

Principles and Policies to Promote Sri Lanka's Milk Production Industry

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The glaring shortage in national milk supplies and an inability to satisfy even the minimum needs of the most sensitive groups in our population has been highlighted in many previous discussions on this subject. In this paper, which is an edited talk given by Dr. Earle de Silva, Deputy Director, National Planning (Agriculture), Development Planning Unit, Ministry of Planning and Economic Affairs, on the first day of the First FAO Government of Sri Lanka National Dairy Training Course Seminar arranged by the Regional FAO Dairy Training Centre in the Philippines, some of the reasons for this situation are discussed and many constructive proposals are put forward for an effective policy on the development of milk production and the supply situation in Sri Lanka.

Policies are a dangerous subject because they are framed by the Political Executive and some are more sensitive than others about their policies. But policies are not permanent. Policies enter the statute books, some to be alive, others to lie dormant for varying periods of time, some to be forgotten and others to be changed by succeeding governments. Paradoxically, some even defeat their own objectives. However policies regarding milk and milk production have a serious impact on the daily life of the entire population of Sri Lanka.

The views I express are my own. But I shall treat the subject from the broad perspective of National Planning and not from the parochial view of the Milk Board or its sector. The facts and figures I quote are from authentic documented material.

The People's Bank *Economic Reviews* of July 1975 and March 1976 dealt with the Milk and Nutrition situation in Sri Lanka in the cover stories of

these issues where the serious protein-calorie malnutrition incidence amongst sensitive groups of children was identified. A milk crisis has been with us for nearly a decade. Our local press has periodically spotlighted critical shortages. I will focus attention on the urgent need to review the policies in regard to the Milk and the Milk Production Industry in Sri Lanka.

The basic economic principles which are universal; and which should influence and govern policy making in regard to the dairy industry (by dairy industry I mean both primary and secondary sectors) are:

1. The objective to satisfy demand.
2. The policy of declaring milk as an essential food item.
3. The principles underlying efficient supply and distribution to meet the objectives at (1) and (2).
4. Pricing policy.

The principle underlying economic policy on milk at national level must undoubtedly be demand, and its relevant social policy is the declaration of milk as an essential item of food, particularly if nutrition considerations are of paramount importance in a situation of inadequate supply both locally and from external sources under balance of payment constraints.

SATISFYING DEMAND

This is undoubtedly the primary objective of any development and production programme, import programme, distribution scheme and pricing policy. In all LDCs of which, there are 161, the objective of dairy development is to satisfy internal demand.

Nearly all LDCs are net importers of dairy products. The exporters are inevitably Developed Countries. Of the world population of 4½ billion these LDCs carry over 3½ billion. But out of the world milk production of 421.52 million metric tons (1975) these LDCs produced only 84.95

million metric tons, i.e. only 22% of the world milk for 78% of the population.

Nevertheless, the LDCs continued to be net importers of milk products and cows to satisfy consumer demand and promote milk production respectively.

In the developed market economies, demand for milk products is more or less a direct function of income and prices. The population effect is less pronounced. But in many LDCs it is not such a simple function. Demand is also linked with traditional consumer habits, levels of education and even religion; and also government controls via import duties, import quotas, prices and distribution systems. The population effect is itself significant. India for instance, is a country where demand for milk and milk products is traditionally high in relative terms of demand for other essential food items. Sri Lanka on the other hand is traditionally backward in this respect. Daily per capita consumption in India with a population of 600 million was 105 gms. in 1975. In Sri Lanka it dropped from 56 gms. in 1963 to 41.4 gms. in 1974, according to the Consumer Finances Survey 1963, of the Central Bank and the Food Balance Sheets of the Department of Census and Statistics.

