High marketing costs and lack of proper market infrastructure/facilities compel farmers to sell camels at village level to the village dealers and fellow farmers at relatively low prices. Percent difference in prices at wholesale market and village levels were 28.6, 12.9, 6.0 and 0.5 for adult male, wet female, dry female and young stock, respectively. The prevailing marketing situation of live camels is an indicative of exploitation farmers from the village dealers/market intermediaries. The regulatory laws of livestock markets applied in Pakistan are not comprehensive and do not cover all the aspects necessary for the markets to function efficiently. It is, therefore, recommended that the proper marketing system and physical infrastructure for live camels should be developed to benefit the poor camel farmers.

Key Words: Live Camels; Marketing; Market Channels; Margins; Desert Ecologies; Pakistan.

INTRODUCTION

Livestock sector contributed approximately 56.3% of the agriculture value added and 11.8% to national GDP and grew by 4.1% in 2014-15 (GoP, 2015). Livestock is central to the livelihood of the rural poor in the country and can play an important role in poverty alleviation. Historically livestock has been the subsistence sector dominated by small holders to meet their needs of milk, food security and daily cash income. Pakistan is vulnerable to severe external shocks, including

floods and drought that negatively affected the growth and development of the agricultural sector in general and the livestock sub-sector in particular. While, the population growth, increases in per capita income and in the potential for export are fueling the demand for livestock and livestock products.

Camels have a vital role in the subsistence economy of rural pastoral communities. It is an important animal in the livestock herds of the country and is of great socio-economic importance for camel farmers. They are mainly used as

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pack/draft animal with milk, meat, hair and hides as minor by-products. However, they are kept for multiple purposes in plain areas, deserts and mountainous regions of the country; it for drawing water from wells, ploughing and leveling land, working mini-mills for oil-extraction, grinding wheat, corn and other grains, for crushing sugarcane and pulling carts, for transportation (Ahmad et al., 2010). Total population of camels around the world is about 25.9 million of which about estimated at one million 85% inhabits in Africa and rest in Indian subcontinent and Middle East countries. Pakistan with camel population, estimated at one million ranked 8th in the world after Somalia, Sudan, Ethiopia, Nigeria, Mauritania, Chad and Mali; and first in Asia (FAOSTAT, 2011). In Pakistan, highest population of one-humped camels (dromedaries) is in Balochistan (41%), followed by Sindh (30%), Punjab (22%) and Khyber Pakhtunkhwa (7%). The camel population is unevenly distributed over the country mainly in the four different ecological zones of Pakistan. About 42.8% of the camel population is concentrated in Cholistan, Thal, Thar and Kharan deserts, 27.7% is in mountainous regions, 23.2% is in plains and 6.4% lies in coastal areas of Pakistan (GoP, 2006).

Total 0.32 million households are engaged in camel farming in Pakistan. Though camel population increased 1.23% per annum during 1996-2006 but camel farming households slightly declined by 0.24% during the same period. These dynamics has led to increase the average number of camels per camel farming household from 2.2 heads/household in 1986 to 2.5 heads/household in 1996 and

further to 2.9 heads/household in 2006 (Aujla et al., 2012). During 1996-2006, positive camel population growth rates were observed at 23.9% in Sindh, 12.1% in Balochistan, 6.3% in Punjab, while camel population declined by 1.6% in Khyber Pakhtunkhwa (GoP, 1986; 1996; 2006).

Pakistan occasionally exports camels to Afghanistan, Iran and United Arab Emirates (UAE). According to FAOSTAT (2011), exports of live camels from Pakistan during 1961-81 and 2003-2008 were zero. However, mean value of annual exports of camels from 1982 to 2002 was US\$ 0.813 million. Contribution of camel milk in the total milk production in the country is 1.8% (818 thousand tons). Camel meat is also exported by Pakistan along with beef and mutton. The export of meat (beef, mutton and camel meat) has increased by 13.9% from US\$108.54 million (2010-11) to US \$123.61 million in 2011-12 (GoP, 2012).

