

LIVESTOCK INDUSTRY IN SRI LANKA

Present Situation, Constraints, Alternatives & Solutions Required to Make it a Potential Industry

The economy of Sri Lanka is dependent on the agriculture sector, with 72% of its population living in rural areas. Livestock farming activity of Sri Lanka is highly integrated with Agriculture. Out of the total land area of 6.5 million hectares 35% of land is used for agriculture and of which 75% is under small holdings. About 70% of the small holdings are less than 1 ha in extent and one third of these are involved with livestock either in combination with crops or as the sole enterprise. An estimated 3.5 million people in the country are involved with livestock.

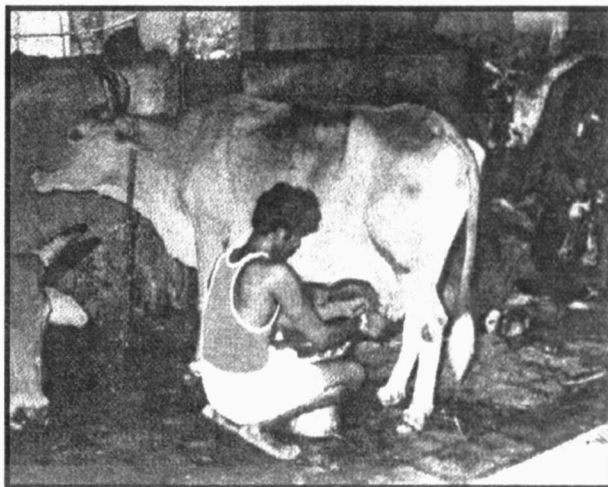
Out of all livestock activities only poultry production has kept pace with the rate of increase with the human population and the demand for meat products. There are several constraints facing the livestock industry in the country such as lack of long term policies for development of the sector, unfair competition through free trade where local farmer receive a lower price for his products, inactivity of the private sector except in the poultry production, inadequate supply of breeding materials, poor quality of available feed resources and the dependency of imported feed ingredients.

Livestock farming activity of Sri Lanka is an integral part of Agriculture and contribute to the growth and development of the sector. Livestock help improve food and nutritional security by providing nutrient rich food products, generate income and employment and acts as a cushion against crop failure, provide draught power and manure inputs to the crop sub sector. Even at low productivity

and off-take rates, with production concentrated among small land holders livestock helps to improve income distribution. Sri Lanka's progress is dependent on the development of agriculture to enhance food production and ensure food security for the entire nation.

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Cultivated land in Sri Lanka is estimated at about 2 million hectares, or about 30% of the total land area. Seventy five percent of this land area is estimated to be under small holdings and the rest is



under the plantation estates. About 90% of the small holdings are less than 2 ha in extent and one third of these are involved with livestock either in combination with crops or as the sole enterprise. Ad hoc development programs with no proper land utilization policy had led to the creation of limitation to land and water resources available for food production. Out of the total farm population in the country, an estimated 3.5 million people are involved with livestock.

Agriculture provides income to 70% of Sri Lanka's population, and contributed

19.4% towards National GDP in year 2000. The livestock sector contribution to the GDP is around 6% which is very low compared to other Asian countries such as Pakistan and Philippines, where livestock sector contributes 18% and 30% respectively. Livestock as a component of agriculture provides employment and is a component of rural household income generation, where nearly 32% workforce in rural and plantation sector are employed directly and / or supplement their income from livestock.

The national livestock population in Sri Lanka in year 2000 is estimated to be 1.5 million Cattle, 0.7 million Buffaloes, 0.5 million Goats, 0.07 million Swine and 10 million Poultry. The total annual milk production is estimated to be 345 million litres of which about 1/3rd is collected for processing. Sri Lanka also imported 49,000 mt of milk powder in year 2000 costing around Rs. 9 billion. The annual poultry egg and meat production in 2001 has been estimated to be 1,055 million eggs and 64,000 mt of poultry meat.

Role of Livestock in the Economy of Sri Lanka

Livestock products such as meat, milk and eggs are important sources of high quality protein, minerals and vitamins, especially for children and pregnant and nursing mothers. Livestock are also valuable for their hides and skins and for the manure they produce which helps replenish soil fertility and improve soil structure and water-holding capacity for the benefit of crop enterprises.