In most countries which were former colonies of a metropolitan European Power demand for processed milk products has been derived through the consumer habit of dependence on imported products. This is particularly true of export economies such as Sri Lanka where a part of export earnings from primary products was utilised for the import of popular consumer items from the metropolitan country or its trading partners. But the demand for these products was invariably restricted to urban consumers, the upper income groups and the educated segment of the population which copied the customs of the metropolitan immigrants. With the gaining of independence, widespread education, rural development and emancipation of backward areas, development of provincial

towns and the increasing mobility of the population, the consumer habits such as use of processed milk foods spread to a larger section of the population. This spread-effect has been further accelerated with the increasing incidence of female employment and the consequent decline in traditional breast feeding of infants.

Thus the derived demand through imports ultimately created the local market which became the precondition essential for promoting local dairy development and local processing to achieve import substitution.

These historical origins are still evident in the marketing system of our own National Milk Board. Its products are predominantly geared to the urban populace and the income groups which could afford them. Derived demand as in Sri Lanka or traditional demand as in India could be utilised as the goal in the promotion of local milk production and dairy development. The demand must be assessed.

But neither the import statistics nor the expenditure in Family Budget Surveys give a true picture in the situation where imports are severely restricted, local production is far behind our needs and supplies are not accessible to various sections of the people either because of bad distribution or inaccessible prices and because a section of suppressed demand exists in the country.

In the situation where supply is inadequate both from local production and restricted imports, governments have to decide the policy whether milk, and then which of the milk products are to be accorded the priority status of essential food items, on the basis of nutrition considerations, for the sensitive groups in the population.

MILK NUTRITION

Milk is considered a complete food. In the mammalian world all young are nurtured exclusively on milk from birth up to various ages of development until substitutes are ingested. The human baby has relatively a long period of growth up to maturity. During this entire period of growth and development of the skeletal structure which may be up to about the 18th year, milk will provide the essential nutritive elements in proper balance despite the ingestion of all

other food. Milk is absolutely vital in the early years for the growth of the brain and mental powers. It is now known that milk starvation and undernutrition at this stage would cause mental retardation for life. Thereafter milk still remains essential despite all other foods taken until the 10th year or so. From this stage a child's growth accelerates rapidly until puberty. The skeletal structure grows rapidly and therefore once again it is a critical stage because milk is the only food item which has the necessary essential mineral elements in a proper balanced ratio and in an easily assimilable form. There are therefore four milk essential stages of growth. The least that must be considered are the first three stages. These are the sensitive age groups in the population.

Apart from this group of children there are three other milk-sensitive groups. These are lactating mothers, invalids and the old age groups.

Therefore a policy on milk, as an essential item of food, must seek to meet the needs of these sensitive groups.

Requirements for Sensitive Groups

These sensitive groups are represented in every country but with some variation. In Sri Lanka the most sensitive groups are the age groups of children up to 15 years numbering 5.59 million as at the 1975 demography; and 371,000 lactating mothers who together comprise 41% of the population of 13.603 million. This is high for any country with scarce resources; especially to provide adequate supplies of milk foods and to ensure that the supplies reach this large sensitive segment of the population at a price within their reach.

The daily minimum milk requirements for these groups are 227 gms. for children 1-3 years old, 142 gms. for the age groups of 4-12 years, 71 gms. from 13-15 years and also those over 60 years old, and 90 gms. for pregnant and lactating mothers. On a rough calculation the daily milk requirement for these groups alone is 1,580,000 pints. The supply in 1975 average to about 650,000 pts., of liquid milk a day when all the Milk Board products of L.kspray, Vita-milk, sterilised milk and pasteurised milk are taken into account together with all the imported milk food.

Of the National production of 650,000 pints or so a day, about 425,000 pints of milk not collected by the Milk Board were locally consumed. The total national supply was therefore in the region of about 1,200,000 pints a day.

The implication is that the supply was short by about a 400,000 pts. a day to satisfy the minimum needs of the sensitive groups in the population in 1975.

Let us look at the supply position on a per capita basis. In 1963 the per capita consumption with a population of 10.6 m. was 2 ozs. per day of which 1 oz. was imported milk and milk products. The national milk production was 600,000 pints a day. By 1970 consumption had dropped to 1.6 ozs. and a production of 540,000 pts. according to the Socio-Economic Survey of the Department of Census and Statistics. By 1974 it had dropped further to 1.48 ozs. on the basis of the Food Balance Sheets of the Department of Census & Statistics. The MRI recommendations are 5.5 ozs. per head. On this basis the daily supply should be 3.74 m. pints of liquid milk or 275% more than the present supply.

