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CORPORTAE DAIRY FARMING IN PAKISTAN–IS THERE A FUTURE?

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Milk production in Pakistan is dominated by smallholders. More than 8.5 million families raise cattle and buffaloes and a vast majority (>83%) have less than 6 animals (all ages) per household. Many of these smallholders are subsistence farmers and thus do not proactively seek to improve the productivity of their animals. Economic pressures and shrinking common grazing areas are forcing these subsistence smallholders into market oriented smallholders in rural areas where there is a market for milk. Demand of dairy industry for raw milk is increasing @ 20% annually. This demand however, cannot be met by just emphasizing improved milk production from the smallholder dairy farmers. With increased international prices and demand for milk and dairy products, many big investors have started planning investment in dairy farming in the country. Government has also announced incentives for setting up corporate livestock farms (CLF) including permission for 100 % foreign equity; local or foreign, private or public limited companies can invest in corporate farming; no government sanction is required except registration with Board of Investment; availability of liberal credit; no restriction on size of farm; possibility of lease or purchase of state land; application of Agriculture Income Tax regime on incomes from CLF; exemption of dividends from tax; exemption of duty on transfer of land and zero-rated duty on import of machinery and equipment not manufactured locally, are some of the examples of incentives that may be availed by investors. A few corporate dairy farms have already been set up and a few more are in the construction phase. Un-availability of animals of high production potential from a known source in the country has resulted in import of animals from abroad for establishing these farms. These imported animals suffer from adaptability problems and are particularly prone to tick borne diseases and foot and mouth disease. The success of these corporate livestock farms will depend upon the professional competence of the farm management. So far almost everyone has hired managers from abroad. Success of these large dairy farms will also be directly correlated to the degree of mechanization at the farm particularly in machine milking, fodder cutting and silage making. The cost of production of milk at these corporate farms is expected to be higher than the one seen at smallholders' farms. However, availability of better quality milk in sizeable quantity from a single source will result in payment of higher prices for milk from these corporate dairy farms by the dairy industry. Many of these corporate entities will also directly enter into processing and marketing themselves.

Keywords: Corporate, dairy farming, Pakistan

INTRODUCTION

Livestock play an important role in the economy of the country and the livelihood of people. Livestock account for 52.2% of agriculture value added and 10.9% of national GDP (Economic Advisor's Wing, 2008). It is a net source of foreign exchange earnings, constituting more than 8.5 % of the total exports. They are an important source of raw material particularly for leather, carpet and woolen cloth industries. They are raised by more than 8.5 million small and landless families in rural areas and are their main livelihood source. Livestock constitute a form of social security for the poor, who cash it at the time of need and they also serve as a security against crop failure especially in barani (rain-fed) areas (Afzal, 2008).

Pakistan is endowed with a large livestock population well-adapted to the local environmental conditions. The national herd (Agricultural Census Organization, 2006) consists of 29.7 million cattle, 27.3 million buffaloes, 26.5 million sheep, 53.8 million goats and 0.9 million camels. In addition, there is a vibrant poultry sector in the country with more than 530 million birds produced annually. Livestock produce 34 million tons of milk, making Pakistan 4th largest producer of milk in the world, 1.55 million tonnes of beef, 0.578 million tonnes of mutton, 0.601 million tonnes of poultry meat, 10.71 billion eggs, 41.05 thousand tonnes of wool, 21.41 thousand tonnes of hair and 57.527 million skins and hides (Economic Advisor's Wing, 2008).

The distribution of livestock is not even among different provinces. Buffaloes, the principal dairy animals in Pakistan, are mainly raised in Punjab (65 %) and Sindh (27 %). Cattle have traditionally been raised for draught and are distributed in different provinces according to their areas except Balochistan where only 8 % cattle are present (Afzal, 2008). Main milch breeds of cattle are Sahiwal and Red Sindhi. There is also a sizeable population of crossbred cattle in the country.

The demand for raw milk for processing is increasing at an annual rate of 20 % in the organized dairy industry. This quantum of milk can only be met with significant increase in the milk production. While it is imperative to increase the per unit animal productivity

in the smallholders set up (as they rear > 83% of the milch animals in the national herd), it however, is a very difficult prospective because many of these framers are subsistence oriented and have little interest in improving productivity of their animals. Furthermore, difficulties in delivery of technical services to such a large number of farmers and poor access of these farmers to resources and credit make it difficult for them to enter into commercial mode. In this context, Government of Pakistan approved a Livestock Development Policy (Afzal, 2007), which aims not only to improve productivity of animals in smallholders set up but also encourages large corporate livestock farming in the country. This paper describes the conditions and chances of success of large-scale corporate farming in Pakistan.

MATERIALS AND METHODS

Data used in this paper were collected from secondary sources, government notifications and reports and personal interviews with prospective investors.

