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**PRICING POLICY FOR MILK AND MILK
PRODUCTS WITH SPECIAL REFERENCE TO
DIARY COOPERATIVES IN CANADA**

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Pricing Policy for Milk and Milk Products
with Special Reference to Dairy
Cooperatives in Canada

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Introduction: In the collaborative research project between McGill University and Delhi University, entitled "Cooperatives and Rural Development in India", some research scholars from India and Canada studied in 1986-87 some processing and marketing cooperatives in sugar, milk, tea, oilseeds, cotton, fish, etc. One problem common to them all is that of policies concerning prices paid to the producers, charges paid to the cooperative itself for processing and handling and prices paid to consumers. It was felt that it would be useful to study the problem with reference to some other country to find out if the Indian cooperatives could benefit from the experience abroad. I had examined the problems faced by the milk producers, their cooperatives and Maharashtra State Government which procured milk from the dairy cooperatives for sale in urban areas under its Milk Scheme, in three of my research studies (Apte 1982, 1987a, 1988a). While formulating my research proposal, I was aware of the wide contrast in various ways between dairy farms and dairy cooperatives in Canada vis-a-vis those in India. However, as pricing policy deals with the broad economic framework within which cooperatives must operate, I felt that conclusions from a comparative study in Canada might be of relevance in the Indian context. Hence the present study.

Objectives of the study: 1) To examine the structure and organization of the dairy industry in Canada with reference to the milk producers, dairy cooperatives and private processors, and their share in total milk production and in marketing of fluid milk, and in the manufacture and sale of milk products (also referred to as dairy products) and their patterns of financing capital expenditure; 2) To study the pricing policy at the federal and provincial levels with regard to

milk and milk products in addition to overall policy regarding the dairy industry; 3) In particular, to know how the support price for milk is determined and how the pricing policy is implemented, and 4) to highlight the features of the Canadian dairy cooperatives and policy regarding the dairy industry which may be relevant to the Indian situation.

Methodology: The study was carried out using secondary data, studies and reports, and interviews of those responsible for pricing policy for milk and milk products. Quebec and Ontario account for more than 70 per cent of the milk produced and more than half the dairy cooperatives in Canada. Hence, I decided to concentrate on these two provinces. I had discussions with senior staff in the provincial and federal organizations in Quebec and Ontario. These included Canadian Dairy Commission (CDC), National Dairy Council of Canada (NDC), federations of milk producers, private processors and dairy cooperatives, Agricultural Marketing Board of the province of Quebec, Ontario Milk Marketing Board and other such organizations. For case studies, I selected three out of 29 dairy cooperatives in Canada, namely, Agropur and Agrinove from Quebec, and former being the largest dairy cooperative in Canada and Gay Lea from Ontario. Due to constraint of time, I could only meet and talk with one milk producer. A list of persons interviewed is given in Appendix 1. A brief review of the dairy industry and dairy cooperatives in Canada is followed by salient features of the pricing policy for milk and milk products, the role of various organisations and pricing of milk at the provinces. In concluding, I have referred to

Canadian experiences which may be of relevance in the Indian context.

The dairy industry in Canada has received during the last fifty years from the government export subsidies, protection from foreign competition and the like. Since 1975, the CDC has complete control over production and supply management and it sets a Target Price for industrial milk to ensure a fair return to the milk producers. One can pursue dairy enterprise only under a government license to produce the quota sanctioned under it. To ensure a consistent delivery to consumers of fresh milk, 'fluid' milk quotas are allotted by the provincial government to the producers on the basis of litres per day. Besides, considering the national market for industrial uses of milk in manufacturing dairy products, Market Sharing Quota (MSQ) is sanctioned by the provincial governments to the milk producers. The MSQ is expressed in kilograms of butterfat or equivalent litres of milk they can produce in one year. The producers have to sell milk to the provincial agency which administers the milk supply to the processors, cooperative and private. About one-third of the total milk produced is consumed as fluid milk and the remaining is converted into dairy products. The national policy is implemented by the CDC through the federal and provincial government agencies and organizations of milk producers, processors and consumers. The total milk production is more than what the domestic market can consume and the cost of production of milk and manufacturing dairy products is higher in Canada, as compared to some other countries. As such, the dairy industry in Canada is able to survive and grow under the

government's support price program and other policies.

II. Organization and Structure of the Dairy Industry and Dairy Cooperatives. Quebec and Ontario had in 1987 about 72 per cent of the milk cows and dairy heifers and accounted for about 72 per cent of total sales of milk and cream in Canada in 1986. Their share remained about the same, though the number of cows and heifers in Canada declined from 2,516,200 to 2,076,900 from 1982 to 1987. The dairy farms also declined considerably - from 398,604 in 1956 to only 67,899 in 1981 and to about 40,000 farms by 1988 (Dairy Farmers 1987:2, Ontario Board 1988a). Whereas in 1956, 80 per cent of the farms reported between one to 12 cows and heifers, their percentage declined to about 38 in 1981., The percentage of farms having 18 or more cows increased from 9.5 to 57. The number of farms having 48 or more cows increased from 1,306 in 1956 to 10,400 in 1981.

The pattern of utilization of milk, however, seems to have remained more or less the same. Of the total milk sales of 68,996 mil.hl. in 1979, 36.9 per cent was sold as fluid milk, the corresponding figures for 1986 were 73,051 mil.hl. and 36.7 per cent respectively. The fluid milk sales showed regional variations, being 24 per cent in Quebec and 41 per cent in Ontario. As regards creamery butter production, Quebec and Ontario reported about 77 per cent of the total production in Canada in 1986. Cottage cheese production was 32,791 tonnes in 1986. Of this, Ontario accounted for 42 per cent but Quebec accounted for only seven per cent. Ice cream mix production increased from 155,398 kilolitres in 1981 to 166,249 kilolitres in 1986. The share of

Quebec and Ontario was 27 per cent and 36 per cent respectively. Yogurt showed sustained increase from 40,759 kilo litres in 1981 to 70,202 kilolitres in 1986. Quebec produced a little more than half at both points of time. Production of skim milk powder showed a decline from 159,446 tonnes in 1977 to 106,133 tonnes in 1986.

Most milk is processed by the cooperatives in Quebec and by the private sector in Ontario. The organisation and structure of the dairy industry witnessed many changes, particularly with the policy and programs of the CDC. Though the creameries and cheese factories existed in large numbers until the fifties, most of them were small private concerns or small cooperatives. Over the years, changes in the techniques of production were introduced which made large sized dairy plants profitable. Hence it led to mergers and reduction in the number of plants. There were seven dairy cooperatives in Quebec in 1983 which managed 45 dairy plants and received about 75 per cent of the industrial milk and 50 per cent of the fluid milk in Quebec. Besides, there were 57 private processors, which used about 25 per cent of the industrial milk and 50 per cent of the fluid milk.