In the light of this situation could there then be an effective policy on milk production, development and supply in Sri Lanka?

What are the ill-effects of this situation? The ill-effects are vividly identified in the People's Bank *Economic Reviews* of July 1975 and March 1976.

The MRI has repeatedly warned of the increasing incidence of first degree protein-calorie malnutrition, especially among the most sensitive age groups in the population. The incidence is at least a million children more acutely among the urban poor and mostly in the poorest 40% of the population with an income under Rs. 200. The least expenditure on any form of milk is in the income group under Rs. 100/- shown in the Socio-Economic Survey of 1969-79. The increase in expenditure rises linearly but slowly until the income groups of Rs. 600-799 is reached. It shoots up from this income level. Even Marasmus and Kwashiorkor which are the severe clinical conditions of protein-calorie malnutrition have appeared in Sri Lanka in recent times. The severity of protein-calorie malnutrition is that at 12 months 1st

degree affliction is 47%, at 2 years 61%, at 3 years 71% and then gently decreases. This age incidence is clearly on account of the lack of milk and milk substitutes and supplements. Surely the decreasing supply in the last few years with 1974 as the worst year on record must be a contributory factor.

The need for a review of policy I believe is therefore most urgent. If the policy objective is primarily to supply the sensitive age groups and most needy in the population with essential milk foods, then the matter of demand is of secondary importance. Such a policy is justified when local production is inadequate and imports are restricted by balance of payments problems. But this sort of selective supply policy is very difficult to implement because it must be supported by a well developed marketing system and a strong non-corrupt administration and bureaucracy to implement controlled distribution of quotas and the accompanying subsidised pricing policy. Otherwise corrupt practices would emerge and some part of supplies will find its way to meet suppressed demand among the more affluent. The poorest and most needy will be denied supplies. Only strong governments capable of eradicating corruption with severe punitive measures could succeed in effecting selective distribution.

An alternative is a health welfare distribution scheme to the sensitive groups through schools and maternity and health clinics. But here too, in order that all in these sensitive groups may be reached, the schools and health infrastructure would have to be well-developed and widespread. For the last 15 years Sri Lanka has had a Ministry of Health Milk Distribution Scheme assisted by CARE. But the problem of malnutrition described before is so large that this programme seems to be too small. The Ministry of Health and CARE have just established a Cereal Products Factory at Kundasale to prepare Thripasha from local materials for a larger distribution programme of this milk substitute. To be fair, such a programme still cannot substitute a normal supply of milk food. It can only supplement the requirements of the most needy it can reach.

In both supply systems proposed, it is necessary to have population

statistics broken down into age groups, schooling groups, female employees and so on. Then the required supply is estimated on the basis of daily needs for different categories recommended by nutritionists.

The third alternative of supply is to assess demand and make supply adequate and at a price within reach of the low income groups in the population, as the criteria of accessibility for all. Only when a country can generate adequate supplies including imports and also subsidise milk to the consumer at a price which to him it would be an advantageous opportunity cost, relative to the next most important essential item, would milk reach the largest segment of the needy and sensitive groups in the population through the open market. This is the basis on which milk remains a relatively cheap essential food item in Developed Countries.

PRICING POLICY AND SUBSIDIES

In the world crisis of inflationary prices the prices of milk products rose for instance by 350% in the case of skimmed milk powder between 1970 to 1974. The c.i.f. prices of milk products for the majority of LDCs thus rose faster than income gains. On the one hand, imports were restricted due to balance of payments problems in the majority of LDCs. On the other, demand slackened due to the price hike. These two factors have had somewhat of a balancing effect although an equilibrium position could not be reached because of the large element of essential milk food demand. It is this element if accepted by governments as a matter of national nutrition policy which would need to be fortified in these circumstances with a consumer subsidy and a distribution system to reach the majority of the most needy. Still a major problem of a consumer subsidy is that although it will improve real income and the purchasing power of the recipient, the very poor and destitute may sell the subsidised product at a higher price to a third party in order to use the cash for the purchase of more bulky but less nutritious foods or for some other urgent needs. This, in fact, has been happening with Lak-spray in this country.