Camel has a potential to fulfil the needs of the country regarding meat and dairy with meager essentials for survival, hence cost effective. Dairy products from cow or buffalo milk are becoming costlier because livestock farming has not developed scientifically. The supply cannot match with the increase in population and the pace of urbanization. The country is still spending \$129.4 million on import of milk and dairy food annually (GoP, 2011). In addition, research is also in progress to ascertain the health benefits of camel products, mainly milk and meat. The global market potential of camel milk could be billions of dollars in the near future, when the product reaches the European markets as a healthy food (FAO, 2006). Under the changing

ecological and socioeconomic conditions, camels can be considered as the white gold and indeed rearing camels to produce milk and other dairy products along with meat is a good option to earn foreign exchange.

Information about the marketing of live camels is necessary for knowing the current status and reorganizing poorly developed camel markets to increase their efficiency. In the past, relatively more emphasis is placed on enhancing the production and productivity of the camels; ignoring the marketing aspects. Any lopsided production augmentation strategy would not be fruitful unless the marketing aspects of live-camels are adequately addressed. This study has been designed to examine the existing marketing systems of live camels in the desert areas of the country; study the price mechanism, marketing channels and margins of live camels; identify constraints regarding various aspects of marketing of live camels; and to suggest policy measures for improving marketing system.

MATERIALS AND METHOD

A set of questionnaires was prepared to collect data from camel producers and market intermediaries. The data was collected in April-May, 2011. Seven districts viz., Bahawalpur and Layyah from Punjab, Tharparkar and Umarmkot from Sindh, Chagai and Kharan from Balochistan and Dera Ismail Khan from Khyber Pakhtunkhwa (KPK) were surveyed for data collection. The technique of simple random sampling was used to gather the desired information. Sample size for this study comprised 220 camel farmers; 63 from Punjab, 50 from Sindh, 37 from Khyber Pakhtunkhwa

and 70 from Balochistan.

The descriptive analysis has been carried out to calculate the frequencies of the demographic characteristics and for other variables which happen in the categorical form. Numerical operations are applied to all the other variables that are unconditional and their respective means and standard deviations have been calculated.

To check the significance of the differences between the averages of two or more variables ANOVA F-test has been computed by using equation 1.

$$F = S_1^2 / S_2^2 \dots \dots \dots (1)$$

where,
 S_1^2 = Variance of first group
 S_2^2 = Variance of second group

To conduct the marketing analysis of the live camels the marketing cost (MC) has been computed by equation 2.

$$MC = TC + MT + MF \dots \dots \dots (2)$$

where,
 TC = Transportation cost,
 MT = Market tax,
 MF = Market fee.

At the next step the net price (NP) received by the intermediary at primary market level is calculated by equation 3.

$$NP = PP - MC \dots \dots \dots (3)$$

where,
 PP = Primary market price
 MC = Marketing cost.

Further the difference between the net price received by the intermediary in the primary market and price received by the farmers at the village level has been estimated by equation 4.

$$DP = NP - VP \dots \dots \dots (4)$$

where,

- DP = Absolute price difference,
- NP = Net price received by the intermediary
- VP = Village level price of live camels received by the farmers

The percentage difference is thus calculated by the division of price differences at village and market levels by the prices received by farmers at the village level equation 5. as expressed by equation 5

$$DP / VP * 100..... (5)$$

RESULTS AND DISCUSSION

Socioeconomic Characteristics of Respondents

Mean age of the camel farmers was about 48 years with a camel farming experience of 32 years (Table 1). Aujla et al. (1998) studied the socio-economic profile of camel farmers in Balochistan and declared low literacy level of the farmers as the main reason of subsistence level of camel farming. Similarly, education level of the sampled farmers was very low in the study area with mean formal schooling of about two years. Average household size of camel farmers was 13.4, with engagement of almost two members in camel farming. Mean

household size and number of family members engaged in camel farming and land holding of the camel farmers' were different across provinces. In KPK and Balochistan, mean family sizes were higher than in Punjab and Sindh. In KPK two to three, in Sindh two and in Punjab and Balochistan one or two members of camel rearing households were engaged in camel farming. Out of total 220 camel farmers interviewed, 77 (35%) were landless farmers. While, mean land holding of remaining camel farmers (65%) was 50.8 acres. Mean age of the live camel market actors was 41.0 years, with camel marketing experience of 12.4 years and formal education of 4 years.