In Ontario in 1983, there were 136 dairy plants, owned by 92 corporations, including 13 cooperatives and 62 medium and small-sized firms, which received about 18 per cent of the milk produced. On the other hand, 16 large firms processed about 83 percent of the milk produced. Of these, two biggest private processors and a cooperative purchased 60 per cent of the milk used in the processing of dairy products (Nadeau 1985:463).

Of the 'Top 50 Canadian Cooperatives' in 1986 as also 1987, twelve were dairy cooperatives, excluding two major cooperatives who refused permission to use their data (Cooperative Secretariat 1988). The membership of dairy cooperatives was 39,858 but the active members among them were only 28,691. The sale of milk and milk products of 29 dairy cooperatives in 1986 amounted to \$2,419.5 million, the sales by Quebec dairy cooperatives being \$1,242.8 million. The dairy cooperatives handled about 50 per cent of the dairy products, the proportion having increased from 51 per cent in 1977 to 57 per cent in 1986 (Sullivan 1988:26). Until the seventies, the dairy cooperatives could buy all milk their members produced. Since the introduction of the MSQ system, all milk has to be sold to and all processors have to buy milk from the provincial agency. Hence the cooperatives and their members do not have close relationship or interaction as exists in India.

Persons from different organizations expressed that there is not much difference in the dairy cooperatives and private concerns, except financing and distribution of surplus. The milk producers are asking why they should be members of a cooperative. Some years back, the dairy cooperatives used to give loans or help members get loans for meeting capital expenditure on dairy. As banking facilities are now well developed, the producers do not need such assistance anymore. The financial surplus is distributed as dividend, and/or preference shares of the cooperative. Some cooperatives pay a higher rate for milk produced by their members as compared to non-members.

The cooperatives do not receive loans from the government. "This means that to expand and realize its dynamic potential, a cooperative is dependent on the willingness of its members to reinvest surplus earnings in the enterprise and give the cooperative the necessary capital" (Montigney 1988:8). Marketing Cooperatives reporting in Canada in 1986 revealed their liability to the public as follows (in millions of dollars): Short-Term Debt 807.6, Long-Term debt 315.2, Other Current, etc. 700.2. Sub Total 1,823.0. Members' Equity: Loans from Members 310.5, Share Capital 493.1, Reserves 280.1, Undistributed Surplus 98.9. Sub Total, 1182.6. Total 3,005.6. Thus the Members' Equity, together with Long-Term Debt, mostly the Bonds of the cooperatives held by their members, met a major part of the capital requirements of the Marketing Cooperatives. The Members' Equity in the total liabilities was about 40 per cent in most of the types of cooperatives, except the Service Cooperatives with 19.4 per cent. The Members' Equity in Agropur, Agrinove and Gay Lea was 40.4 per cent, 25.9 per cent and 52.3 per cent respectively in 1987. In 1986, the Members' Equity of all cooperatives in Canada formed 34 per cent of their total assets. The Long Term Debt of Agropur consisted mainly of Bonds, maturing in five years and carrying an interest rate ranging between 8.25 and 14.25 per cent on the bonds it had issued during the last five years. The composition of the Members' Equity is variable and unlimited as to the number of shares which may be issued. Voting rights are restricted to one vote per member. The common shares and certain types of preferred shares are not redeemable while other types of preferred shares are redeemable on certain conditions. Agropur

Members' Equity, Issued and Fully Paid, as on 31 October 1987 was as follows (in thousands of dollars): Common Shares 1,731. Preferred Shares -A 62,399, B 13,615, C-, D2,260, E 288 and other Preferred Shares 487. Total 80,780. Agropur thus used a combination of Bonds and Equity, of different maturity and rates of interest, to suit its financial requirements.

The Debt: Equity Ratio was 1.0 in Agropur and 0.9 in Gay Lea (Gay Lea 1988:12). In the 'Top 50 Canadian Cooperatives', the ratio was up to 1.0 in 15 cooperatives and between 1.1 and 2.0 in 19 other cooperatives. Members' Equity was equal to 46 per cent of the assets in 18 cooperatives which handle more than half of Canada's dairy products (MacPherson 1988:32).

Agropur has created an original consultative structure through the Animators. Animators are chosen from among the members and serve on a voluntary basis. Their mission is "to facilitate and encourage exchanges of views among the members and the Board of Directors. They are recognized in their own immediate circles for their dynamism and ability to communicate. Above all, they display a keen interest in strengthening the cooperative philosophy, promoting its benefits and setting an example for others by a rigorous respect for the grand principles which guide Agropur" (Agropur 1987:44). Their work is backed up by the counsellors who give each member a privileged relationship with the Cooperative and have the necessary training to support them in countless ways. During the off season, they meet with small groups of members in their regions. "They discuss cooperative

training and subjects of general regional interest. These discussions usually close with some serious collective thinking on the future of the Cooperative" (Agropur 1987:44). 55 meetings of this kind were held in 1987.

In India, the village cooperatives act as a link between their Federation and their members. Still it may be worthwhile to identify and train members who may act as Animators. Such persons will help the Federation to convey its plans, programs, policies, etc. to the members and also get a feedback such as difficulties experienced in implementing and modifications necessary for achieving success.

It is important to note the attitude of the cooperatives. "We must never forget that the cooperative formula is not a panacea. It does not protect Agropur from competition; our Cooperative is subject to the same economic rules and pressures as any other commercial enterprise" (Agropur 1987:42). "Only those enterprises which can successfully rise above the average in terms of quality and productivity will be able to survive in the years ahead... Excellence of products, of manufacturing process, of technical procedures and of management are the keys which will open up new markets and enable companies to grow and beat the competition" (Agropur 1987:17).

III. Evolution of State Control and Regulation: During World War I, the dairy industry experienced difficulties due to a general shortage of manpower, price increases resulting from extensive cheese exports and the emergence of Australia and New Zealand as Canada's competitors in international markets. In 1921, it became mandatory to pay for milk and cream according to fat content. "The

flourishing growth of the dairy industry ended abruptly with the 1929 financial crash and the ensuing crisis which lasted until 1936-37 and, to a lesser extent, until the beginning of World War II... The economic depression brought about a sharp increase in production and a drop in milk prices... At the urgent request of organised producers' associations, provincial governments established commissions of inquiry and milk control agencies to fix the minimum wholesale and retail sale price of milk. All such agencies were set up between 1932 and 1933^{and} varied from one province to another" (Nadeau 1985:458-459). In 1934, Ontario passed a legislation intended to stabilise the price of milk and established a milk control board, responsible for prices, permits, etc. The dairy industry received during the last fifty years, protection from international competition due to restriction on imports. In 1948, the government introduced a support price for butter to encourage its production. The support price was in force until 1958, with certain modifications in view of the changing stocks of butter. The government also introduced a support price for cheese from 1951 to 1953. The policy between 1948 and 1958 is "characterised as modest in cost, short-run in outlook, and based on "rule of thumb" measures... What is clear is that the use of support programmes to reduce seasonal price fluctuations to producers, had the effect of encouraging many marginal producers and thus retarding structural adjustment in industry" (Perkins 1969:37-38).