RESULTS

Milk producers in Pakistan

Milk is mainly produced by the smallholders in the country. Profile of total herd of cattle and buffaloes (the principal dairy animals of the country) is given in Table 1. Herd size includes animals of all ages and sexes.

The data clearly depict that most of the households (>93%) raising cattle and buffaloes in the country are smallholders (<10 animals). Similarly, most of the animals (67.6 % cattle and 71.4 % buffaloes) are also raised in smallholding set ups. A better picture of milk production profile emerges if data of actual milk producing cattle and buffaloes are tabulated (Table 2). A total of 8.42 million families raise 26.79 million cattle and buffaloes for milk production in the country (Agricultural Census Organization, 2006). Most of these milch animals (65.3%) are with families who keep one to six milking animals. These smallholders constitute 91.4 % of the families raising cattle and buffaloes. Larger herd (> 30 milking animals per farm) constitute only 0.3 % of holdings and are 29,293 in number. These holdings have 9.4 % of total milk producing cattle and buffaloes.

Milk production systems in Pakistan

There are four main types of systems for the production of milk from cows and buffaloes in Pakistan (FAO, 1987, Afzal, 1999):

Rural subsistence smallholdings: These produce milk principally for the family at minimal cost. The average subsistence unit consists of three buffaloes, including one or two adults. Grazing provides more than half of the feed requirement. Some green fodder and straw are provided and a small quantity of concentrate is given to milking animals. This traditional system makes heavy demands on family labour.

Rural, market-oriented smallholdings: These farmers have satisfactory access to milk markets, and produce milk in excess of family requirements for sale. These farmers usually keep better quality animals. A typical unit consists of fewer than six buffaloes and cattle, with two or three in milk. Milking animals are

Table 1. Herd profile of livestock in Pakistan (Livestock Census, 2006)

(Thousand numbers)

Herd Size	Cattle		Buffalo	
	Number of households	Number of animals	Number of households	Number of animals
1-2	2668 (43.1)	4405 (14.9)	2545 (42.5)	4.293 (15.7)
3-4	1700 (27.5)	5.939 (20.1)	1655 (27.6)	5.770 (21.1)
5-6	836 (13.5)	4.556 (15.4)	801 (13.4)	4.364 (16.0)
7-10	619 (10.0)	5.063 (17.2)	626 (10.4)	5.096 (18.6)
11-15	207 (3.4)	2.598 (8.8)	218 (3.6)	2.734 (10.0)
16-20	70 (1.1)	1.234 (4.2)	75 (1.3)	1.331 (4.9)
21-30	46 (0.7)	1.132 (3.8)	44 (0.7)	1.081 (4.0)
31-50	24 (0.4)	0.923 (3.1)	20 (0.3)	0.764 (2.8)
>50	18 (0.3)	3.708 (12.5)	12 (0.2)	1.902 (6.9)
Total	6188 (100)	29.558 (100)	5996 (100.0)	27.335 (100)

* Values in the parentheses indicate %age of total household / specie population.

Table 2. Milch herd profile of cattle and buffaloes in Pakistan (Livestock Census, 2006)

Herd size	Cattle only		Buffaloes only		Both cattle and buffaloes		
	No. of households	No. of animals	No. of households	No. of animals	No. of households	No. of cows	No. of buffaloes
1-2	2211	2991	2393	3246	542	542	542
3-4	474	1575	529	1775	876	1497	1509
5-6	137	735	142	764	432	1128	1211
7-10	79	643	71	571	303	1140	1309
11-15	22	278	18	221	95	524	662
16-20	8	144	5	87	27	202	276
21-30	6	162	3	81	18	192	257
31-50	4	164	2	86	12	217	258
>50	3	438	1	204	7	617	545
Total	2944	7130	3164	7035	2312	6059	6569

generally stall-fed with seasonal green fodder, straw and concentrate and dry cows and herd followers are grazed. There is usually no adult bull in the herd. Calves are retained during lactation, and then the males are disposed of and females are kept as replacements. This system is the main source of milk in Pakistan.

Rural commercial farms: These are relatively large herds with more than 40 animals. These are either mixed crop-livestock farms or specialized farms for breeding and milk production. Fodder crops are grown and straw may be home grown or purchased. Concentrates are fed and dry females and heifers, if possible, are grazed. There is usually a bull for natural mating and the government artificial insemination service is also used. These farms are well-organized and keep good records, but their contribution to the total milk supply is small. This is an emerging farming system which is gaining popularity.