Livestock Resources of Camel Herders

In the country, camels are kept in mix herds of livestock and farmers' ownership of different types of livestock is different across provinces (Table 2). According to survey findings, average livestock ownership of the camel producers was highest in Sindh, followed by in Balochistan, Punjab and KPK. In Punjab, camels are kept along with goats, sheep, cows and buffaloes. In Sindh and KPK camels are reared along with goats, sheep and cows; however, some of the

Table 1. Socioeconomic characteristics of camel farmers

Characteristics	Punjab	Sindh	KPK	Balochistan	Pakistan
Age (Year)	50.1±15.6	45.8±15.3	31.7±13.0	57.0±11.4	48.2±16.2
Education (Years)	01.4±03.4	03.6±05.0	2.57±4.0	0.5±2.1	01.8±03.8
Camel farming experience (Years)	34.6±16.9	28.0±15.4	16.4±10.1	40.6±11.9	31.9±16.3
Household size (No.)	11.1±06.3	11.7±06.4	15.0±10.0	15.7±07.2	13.4±07.6
HH members engaged in camel	01.8±01.6	02.0±02.4	2.6±1.7	1.6±0.6	1.9±1.6
Land-holding (Acres)	17.3±18.5	31.5±41.5	35.7±94.8	130.1±294.4	50.8±155.2

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Table 2. Livestock account of camel producers

(No.)

Species	Punjab	Sindh	KPK	Balochistan	Pakistan
Livestock Inventory of Camel Producers					
Camels	26 ± 30	16 ± 13	2 ± 2	33 ± 31	22 ± 27
Buffaloes	2 ± 7	1 ± 4	0 ± 1	0 ± 0	1 ± 4
Cows	7 ± 18	10 ± 11	4 ± 5	0 ± 0	8 ± 13
Goats	29 ± 47	71 ± 92	17 ± 26	35 ± 34	39 ± 58
Sheep	21 ± 36	34 ± 44	4 ± 14	34 ± 42	26 ± 39
Total	96 ± 93	134 ± 143	30 ± 40	103 ± 90	96 ± 90
Camel Herd Composition by Sex					
Male	1 ± 2	2 ± 1	1 ± 1	4 ± 3	2 ± 2
Wet Female	4 ± 4	4 ± 4	1 ± 1	8 ± 7	5 ± 6
Dry Female	16 ± 23	6 ± 7	1 ± 1	7 ± 12	8 ± 16
Young stock	4 ± 4	3 ± 3	0 ± 1	14 ± 13	6 ± 9
Total	26 ± 30	16 ± 13	2 ± 2	33 ± 31	22 ± 27

camel producers also keep buffaloes. While in Balochistan, camels are raised in mix herds of goats and sheep. Camel ownership of the respondents was significantly different across provinces. On the whole, herd of camels comprised about 22 camels; 2 males, 14 females (5 milking and 9 non-milking), and 6 young stocks. Mean camel herd size was largest in Balochistan (33) followed by in Punjab (26), Sindh (16) and Khyber Pakhtunkhwa (2).

Market Structure

Historically camels have not been regularly marketed for income as a commercial endeavor but sold in times to meet family cash and basic needs. There is a custom of selling large sized, old and unproductive camels. Markets of camels/livestock

for both domestic and export is essentially organized by the local administration or by the private sector. Camel markets are organized at different levels such as sub-tehsil, tehsil and district levels on daily, weekly, fortnightly, monthly and sometimes on yearly basis. These markets are traditional; therefore both buyers and sellers are well informed about these market days as they remained un-changed since ages. In addition some special markets are also organized on provincial/regional festivals. Daily-based special markets are also organized in big cities, offering camels as sacrificial animals 1–2 weeks ahead of Eid-ul-Azha, the muslim festival. Livestock marketing is a completely neglected field. The existing legislature provides for the establishment and supervision of

primary markets for farm products. The livestock has not been added to the list of commodities covered by the existing regulations. Therefore, lot of variation exists in the prices of camels within the same market. To understand the functioning of camel markets across the provinces, the profiles of village level, primary and secondary level markets reported by the respondents are as follows:

Village Level Markets

In spite of relatively low prices at village level, resource poor farmers usually prefer to sell camels at their door steps to fulfill their urgent cash needs and to avoid high marketing costs (Mahmood and Rodriguez, 1993). Fellow farmers and village *beoparies* are major actors at village level camel transactions. Most of the transactions in these markets are made on cash basis. However, sometimes village *beoparies* also purchase camels on credit.