In 1958, under the Agriculture Stabilization Act, butter and cheese were declared as requiring mandatory price support at no less than 80 per cent of the preceding ten year average. This resulted in an increase of the support

price of butter. However, the support price for skim milk powder was reduced, as the stocks had accumulated due to the support price. "In view of price wars, export subsidies, increased production fostered by subsidies and so forth (in the fifties), Canada and the United States had to change their policies concerning production and the marketing of surpluses. The mid- and late 1960s and subsequent years were a time of difficult adaptation. It was then that the Canadian Dairy Commission was established ... This marked the beginning of a new era in the evolution of the Canadian dairy industry' (Nadeau 1985:461).

Canadian Dairy Commission (CDC): The CDC was created in 1966 by virtue of the Canadian Dairy Commission Act and is accountable to Parliament through the Minister of Agriculture. It has the authority to purchase, store, process, or dispose of dairy products; make payments to milk and cream producers for the purpose of stabilizing the price of industrial milk and cream; investigate matters relating to the production, processing and marketing of any dairy product; help promote the use of dairy products; and receive funds for the disposal of dairy products. The objectives of the CDC are to provide efficient milk producers with the opportunity of obtaining a fair return for their labour and investment and to provide consumers with a continuous and adequate supply of dairy products of high quality. It is responsible for the dairy support program operations financed by the federal government through parliamentary appropriation and marketing operations financed by dairy producers under the provisions of the National Milk Marketing Plan.

The CDC advises the Minister of Agriculture on matters relating to dairy policy; determines domestic requirements for industrial milk and cream for the purpose of establishing MSQ; and calculates the national Target Return for industrial milk as well as support prices for butter and skim milk powder based on the Cost of Production Data. It also administers an offer-to-purchase program for butter and skim milk powder; makes a monthly payment to milk producers to reduce the cost of dairy products to consumers; determines costs associated with the marketing of dairy products by the CDC; and calculates the levy amount to be collected from producers by the provinces. In addition, it exports dairy products not needed for domestic consumption, provides export assistance and administers other marketing and promotion programs. The CDC chairs the Canadian Milk Supply Management Committee (CMSMC) which coordinates the management of industrial milk and cream supplies in Canada.

Milk Supply Management: The CMSMC is made up of producer and government representatives from all provinces. To meet the domestic demand for dairy products from Canadian milk production, while avoiding costly surplus production, the CMSMC sets a national production target. This consists of domestic requirements for manufactured milk products, plus traditional exports of cheese, minus the milk equivalent of permitted cheese imports and the estimated volume of butterfat skim-off from fluid milk. A quota for planned exports of whole milk products determined by the CMSMC is then added to achieve the national MSQ and it is adjusted periodically to reflect anticipated changes in demand. Quota is shared between all provinces under provisions contained in the National

Milk Marketing Plan. Provinces allocate their respective shares to their producers as per their policies. The provincial share of MSQ in 1987, equivalent to 167.901 million kilograms of butterfat or 46.639 million hl of milk was 47.5 per cent for Quebec, 31.1 per cent for Ontario and 21.4 for the remaining seven provinces. "The quota policies have enabled producers adjust the size of their enterprises by a variety of methods. Processors have likewise been able to rationalize the growth and development of their business and have provided consumers with a reliable supply of high-quality dairy products at affordable prices. The effectiveness of Canada's dairy program is often cited as a good example in countries which continue to be plagued by excess production and large scale surpluses" (CDC 1987:5).

Levies: Dairy producers assume responsibility for the export of surplus dairy products and for other marketing activities authorized by the CMSMC such as the Animal Feed and Milk Bread Programs carried out within Canada. For this purpose, levy funds are collected by provincial marketing boards and agencies through deductions from payments to milk producers and subsequently remitted to the CDC in accordance with rates and conditions established by CMSMC. The Levy Structure and Levy Rates in 1986-87 per hl of milk were as follows: a) in-quota levy, mainly to cover the costs of surplus skim milk powder which results from meeting butterfat requirements, at \$4.61; b) export-quota levy to finance the cost of exports of whole milk products up to three per cent above a province's share of quota at \$30.70 and c) over-quota levy to cover all costs involved in exporting products processed in excess of

103 per cent of the provinces share of quota. The over-quota levy of \$38 per hl is high enough to discourage over-quota production.

Target Returns for Industrial Milk and Cream:

Target Return is derived from a combination of assumed market returns (through a price support program) and the direct payment made to producers by the federal government. The Returns Adjustment Formula, established in 1975, was used until 1988 to adjust the level of Target Returns for industrial milk. It is a method of measuring changes in the cost of producing industrial milk and cream. It has three parts: 1) Index of Cash Input Prices comprising of 45 per cent of the formula, representing various costs a producer incurred in dairying, used as a proxy to measure changes in cash costs; 2) Consumer Price Index comprising 35 per cent of the formula, used as a proxy to measure changes in dairy producers' earnings and labour; and 3) "Judgemental factor", used to reflect producers' investment costs.

Offer to Purchase Program: The CDC administers this program for butter and skim milk powder, enabling it to buy these products from manufacturers at prices based on the Target Returns level. It also provides a mechanism whereby processors pay producers a sufficient return which, when added to the federal direct payment, should provide producers with the calculated Target Returns for industrial milk. The program enables provincial agencies to use federal support prices as a guide to their own pricing levels for various uses of industrial milk and cream and allows the CDC to hold butter stocks in reserve, thus ensuring a plentiful supply of butter at all times.

Support Price Structure: The relationship of federal support prices for butter and skim milk powder to the Target Returns Level or Price of Industrial Milk was as follows. The CDC offered to purchase butter at \$5.035 per kg and skim milk powder at \$2.978 per kg. One hl of milk produced 4.32 kg of butter and 8.24 kg of skim milk powder and was worth \$46.29 (Butter 4.32 kg at \$5.035 = \$21.75 and Skim Milk Powder 8.24 kg at \$2.978 = \$24.54). From the Market Price Guarantee of \$46.29 per hl is deducted Assumed Processors' Margin of \$5.84 per hl, leaving \$40.45 as Estimated Producers' Market Returns per hl. The federal direct payment of \$6.03 per hl, when added to the Estimated Market Returns of \$40.45, made the Target Returns Level at \$46.48 per hl in August 1986.