Peri-urban/urban commercial dairy farms: These are located around all big cities, the largest being at the Landhi Cattle Colony, Karachi, where more than 300,000 milking animals are kept. This system has been growing at a fast pace and is now seen around all major cities of Pakistan. High demand for fresh raw milk and easy access to the market with high milk price are some of the factors promoting urban/peri-urban dairying. Most herds in this sector have 25 to 100 animals and more than 90% are buffaloes, mostly adult lactating females. Turnover is very high. Animals close to calving or in calf are purchased, the calf is allowed to suckle for a few days and is then sold, generally for slaughter. Dry females are either sold for slaughter or returned to the rural areas for breeding. Most cows are not mated at least in the early lactation. Green fodder is purchased, but feed consists mainly of concentrate and straw. Since this is a high-cost system, only high-potential animals are kept. In the cities (mainly small cities and towns), families sometimes keep one or two animals and sell the surplus milk, usually to neighbours.

Corporate livestock farming

For quantum leap in milk production in the country, it was realized that focusing alone on the smallholders will not serve the purpose. So a multi-prong policy was approved by the Government (Afzal, 2007). It includes a number of steps for raising productivity of animals in small and medium holdings, and also encourages establishment of large livestock farms. It was expected that these large livestock farms will be established under corporate set up.

A corporate livestock farm is a legal entity registered with the Securities Exchange Commission of Pakistan (SECP) to be operated on corporate mode. As these farms are expected to be large and have good capital base, these will operate on better technology and are expected to have high per animal productivity. Government approved corporate agriculture policy (Afzal, 2008) also included livestock and dairy farming. The significant features of this policy are given below:

a) 100 % foreign equity is allowed.
b) Local or foreign, private or public limited companies to invest in corporate farming.
c) No government sanction is required to undertake CAF except registration with Board of Investment.
d) Availability of liberal credit.
e) The size of proposed corporate farm will be determined by the prospective investor.
f) State land can be purchased or leased for 50 years, and extendable for another 49 years.
g) Taxation as per following rule:
   (i) The Agriculture Income Tax regime presently applicable on Incomes from Agriculture would be applicable to CAF, thereby maintaining the preferential treatment available to agriculture.

(ii) Exemption of dividends from tax.
(iii) Existing definitions of farming activity, as distinct from processing/industrial activity, continue to be maintained.

h) Labour laws: Due to special circumstances of the agriculture sector however, appropriate labour laws would be developed for this sector.

i) Import duties:
(i) Zero-rated custom duty will be charged on import of agriculture machinery and equipment, will also be exempted from Sales Tax.
(ii) Machinery items for wheat/grain storage and cool chain will be included in SRO 437(I)/2001 datd 18th June 2001.

j) Duty on transfer of land to CAF will be exempted.

Keeping in view the high demand of the dairy products and uncertainty of many industries in the country particularly dwindling profits in textile industry, many corporate groups have started thinking of investing in the livestock farming. JK Dairies (Jamal Din Wali, Rahim Yar Khan), Saphire Dairies (Mango Bypass, Raiwind Road, Lahore), Al-Tahur Dairy Farm (Kotli Rai Abu-Baker, Kasur) are the initial leaders. Many more are in the planning stage.

Organized dairy industry has also started their own model farms for demonstration to the perspective investors as well as getting high quality milk to their dairy plants. Nestle (Sarsabz Dairy Farm, Renala, Okara) and Engro (Engro Dairies, Sukkur) have taken lead to set up their own farms.

DISCUSSION

The interest in corporate livestock farming has increased in recent years. However, perspective investors face a dilemma of un-availability of quality animals from any known source within the country and dearth of professional farm managers with capacity to design and execute large corporate dairy farms. This has resulted in hiring of foreign professionals as farm managers and establishment of livestock farms containing imported exotic cattle. Foreign professionals take time to learn local conditions, practices, animal diseases and cost much more to the investors. This highlights the need to look at the type of training we impart and use of technology in the livestock farming. Corporate livestock farming will require mechanization for total mixed ration, machine milking, fodder cutting and silage making.

The exotic animals imported into the country have many issues. Local diseases in particularly foot and mouth disease, tick borne infections (theilariasis in particular) and adaptability issues are major threats to rearing of exotic cattle in the country. The past and recent experiences of import of exotic animals in the country have proved that keeping exotic animals in traditional farming system (usually available with small and medium-scale farmers) do not succeed. Farm infrastructures have to be designed for maximum cow comfort (keeping in view the type of animals) and nutrition has to be optimized with the season, animal and stages of lactation.

Availability of government land on lease as approved in the corporate agriculture policy has been a major obstacle in the promotion of corporate livestock farming. Land availability is with the provinces and these units have not published available land or announced any transparent land lease policy.

The success of corporate livestock farming will depend upon the professional competence of the farm management, proper farm infrastructure and optimum level of farm mechanization. The cost of milk production at these corporate farms is expected to be higher than the one seen at smallholders' farms. However, availability of better quality milk in sizeable quantity from a single source will result in payment of higher prices for milk from these corporate dairy farms by the dairy industry. Many of these corporate entities will also directly enter into processing and marketing themselves.

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