Primary Markets

These markets are held daily or weekly basis on specific days at tehsil levels. In Punjab, Sindh and KPK provinces these are held on weekly basis while in Balochistan camel markets are held daily. Major market players at primary level include farmers, local dealers/*beoparies* and butchers. Size of primary markets range from 300 to 350 camels. In these markets camels are brought from the vicinity as well as far flung areas. Average distance of these markets from the camel farms was highest in the Punjab (96 km), followed by in Sindh (46 km) and KPK (33 km). Average contract amount of these markets varied from Rs. 2 lac to Rs. 45 lac per annum depending

upon the size and location of the market. Camels are trekked to primary markets on hoof by farmers themselves or by hiring pedestrian labour. Pedestrian labour costs them Rs.400 to Rs.500 per man-day. In camel markets, prices are generally settled through bargaining. The market managing authority determines and collects the market fees and taxes. Market fee @ 5-6% of animal value and market tax of Rs. 100 to Rs. 500 per animal is charged. Most of the transactions in primary level are made on cash basis.

In Punjab, Sindh and KPK primary camel markets are organized by the Tehsil Municipal Administrations (TMAs); while in Chagai and Kharan areas of Balochistan province camel markets are held purely under private entrepreneurship. In Punjab and Sindh, camel markets are organized separately for camels, while in KPK and Balochistan camels are marketed along with other animals. Primary camel markets surveyed from all over the country include: Islamkot, Adam Junejo and Chell Bund from Sindh; Pull Qamar and Fatehpur from Punjab; Paharpur and Daraban from KPK; and Chagai and Kharan from Balochistan province. The analysis indicated that the basic facilities in the livestock/camels markets across provinces are very primitive and are not realign according to the needs and demands to enhance livestock marketing (Shafiq and Kakar, 2006). However, markets in KPK province are better with respect to the availability of various facilities to the animals, farmers and intermediaries than in other provinces.

Secondary Markets

These are held monthly or ann-

usually on specific time or festivals. These markets are located in large cities, often at divisional or provincial headquarters. Secondary camel markets are held on monthly basis at Haala in Sindh, Bahawalpur in Punjab and Quetta in Balochistan. Camel farmers/*beoparies* from Punjab, Sindh and Balochistan provinces reported to market camels in secondary camel markets of Mianwali, Cholistan, Quetta, and even to Islamabad for sale at the occasion of Eid-ul-Azha. In Punjab, a big annual camel market is held on the occasion of Annayatullah Shah Festival in March in district Layyah wherein consumers, traders and agents of wholesalers/exporters purchase camels. This market is organized by the management of Annayatullah Shah Shrine in collaboration with Fatehpur tehsil administration. On the occasion of Annayatullah Shah Festival, 30,000-35,000 camels and 25,000-30,000 other livestock are brought for sales in the market from surroundings of Bahawalpur, from Sindh and also occasionally from Iran and Arab countries. Mostly the village dealers/*beoparies* brought camels to the secondary markets while farmers less occasionally came to sell their camels in secondary markets, as the transportation charges are usually unaffordable for them. The transportation cost to these markets varies from Rs. 10,000 to Rs. 15,000 per animal depending upon the availability of transport and distance. Mangrota camel fair/mela in Dera Ghazi Khan District of Punjab is also very famous among camel breeders and is the main market for their camels. It is held every year in October and is the largest event for the pastorals and traders of the

region. In the fair, 8,000-10,000 camels are marketed every year. In Mela traders/businessmen from the Southern and Central Balochistan, Central Punjab and Karachi buy camels and slaughter them in abattoir and export the beef to Iran and the Gulf States.

Live Camels Marketing Channels

Camel markets are generally located in major cities or towns and are far away from the villages. Thus, farmers prefer to sell their animals to village dealers (Figure 1). Accordingly, 55% farmers reported to sale camels at village level; either to village *beoparies* (87%) or to fellow farmers (13%). About one-third of the farmers (32%) reported camel's sale in primary markets and 13% of the farmers reported to market camels in secondary markets. Besides farmers, village *beoparies* also market camels in primary camel/livestock markets. Half of the respondents (50%) reported sale camels to local *beoparies*, followed by local farmers (44%) and butchers (6%). Butchers purchase mostly physically injured and weak animals from primary markets at low prices.