Imports and International Marketing: The supply management system for industrial milk has allowed Canada to develop measures to protect the domestic dairy industry from imports of low-priced dairy products which are frequently highly subsidized by foreign governments. There is an import quota for limited amounts of buttermilk powder, condensed milk and cheese. The cheese quota has been fixed at 20.4 million kg since 1978. So all growth in Canadian cheese consumption since then has been filled by domestic production. The CDC, together with private exporters and the Canadian International Development Agency, succeeded in exporting the equivalent of 3.4 million hl of milk in 1986-87. These exports contributed significantly to reducing the butter stocks with the CDC. Besides, it exported skim milk powder, butter, evaporated milk, whole milk powder and cheese.

Review of Dairy Policy: There was a growing feeling among producers as well as administrators that the Returns Adjustment Formula, based on the 1974 data, was no longer adequate. Hence it was proposed that a new pricing mechanism, based on the cost of the production of milk, be introduced. The federal government, therefore, appointed a committee in June 1985 to consult with producers, processors, retailers, and consumers and give their expert advice on establishment of a new long-term dairy policy. The Committee recommended that certain basic components of the policy may not be disturbed at this time but the government may consider elimination of the treasury commitments to the Special Export Program, further restrict cheese imports and consider transfer of some costs to the market, a portion of which are borne by producers. The Committee felt that with these transfers, treasury savings would be about \$20.6 million. The Committee also expressed that both the producers and consumers were unhappy with the pricing mechanism, of course, for different reasons. The consumers expressed that the farmgate prices of dairy products have recently outpaced those of farm products as a whole and that support prices are rising more rapidly than Consumer Price Index Components. "In provinces quota is allowed to be traded. It has taken high values...The presence of high quota values is seen by consumers as an indication that prices are set well above actual production costs" (Lavigne and Biggs 1985:24-29).

"Producers feel that provincial differences in cost of production are not adequately reflected by the Returns Adjustment Formula...The methodology used to reach these figures has been questioned by experts...the formula does not reflect changing costs to the farmers

in a timely enough way...appropriate returns to management and equity are not reflected in the formula...Cost of production as Calculated, according to Dairy Farmers of Canada, suggests Target Returns to producers are too low." The Committee desired a public review of this issue and recommended "that such a public forum or audience be held before opting for a new formula" (Lavigne-Biggs 1985:29-31). Arising out of the recommendations and discussions with the federal and provincial agencies, a new pricing mechanism was introduced in 1988.

New Pricing Mechanism: As announced in January 1988, the Target Price for industrial milk will be set annually, using recent cost of production data, in August, at the beginning of each Dairy Year. An indexing method will be used to review the price midway through the year and adjustments will be made in February, if the change is two per cent or more. Actual cost of production for the previous year, as surveyed by the provincial agencies will be used in the calculations; Quebec and Ontario survey results are calculated separately and weighted by their respective share of MSQ. The dairy enterprise for these surveys consists of the milking herd only, and only the costs associated with this operation will be included in the calculations. The highest cost 30 per cent of surveyed producers in each province are excluded from the calculations. The calculations are divided into Cash Costs, Capital Costs and Returns to Labour.

Cash costs of producing milk, updated by using Statistics Canada Farm Input Price Index Numbers of the most recent four quarters. Animal feed for the dairy

enterprise is costed at the actual production cost. Capital costs include costs associated with financing farm assets and is subdivided into equity-financed and debt-financed capital, building and equipment depreciation and cow herd inventory change. Capital costs of quota and personal use items are excluded from the returns to capital calculations. Returns to producer/family labour is calculated by applying the composite industrial wage rate for hourly and salaried employees, as published by Statistics Canada, to the hours of unpaid labour as surveyed. Return to management is found by multiplying the equity portion of depreciated acquisition cost of buildings and equipment and acquisition cost of land by two per cent. The update for producer/family labour is based on the composite industrial wage rate of the most recent four quarters (Ontario Board 1988j:28-29).

On February 1, 1988, the Target Price for industrial milk was set at \$47.06 per hl of milk with 3.6 kg of butterfat. Direct Payment, set since 1975 at \$6.03 per hl of milk with 3.6 kg of butterfat, represents 12.8 per cent of the Target Price. Most of the butter purchased by CDC is later sold in the domestic market for which an amount of 14 cents per hl of milk is collected from the market place to finance the cost of handling these volumes. The skim milk powder is in excess of domestic needs and is exported. For this, the federal government pays \$10 million for storage, transport and interest costs. Additional expenses, if any, are to be paid by the producers (Morin 1988:9-11).

IV. The Role of Organizations

Dairy Farmers of Canada (DFC): It represents the milk producers at the national level. Established in 1934, it enabled them to get subsidies, price adjustments, etc. It fought against coloured margarine in imitation of butter and launched an advertising and public relations program in 1959 (McCormick 1968:189). In the early sixties, due to a substantial build up of butter stocks and the problems faced in the marketing of milk and dairy products, the milk producers felt it was necessary to establish a national authority for marketing, regulation and administration of dairy policy. Hence, on behalf of the DFC, the First Canadian Dairy Conference was convened in February 1963. The establishment in 1965 of the CDC was thus prompted by the DFC. The DFC actively represents the producers in determination of milk prices, long-term policy for the dairy industry and other issues.

National Dairy Council of Canada (NDC): Established in 1918, it is an association of processors and marketers of dairy products "to enhance the position of the dairy processors; act as a catalyst and co-ordinator between the dairy processing and other organizations in marketing and related fields;...promote dairy products as determined by the dairy processing industry;...promote federal and provincial cooperation and maintain necessary international contacts to keep the members fully informed on international developments significant to the Canadian dairy industry...On behalf of the entire membership, the NDC makes formal representations to both federal and provincial governments and their agencies when legislation and regulations pertaining to the dairy industry are being

formulated...The NDC assists the members in obtaining governmental approval for packaging, labelling, advertising, and processing changes and to access government grants and subsidies for exports" (NDC 1988).

Dairy Bureau of Canada (DBC): In view of the growing concern about fat consumption and consequent adverse effects on butter consumption, the DBC is engaged at the national level in research and promotion regarding the use of butter, low-fat cheese and other dairy products, in order to sell the same amount of butter, year after year. The DBC played a key role in the 1987 passage of legislation regarding margarine colouration in Quebec. "We manage a sophisticated and highly integrated communications program designed to influence the medical community, restaurants and institutions, the press, special interest groups, retailers and our ultimate target, the Canadian Consumer" (DBC 1988:7). Its Research Division provides statistical analysis of the sales results of its programs, and attitudinal measurements of their effectiveness to ensure that its programs are built on firm ground. The DBC spent in 1987, \$17.88 million on advertising and sales promotion campaigns.

