Evaluation Study
on

# Integrated Dairy Development Project

Programme Evaluation Organisation
Planning Commission
Government of India

# Content

# Preface

The Integrated Dairy Development Project (IDDP) was launched in the year 1993-94 in the non-Operation Flood, backward and hilly areas of the country. The Scheme aims at increasing milk supplies in project areas by increasing milk production, facilitating its marketing through integration of activities relating to production, collection, chilling, processing and sale of milk, ensuring remunerative prices to milk producers and increasing their income, employment and nutritional standards. To achieve the aforesaid objectives, the scheme envisages construction of processing and chilling plants; formation of villages level dairy cooperative societies (DCSs) of the cattle owning households; extension of managerial and operational support to them; their affiliation to the District Cooperative Milk Union and the State Cooperative Federation; support to members households in the form of supply of subsidized inputs, such as, high yielding milch animals, fodder kits and fodder plots; and integration of facilities available with the Departments of Dairy Development, Animal Husbandry, Agriculture and Cooperation.

At the instance of the Department of Animal Husbandry and Dairying, Ministry of Agriculture and Planning Commission, the Programme Evaluation Organization (PEO) undertook the Evaluation of Integrated Dairy Development Projects in the States of Maharashtra, Nagaland and Orissa. The primary objectives of the study include examination of the implementation methods of the project, assessment of the viability of cooperative societies and impact of the project on the beneficiary households and project areas. To test the various hypotheses implicit in the study objectives, the required data-base was generated through a sample survey.

The sample survey was conducted by independent local research institutes in the three States under the overall guidance and supervision of the PEO field units. The collaborating institutes were: the Centre for Youth and Social Development (CYSD), Bhubaneswar; MITCON Consultancy Services Ltd., Pune; and Omeo Kumar Das Institute of Social Change and Development, Guwahati. The institutes also extended support to data processing and preliminary analysis.

Based on the analysis of both secondary and primary data generated through surveys, the study observes that IDDP in these three States has generally failed to meet its primary objectives. Some isolated cases of success have also been identified. The study has identified the factors that contribute to success and failure, and suggested mid-course corrections in planning and implementation for improved performance. A suggestion for undertaking a comprehensive post evaluation of the project has also been made. It is hoped that the findings and suggestions of the study will be of use to the implementing agencies and the Planning Commission.

The study received constant support and encouragement from Deputy Chairman, Planning Commission; Chairman (EAC) and Secretary, Planning Commission. The present shape of the Report was given under my close supervision

and guidance. Dr. G.R. Reddy, Ex-Director, Regional Evaluation Office, Hyderabad, conceptualized the Study and prepared the initial study design. The study was, however, continued and completed under the direction and supervision of Mr. Antony Cyriac, Senior Research Officer, PEO. Discussions held with Dr. A. Obi Reddy, Principal Scientist, National Dairy Research Institute (Bangalore), officials of National Dairy Development Board (Bangalore) and officers of the Agriculture Division, Planning Commission were helpful in shaping the findings and suggestions.

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New Delhi-110001

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### Summary: Evaluation Issues, Findings and Suggestions

## The Scheme

The Integrated Dairy Development Project (IDDP) was launched in the year 1993-94 in the non-Operation Flood, backward and hilly areas of the country. The project aims at increasing milk supplies in project areas by increasing local milk production, facilitating its marketing by integrating the activities relating to production, collection, chilling, processing and sale of milk, ensuring remunerative prices to milk producers and increasing their income, employment and nutritional standards. Central assistance under IDDP to the states is in the form of 100% grants-in-aid. The scheme is being implemented in 22 States and one Union Territory.

To achieve the aforesaid objectives, the scheme envisages construction of processing and chilling plants, formation of village level dairy cooperative societies (DCSs) of the cattle owing households, extension of managerial and operational support to them, their affiliation to the District Co-operative Milk Union and the State Co-operative Federation, support to member households in the form of supply of subsidized inputs, such as, high yielding milch animals, fodder kits and fodder plots and integration of facilities available with the Departments of Dairy Development, Animal Husbandry, Agriculture and Cooperation.