Most of the respondents reported that camels marketed at secondary markets (92%) are purchased by end consumers for sacrificial purposes. About 8% reported to sell camels to *beoparies*. These *beoparies* sometimes also purchase camels directly from local *beoparies* acting at the second tier of the market (primary markets) and export them to Middle East States, Afghanistan and Iran. Though, sometimes non-local traders or their representatives from these countries also visit secondary markets and directly purchase camels

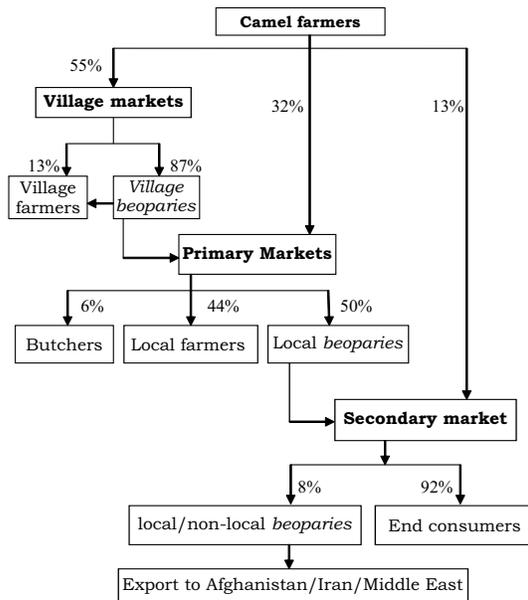


Figure 1. Live Camels marketing channels

from these markets. Village dealers and fellow farmers were reported as the main sources of information about prices of live camels by the respondent farmers. At the village level the main buyers of camels are village dealers and fellow farmers. However, at the primary level/town markets the camels are usually bought by the village dealers/*beoparies* and sometimes by the farmers.

Prices of Camels by Breeds and Seasons

Price determines the profit as well as development of any product. Hence, low producer prices for camels are major constraint to the adoption of more intensive production techniques. Although prices have risen in recent years, yet they are low as compared with the neighboring countries. The prices of camels are settled through negotiation, demand and supply position and bargaining skills. Camel prices depend on many

factors such as phenotypic characteristics, age, sex, function, breed, type and location of market and time of sale. The urgent cash needs arising also play important role (Mahmood and Rodriguez, 1993). Racing camels usually fetch the highest price, and riding camels are expensive than those sold for slaughtering.

In Sindh and Punjab provinces, prices of adult male camels remain comparatively high in winter season than in summer due to increase in meat demand; however, in other provinces price do not vary much across seasons due to taste preference of people for mutton (Table 3). Adult camels fetch higher prices by about Rs. 20,000 to Rs. 50,000 on the Eid-ul-Azha than in normal season. In Sindh province prices of female camels also remain high in winter season than in summer and remain almost same in other provinces. Since male or dry female camels are preferred for slaughtering on Eid-ul-Azha, thus price of wet female camels remains same, or differs slightly on the occasion of Eid than other seasons.

Mean prices of male young stock were higher on the occasion of Eid-ul-Azha by Rs. 15,000-Rs.25,000 in Sindh markets and by Rs. 7,000 to Rs. 10,000 in Balochistan markets and by Rs. 45,000-Rs.50,000 in Punjab markets. However, data of camel prices at Eid-ul-Azha was not available for Khyber Pakhtunkhwa markets. Prices of female young stock were comparatively higher than that of male young stock for all breeds (Table 4).