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In addition, cattle and buffalo are still primary sources of renewable and low-cost traction and power for ploughing and other tillage activities, for transport, and for harvest operations like threshing. In these ways, livestock increase the productivity of the farm lands. For many small-holder farm families, livestock are also a "living bank", serving as a financial reserve during periods of economic distress. As such, investments in livestock tend to cushion against the many environmental risks associated with crop production.

The contributions by livestock are important in Sri Lanka because, despite the significant structural transformation over the last three decades, the agricultural sector still contributes around 20 percent to the national gross domestic product (GDP) and provides employment for about 40 percent of the labour force. This surpasses the employment contribution from any other sector.

There have been slight increases in cattle and goat populations over the last decade in the country. Data on livestock numbers also indicate tendencies toward regional specialization by species, influenced by agro-ecological factors and socio-economic considerations.

Cattle and buffaloes are the most evenly distributed species. In the hill and mid-country regions and the Jaffna Peninsula, cattle are raised primarily for milk production and are of upgraded stock. In the low country wet zone and the Coconut Triangle, cattle and buffaloes are an integral part of local agricultural systems, providing draft power for paddy cultivation and haulage and manure for coconut plantations. In the dry zone, both cattle and buffaloes are regarded mainly as a source of wealth and insurance against crop failure. Although most of the animals in the dry zone are not milked on a regular basis, some milk is collected and marketed where milk collection and dairy processing facilities are available.

Buffaloes are used primarily for draft purposes in paddy cultivation. Herd sizes vary from two to four animals, up to 40 to 50 in a herd. Some farmers maintain buffaloes for production of curd, a product with high demand throughout the country. In such enterprises, while farmers raise either pure-bred dairy-type buffaloes - i.e., Murrah or Nilli-Ravi or crosses of these breeds with indigenous stock.

The productivity of cattle in different agro-climatic zones show variations. Average production of a cow per day is 7 - 8 litres in the wet zone, 5 - 6 litres in the wet intermediate zone, 4 - 5 litres in the dry intermediate zone and 1.5 - 2 litres in the dry zone. The average yield of a buffalo also varies between 2 - 3 litres a day.

Goats are found primarily in the dry zone. They are raised for meat on communal grazing lands. Dairy goats, however, are becoming more popular, particularly in peri-urban areas, in response to changes in food consumption habits.

Pig production is concentrated in the coastal region of Sri Lanka. Both intensive and semi-intensive enterprises are found in these areas. Semi-intensive enterprises usually consist of one or two sows kept in a smallholder subsistence operation. More commercially-oriented enterprises keep pigs under breeding and fattening regimes using concentrate feeds supplemented by local by-products.

Poultry production is practised extensively throughout the country. Farmers who raise poultry for commercial purposes use mainly deep litter systems. The majority of commercial farms buy their poultry rations from local feed mills, but almost all of the local poultry breeding operations and a few commercial farms mix their own feeds.

REVIEW OF PAST AND PRESENT STATUS

Dairy Sector

Dairy Sector is by far the most important sub-sector of the livestock industry in Sri Lanka. Since independence successive governments have tried to develop the local dairy industry by es-

tablishing large state farms without much emphasis on the constraints faced by the small scale milk producer. The emphasis had always been to satisfy the consumer and this had led to large scale imports of milk powder resulting in shrinking of the local industry. Nearly 300,000 rural dairy producers are presently trying to earn a living out of dairying. They supply nearly 300,000 litres of fresh milk everyday for the dairy processors, and receive nearly Rs. 1.3 billion a year as payments for milk.

The total annual milk production in the country in 1989, was estimated to be 275 million litres. The milk production in the country has increased during the last 10 years, and in 2000 the milk production was estimated to be 345 million litres, an increase of 20 % over the past ten year period.

The milk produced in the country is either collected by large scale as well as small scale milk processors and converted into pasteurized milk, sterilized milk, full cream milk powder, yoghurt, curd, butter, cheese etc., or is consumed at home, hotels, restaurants, tea kiosks and in the neighbourhood. Nearly 40 percent of the milk that is collected from the farmers by the processors is arranged through dairy cooperative societies operating in the milk producing areas.