## Evaluation Issues

At the instance of the Department of Animal Husbandry and Dairying, Ministry of Agriculture and Planning Commission, the Programme Evaluation Organization (PEO) undertook the Evaluation of Integrated Dairy Development Projects in the States of Maharashtra, Nagaland and Orissa. The primary objectives of the study include examination of the **implementation methods** of the project, assessment of the **viability of cooperative** societies and the **impact** of the project on the beneficiary households and project areas. The Study was also designed to reflect on other issues which, *inter alia*, include assessing the **physical** and **financial** performance at the micro level, identifying **factors contributing to high level of milk procurement** and the **problems in dairying** in the project areas and assessing the prospects of forming dairy cooperative societies in the non-project areas.

## Evaluation Approach and Design

To meet the aforesaid objectives of the Study, a multi-site evaluation approach has been adopted to generate the required primary and secondary information using structured questionnaires designed at the State, district, DCS, village and household levels. Employing multi-stage stratified random sampling procedure, 5 districts, 20 Dairy Cooperative Societies, 10 Control Villages, 157 members, 76 non-members (in project areas) and 39 households in control areas were selected for the study. The sample survey was conducted in collaboration with independent local research institutes in the three states. The study has made use of the relevant secondary information upto the financial year 2001-02.

**For impact assessment, a quasi-experimental evaluation design has been adopted and attempts have been made to employ a mix of** before & after **and** with & without **methods. However, wherever the relevant information was not available and these methods could not be applied, the** inter-household variations **in the relevant household characteristics have been analysed to test some hypotheses about impact.**

## Main Findings

*Planning and Implementation*

The project is being implemented in a top-down and target-oriented manner in all the three States. Targets with regard to formation of DCSs, enrolment of members and procurement and marketing of milk are fixed at the state and district levels without any analysis of the feasibility of attaining these targets. The grassroots level functionaries seem to be primarily concerned with meeting the targets assigned to them, irrespective of whether fulfillment of targets would lead to realization of the programme goals. This has led to the formation of such DCSs which are **unviable at the entry point** and induction of unwilling and uninterested members. As will be noted in the next section (Performance), this process has resulted in **high mortality of DCSs** and **lack of co-operation from members** (Chapters 4&7).

Another weak link in the planning process is the **absence of co-ordination** between Dairy Development and Animal Husbandry Departments. The scheme envisaged mobilization of the latter's resources for the realization of the objectives of the former. But the findings of PEO field teams indicate that at the grassroots level, the two wings of the same Ministry are **not working in a coordinated manner.** In some cases, the Animal Husbandry Department was found to implement its programmes in non-IDDP villages without adequate attention to the needs of the neighbouring IDDP villages.

Effective monitoring of the implementation process could have helped in taking mid-course corrective actions for better performance of the scheme. That monitoring is not purposeful and ineffective could be judged by the discrepancies

between **macro-level secondary statistics** and those collected through PEO sample surveys. For example, the achievement w.r. to the proportion of members benefited from fodder plots, fodder kits, cross-breed animals etc. was found to be significantly lower than what is reported at the district-level in official statistics. In Akola district of Maharashtra, for instance, 956 crossbreed animals are reported to have been distributed. The PEO sample survey revealed that only 22% of the 209 members of the 8 (IDDP) DCSs in the district got benefits of this scheme there was not a single member with 21 or more crossbreed animals. This implies that either the **macro level statistics are not in order** or the **animals were not distributed in the IDDP areas.** (Examples of more such discrepancies can be found in chapter 3 of each report.)

*Performance of the Project*

The performance of the scheme has been assessed with respect to:

- Extent of **realization** of project **targets.**
- **Functionality** and **viability** of DCSs.
- Level of **utilization** of processing and chilling **capacities**.
- **Satisfaction** of DCS **members** about the delivery of programme benefits.

- The necessary fallout of inadequate planning and inappropriate strategy of program implementation is the **shortfall** in the achievement of targets with respect to the formation of DCS (38% shortfall in Balasore and 92% in Akola), induction of members into the DCSs (44% shortfall in Maharashtra) and procurement of milk (53% shortfall in Maharashtra and 37% in Orissa).

- Figures collected from sample districts reveal that 54% of IDDP DCSs in Maharashtra and 41% in Orissa were fully **non-functional during 2001-02** (figures for Nagaland not available). Among the functional ones, many are seasonally non-functional. **High mortality rates** of DCSs not only **reduced the effective coverage** of IDDP, but also caused **serious distortions in up-stream activities**. Generally, the following reasons, individually or in combination, have led to non-functionality / mortality of DCSs.
  - Low production and marketable surplus of milk in the villages under DCSs;
  - Death of superior breeds of milch animals under the ill-equipped care of the villagers (Maharashtra and Nagaland) resulting in non-realization of the milk supply potential in project areas;
  - The large gap between (DCS) procurement prices and market prices, resulting in diversion of marketed surplus to private agencies;

- Inadequate transport facility for carrying milk to the chilling plant (Orissa and Maharashtra);

- Factional tendencies among DCS officials and members (Orissa and Maharashtra); and

- Misappropriation of IDDP benefits by the DCS officials and their acquintees (Maharashtra).