If instead, consumer prices are kept down by subsidising the cost of

production, it would on the one hand increase effective demand and on the other it would stimulate production, both because of the viability of the enterprise and the marketing opportunity which would be created. Unlike consumer-subsidies which are difficult to remove once introduced under democratic systems of governments and the trends of continuous inflation, producer-subsidies can be reviewed and manipulated with greater ease from time to time, commensurate with market fluctuations. The producer subsidy could be selectively applied, on one or more factors of production. It could be a means to promote improved techniques of production and could also be an incentive for development. This would be the more valid policy to adopt in most LDCs because it could achieve several important objectives. It makes dairying profitable and promotes development and production. The ex-farm subsidised cost of production can be further manipulated if necessary selectively or uniformly at the point of the consumer in order that milk would reach the large majority of the most needy. Thus the nutrition objective would be achieved while simultaneously a rise in the cost of living would also be curbed by some amount. In effect real income and purchasing power of consumers would increase.

Pricing policies may also be extended to situations of unrestricted supply where, by imposing duties on the c.i.f. price, the market price could be raised and demand curtailed resulting finally in reducing imports. Reducing imports via duties and restrictions are necessary protective steps for nascent local industries of milk products and for their promotion. In this way a pricing policy can play an active and positive role in the country's development. The producer can be subsidised to the extent of making the industry profitable and attractive for new investments and expansion while duties are placed on imported products to raise the prices of such competing products, significantly above the local products. However, local production should be nearly adequate for basic needs. If not, if a selective distribution system operates because supply is inadequate than the imported product or the part of it channelled into selective distribution would have

to be subsidised to the selected consumer.

Perhaps the remedy for Sri Lanka is both a supervised producer-subsidy and a selective consumer-subsidy for the most needy.

The government now provides three subsidies. A pasture development subsidy of about 50% of costs; and a subsidy on the price of imported cattle which at today's prices is between 50-75 percent of the c.i.f. cost. The third is the consumer-subsidy via writing-off of National Milk Board losses up to about Rs. 80 million a year at the present time.

These policies also need to be re-considered.

Pasture Development Subsidy

The pasture development subsidy is out-of-date because:

1. The ceiling on land ownership does not permit economies in raising large breeding, multiplication and dairy herds on developed pasture. If at all this is now only possible in the small groups of wet zone coconut estates of 25-50 acre holdings. Here too, on account of the present comparative price advantage of daily milk sales as against raising calves for 3 or 4 years before the production phase is reached, farmers would concentrate on milk production herds only.
2. In the rest of the country milk production is exclusively off small holdings and in mixed farms and home gardens. Forage is exclusively off cut fodder from small plots and not off grazing. The future for dairying in the dry zone would certainly be based on small irrigated fodder plots on small mixed farms. Besides, as the type of animal improves with the admixture of exotic breeds of dairy animals, dairying will shift more and more all over the country to stall-fed systems with cut fodder supplemented with concentrates.
3. A once and for all pasture development subsidy does not benefit the small farmer who does not have adequate land, but produce 95% of the national milk production. It is only relevant for the small number of estate dairymen on coconut estates. They could in any case obtain development rebates off income-tax. The biggest beneficiaries are the state lessees of coconut estates under the Land Reform. This is only a book transfer of capital because these state institutions operate on government capital grants for development, their losses are continuously written-off and they do not operate on the commercial basis of profitability criteria with commercial capital.
4. In any case a pasture development subsidy is meaningless because 25 years of pasture research, publications of learned papers on the subject, foreign training of Sri Lanka officials and the "Aid" and foreign experts obtained, have to no significant extent promoted the development

of improved pasture and its systematic management and utilisation. Of what use is a development subsidy if there is no systematic management thereafter? No state livestock farm demonstrates the research findings by example. No private farmer would take the trouble while coconut poonac and rice bran are easily and cheaply available.

