

CONSTRAINTS IN THE DEVELOPMENT OF LIVESTOCK SECTOR

Constraints and Policy Suggestions

Strategic plans for dairy development are constrained by many factors. These constraints are manifold by nature. There are cultural constraints which means that the farmers need to be convinced for shifting from subsistence farming to market oriented activities that are beneficial for them as well as for the society as a whole.²⁰ There are biological constraints like unavailability of good quality fodder and feed resources. More important biological constraints deal with the genetic capacity of the present herd in the conversion of feed to produce meat and milk. More specific problems in the present system are elaborated below.

Market Constraints

Good marketing system plays a key role in improving quality and productivity of any commodity/product. Milk and meat are the major products of livestock sector. The poor outlet system of these products is considered to be a major cause of low livestock productivity. Presently, livestock marketing system is so ill-managed that the farmers do not receive a fair share in

²⁰Government of Pakistan (1988).

consumer's price, which in turn reduces the incentive for enhancing productive efficiency of animals.

Mainly because of poor milk collection system, more than 70 percent of the produce does not even enter the marketing channel and the milk produced in the remote areas is either consumed at home or is converted into ghee.²¹ However, marketable surplus has increased in close vicinities of urban areas. The reason for this trend is that there has come about a reduction in ghee production from milk and also because of substantial substitution of ghee with dalda and other cooking oils, which are comparatively cheap. Cost of production of ghee from milk is also very high since one kg of ghee would require approximately 18 to 24 kgs of raw milk. Thus, it is profitable to sell fresh milk. More importantly, marketing services are better and milk is better priced as compared to the distant remote areas.

Anjum et. al. (1989) have discussed the (then) present milk marketing system and have reported that it was dominated by peddlers, also called "katcha dodhies". They gather a significant amount of milk from the village households and carry it either on bi-cycle or motor cycle. The milk is sold either directly to the urban consumers or to the pacca dodhi, who is a second stage milk collector and has a larger carrying capacity, e.g., a horse driven cart or a small pick up truck. These second stage dealers deliver the milk to some other collection centers, milk plants or de-creamers. The de-creamers either provide services to pacca dodhi or do business by themselves and separate whole milk into cream and skimmed milk. Afterwards, the skimmed

²¹Government of Pakistan (1988).

milk is either mixed with other whole milk or powder milk and, then, distributed to urban consumers through retail milk shops.

Poor marketing system is also due to the poor infrastructural development in the rural areas. This results in substantial quantitative losses during transportation from rural to urban areas, particularly in summer months.

The milk is also being routed to milk plants where it is converted into cheese, powdered and pasteurized milk. A number of small industries also process the surplus milk into yogurt, lassi and desighee. Milk is also being commercially pasteurized and treated with ultra high temperature (UHT).

It is to be noted that there are some serious reservations about the production of UHT milk. It is being produced at a very high cost. Consequently, the demand for this milk is shaky. One of the main reasons for the high cost of UHT milk is the packaging cost which accounts for about one-fourth of the total cost²². According to another estimate, this cost is even higher, i.e., about 35 percent of the total product cost. This cost, in any case is higher than is warranted by the international standards. It should be around 15 percent.²³

The whole marketing setup is very complex and has failed to transmit the such needed price signals and preferences of final consumers to the milk producers. More importantly, the

²²Anjum et al.

²³Choudhry, Ilyas M (August 1989). "Dairy Production." Pakistan Agriculture.

producers are not given any premium for milk production during hot summer as well as for milk having high fat contents.²⁴

As regards the cost of milk production and the prices received by the farmers, it has been estimated that the cost of milk production, including the labor, was higher than the price of milk which producers were getting under the existing marketing system.²⁵ The milk producers were obliged to sell milk to katcha doddies at a low price, since the opportunity cost of their labour elsewhere was very low. Moreover, as it has been mentioned earlier in Chapter 1 that most of the livestock owners keep only one or two heads of buffaloes/cows, it is difficult for them to market a few liters of milk by themselves. Consequently, the only alternative that could save the farmers from the village milk vendors and the existing system was the cooperative milk marketing. It is only through such an arrangement that they would be able to safeguard their common interest, i.e., a profitable milk marketing. That, in turn, would help increase the productivity of milch animals and also provide incentive to the milk producers to reap the benefits from economies of scale. It would help reduce marketing costs of milk and the cooperatives will thus be in a better position to win a better bargain for the output price.