- Non-functionality and non-viability of DCSs led to **under-utilization of capacities of chilling plants** (22.4% in Ratnagiri to 53.5% in Koraput during 2001-02) and **processing plants** (40% in Dimapur to 67% in Akola). The situation was found to be much worse (June, 2002) in lean season (8% for chilling plant of Ratnagiri and 45% in the processing plant of Dimapur).

- Only 17% of the sample members received fodder kits and 3% benefits under fodder plots. 51% of the sample members reported **inadequate availability of fodder**/ high price of fodder as a continuing constraint in dairying. Only **7% of the sample members received subsidy for buying high yielding animals. 31%** of the sample members complained of continuing with less productive local animals due to **inadequate facilities for crossbreeding.** 41% of them reported about the problem of inadequate/**unsatisfactory veterinary services** in their locality.

*Viability of Cooperative Societies*

The **viability of** DCSs is a good **indicator of** project performance. An essential element of project planning and implementation must be to ensure the viability of DCSs. It is important to identify the **criteria** of their viability so that these could be **built into project planning.** There could be several factors that have a bearing on successful operation of DCS and IDDP. However, an attempt is made in the study to work out the criteria for viability on the basis of the (observed) operational data of the sample DCSs. It is found that a DCS can **break-even** if it procures a **minimum of 100 litres of milk per day.** A lower procurement level will not give enough margin to meet **minimum necessary operational expenses** of the DCS.

Evaluated on this count, only 5 (which happened to be the highest procuring DCSs of the sample districts) out of the 15 selected functional DCSs can be termed viable. The average daily procurement made by the remaining 10 functional DCSs worked out to 32 liters in 2001-02. In Orissa, where accounts of sample DCSs were in order, those which procured less than sustainable quantities of milk **survived by underpaying their members**. This has

worsened the situation as members diverted their marketed surplus to private agencies.

Thus, **non-viability of DCSs** is primarily because of:

- Low production of milk in the covered villages;
- Diversion of milk by the producer members to open market (which varied from 23% in Ratnagiri to 92% among the sample DCSs of Koraput except the highest procuring DCS); and
- Failure to attract potent non-members (who had far better milk yield than members in Dimapur and Akola and comparable yield in Balasore) to DCSs.

# I. Impact

- The selected members of 4 out of the 5 sample districts (Koraput excluding the highest procuring DCS) showed, on an average, a **decline in the per-capita milk yield**, both per animal and per household, during the project period. In Akola district of Maharashtra, the per-capita milk yield of member-households was even lower than that of selected non-member -households. The failure in increasing milk production in the project areas was mainly due to the fact that input support extended was grossly inadequate for the members to withstand the pressure of low availability and high prices of fodder and water.

- In all the sample states, the **per-liter income** from the sale of milk **declines significantly** with an increase in the proportion of milk sold to DCS. In the most successful DCS (Koraput), however, the income of members from dairying improved by about 110.6% during the project period.

- Generally, organized dairying activities in project areas have meant **extra work for member households**. However, except in the case of one DCS (in Koraput which had mostly migrant labourers as members), **this additional work did not get translated into effective employment and/ or additional income.**

## Observations & Suggestions

The IDDP aims at achieving its objectives of increasing milk production and income / employment in the non-operation flood areas through:

- creation of adequate infrastructure for milk procurement, processing and preservation, thereby raising the local demand for milk substantially;

- assuring farmers of a market of their marketable surplus of milk at reasonable prices;

- providing technical, financial and extension support to farmers for raising milk production; and

- creation of cooperative societies to facilitate the delivery of services and procurement of milk.

The findings of the study tend to suggest that except for a few isolated cases, the **objectives of IDDP have not been realized**. Since, in the successful cases, the scheme has rendered the intended benefits (income/employment), the IDDP holds the potentials if success stories are multiplied.