Stabilising Production Costs

Therefore a producer-subsidy on one or more important production factors, specially to stabilise cost of production under severe market fluctuations, would be far more meaningful for this industry. The fertiliser subsidy as a follow-up to the pasture development subsidy has never been consistent and has been invariably out of tune for long periods with rising import costs. It is in any case not relevant for our economy. Fodder should be grown with cattle manure incentives to promote the cultivation of fodder and the conservation of silage and hay from grown crops and the stabilising of coconut poonac and rice bran prices must surely be the future policies for dairy development.

The subsidy on imported cattle is only supporting farmers abroad. The large majority of calves born to good dairy animals in Sri Lanka are not raised because of high costs over three to four years. Small dairymen prefer to sell milk to obtain cash and loose the calves. The import programme therefore lacks development policy. The strategic producer subsidies proposed will reverse this trend to some extent. But in addition, we are in urgent need of a new policy to pay out to farmers incentive prices for quality dairy animals raised in this country. The very recent imports of pregnant heifers from Australia, under the IDA Sri Lanka project, cost about Rs. 6000 per animal. Why not pay our farmers at least half this price?

Milk Board Losses

The consumer subsidies via writing-off of milk losses tends to perpetuate inefficiencies in the Milk Board. The Board has run at a loss every year since its inception except in one year, (please see *Economic Review July 1975*). The loss in 1975 was Rs. 75 million. The Chairman proclaimed at the Capital Budget Meeting of the Ministry of Agriculture and Lands for 1977 that with every additional pint

of milk collected and processed the Board's losses keep mounting more rapidly. This is really unique for any industry anywhere in the world. How can any economy, least of all a poor country, bear such a burden? This apart, the principle of a consumer subsidy based on writing-off of Milk Board's losses is obviously not conducive from the point of view of the consumer and least of all from the point of view of policies discussed before, where "Milk is an Essential Food Item for the Most Needy". Hence the price inaccessibility of milk products to a large cross-section of the most needy children in this country despite the heavy subsidy (rather losses).

Clearly a new pricing policy is necessary based both on producer-subsidies and selective consumer-subsidies under controlled distribution for the most needy.

The implications of a pricing policy in Sri Lanka's context has other ramifications. If a producer-subsidy is to be an incentive, to develop and expand milk production, it must reach the largest possible cross-section of dairy farmers. But to be justified all milk produced must then flow into the controlled distribution scheme for the most needy sections in the country. But the total national production now is only about 44% of the minimum needs for the most sensitive groups. Therefore to operate an effective distribution scheme, imports need to be increased to meet the deficit. First, there is the foreign exchange constraint. Secondly, the c.i.f. price will have to be heavily subsidised. In effect we would be subsidising farmers abroad.

The next question is who is to handle such scheme. The Milk Board has been given the monopoly for milk collection, imports and distribution except the small quota of special brands of infant milk foods still in the hands of the private trade. But the Milk Board is only handling about 40% of national production and less than 1/3rd the minimum needs for the sensitive groups in the population.

Future Policies for the Milk Board

If the Milk Board is to be the focal point of National Policy to promote dairy development, maximise the collection and national milk production and launch a national scheme to meet,

say the minimum requirements of the most needy in the population, then the Board would have to adopt a completely new ideology and thinking, new policies as its goals and new principles on which to achieve these goals. The Milk Board would have to be reorganised by Government fiat on lines suggested below if we hope to achieve these main policies. The Milk Board will have to be—