One striking feature observed in milk marketing in the recent past is the increase in the share of milk utilized by the small scale milk processing sector, hotels and restaurants, other private traders and consumers in the neighbourhood. They use nearly 50 percent of the milk entering the milk market. The milk that is collected by this group is generally converted into simple products such as curd, ghee and yoghurt at village level. In the hotels and tea kiosks however the main use of milk is for tea whitening.

In spite of the growth in the domestic milk production, there is an increasing trend in the import of milk powder and other dairy products such as butter and cheese in to the country. This is causing a severe strain

on balance of payments position of the economy. At present the formal milk market in Sri Lanka is heavily dependent on imported milk powder, and the share of the local milk in the formal milk market is estimated to be only 20%.

Poultry sector

Of the different livestock species, the poultry sector is the one, which has shown the highest growth rate in the recent past. The egg and broiler industries have developed over the last two decades from backyard and semi-intensive production to commercial intensive systems of production. Unlike the other animal industry sectors, this sector is dominated by the private entrepreneurs with little government involvement and control. The industry is comprised of capital intensive breeder farms, hatcheries, feed mills, processing units, and a large number of farmers using labour intensive methods either for fattening poultry for meat or keeping poultry for production of eggs.

The incentives such as duty concessions on import of day old chicks, feed ingredients and equipment provided by the government have resulted in several modern poultry abattoirs & further processing facilities established in the country, and thus helping to increase the quality of processed chicken. It has also helped some firms securing few export orders for poultry meat.

The growth of the industry can be shown by the procurement of chicks by the hatcheries. The import of broiler parent chicks which was 193,384 in 1991 increased to 718,895 during 2001. The production of broiler chicks from the imported parents were estimated to be 15 million in 1991 and increased to 64 million in 2001. This has resulted the per capita availability of chicken meat to increase from 1 kg in 1991 to 3.5 kg in 2001.

Similarly the procurement of layer parent stock increased from 39,000 in 1991 to 98,000 in 2001 resulting

in the increase of production of layer chicks from 4.2 million to 6 million during the corresponding period. During this period the per capita availability of eggs increased from 48 to 57 eggs.

The increase in numbers of chicken raised was also accompanied with an increase in the productivity of poultry rearing, thereby more or less stabilizing the poultry product prices. It has also resulted in an increase in the number of retail outlets by way of several 'Farm Shops' in many parts of the country, and in a number of 'Fast-food Chains' specially in Colombo.

The poultry sector has become a self-sustaining industry, and presently the government's role has been limited to the monitoring and control of the disease situation of the poultry sector. The increase in imports of day-old chicks, although helped to increase the poultry production, has caused problems regarding the island's poultry health status. Likewise the liberalization of import of feed ingredients may act as a disincentive to the local production of those ingredients such as maize and soya bean etc. A situation has developed where the industry is dependent on imports and world market manipulations. Therefore it is very important to encourage local production of poultry feed ingredients to safeguard against price fluctuations.

Swine industry

Pig production is another important activity for supplying the animal protein to the local population. Swine farming is popular in the coastal belt region of Sri Lanka, and provides employment to nearly 5,000 low income families. About 60% of the swine farms are small scale farms while 25% medium and 15% large-scale operations.

The main intervention by the state in this sector is breed improvement by supplying good quality breeding pigs to the multiplier and commercial farmers. However, the initiatives made by the government have encouraged the private sector also to get involved in pig breeding. There are religious as well as

socio cultural constraints affecting the pig keeping and only a small number of farmers mostly from the coastal belt practise pig keeping. Expansion of pig production is also constrained by the low demand for fresh pork. Pig meat is generally consumed in Sri Lanka in the processed form. The monopolistic structure of the meat processing industry therefore is also a constraint for the expansion of pig industry. The domestic annual pig meat production is estimated to be around 10,000 mt and the production has remained same up to now because of low demand.

Goat sector

Goat husbandry is a traditional form of livestock production among the farmers in the dry and dry-intermediate zones of Sri Lanka. In this region, the farmers follow traditional methods of goat husbandry using local breeds and scrub jungles as forages. Only about 10% goats are of the improved types raised for milk production and rest are indigenous types kept only for meat. In the recent past the demand for goat meat has increased as a result of the shift in demand from beef by the consumers. Goat farming therefore has a good potential for meeting the requirement of meat and also providing a regular income for goat farmers.