Milk Recording: The Canadian Milk Recording Board has been the regulatory body for recording agencies across Canada since 1975. The Board continues to function with specific emphasis on the establishment of the milk recording standards, ensuring compliance of the standards and records certification. The program is voluntary in Quebec but obligatory in Ontario carried out by the Ontario Dairy Herd Improvement Corporation (ODHIC).

About 6,700 herds are enrolled under the ODHIC program. Based on a 45 cow herd, the annual fees per cow supervised were the lowest in Manitoba (\$13.50) and the highest in Quebec (\$36.60). In other provinces, the fees varied between \$20 to \$24 per cow. Fees per owner sample cow in Ontario were \$8.19, and in Quebec, \$14.40, the lowest and highest being in Manitoba (\$3.00) and British Columbia (\$16.22) respectively (Ontario Board 1988c).

In Quebec, more than fifty per cent of the producers pay a monthly fee to the Dairy Herd Analysis Service (DHAS) for economic, genetic and technical analysis. It helps them introduce necessary changes in cattle feed ration, adjust calving cycle to even out production or produce more in winter to benefit from higher price of milk, cull out the cows below herd/provincial average, and take such other decisions. In the process, they are able to raise milk productivity of their cows and economic efficiency of their dairy enterprise (DHAS 1986).

Provincial Organizations: Ontario Milk Marketing Board and Federation of Milk Producers of Quebec implement federal as well as provincial policies in Ontario and Quebec respectively. Similar agencies function in other provinces, besides a processors' organization. However, in Quebec, due to the major role of the dairy cooperatives, there are separate organizations of cooperatives and private processors. The latter functions like the NDC but at the provincial level. These organizations work under the overall regulation of a provincial government agency.

Ontario Milk Marketing Board (Board): Due to variations in production of milk, consequent uncertainty of prices and difficulties in marketing of milk, under the Milk Act, the Board was formed in 1965 by the provincial government, It has the statutory authority and responsibility to purchase all milk from the province from the producers and market it to the processors. "Supply management, which matches milk production to milk demand, was introduced by the Board in late 1970s for the industrial market, along with classified pricing for raw milk utilized by the processors. The primary means of assuring adequate milk production was a cost-of-production pricing mechanism and the quota assigned to each milk producer...The activities of the Board are monitored by the Farm Products Marketing Commission under the provincial Ministry subject to decisions of the Farm Products Appeal Tribunal.. The Board's main objectives have been to provide milk producers with the opportunity to achieve fair returns to management, investment and labour...consumers are assured to the benefit from increased production and marketing efficiencies, stable prices and a wide variety of milk products of high quality" (Ontario Board 1988b:2). The Board plays a vital role in formulation of dairy policy, milk pricing, quota policy, transportation of milk, milk quality, producers' services and such other activities. For its expenditure on administration, promotion and the ODHIC, the Board collected from the milk bills, 92 cents per hl in 1987.

Federation des producteurs de lait du Quebec (Federation): It plays in Quebec, similar role as the Board in Ontario. It implements the MSQ as well as quota for fluid milk.

It represents the milk producers in determining milk prices at negotiations between the federations of private and cooperative producers and processors. It arranges shipping of milk from the farms to the processors with the help of the Association of Milk Transporters. The Federation initiates studies on various economic issues relating to dairy enterprise and dairy industry. It is responsible for ensuring that sample and storage procedures are respected. Its pooling department is responsible for establishing the price of milk. If any party feels aggrieved, it can appeal the Regie and if not satisfied with the Regie's decision, appeal the provincial Cabinet. Thus, the Federation plays a vital role in Quebec under the supervision of the Regie.

Cooperative Federee de Quebec (Federee): Founded in 1922, its Dairy Division contributes more than one-fifth of the Federee's total revenue. Its role consists of selling Quebec dairy products to other provinces and on international markets, and is the largest dairy products wholesaler in Canada (Cooperative Federee 1987:12). It is responsible for institutional research and communication with dairy cooperatives. Through member cooperatives, it represents 71 per cent of the dairy producers in Quebec. It benefits the members of dairy cooperatives through purchases in bulk of the inputs they require and sales thereof with low profit margin.

The Federee has created a Council of dairy cooperatives to define and coordinate general policies for them, monitor programs and regulations affecting the dairy industry and to promote cooperation in the dairy industry.

Its main functions are to negotiate with the government on behalf of the producers and their cooperatives in the matter of quota for using milk for various classes and prices to be paid to the milk producers, export quota for different cooperatives and negotiate with large buyers the price at which to sell them milk and milk products.

Recently, when the Task Force appointed by the CMSMC visited Quebec, the Federee pleaded that Quebec in general and its dairy cooperatives in particular need more milk as the cooperatives have acted as a regulator of Canadian markets by adjusting their production of butter and cheddar cheese to benefit the entire Canadian industry. But their butter powder and cheddar cheese plants are operating too far below capacity. Besides, the dairy cooperatives are dynamic and bold enough to put new products on the market and need more milk at their disposal, if they are to continue doing so and "Quebec's dairy cooperatives constitute a key regional economic force which must be maintained" (Cooperative Federee 1988:7-8).

Regie des marches agricoles du Quebec (Regie): The provincial Acts govern trade between the provinces of goods produced or sold, irrespective of their origin. The detailed provisions of the Act differ from province to province. In Quebec, the government bodies are empowered to regulate the dairy industry, under the Dairy Products and Dairy Products Substitutions Act. The Act includes provisions regarding "manufacturing and marketing of dairy products, fixing of certain base prices, transportation and distribution of milk and cream, contracts related to dairy products, etc. The Department of Inspection of

Dairy Products in the Ministry of Agriculture and the Regie are primarily responsible for implementing the Act... The Regie is responsible for monitoring, coordinating and improving the marketing of farm products. It plays an important role in the dairy industry, where it oversees numerous regulations which it has issued itself or approved, or which the government has adopted; it is also responsible for settling conflicts which may arise between various groups... The Regie is an independent administrative tribunal, although the Conseil des ministres may review its decisions, especially in non-legal matters. Where the Regie oversteps its jurisdiction, courts of justice are authorised to review its decisions when they are contested ...A carrier transporting milk from a producer's farm to a dairy plant, must obtain a permit from the Regie, indicating the territory in which he may operate, the place where milk may be delivered, and the method of determining the conditions of transporting milk...The Regie sets the price of Class I milk sold as liquid. The price of milk used for other purposes is covered by negotiations between the organizations of producers and processors...It guarantees payments to producers of milk;...The Regie thus assumes various important responsibilities, all intended to ensure the orderly marketing of milk, which ranks first in Quebec's agricultural output" (Pregent 1985:484-487).