1. Responsible for the effective supply and distribution of milk to meet the national goal of adequate supplies for the sensitive groups in the population. Surely by virtue of the monopoly vested in the Milk Board it cannot entirely absolve itself of this responsibility and the milk nutrition crisis of the children of this country. The authority and financial support should be given to the Board to maximise milk collection and to process and distribute milk to meet this objective, to import the deficit and to control the distribution system. There should be no room left for some other unconnected authority to decide import requirements and for some other party to take the blame for poor distribution.
2. Responsible for maximising milk collection as a further commitment of the primary goal. But then it will also have to ensure that the children who may be deprived as a result are provided with adequate substitute milk at an accessible price. Besides the milk collection objectives should be in harmony with the dairy development objectives so that as at present valuable calves will not be lost due to milk starvation, but instead would be raised to maturity to maintain and expand production levels.
3. Authorised to re-organise the structure of its dairy factories and accordingly to produce the type of products most essential for the community and diversify its product-mix in order to obtain industrial economies through diversification.
4. Totally responsible for promoting the production of milk and development of dairying in this country. Surely, some other non-commercial authority with other multi-

farious responsibilities cannot be expected to gear itself to the Milk Board's commercial needs. This is now a well established fact which needs no elaboration. Since 1969 the Department of Agriculture which took over responsibility for dairy development in Sri Lanka and virtually banned the Milk Board from such activity has not been able to gear the country's dairy development to supply 1/3rd the Milk Board's factory capacities up to the end of last year, let alone national needs. Nor has there been concern for the farmers costs of production and the industry as a whole as evidenced by the 20% recession in the industry during 1973 and 1974 due to the increase in cost of milk production by 300% at least. This had the most serious deleterious effect on the economy and finances of the Milk Board, although of converse general price inflation, the price hike on imported products and the Board's own inefficiencies too have been contributory factors.

By virtue therefore of the responsibility cast on the Milk Board by the proposed policy, it must surely be the premier body responsible for dairy development in this country. It must then have the authority to operate and control all services in this connection including credit schemes, advisory services, veterinary services, feed factories, purchase and distribution of dairy animals etc.

5. Responsible for the operation of the pricing policy both in regard to the nutrition policy for the underprivileged and low-income groups and the general price structure for its products, and the producer-subsidies to ensure adequate incomes to farmers, make dairying profitable and an attraction for investment and self-employment. An important component of this policy would be to stabilise the critical coconut ponnac feed price and also tie in an incentive price scheme to breed and raise good quality dairy purpose heifers through a national cattle breeding policy and put an end to the loss of calves and consequent dependence on imported cattle.

If therefore, at some future point in time the Milk Board were to be re-organised, to achieve the proposed national policy goals it must become a national body with authority and freedom to carry out its responsibilities. Its orientation would be towards national service and development. Its functions would have to be financed by Government grants. It should not be subject to FEECs and parochial administrative and financial bottlenecks which would defeat its objectives straightaway.

Unless such a single national authority is established it would not be possible to programme dairy development tied to milk collection and factory requirements of the Milk Board, geared to achieve the goals of import substitution and self-sufficiency, and to make the industry highly profitable for farmers, attract investments and provide large-scale employment. It is the only way to remedy the present diffusion of authority for this industry, which is spread over many institutions under half a dozen Ministries, and the consequent parochial and professionally sectarian interests which today predominate and override national interests.

Finally, to carry out such a huge national task the future Board of Directors would have to represent the vital areas of authority relative to the special functions. For instance, the following representation seems essential.

1. The Commissioner, Co-operative Development—in respect of farmers organisations and collection of milk and distribution of milk production.
2. The Price Controller—on account of the far-reaching pricing policy.
3. The Director of the Nutrition Programme of the Ministry of Health because of the alarming incidence of protein-calorie malnutrition amongst children.
4. The Director, National Planning—in regard to national policy, capital grants for development and co-ordination of activities.
5. The Director Supply and Cadre, Ministry of Finance—in regard to financial provision.
6. The Director, Agricultural Development, Ministry of Agriculture to co-ordinate the Board's activities with other institutions under the Ministry.

Policy for Farmers Organisation

The Milk Board Act, No. 12 of 1954 and subsequent amendments of 1955, 1957 and 1964 provide the Milk Board with necessary authority to carry out most of these functions.