Goat meat production as well as the goat numbers have not changed much over the last decade. The estimated goat meat production in year 2000 is around 2,100 mt and at the same time the country has imported 81 mt of goat meat and 520 mt of sheep meat during the same period.

While cattle and goats can be reared to a large extent on green material, concentrate feeds are required for the poultry and pig industries. About 90% of the animal feeds so prepared are for poultry feeding and the ingredients such as maize, soya bean, fish meal etc. are imported to the country spending valuable foreign exchange. About 350,000 mt of animal feeds, valued at about Rs. 5 billion, is produced annually.

MAJOR CONSTRAINTS

Policy constraints

Many planning documents, seminar and workshop reports have identified a number of constraints to the development of the livestock industry in Sri Lanka. However, of primary importance is the lack of a clear-consistent, long-term government policy for approaching sectoral problems and constraints. This along with the fact that various activities associated with livestock production and development are fractionated between several different ministries and agencies of the government, decisions on sector activities have been *ad-hoc* and made by institutions operating independently from one another and often without consultation, leading to unplanned development processes.

A major issue facing the development of the livestock industry is the lack of a policy on import of livestock products into the country. After the opening of the economy in mid 1970s, the free trade policy of the government did not favour the development of the livestock industries in sectors such as the dairy, goats and the swine sector. The state involvement in these sectors was also very big, and this was a further obstacle, which prevented the private sector involvement in the above sectors.

The poultry sector was an exception, and this sector has shown remarkable growth after the opening of the economy. In the case of the poultry sector, there was adequate protection through tariff and hence no significant import of poultry produce entered the country from outside. At the same time, with the opening of the economy, there was a remarkable flow of private sector investments, including foreign investments, to the poultry sector and thus making it one of the fastest growing sectors in the Sri Lankan agriculture sector.

Free trade is good provided there is a level playing field for the different players to compete. However, virtually all livestock products and spe-

cially the dairy products that reach the Sri Lankan market from outside enjoy various forms of subsidies and therefore have an edge over the comparable products produced locally. As a result of this unfair competition through free trade, the local livestock producer is compelled to receive a lower price for its produce and is not in a position to expand its production or acquire new technologies to improve profitability of livestock production.

The introduction of GST (Goods and Services Tax) on animal feed and exempting the products such as chicken, other meats and eggs from GST has also created a situation where imports of such produce have an advantage over the locally produced. It is too early to see the effect of the introduction the VAT as proposed in the new budget on the livestock sector.

The next major issue is the policy of government involvement in the livestock sector activities. At present the state is involved in the facilitation and regulation of the livestock sector, but there is also state involvement, in certain commercially oriented livestock sector activities such as maintaining poultry hatcheries, pig breeding units, and goat breeding farms, where similar activities are also undertaken by the private sector. The performance of private sector, in such livestock activities are sometimes even better than is done by the state sector. It is therefore necessary that there is a rationalization of the state sector activities in the livestock sector so that they become complementary and facilitatory to the private sector functioning and not competitive towards the private sector initiatives.

Marketing of livestock products

Lack of an assured and remunerative market for the primary livestock products appears to be another important constraint to livestock development in Sri Lanka, especially in the dairy sector. The low prices paid to the dairy farmer for their milk is the main constraint for development of the sector. The free market forces do not determine the price for milk. The local producer has to compete with the cheap imported

milk powder and the price paid to the local milk is influenced indirectly by the price at which the imported milk powder is sold in the market. The dairy farmer therefore is not induced to invest on their enterprises.

The high yielding crossbred and purebred cows have to be maintained by feeding concentrate feed to explore their full potential in the absence of good quality pasture. But the farmers cannot feed their animals to their requirement because of high cost of concentrates. This results in decline in the profitability. In certain rural areas milk is collected only once a day, and as a result there is no incentive for the farmers to intensify their dairy operations. Also the milk marketing network is sometimes very thinly spread, and the dairy farmers are forced to travel long distances to dispose their milk. Lack of facilities at village level to test the composition of milk and therefore to pay for the milk according to quality is yet another constraint.