In addition to the above facts, livestock marketing system is also equally defective. There exist designated livestock marketing places, spread over the whole country where formal

²⁴Anjum et al (1989).

²⁵Choudhry, A.M. and Bashir Ahmad. "Cost of Production of Milk and Beef in Faisalabad District 1981-82". PARCB. and UAF., 1987.

transactions for the sale and purchase of animals for milk, meat and draught purposes take place. These places have turned out to be very profitable for the big merchants who would generally buy truck loads of animals from these markets and then haul them to the big urban centres. These intermediaries take advantage of the weak bargaining position of the rural poor livestock farmers, who in fact come to sell their animals to meet some of their cash needs. This situation creates an environment of competition among the sellers, that best suits the interests of the buyers. They thus exploit the former by paying lower prices and consequently, enjoy high margins by selling these animals in the big urban markets.²⁶

Paucity of Health and Extension Services

Appropriate health cover, better feed management and improved breeding are the most important ingredients in effecting improvement in the livestock sector productivity levels. Presently, these services are highly inadequate in this sector. These inadequacies, in turn, adversely affect productive efficiency of the animals leading to very low return to the farmers.

Public sector veterinary service is presently the only source for animal health cover in Pakistan. There are a good number of veterinary hospitals, dispensaries and centers at various locations of the country. According to the available information, there are more than 2000 hospitals/centers in the Punjab province only; wherein about 827 veterinary graduates and about 2400

²⁶Government of Pakistan (1988).

para veterinary staff is employed.²⁷ However, these hospitals/centers are poorly equipped in terms of medicine, vaccines, medical equipments, etc and virtually have no transportation facility.

As regards the vaccination of animals, the coverage is far less than the actual requirements to minimize the incidence of disease. Iqbal (1994) reported that about 26 million doses of vaccine is being produced currently for ruminants and 160 to 675 million doses for poultry. He further reported that the livestock number actually being vaccinated every year was not more than 10 percent of the total population. Consequently, due mainly to inadequate health coverage, livestock sector is facing losses worth millions of rupees every year. For example, this loss in 1978 was estimated to be around US\$ 171 million due only to Foot and Mouth disease (FMD) of buffalo and cattle (Table 2.1).

Table 2.1 Estimated Losses from Foot and Mouth Disease in Pakistan (Thousand US \$)

Province	Buffalo			Cattle			Total
	Dairy	Draught	Young	Dairy	Draught	Young	
Baluchistan	81	3	14	674	1012	222	2006
NWFP	4449	133	601	6649	6309	1821	18982
Punjab	62031	672	9541	19774	34189	6385	132592
Sindh	5223	38	908	3258	6247	928	16602
Total	71784	846	11604	30355	47757	9358	171162

Source: U.K. Ministry of Overseas Development (1978) adopted from Iqbal (1994).

²⁷Pirzada, W. H. Livestock Production and Veterinary Services. A Paper Presented at DSE Course on Animal Health Planning and Management in Germany, 7-10 November 1993.

Extension and education constitute important elements in promoting livestock sector productivities. These services significantly help in improving management capabilities of the livestock farmers. Presently, these services are virtually non-existent in the country. The livestock extension service has nonetheless been established in the Punjab province by the Livestock and Dairy Development Department. Unfortunately, most of the concerned staff is composed of pure veterinarians, and practically have no training in livestock management.