The areas of **weakness** in the scheme relate to several aspects of **planning and implementation**. The study findings also tend to suggest that three aspects are critical to the success of IDDP, viz: (a) raising the local milk production for adequate marketable surplus, (b) the effectiveness of DCSs as facilitators for delivery of inputs and procurement of marketable surplus and (c) viability and sustainability of the operation of DCSs. The following suggestions are made to address the relevant issues concerning these areas.

- For improvement in planning and better inter-agency coordination in implementation, a **survey of the project areas is** required to identify the constraints to the growth in milk production. These constraints, as the (PEO) field surveys have shown, vary across project –areas with respect to availability of fodder, delivery of veterinary and other services, effectiveness of cooperatives, the response of the beneficiary households to incentives and even with respect to marketability of processed milk and milk products (Nagaland). This means that the **planning and implementation methods have to be area-specific** within the same broad policy frame. The area – specific strategies may require certain flexibilities with regard to the various components of subsidies under the program. For example, the subsidy on buying crossbred animals may be used for, say, supplying subsidized fodder/concentrates depending on the local conditions.

  It is unlikely that such meticulous area-specific planning and implementation would be possible under the existing set-up of the Department of Dairy Development (DDD). **Handing over the planning and implementation of the scheme to the State Milk Cooperative Federation** may be considered. The DDD may assess the feasibility of specific project proposals, allocate the necessary financial resources (including the funds needed for the preliminary survey before preparation of plan proposals), facilitate inter-agency coordination, monitor the overall physical and financial progress.

- The DCS is the linchpin of IDDP and its **viability, sustainability and effectiveness are crucial to the success of the scheme.** The results of the study show that most DCSs are unviable and unsustainable primarily because of low milk procurement and also because of inadequate incentives for their functionaries and members. The cooperatives have also not been effective in facilitating access to various diary development services for their members.

For their viability and effectiveness, the activities of DCSs should not remain confined to just procurement of milk, but be oriented to raise local milk production and marketable surplus. The DCSs should be geared to provide **a package of services**. These include:

- **Fodder Delivery**. For green fodder, the DCSs should facilitate access to the services of the Krishi Vigyan Kendra (KVK) so that farmers get the seeds, plants varieties and other services to grow fodder locally. The concentrates should also be made available through the DCSs, allowing them a commission for their services.

- **Veterinary Services**. The existing arrangement for such services is weak and has not benefited the farmers. The DCS should be given an **incentive package** to work as a facilitator for making the required services available to the farmers from various on-going schemes (National Programme for Cattle & Buffalo Breeding, and Livestock Health and Disease Control Programme, for example) and the concerned government agencies. Separate allocation has to be made to this head and an **outcome-based incentive** mechanism introduced.

- **Awareness Generation**. One finding of the study is that lack of awareness on the part of farmers about (crossbred) cattle maintenance has led to high mortality and low milk yields. It has been found that some farmers felt that vaccination is bad for animal health. The DCSs may be asked to organize sensitization/awareness programmes for their members to remove these bottlenecks in the growth of milk production.

- **Capacity Building**. Since the DCSs have to provide the required services to members and interact with various government agencies on matters which are technical in nature, it is important that the key functionaries of DCSs have the basic knowledge of the technical aspects of dairy development activities. The District Milk Unions may organize training programs for the functionaries of DCSs to **familiarize** them with the **technical issues** and the **functions** and **on-going schemes** of the concerned government agencies at district and block level.

- **Others.** The DCSs may be used as outlets for various inputs of dairy activities as well as for milk products (such as cheese and ghee). This is likely to enhance their earnings and viability.

- The present study is **not concerned with the assessment of viability of IDDP**. In the design of IDDP, it is implicit that the scheme has enormous spin-off effects in the form of employment/income generation and improvement of nutritional standards of the poor. The findings of the study do not lend support to such a hypothesis. Even if the DCSs become viable and/or Federations start earning some profits, it is **not necessary that the sum total of all spin-off effects and direct benefits would be greater than the project cost**. It is suggested that viability of the IDDP project be also studied in areas where it is fully operational. Through such studies, the government can decide on the desirability of continuance of various subsidies (such as, for crossbreed animals) under the scheme.