In the case of eggs the market has very wide price fluctuations because of several structural distortions in the market structure. The small farmer is the ultimate victim of these market behavior and this is a major issue in developing the egg industry. Poor quality of local products compared to imported products due to inadequate quality assurance schemes, is also an emerging issue. Today's consumer demands higher quality, especially for livestock products. Media propaganda regarding the superiority of imported products and their health benefits is posing major challenges for the local livestock produce.

On farm development of livestock production

There is an inadequate supply of high quality breeding material adapted for different climatic conditions of the country. This is a major constraint for the expansion of the dairy industry. Many lending agencies have set aside funds in the past for dairy development in the country. However every such credit program was a failure and

one of the principal reasons for such failures have been the non availability in sufficient numbers of good quality dairy cattle in the country. Poor quality feed resources for dairy cattle, and the heavy dependence of poultry and other non ruminant feeds on imported feed ingredients are also important issues in the livestock sector.

Although pasture and fodder are available in plenty during the wet season they are of low quality and therefore needs high level of supplementation to achieve reasonable levels of milk production. During the dry season there is a general scarcity of fodder and therefore dairy producers have to resort to the use of high levels of concentrate feed to sustain milk production. In both instances high levels of concentrate supplementation will lead to an increase in cost of production of milk, which in turn will reduce the profit margin realized by the farmer.

The non ruminant feeds are compounded using high levels of imported feed ingredients. Even the principal ingredient in such feeds namely the maize is also largely imported to the country. The imported feed ingredients are subjected to world market changes and exchange rate fluctuations. The feed ingredient prices are therefore very important determinants in the competitiveness of the domestic livestock systems.

Quality of livestock products

In Sri Lanka there is a lack of quality control of livestock products, which has led to wide spread adulteration of milk and meat products. There is also unsanitary and unhygienic conditions at all stages of production, collection and processing of livestock products. This is a major issue to be considered in exporting animal products as in the case of poultry products and value added dairy products. The importing countries would demand very high standards of quality and hygiene and the authorities would have to consider this aspect to meet future demands.

OPPORTUNITIES AND STRATEGIES FOR DEVELOPMENT

The opportunities and strategies discussed here are mainly concerning the dairy industry which is the most important livestock sub sector in the country. Certain facts discussed are also common to all sub sectors. Though there are certain specific problems concerning the other sub sectors those are not acute as in the case of the dairy industry.

Delivery of Inputs and Services

The Government presently provides the delivery service through 214 Veterinary offices with around 600 middle level technicians. Arrangement are being made to increase the number of Veterinary offices to be in par with the number of Divisional Secretary areas in the country. On the average one veterinary officer services 7,000 cattle and 3,300 buffaloes. One field level technician services around 3,700 cattle and buffaloes which is a very difficult task. The coverage become more acute in the dry zone where more than 70% of the animals are present.

This is an area where the private sector could come in and invest to increase the coverage of veterinary service, since expansion of this service is not possible under the present trend of reducing government expenditure.

The Government's present investment in infrastructure facilities and personnel to support nation-wide disease control program is not being effectively utilized, therefore, major opportunities exists in cost effective livestock development from the control of specifically identified livestock diseases.

The country has a good net work of farmer organizations, Rural Development Societies, Non Governmental Organizations and there are opportunities to supply the services and inputs through these organizations which could include advisory and extension, artificial breeding service, marketing and supply of inputs such as animals, feed, insurance and credit. Even Private Companies and Entrepreneurs with resources can be encouraged to venture into above activities. These Institu-

tions and individuals should be encouraged to employ veterinary surgeons, field level trained technicians for artificial insemination, first aid treatment of animals and extension and advisory work.

Promote setting up of mobile veterinary services through private veterinarians in areas where dairy animals are concentrated. They could be entrusted with additional government work on breeding and animal health.

Supply of Breeding Materials

Another constraint faced by the farmer is the non-availability of breeding materials. What is being supplied by the National Livestock Development Board (NLDB) is inadequate. Therefore opportunities lies for the private sector to produce the required breeding materials.

The heifer calf salvage scheme operated by the Department of Animal Production and Health (DAPH) had supported to raise around 30,000 crossbred heifer calves during the last decade and this program has been terminated due to want of funds. It has also been estimated that 70,000 crossbred females have joined the milk-producing stream from artificial insemination. Therefore, private sector could take up the Challenge by salvaging the heifer calves and delivering the AI services.