Proper management and feeding of animals can, to a reasonable extent, prevent systemic diseases. Better management depend on better education. Thus, the farmers need to be educated about the likely benefits of adopting scientific practices on feeding calves, weight gain and on the care of pregnant animals. They must also be educated of the need for comfort of the animals, well-ventilated barns, saving the animals from low and high temperature and timely detection of heat and subsequent service arrangement.²⁸ For an healthy breakthrough in livestock sector, the services of the animal nutritionists and management personnel will essentially be needed.

Services of the extension agents are also required for the dissemination of available improved technologies, which have been successfully tested at the research institutions in Pakistan. Most pertinent of these technologies are those which are concerned with the increase in nutritive value of dry roughage by treating straw with alkali/urea; productive use of animal wastes-

²⁸Wahid, A. (1988). Dairy Development in Pakistan. Dairy Production Potential and Challenges, Proceedings of a National Seminar Held in Faisalabad, 29-30 May 1988.

poultry litter; and the feed supplementation with molasses and urea that are cheap sources of energy and nitrogen.²⁹ Sial et. al. (1988) have further pointed out that straw treatment with alkali could increase its nutritive value by about 20%-30%; one kg of molasses per animal per day has been estimated to make available up to 0.80 kg of TDN per animal per day. However, the farm households who maintain most of the livestock do not have the needed resources and technical know how to adopt these technologies.

A closer look at the Department of agricultural extension reveals that activities of the extension workers, if any, are mostly concentrated on food and cash crops for the dissemination of scientific knowledge to enhance crop productivities. Green fodders, as important inputs of the livestock sector, do not receive much attention in their scheme of activities. There exists an enormous unrealized potential even in the case of existing fodder crops. Table 2.2 shows that in the case of Sorghum the farmers are exploiting only 36 percent of the potential yield obtained at the research stations. Present farm level yields can be improved upto 44 percent, 38 percent, 50 percent and 50 percent in the cases of Berseem, Maize, B. N. Hybrid and S. S. Hybrid, respectively with proper dissemination of extension advice to the farmers.

²⁹Sial, M.A., M. Z. Alam and G. Ali. (1988). Livestock Feed Resources and Requirement Scenario of Pakistan. Dairy Production Potential and Challenges, Proceedings of a National Seminar Held in Faisalabad, 29-30 May.

Table 2.2 Productivity levels of various fodder crops

Crops	Research Stations (MT/acre)	Farmers Field (MT)
Berseem	50.00	22.20
Sorghum	25.90	9.25
Maize	29.60	11.10
B.N. Hybrid	60.00	30.00
S.S. Hybrid	50.00	25.00

Source: Choudhry, M. H. (1983). Developments in Fodder Production in Punjab. Progressive Farming, Vol. 3, No. 4.

Range Management

Most of our livestock is presently being supported by rangelands. For example, Sheep and Goats obtain more than 60 percent of their feed from rangeland; 40 percent of feed for horses, donkeys and Camels; and 5 percent Cattle feed intake comes from this source, which sums to 13 percent of the total feed available for the livestock.³⁰ Moreover, grazing of riverain areas and flood plains also contribute a significant amount of TDN.³¹ Consequently, there is a strong need to

³⁰Mohammad, N., Rakhshan Rohi and C.M. Anwar Khan (1985). Desert Rangeland Rehabilitation in Pakistan. Pakistan Agriculture, July 1985.

³¹FAO/World Bank (1974). Pakistan Livestock Survey Report. Rome.

conserve this important feed source from destruction. Currently, range and other grazing lands are being misused by way of over grazing. The productivity of these lands is being adversely affected. Due to this mismanagement, these sources are only producing 15 percent of their potential, while a simple scientific management can increase the productivity of this resource by 10 times.³² Jasra (1995) further reports that 55 percent of Pakistan's rangeland now falls under the rank of low productivity, i.e., 12-16 hectares of rangeland support one animal unit, while 5-6 hectares of productive grazing could provide enough feed for one animal unit. The existence of the latter is only 15 percent in Pakistan.