Finally, if the Milk Board is to carry out this huge task its aspirations, success and economy rests ultimately on the dairy farmers in this country of whom 95% are small farmers who produce nearly half our national milk consumption, the other half being imported. Of the three massive areas of responsibility one would be dairy development and production on a scale not even contemplated yet. Roughly three times the present national production of 700,000 pints a day would have to be the immediate medium-term target. This would require the mobilisation of about 175,000 more small farmers and their resources of small mixed farms. It could add 280,000 cows and heifers to the present elite herd of about 70,000 out of the national population of about 1.9 million cattle and buffaloes and employ about 4500 persons in new jobs between the farmers and the consumer due to the multiplier-accelerator effect of new development. If development on this scale is to be launched and sustained over a long period of time the farmers must be insulated against economic hazards and bureaucratic impediments. No Government body could on its own provide such safeguards. The farmers themselves must fashion their own institutional safeguards, the Milk Board being the instrument to organise them.

Dairy farming is the most personal economic activity in the whole agricultural sector because of its biological nature and involves private initiative and individual decision-making every day. Milk is highly perishable. The physiology of milk production is closely linked with management. There are also environmental risks. Logically the responsibility must rest with the farmers until the milk reaches the Milk Board's points of collection. Hence the organisation and institutions needed to be fashioned to satisfy these unique conditions. Invariably they fail to be so oriented when their origins and motivations have been purely political and parochial. Bureaucrats over-

seeing their empires from ivory towers have neither the feel nor can they see and understand the farmers needs and problems and the development phenomena involved unless they have worked at the production frontier.

While there are various types of private and public sector institutional arrangements in the industry, universally the most successful one is undoubtedly the Producers' Co-operative. This is the established order in the majority of advanced dairying countries in Europe, Oceania, Centrally Planned East European countries and in India the most advanced dairying country among Less Developed Countries.

Briefly the framework would be as follows. Dairy farmers are organised into producer co-operative societies on the basis of villages in administrative districts or geographical milk sheds. Each society is managed by a committee of voted members and provides milk collection facilities and other services such as inputs, credit etc., according to the genius of each situation and the advanced stage of the industry. Staff of various categories may also be employed. A cluster of such societies are then federated into a co-operative union which handles milk processing and marketing. The unions are then federated into a single body at National level which is the voice of the dairy industry in the country and is represented in the Government's body under which the dairy industry is placed. The Federation of Unions translates Government policy into operational policy and passes these down through the Unions to the Co-operative Societies and its dairy farmer members. The Federation is the arbiter between the industry and the Government and controls the size, content and economy of the industry and activities of the unions. The unions make up the Federation through their representation and also maintain it. The Unions operate the industrial activity, and management audit and function as the employer and provides the technical services and vital inputs.

The reasons underlying the success of this co-operative organisation in the dairy industry all over the world are the following:

1. Dairy farming is one of the most personal economic activities and involves private initiative and individual decision-making every day. The true co-operative safeguards this principle.
2. The co-operative of producers provides an institutional framework of strength in numbers of pooled resources and greater bargaining power. For small producers, specially, and in LDCs such as Sri Lanka, this is a great economic advantage. The Federation of societies into a Union provides the parallel institutional countervailing power against damaging market forces and even damaging activities of state administrations. The Federation of Unions at the level of Government policy-making is the safeguard at the apex of the industry.
3. This institutional arrangement allows the necessary commercial flexibility for the market operations of the Unions; and in turn for the farmers to adjust production and costs, and to optimise the economic activities of the former since an equal share of benefits are distributed through the societies to each farmer. These may be in monetary terms as dividends and in kind, such as, better marketing facilities for milk and animals, advisory services, veterinary services, feed inputs at advantageous competitive prices and so on.

This co-operative ideology has been propounded by the F.A.O. for the agricultural sector and also small industries and rural development since the launching of the UN's Second Development Decade. With the economic upheaval in recent years it has gained even more meaning as an institutional arrangement to safeguard farmers and to fashion collective effort and collective responsibility. Countries which still value individual freedom and social welfare and economic emancipation of farmers and also positive objectives and not mere slogans are finding in this institutional arrangement the means to mobilise farmers and their resources for rapid development.