Marketing Margins/Differences in Prices at Village and Primary Market Levels

The marketing margin is the difference between the price paid by

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Table 3. Prices of adult camels by breeds and season/occasion across provinces

(Rs.)				
Province	Breeds	Summer	Winter	Eid
Prices of Adult Male Camels				
Sindh	Dhati	75,000 (70,000-80,000)	1,03,750 (1,00,000-1,15,000)	1,32,500 (1,05,000-1,50,000)
	Thari	77,000 (65,000-90,000)	96,000 (80,000-1,20,000)	1,09,000 (85,000-1,30,000)
	Morani	72,500 (60,000-1,00,000)	1,05,000 (90,000-1,50,000)	1,02,500 (80,000-1,50,000)
Punjab	Desi	2,50,000	-	3,00,000
	Sindhi	2,50,000	-	3,00,000
	Mareecha	1,75,000	-	2,20,000
KPK	Desi	1,00,000	1,00,000	-
	Domani	95,000	85,000	-
	Sindhi	1,00,000	90,000	-
Balochistan	Balochi	85,625 (70,000-1,10,000)	83,125 (70,000-1,00,000)	1,02,000 (1,00,000-1,10,000)
Prices of Wet Female Camels				
Sindh	Dhati	80,000 (70,000-90,000)	1,01,667 (85,000-1,30,000)	1,01,667 (80,000-1,35,000)
	Thari	68,750 (40,000-90,000)	82,500 (60,000-1,00,000)	92,500 (80,000-1,00,000)
Punjab	Desi	1,20,000	-	-
	Domani	85,000	5,000	-
KPK	Sindhi	1,15,000	1,15,000	-
	Desi	1,00,000	1,00,000	-
Balochistan	Balochi	1,00,000 (80,000-1,20,000)	97,500 (75,000-1,20,000)	1,12,000 (1,10,000-1,20,000)
Prices of Dry Female Camels				
Sindh	Dathi	50,000 (40,000-60,000)	62,500 (60,000-65,000)	75,000 (70,000-80,000)
	Thari	40,000	50,000	90,000
	Lori	50,000	55,000	75,000
Balochistan	Balochi	53,125 (50,000-60,000)	47,500 (40,000-65,000)	55,000 (50,000-60,000)
	Bapanpur	70,000	70,000	80,000

the ultimate consumer and the price received by the producers. The number of intermediaries involve in various channels of marketing has strong effect on marketing margins. The high marketing margins reflect high profit to the intermediaries and less income to the producers. The marketing of camels involves commission charges, labor cost, transportation cost etc. Average prices

of adult male, wet female, dry female and young stock irrespective of breed and selling time at whole sale market level were Rs. 132784, Rs. 110265, Rs. 58782 and Rs. 46340, respectively (Table 5). Net prices received by the village dealer after payment of transportation cost, market tax and fee on sale of adult male, wet female, dry female and young stock, were Rs. 125245, Rs. 103852, Rs. 54943 and

Table 4. Prices of young stock by breed and season/occasion across Provinces

(Rs.)				
Province	Breeds	Summer	Winter	Eid
Prices of Male Young Stock				
Sindh	Dhati	52,000 (40,000-60,000)	60,000 (50,000-65,000)	72,000 (70,000-80,000)
	Thari	38,750 (30,000-50,000)	45,000 (35,000-70,000)	55,000 (40,000-85,000)
	Lori	47,500 (45,000-50,000)	57,500 (55,000-60,000)	72,500 (70,000-75,000)
Punjab	Mareecha	-	50,000 (37,500-70,000)	-
KPK	Domani	40,000 (35,000-45,000)	30,000	-
	Desi	35,000	35,000	-
	Sindhi	40,000	-	-
Balochistan	Balochi	36,000 (30,000-45,000)	33,000 (30,000-42,500)	40,000
	Bapanpuri	60,000	50,000	70,000
Prices of Female Young Stock				
Sindh	Dhati	50,000 (45,000-55,000)	62,500 (55,000-70,000)	72,500 (65,000-80,000)
	Thari	25,000	35,000	40,000
	Lari	45,000	60,000	70,000
KPK	Domani	45,000	-	-
Balochistan	Balochi	2,500 (40,000-50,000)	41,250 (30,000-50,000)	48,000 (40,000-50,000)
	Bapanpuri	50,000	40,000	50,000

Rs. 43123, respectively.

While, mean prices paid by the village dealers to the farmers at village level were Rs. 97389, Rs. 92000, Rs. 51833 and Rs. 42895 for adult male, wet female, dry female and young stock, respectively. So, the differences in prices at primary market and village levels were Rs. 27856, Rs. 11852, Rs. 3110 and Rs. 228 for adult male, wet female, dry female and young stock, respectively. Thus, percent difference in prices at primary market and village levels were 28.6, 12.9, 6.0 and 0.5 for adult male, wet female, dry female and young stock, respectively. This is an indicative of exploitation of the camel farmers by

the village dealers. Mahmood and Rodriguez (1993) estimated that various intermediaries obtain about one-third of the final price as the services rendered by them. The profit margins in camels are almost similar across the country with some variations.