Milk Pricing: "For fresh milk, the responsibility rests within the jurisdiction of the provinces. Some provinces do not intervene directly, and allow a free market, but most have organisations that are responsible for fixing and controlling the price of milk. In Quebec, the agency in charge is the Regie, whose control over the

prices paid to the farmer on the one hand, and price of dairy products at the plants and the retail level on the other, places this industrial sector in an institutional context where firms have to compete within a range of prices for their main raw material, and for the products derived from it. This is one of the most important characteristics of the methods used to fix the prices at the processing level" (Nadeau 1985:508).

In Ontario, the fluid milk pricing formula is used by the Board only as a guide for setting the producers' price. The formula consists of a cost-of-production base and a system of indexing the base. It uses the data obtained from dairy farms enrolled on the Ontario Dairy Farm Accounting Project (ODFAP) (Ontario Board h and i). The formula base represents the average on-farm cost of producing one hl of milk destined for the fluid market in Southern Ontario during a given two-year period (the base portion), adjusted to reflect the most efficient 75 per cent of producers. It is a simple average of separate cost calculations done for each of the two years.

The major components comprised in the formula base are Cash costs other than interest and paid labour, direct allowance, return to owners equity, interest on debt, depreciation and management fees. The sum values of the base components for a given two year period makes up the base value. The indexing procedure is used to update the formula base value because it does not reflect current costs due to the time required to collect and tabulate ODFAP data. Dairy Cash Costs, Average Weekly Earnings and the Industrial Product Price Index, each weighted 40%, 25% and 35% respectively to reflect overall

importance in producing and marketing milk, are used in the indexing procedure to update the base.

Changes in the factor values from the base period to a given month indicate the effect of these factors on the formula base. Applying the total percentage change in the factors to the base value provides the current value which the formula is indicating for fluid milk (Ontario Board 1988g).

The industrial milk pricing formula is based on actual costs of production from the previous year. (Details under the New Pricing Mechanism, Section III.) "Farmers are paid a single 'blend' price for industrial milk which reflects the weighted average of milk sold in the province for each of the various classes. Pricing by classes recognises that milk is a raw material whose real value depends on how it is used. The method allows the Board to encourage new product development through a special lower price class and also enables the Board to review the impact of its policy. For instance, milk used for butter and skim milk powder is paid less price because it is made available after demand for making products in other classes is met. Milk production and demand is cyclical and these plants help the Board balance the two" (Ontario Board 1988f). The following Milk Classification was in force in the dairy year 1985-86 in Quebec (Morisset 1987:51).

Pool I : Class I : Fluid Milk, Class II: Cream,
chocolate or flavoured drinks, concentrated
fluid milk.

Pool II: Class III: Ice cream, ice milk, ice cream or ice milk mix, yogurt, cottage cheese, sour cream, pudding, eggnog, Class IV (Co-op): All cheese other than Cheddar, Brick, Colby and Farmer but includes Cheddar cheese curd. Class IV (private): All cheese other than Cheddar, but includes fresh Cheddar cheese curd. Class V (Co-op): Cheddar, Brick, Colby, Farmer, butter, skim milk powder and all products not listed in the other classes. Type V (private): Cheddar cheese not included in Class IV; All butter, milk powder, concentrated, evaporated and sweet concentrated milk; all other products not listed in the other classes.

Ontario has six classes. Class I is fluid milk as in Quebec but Class II is only 'concentrated liquid milk'. Flavored drinks, covered in Class II in Quebec, appear in Class III in Ontario. In Quebec, ice-cream is in Class III but in Ontario, in Class IV (Ontario Board 1988d). Thus, each province decides its own classification. The classification helps indicate the processors the price they have to pay for milk for manufacturing different dairy products and enables the Board to make available milk for use in different classes in such a way as to get a blended price for industrial milk which will be equal to or higher than the Target Price. During the last decade, demand for yogurt and other products in Class III is increasing while demand for butter and milk powder is stagnant or declining. In view of this, the milk producers agree to reduce the price of milk used in manufacture of butter and skim milk powder. During 1986, the average price and

range of variation of milk prices in Quebec was as follows (\$ per hl) (Morisset 1987:53).

<u>Class</u>	<u>Price Range</u>	<u>Average Price</u>
Class I	50.96	50.96
Class II	43.63 to 44.43	43.99
Class III	40.10 to 40.90	40.41
Class IV (Cooperatives)	39.90 to 40.70	40.23
Class IV (Private)	40.13 to 40.70	40.38
Class V (Cooperatives)	39.65 to 40.45	39.98
Class V (Private)	39.90 to 40.45	40.13

The variation in price per hl of milk in Quebec was as follows: (Morisset 1987:54): 1985-86 Pool I \$50.38 to \$51.05, Pool II \$33.97 to \$40.17. 1986-87 Pool I \$50.55 to \$51.32, Pool II \$40.12 to \$40.24 (Pool II price excluding subsidy of \$6.03/hl).

Like elsewhere, Quebec farmers keep complaining about the prices. They felt that the price they were getting was not just and satisfactory remuneration for their work and capital. In May 1988, while asking for an increase of \$2.01 per hl in the farm-gate price of fluid milk, it was argued that "In the last 3 years, the price of milk has only gone up a meagre 2% a year while the General Consumer Price Index increased by 4.5% a year. In real terms, consumer milk prices are now lower than they were three years ago" (Le Producteur de Lait Quebecois 1988).

Sale/Transfer of MSQ: Every year, some milk producers drop out while some others replace them, though the resultant position shows a net decline. For instance

"In October 1987, there were 9914 producers in Ontario compared to 10,152 a year earlier. A total of 688 new producers entered the industry in the past year: 584 through within-family transfers of quota, 38 through purchase of ongoing operations, and 66 establishing new operations" (Ontario Board b:12). The milk quotas are sold in an open auction every month. The price paid for buying quota varies according to the month in which the auction takes place. The dairy year for fluid milk starts in April and for industrial milk in August. The milk producers can sell their 'used' or 'unused' quota. Because MSQ is an annual quota, as a producer ships milk over a twelve-month period, that portion already produced in a dairy year becomes 'used'. A buyer of 'unused' quota can produce against the freshly purchased quota with immediate effect and within the same dairy year. Hence, the sale of 'unused' quota attracts a better price as compared to 'used' quota. Quota Exchange market clearing prices per litre of milk in Ontario varied between September 1987 and August 1988 as follows: fluid milk from \$234 in November 1987 to \$285 in February 1988; industrial milk - 'Unused' MSQ from 56.3¢ in November 1987 to \$1.03 in March 1988 and 'Used' MSQ, no sale in September 1987 and August 1988 and in other months from 40¢ in November 1987 to 70¢ in February 1988 (Ontario Board 1988c and e:24).