# Chapter 1

## Introduction

**Commercial dairying is a non-farm activity, which offers the potential for generating additional income and employment opportunities for the rural households and improving their nutritional standards. Realising this, the Government of India has attached special importance to its development. With a view to exploiting the potential for dairy development in the country, the National Dairy Development Board (NDDB) launched the Operation Flood (OF) programme in the year 1970. In three phases the programme covered 262 of the total of 478 districts in the country. The approach of linking the potential milk sheds in the country with the milk unions under Operation Flood yielded rich dividends in the form of increased availability of milk to the urban consumers and remunerative prices to the rural milk producers through the mechanism of milk producers' cooperatives. Now, India is the largest producer of milk in the world. The step up in the production of milk can be attributed mainly to the intensive efforts under Operation Flood programme supported by an improvement in the genetic stock through cross breeding and effective control of diseases.**

**The Operation Flood programme was taken up only in the milk potent districts of the country as the funding agencies, such as the World Bank, EEC and NDDB insisted on commercial viability of projects. In the non - OF areas, there was no concerted efforts to develop dairying. In these districts, state governments had been taking a few sporadic measures, which lacked focus and the required financial support. Efforts were particularly lacking in North-Eastern states, hilly and backward districts in other states.**

### Integrated Dairy Development Project

Keeping in view the need for developing dairying in the north-eastern states and backward and hilly regions in other states, the Department of Animal Husbandry and Dairying, Ministry of Agriculture, Government of India launched the Intensive Dairy Development Project (IDDP) in non-Operation Flood, hilly and backward areas of the country during the Eighth Five Year Plan (1992-97) with the following objectives.

1. Development of milch cattle and milk production.

2. Procurement, processing and marketing of milk in a cost effective manner.

3. Ensuring remunerative prices to milk producers.

4. Generating additional income and employment avenues and thereby improving nutritional and socio-economic status of people in backward regions.

**It was initially conceived that a consolidated project for integrated dairy development in non-OF, hilly and backward areas would be prepared. Accordingly all the states were requested to send their project proposals. As there was delay in getting the project proposals from the state governments, it was decided that the projects received from state governments would be given sanction on a case-by-case basis.**

Each State project should be area specific to take care of the specific requirements of the area. The project would follow a gap filling approach taking into account the gaps in the existing availability of infrastructure facilities in a project area to arrive at the requirements for integrated development of dairying. Depending on the availability of various infrastructure facilities, assistance under the project would be given for the formation of dairy cooperative societies (DCSs), managerial grants to them, purchase of milk testing equipments, furniture, milk cans, etc, construction of dairy and chilling plants, input support to farmers in the form of fodder (kits and plots), high yielding animals and animal husbandry inputs like artificial insemination and vaccination of milch animals and training of farmers and functionaries involved in the implementation of the project. Assistance to states would be given in the form of 100% grant-in-aid. The assistance would cover both recurring and non-recurring expenditure of approved components.

Owners of milch animals should be organised into dairy cooperative societies (DCSs) on voluntary basis at the village level to facilitate extension and supply of inputs, animal health services and marketing support. The village society will be affiliated to the district level cooperative union. The district union may in turn seek affiliation to the state level cooperative federation in course of time.

The project envisages integration of facilities available with various departments, such as, Animal Husbandry, Agriculture, Cooperation, Rural Development, etc, and better coordination among them so that financial and non-financial assistance is utilized optimally. The project provides for training of beneficiaries and functionaries associated with the implementation of the project.

**The guidelines stipulate that a technical management committee (TMC) shall be constituted at the state level under the Chairmanship**

**of Secretary in charge of dairy development. This committee shall have officers from the state government departments concerned, a representative each of the department of Animal Husbandry and Dairying, Government of India, Planning Commission and NDDB as members. The committee is entrusted with the responsibility of monitoring the implementation of the project at the state level. At the Government of India level, a Project Implementation and Monitoring Cell has been constituted. Monitoring is being done by the Cell by analysing the information from the states, making visits to the states and conducting impact studies. The impact studies would be done by independent organizations.**

The project is currently in operation in 22 states and one union territory. The financial performance of IDDP in these States and UT is briefly given in the following table.