Marketing Constraints

Although camels' marketing is not well established in Pakistan; however, camel markets are scattered throughout the country; but having very limited basic facilities for farmers, market traders and animals. The major constraints impede the efficient marketing of camels are poor marketing infrastructure, lack of

Table 5. Prices at primary market and village levels

Camel Prices & Marketing Costs	Adult Male	Milch Female	Non-milking Female	Young stock
Primary market price (WP)	1,32,784	1,10,265	58,782	46,340
Transportation Cost (Rs.)	400.0	400.0	400	400
Market Tax (Rs.)	500.0	500.0	500	500
Market Fee @ 5%	6,639	5,513	2,939	2,317
Marketing Cost (MC)	7,539	6413	3839	3217
Net price received by market intermediary (Rs.) NP=WP-MC	1,25,245	10,385	5,494	43,123
Village level price (VP)	97,389	92,000	51,833	42,895
Difference in prices at primary market and village level (Rs.) (DP = NP-VP)	27,856	11,852	3,110	228
Percent difference in prices at primary market and village level (DP/VP*100)	28.6	12.9	6.0	0.5

market intelligence, lack of a grading system and absence of marketing extension services and regulations. Markets of camels are generally located in major towns or cities and are far away from the villages. Lack of transportation, communication and information systems result in seasonal and spatial price fluctuations. Existence of limited markets and the absence of any pricing system linked to weight and quality are the major disadvantages in the current marketing system. Local producers cannot afford to stay in the market for a long period. The situation compels farmers to sell camels to the village *beoparies* and fellow farmers at relatively low prices. Thus, camel farmers are facing exploitation from the village dealers/businessmen, who purchase camels at low prices. Illegal export of camels is also common, in which the income goes in the smugglers and the real farmers are ignored. Hence, government is also facing a lot of financial loss in this context.

CONCLUSION AND RECOMMENDATIONS

The study mainly focused on the marketing of live camels to develop the consensus about the importance of proper marketing system/channels to gain the full potential benefits from this precious animal. A growing awareness that the camel can serve as a major food (meat and milk) producers in semi-arid and arid areas has supported to change its image from "ship of the desert" to 'a food security animal'. Marketing influences the productivity and reproductivity of animals. Sustainable markets initiate producers to improve management of their animals. These in return, pave a way to increase the productivity of their animals. It is concluded that the proper marketing system for camels is not available and infrastructure of camel markets is in poor shape. The live camel markets are usually not more than open grounds. No facilities available for the farmers, market intermediaries and animals. Trans-

portation and transaction costs involved in pastoral marketing process are high due to long distances, poor infrastructure and limited facilities. Camel farmers usually prefer to sell their animals to the village dealers due to lack of access to these markets. Thus, village dealers act as the main player to bring camels in the markets. Thus, village dealers act as main player to bring camels in the markets. Camel farmers depend on this animal as the major source of family income and their livelihood depends on the sale of this animal, but due to absence of proper camel markets in nearby areas they are deprived to fetch good prices for their animals. Improving market condition may resolve the prevailing problems. Therefore, it is highly recommended that the proper marketing system and structure for live camels should be developed in suitable premises to benefit the poor camel farmers; where water, shelter, feed stores, veterinary facilities, weighing scales, etc. are made available on nominal charges. There is a need to design some regulatory framework/reforms also for camels marketing system in the country to increase due returns for camel producers and attracting investment for promoting camel farming on commercial lines for poverty alleviation and combating the issue of food security. This would provoke a healthy competition in these markets and result in better prices for the camel farmers. This action will not only help in stabilizing the prices of meat and milk but also elevate the socio-economic conditions of camel farmers.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

S. No	Author Name	Contribution to the paper
1.	Dr. Khalid Mahmood Aujla	Conceived the idea, Supervised the research, Technical input at every step, Overall management of the article, Wrote research article
2.	Dr. Abid Hussain	Methodology, Questionnaire development, Data entry & analysis

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