VI. Canadian Experience: Applicability in the Indian Situation:

The present study examines the pricing policy for milk and milk products, with special reference to dairy cooperatives in Canada, to consider applicability of experience in the Indian context. Prior to that we may recapitulate some

features of the Canadian as well as the Indian dairy industry.

Canadian program continues to establish control over production of milk to avoid surplus of milk production. As a result of measures taken by the government as also due to genetic and technical research, the structure and organization of the dairy industry has undergone rapid changes. Though the total milk production did not decline, there is decline from year to year in the number of dairy farms and processing plants. There is less decline in the number of milk cows in the last five years but it is compensated by an increase in their productivity. The role of the cooperatives is now not much different from the private processing concerns, excepting in financing and profit sharing. The cost of production forms the basis of determining the price of milk from 1988.

In Canada in 1981, there were 67,899 farms reporting about 2.5 million cows and heifers. In India, in Maharashtra State alone, there were 1.870 million cows and 1.275 million buffaloes in milk as per the 1978 livestock Census, most of them local breeds, For instance, as per the 1982 Livestock Census, there were only 213,800 cross-bred cows in Maharashtra, of which 128,867 were in milk (Apte 1987a:14-18). Thus milch cattle in one state alone exceeds that in Canada. The average size of the herd was 40 cows in Canada in 1986 (Morisset 1987:13) while in India most of the producers have only one or two milch animals.

Milk productivity in India is low. "The average/ annual yield of a cow in milk is 157 kgs, which is one of

the lowest in the world" (Muthiah 1987:148). The Warna study revealed that a milk producer supplied on average 500 litres of milk in the year 1980-81 (Apte 1982:79), whereas most of the milk producers in Canada ship at least 300 litres of milk a day. "The Holstein Friesian cross-bred cows had an average lactation yield of up to about 2350 litres. It was however, lower in the case of Jersey cross-bred cows, being about 1,500 to 2,050 litres" (Apte 1987a:141). The average milk production of cows in a lactation easily exceeds 4000 litres in Canada.

In India, the National Commission on Agriculture recommended dairy enterprise as a subsidiary occupation for the rural poor. During the last two decades, loans were given under different schemes of the government and other agencies to the rural poor to buy milch animals. We do not find at one source the number of milch animals thus purchased by this number is certainly large. "For instance, Rath estimates the purchases under the Integrated Rural Development Program at about five million cattle in five years" (Apte 1987b:1). As a policy, the government has encouraged entry into the dairy industry to thousands of small milk producers. Marketing of milk and manufacture and sale of milk products is mainly in the private sector. There are thousands of small traders and only a few, like Chitale Dairy in Maharashtra State which has a daily turnover of 100,000 litres (Apte 1988a). The manufacture of milk products is confined largely to the flush season, when the plants are unable to process all milk which cannot be sold as fluid milk.

An administered price for milk set at a level consistent with fair returns to producers, supported by offer-to-purchase programs for butter and skim milk powder, supply management of milk and import control of dairy products are the important features of the Canadian policy. The Indian Government has been controlling imports due to foreign exchange constraints. We may, therefore, consider the applicability of other instruments.

Under the assistance from international agencies for "Operation Flood" (OF) Program for dairy development, it is envisaged that the program will be implemented in the cooperative sector. It is also envisaged that the dairy cooperatives will collect milk from the milk cooperatives, sell whatever milk they can within the district and supply the remaining milk to the Federation for sale. In Maharashtra, because the Government Milk Scheme has been functioning since 1947, the government allowed the State Federation, in the eighties, to market milk and milk products in Bombay, as well. So both these agencies now procure milk from dairy cooperatives and market it in Bombay and other cities. The milk so marketed is estimated to be about one-third of the milk produced in the State. Further, though stipulated under OF assistance, the Government has not been able to cooperativise its Milk Scheme, due to strong opposition from employees of the Milk Scheme as also some political leaders. Some dairy cooperatives are opposed to the State Federation not allowing them to market milk on their own in Bombay or wherever they want to.

In view of the large number of small milk producers and private traders as also the infrastructure of the cooperatives, a program of support price for milk and supply management may be applied in the first stage to the cooperative sector. "By 1977-78, there were some 20,073 milk cooperatives throughout the country, including 42,448 villages with a membership of about 1.9 million" (Apte 1988b:379). These numbers have gone up rapidly since then and there is a sizeable infrastructure to start with. If accepted as a policy, it will be necessary to create a body like the CDC or use an existing organization to implement it in the states through the State Federation/Government Milk Scheme.

Milk, being perishable, if the government is required to buy it under a price support policy, it will have to expeditiously dispose it of or process it into milk products for sale. This situation is different from the government's program of support prices for foodgrains as these can be purchased, stored without processing, and sold over a period of time, without damage to the quality. The closest to the milk situation is sugarcane and manufacture of sugar therefrom. The plant and machinery for pasteurisation and manufacture of butter and skim milk powder requires a large investment. It will not be prudent to allow the plant capacity to be underutilised. Hence, whichever agency administers the support price program, it will need necessary infrastructure and organisation to buy and dispose of milk efficiently.

If the government decides to confine the program to the cooperative sector and does not want to involve itself in the processing and marketing of milk, it may

have to develop a suitable supply management scheme for the disposal of milk. So, using the present infrastructure, it will be possible to frame and implement a supply management scheme through the State Federation which may act like the Milk Marketing Board. The State Federation, in consultation with the dairy cooperatives and private processors may decide the price they will pay for milk and the quantity each buyer will be permitted to buy. However, in view of the growing population, low level of consumption of milk per capita and to enable the rural poor to pursue dairy enterprise to earn incremental income, it is not necessary to have a licensing system or MSQ in the Indian situation.

In Canada, milk producers pay in-quota levy, mainly to cover the costs of skim milk powder and export-quota levy to finance the costs of exports of whole milk products. In India, it may be desirable to collect levy for anything like the Cost of Production Studies and developing milk products. Due to increasing milk production resulting from cross-breeding of cows and other efforts it may become necessary in future to diversify and develop different products made from milk, whey, etc. which the middle class can afford to buy. In Canada, the Industrial Milk Division in a dairy accounts for a major part of the revenue. A display of about 3,400 products of Quebec's Dairy Cooperatives was organised in July 1987. "If an enterprise has to survive, it must constantly introduce new products. Although it is costly to innovate, it is even more costly not to innovate. Any enterprise which refuses to take risks is taking the ultimate risk: that it will be pushed into the background by the competition, and eventually disappear" (Agropur 1987:7).