A special contract-breeding scheme where owners of good quality dairy animals undertake to provide heifers at agreed prices to other farmers could be initiated.

Low interest credit should be provided initially to the dairy farmer directly or through farmer organization for purchase of cattle, construction of sheds and cultivation of improved varieties of grass and legumes.

Insurance cover for dairy animals by agriculture insurance board and other state and private sector insurance companies through group insurance schemes with attractive incentives should be encouraged. Promotion of organization of livestock markets for

sale of animals is being done in other countries can be practiced in areas where there is demand for high producing animals.

Livestock Disease Prevention and Control

It is becoming increasingly difficult for the DAPH to carry out the disease prevention and control activities due to shortage of staff and funds. Regular Immunization of cattle and buffalo against diseases of economic importance is very important to prevent economic losses. It has been envisaged that this activity could be implemented through private sector participation by way of giving sub contracts to increase the vaccination coverage leading towards eradication of certain diseases.

If the essential vaccines, biologicals and pharmaceuticals can be produced in Sri Lanka through joint venture collaboration it would save valuable foreign exchange. The infrastructure facilities, laboratory equipment and technical personnel of the state sector can be utilized for this purpose. Joint collaboration with private sector for livestock diagnostic activities which cannot be performed efficiently under the existing institutional set up can be done through accredited private laboratories.

Veterinary Research Institute and universities should be assisted with research grants for specific research studies of relevance to major problems faced by the industry. Further research organizations should be encouraged to transfer new technology through mass media to farmers and other end users.

Livestock Feed Production

Poor nutrition is a major factor in causing low productivity of livestock, particularly ruminants in Sri Lanka. Under poor nutritional regimes, even animals with high genetic capacity for efficient production are not able to attain their inherent potentials. Therefore a concentrated effort should be made to improve utilization of available forages and concentrate feed resources in ways that reduce unit feed cost in production enterprises.

At present there are lot of unutilized state land which could be used for pasture and fodder production. The state will have to actively support the pasture and fodder production for ruminant feeding. Encouragement also has to be given for domestic production of raw materials required for the compounded feed industry. If an arrangement could be made for the compounded feed manufacturers to obtain sub grade cereals, flour, milk powder etc from the state wholesale establishments it could minimize the cost of manufactured feed.

Controlling of export of oil cakes, rice bran, wheat bran etc could also be done to utilize these raw materials to make animal feed. Effort could also be made to utilize fruit cannery waste and other non conventional feed material such as brewery waste, manioc leaves, rubber seed, mango seed etc such as being done in neighboring India.

Marketing of Livestock Products

Unfavourable ratio between farm gate price of milk and the cost of production has resulted most of the small scale dairy farmer to give up dairying. The main reason is the high cost of concentrate feed and the high cost charged by the collection, marketing and processing channel. The farmgate price should be based on quality and composition. Further, to boost up the industry the farmers should be paid more for each litre of milk supplied to the processor. It has been suggested that a cess should be levied from milk powder imports and channel that money for extra milk payment and other dairy development activities. But this would result in the increase of the price of powdered milk in the local market. Though this has been suggested many times it has not materialized due to consumer consideration.

Though it is difficult with the media advertisements on milk powder the state institutions should make an attempt to popularize the consumption of liquid milk as a means of improving the nutrition of the rural population. When there is more local demand for fresh milk farmers also may attempt to increase production.

It is known that there is a fierce competition by milk processors to collect milk from the locations where there is easy milk. Some times two or three collectors ply on the same milk route. The best solution would be to encourage demarcation of milk collecting areas and allocate to one particular processor who has a strong collecting network in that area. This has to be done on a mutual understanding and for that all the processors should discuss and make a genuine attempt.

Like in the poultry industry where the farmers are linked with the processors on a buy back scheme, the dairy farmers also could be organized into a contract milk production scheme linked to the processors for an assured market.

In conclusion I wish to emphasize that the livestock sector is an important sector in the rural economy of Sri Lanka. This sector plays a major role in rural employment generation and provide additional income to rural women. Meaningful strategies and programs has to be developed with more private sector participation to develop the livestock sector in Sri Lanka so that the products would be within the reach of the ordinary consumer.

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