One major factor responsible for the destruction of range lands is that of the administrative mismanagement. The rangelands are controlled by the Forestry Department, which presently receives relatively low priority in funding for development. The department thus is not fully able to utilize this natural resource.³³

Range lands can effectively be managed with the community participation that, in turn, would ensure conservation and use of this important resource on sustainable basis.

³²Jasra, A. W. (1995).

³³Jasra, A.W., A. Ali and M. A. Sial (1993). Restoring Rangelands for Improving Livestock Production in Pakistan. Asian Livestock. FAO, Bangkok, Thailand, Vol. XVIII No. 6; and Iqbal, M. (1994).

Low genetic Potential

Government policies are tilted towards animal health services. Animal production sector receives relatively less attention. Animal health service is essentially crucial to achieving high levels of productivity. Unfortunately, however, we are facing a far serious constraint of poor genetic potential. That need to be improved first and then fully exploited using better health coverage and nutritionally balanced food. According to Akram et. al.³⁴, necessary components of genetic improvement programme specifically for milk are: a) an intensive animal identification system; b) production testing record system to measure individual performance standards for superior individual animals; and d) a breeding system such as artificial insemination. These programmes are presently almost non-existent in Pakistan.

The history of cattle breeding in Indo-Pak. goes back to eighteenth century. Shorthorn x native crossing led to the development of Taylor breed of Bihar, India, in 1856, and Ayrshin and Shorthorn bulls were introduced at the military dairy farms in 1875 for the first time.³⁵ Nonetheless, cross breeding did not receive any appreciation until 1954. Cattle crossbreeding is, of course, now the national policy in India,

³⁴Akram, M., Hanjra, Sadaqat Hayat and Nawaz, Shah (1988). Factors Affecting Dairy Production in Pakistan. Dairy Production Potentials and Challenges. Proceedings of a National Seminar Held in Faisalabad, 29-30 May.

³⁵Payne, W.J.A. (1970). Cattle Production in the Tropics Vol. I. Breeds and Breeding. Trop. Agric. Series. Longman Group Ltd., London.

where it is being pursued through more than 7000 artificial insemination centers dealing with 10 million crossbred³⁶ head of animals.

In contrast, cattle crossbreeding remained a controversial issue in Pakistan for a long time. Efforts are now being made to improve the productivity of native cattle breeds through crossing with exotic semen (i.e., Friesian, Jersey, AIS, Black Welch, Chinese Black and White, Swedish Red and White, etc) on government owned livestock stations.³⁷ Khan (1994) further reports that the government farms have also involved Sahiwal, Red Sindhi and Therparker Breeds. However, no improvement seems to have been made in this regard in the public and private sector due to poor infrastructure, further compounded by interrupted supply of semen and unorganized breeding programmes.

Our breed improvement work is mainly based on artificial insemination, which is being carried out through not more than 160 AI centers and 470 subcenters throughout the country³⁸. Because of a limited number AI centers, this activity is being carried out just around the centers, again at a limited scale. The feed back is not encouraging. As reported by the Livestock

³⁶Choudhary, M.Z. 1986. Productive and Reproductive Performance of Crossbred Cattle in India and Sri Lanka - A Review. In Proc. Ntl. Wrkshp. Dairy Cattle Crossbred and maintain of Exotic Dairy Cattle in Pakistan. 13-15 July at NARC, Islamabad; and Khan, U.N (1994).

³⁷Khan (1994).

³⁸Akram et al. (1988).

Census (1986);³⁹ only 3 percent of the total cows and 2 percent of the total buffaloes were inseminated during March 1985 to February 1986. The reasons reported by the farmers for not adopting such an important practice were: 35 percent of the households showed their concern that they did not like this technology; 50 percent of the households were of the opinion that the insemination centers are located too far away; only 6 percent blamed that the service was costly; and 5 percent of the households abandoned the use of AI service because of unsatisfactory results.

³⁹Government of Pakistan (1986). Pakistan Census of Livestock 1986: All Pakistan Report. Agricultural Census Organization, Statistical Division, Lahore.