Agropur spent \$28.1 million to advertise and promote its products. In addition, its members paid \$5.6 million to the DBC for its promotional activities. "To meet the challenge of declining butter consumption in the seventies, the CDC helped the dairy industry to develop a strong marketing program through increased advertising and promotion. During the period 1977-78 to 1980-81, the federal government committed \$13.3 million and producers paid an equal amount to this program" (CDC 1987:4).

It is also necessary to make the producers cost-conscious and enable them to improve their economic performance. The State Federation may collect from the milk producers transport charges for shipping milk to the buyer. It should divide the State into pools and for each pool charge differential rates for shipment, depending upon the distance from the buyer, like the Ontario Board. Levying a shipping charge may lead the milk producers to demand higher prices. At present, they receive a uniform price and those situated near the dairy are, in a way, subsidising those farther away. Hence the former tend to sell to the private traders. Introduction of transport charges may check this tendency. It is also necessary to check the growing tendency to fall back on the government for finances. True, the rural poor have no funds to contribute to equity but under the OF, dairy cooperatives are allowed to deduct a small amount per litre of milk supplied towards their share capital. This should be done ungrudgingly and the cooperatives be directed to reduce their dependence on government finances.

The government extends facilities for soil testing. It should also extend facilities similar to DHAS free or at a subsidised cost through the agricultural universities, to those who seek them. Such a service will provoke them to think and help take appropriate managerial decisions. It may not be possible to take up the program in a large way as most of the milk producers have only one or two milch animals, and that too local breeds. Besides, it needs an elaborate infrastructure, sophisticated laboratory equipment and computer systems. However, it is important to make a beginning.

A crucial decision the government will have to make is to agree to determine the producer's price of milk on the basis of cost of production and initiate such studies in different regions with the help of universities and research institutes, to generate basic data on the composition of the costs. It may take time for the data to become available. Hence the government should agree to construct an index of prices of various inputs that go into the dairy enterprise and along with changes in the index, consider changes in the Consumers Cost of Living Index to suitably revise the milk prices, at least once in a year. The experience in Maharashtra is disheartening. A committee appointed by the Government in 1973, had recommended that the producers' price of milk be based on the prices of fodder, feed, etc. and prices of the inputs be reviewed every year to make changes in the producers' and consumers' prices (Deotale 1973:21-23). However, the last revision, made in March 1988, came after two years of agitation to revise the prices the government had fixed in April 1983.

Lastly, the Canadian experience with regard to responding to the changing situation. The 'New Pricing Mechanism', is described in Section III. Next is the government's willingness to reconsider its decisions on merit. For instance, "Although preliminary cost of production data for 1987 indicated that the Target Price should be reduced on August 1, 1988, the federal government has decided to maintain the price at its current level for two reasons: Feed costs captured in the 1987 data were quite low and do not reflect their rapid rise since then, and dairy markets would be disrupted if the target price was reduced on August 1 and increased again in February 1989 to reflect rising costs" (Agriculture Canada 1988). Besides "The levy rates initially established by the CMSMC for the 1986-87 dairy year, were reviewed and adjusted in November 1986 in recognition of greater than expected excess of financing from previous year and improved world prices for dairy products" (CDC 1987:8).

The seminar on Multiple Component Pricing (MCP) of Milk shows openness of the policy makers to explore alternate methods for fair price for industrial milk. MCP is defined as a pricing system based on the recognition of two or more solid components of milk (Lebeau 1988, Morisset 1988).

Some provinces are asking for a more flexible system through a new market-sharing quota allocation system, on the grounds that the existing system favours the largest provinces. However, the Quebec producers feel that "Within the provinces, quotas are already acquired on the basis of competition. In the same way competition must be re-introduced among producers from different provinces. Solutions to the current problems at the national level

must come from producers, and not from processors, bureaucrats or even worse from politicians. It must be kept in mind that the National Plan was originally created by and for producers" (Daoust 1988). The CDC appointed the Milk Supply Management Study Team on the Flexibility of the National Plan. Its report is awaited.

To sum up, to develop the dairy enterprises and dairy industry on healthy lines and benefit themselves, the milk producers will have to organise and get their demands met by the government, like in Canada. If the Government agrees to support milk prices, it will be possible to develop a suitable organisation and mechanism to ensure the milk producers a fair return and also develop a supply management system for disposal of milk. The program may be confined to the cooperative sector in the first instance. The State Federations at present act like monopolists. Instead they should allow dairy cooperatives to market on their own. The present mechanism, like the regulated price to those who sell milk to cooperatives in Maharashtra, will have to be based on cost of production data, and periodic revision to reflect the movement of prices of inputs that are used in production. Further, deficit on supply of milk at subsidised rates to the poor will have to be met by the Government.

Appendix I. Persons Interviewed (Listed Chronologically):

Mr. Andre Roy, Economist. Cooperative Federee de Quebec, Ville St. Laurent, Quebec.

Mr. J.K. (Ken) McCaughey, Public Relations Manager, Mr. Andre Gauthier, Economist and Corporate Secretary and Mr. Raoul A. Blouin, Director, Membership Relations Service, Agropur Cooperative, Granby, Quebec.

Mr. Leon McDuff and Mr. Michel Beausejour, Directors, Federation des producteurs de lait du Quebec, Longueuil, Quebec.

Mr. Gilles Leblanc, Vice President, Regie des marches agricoles du Quebec, Montreal, Quebec.

Dr. Kisan Gunjal, Associate Professor and Dr. Laurie Baker, Lecturer, Department of Agricultural Economics, Macdonald College, Montreal, Quebec.

Mr. Roch Morin, Chairman, Canadian Dairy Commission, Ottawa, Ontario.

Mr. Kempton L. Matte, President, Mr. Dale A. Tulloch and Mr. Denis Healy, Vice-Presidents and Mr. Michel Moisan, Economist, National Dairy Council of Canada, Ottawa, Ontario.

Mr. John Tracy, Milk Producer, Shawville, Quebec.

Mr. Michel Morisset, Professor, Department of Rural Economics and Director, GREPA, Universite Laval, Quebec.

Mr. Daniel Vermette, Director of Sales, Agrinove Dairy Cooperative, Quebec.

Mr. Luc Vachon, Adjoint au President Executif, Conseil de l'industrie laitiere du Quebec Inc., Montreal, Quebec.

Mr. Jacques Jalbert, Agr. Director, Dairy Herd Analysis Service, Macdonald College, Ste Anne de Bellevue, Quebec.

Dr. C.D. Kulkarni, Bio-Chemist, Mr. Charles H. MacDaid, Vice-President, Marketing and Sales and Mr. Bob Sinclair, Vice President-Production, Gay-Lea Foods Cooperative Limited, Weston, Ontario.

Mr. Phil Cairns, Senior Economist and Mr. Wesley G. Lane, Director of Planning, Ontario Milk Marketing Board, Mississauga, Ontario.

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