**(Rs. In lakh)**

| State/UT | Number of projects sanctioned (up to 2001-02) | Approved outlay | Release upto 31-3-2002 | Unspent balance upto 1-4-2002 | Approved State outlay as % of total outlay |
|---|---|---|---|---|---|
| A&N Islands | 1 | 239.41 | 192.67 | Nil | 0.92 |
| Andhra Pradesh | 2 | 1381.6 | 638.81 | 191.49 | 5.31 |
| Arunachal Preadesh | 1 | 458.5 | 458.5 | 0.51 | 1.76 |
| Assam | 1 | 1260.76 | 799.34 | 181.51 | 4.85 |
| Bihar | 6 | 1384.17 | 584.92 | 248.46 | 5.32 |
| Jharkhand | 1 | 364.5 | 104.59 | 48.45 | 1.40 |
| Gujarat | 1 | 679.95 | 600 | Nil | 2.61 |
| Haryana | 1 | 203.75 | 203.75 | Nil | 0.78 |
| Himachal | 1 | 805.95 | 655.2 | 53.27 | 3.10 |
| Jammu & Kashmire | 1 | 1243.29 | 549.47 | 101.03 | 4.78 |
| Madhya Pradesh | 4 | 1093.91 | 870.53 | Nil | 4.21 |
| Chattisgarh | 3 | 1836.79 | 636.67 | 379.2 | 7.06 |
| **Maharashtra** | **2** | **3926.79** | **3605.98** | **161.22** | **15.10** |
| Manipur | 1 | 224.4 | 224.4 | 49.57 | 0.86 |
| Meghalaya | 2 | 613.81 | 285.21 | Nil | 2.36 |
| Mizoram | 3 | 916.59 | 776.35 | 57.37 | 3.52 |
| **Nagaland** | **2** | **1015.71** | **1015.71** | **132.07** | **3.91** |
| **Orissa** | **4** | **2480.58** | **1462.64** | **94.6** | **9.54** |
| Sikkim | 3 | 1046.63 | 813.26 | 219.77 | 4.02 |
| Tamil Nadu | 1 | 336.63 | 336.63 | Nil | 1.29 |
| Tripura | 2 | 624.41 | 624.41 | 56.51 | 2.40 |
| Uttar Pradesh | 5 | 3232.65 | 1646.77 | 512.41 | 12.43 |
| West Bengal | 2 | 639.71 | 568.88 | 113.46 | 2.46 |
| Total | 50 | 26010.49 | 17654.69 | 2600.9 | 100.00 |

Out of the total of 50 projects sanctioned till 2001-02, 15 were sanctioned in 1993-94, 6 in 1994-95, 10 in 1995-96, 4 in 1997-98, 3 in 1998-99, 6 in 2000-01 and 6 in 2001-02.

# Chapter 2

## Evaluation Study- Objectives And Methodology

The Evaluation Study on integrated Dairy Development Project was conducted up by Programme Evaluation Organization, in the states of Orissa, Maharashtra and Nagaland at the instance of the Department of Animal Husbandry and Dairying, Ministry of Agriculture, Government of India and Planning Commission. In the conduct of the sample survey, PEO sought collaboration of independent local research institutes in the sample states. The field survey was conducted by the Centre for Youth and Social Development (CYSD), Bhubaneswar, in Orissa, MITCON Consultancy Services Ltd, Pune, in Maharashtra and Omeo Kumar Das Institute of Social Change and Development, Guwahati, in Nagaland.

## Objectives of the Study

The evaluation study was conducted with the following objectives.

1. To examine the mechanism for implementation of IDDP.

2. To assess the viability and functionality of co-operative institutions at different levels and to fix the causes for non-viability and non-functionality.

3. To examine the factors behind high levels of milk procurement.

4. To study the socio-economic profile of sample members and non-members and to study the impact of IDDP on them.

5. To assess the continuing problems in animal husbandry in the selected project areas.

6. To briefly examine the need for and the feasibility of forming DCSs in the uncovered villages and the problems faced by them.

### *Sample Design*

To meet the aforesaid objectives of the Study, a multi-site evaluation approach was adopted to generate the required primary and secondary information. Multi stage stratified sampling design was followed for the selection of households for the study. The sampling units at different stages included districts, dairy co-operative societies (DCSs) -functional & non- functional-, members of DCSs, non-member households of DCSs, control villages and household of control villages.

**Selection of districts:-** In consultation with the Department of Animal Husbandry and Dairying, Balasore and Koraput districts of Orissa, Akola and Ratnagiri districts

of Maharashtra and Dimapur district of Nagaland were selected for the Evaluation Study.

Selection of DCSs: - **From each selected district, four dairy co-operative societies (DCSs) formed under IDDP were selected. The selection was done by first arranging the IDDP DCSs of each selected district in ascending order according to the quantity of milk procured during the year 2001-02 and then arranging them into four strata of equal number (stratum one to four, arranged in ascending order according to milk procurement). From stratum one (the lowest stratum), the society with the lowest procurement was selected. Whenever there was more than one society with the lowest procurement, the selection among them was made random. This ensured that if there were defunct IDDP DCSs in the district, one of them would be in the sample. From stratum four, the DCS with the highest procurement was selected. From stratum two and three, one DCS each was selected by simple random sampling.**

**Selection of control villages:-** Those villages of the district, which were not covered under any DCSs (formed under OF and IDDP) formed the sample frame for this. A minimum of 25 revenue villages separated at least by a distance of 10 Kms from the nearest DCS were first listed down from each selected district. From this list, two villages were randomly selected to serve as control.

Selection of member households: - **All members of the selected DCS were grouped into four strata of equal number after arranging them in ascending order according to the number of cattle possessed by them. From each stratum, two households were selected at random, thus constituting a beneficiary sample size of 8 per selected DCS.**

Selection of non-member households**:- The non-members of each selected DCS were selected from the farthest revenue village covered by it. From this village, a minimum of 25 non-members having milch animals and a minimum of 25 non-members not having milch animals were listed down. Two from each group were selected randomly constituting a sample of 4 non-members from each selected DCS. Shortfall, if any, was met from the non-members of other villages covered by the DCS.**

**Selection of households from control villages:-** From the households of each selected control village, a minimum of 25 non-members having milch animals and a minimum of 25 non-members not having milch animals were listed down. Two

| Units Selected | Number | | | |
|---|---|---|---|---|
| | Orissa | Maharashtra | Nagaland | Total |
| **Districts** | **2** | **2** | **1** | **5** |
| **Dairy Co-operative Societies (DCS1 to DCS8)** | **4*2=8** | **4*2=8** | **4*1=4** | **20** |
| **Control villages** | **2*2=4** | **2*2=4** | **2*1=2** | **10** |
| **Members of the sample DCSs** | **8*8=64** | **8*8=64** | **(8*4)-3=29** | **157** |
| **Non-members of the sample DCSs** | **4*8=32** | **4*8=32** | **(4*4)-4=12** | **76** |
| **Owners of milch animals of the selected control villages** | **2*4=8** | **2*4=8** | **(2*2)-1=3** | **19** |
| **Non-owners of milch animals of the selected control villages** | **2*4=8** | **2*4=8** | **2*2=4** | **20** |
| Total number of households | 112 | 112 | 48 | 272 |

from each group were selected, thus constituting 4 households per each selected non-beneficiary village.

The final sample size at different levels resulting from the delineated procedure is given below.

**The sample of households was eight short of its proposed size. While one selected DCS from Dimapur district of Nagaland had only 5 members, there was no non-member household in another selected DCS from Dimapur. Again, one selected control village had only one household with milch animals.**

**Reference Period**

**In each State, the reference period for the Study up to the year, 2001-02.**

## Instruments of Observation

The quantitative and qualitative information was generated by collection of primary and secondary data through structured interview schedules and by holding discussions with the concerned officials, local leaders, other knowledgeable persons and beneficiary households. The instruments designed for eliciting information included:

***State level schedule:*** This schedule was administered to the state Departments of Animal Husbandry and Dairy Development/ State Level Federation implementing the project.

***District level schedule:*** This schedule was administered to the District Milk Union of the districts selected for the study.

***DCS schedule (Functional):*** This schedule was canvassed with the President, Secretary and other responsible officials of the selected functional DCSs to obtain the details of their service delivery and functioning.

***Schedule for non-functional DCSs:*** This schedule was canvassed with the President, Secretary and other responsible officials of the selected non-functional DCSs mainly to understand the reasons for their non-functionality.

***Schedule for control villages:*** This schedule was canvassed with the village authorities / knowledgeable persons etc. of the selected control villages.

***Member schedule:*** This schedule was canvassed with the selected member households of the Dairy Cooperative Societies.

***Non-member schedule:*** This schedule was administrated to the selected non-members of the selected Dairy Cooperative Societies. Attempt has been made to know their views about the functioning of the DCS, the reasons for non-membership etc.

***Schedule for the households of the control village:*** This schedule was administered to the selected households of the control villages with the intent to understand their problems in dairying and to explore possibilities of forming DCSs in those villages.

**Qualitative notes:** Apart from filled-in questionnaires, qualitative notes were prepared at State, district, DCS and control village levels on various narrative aspects pertaining to the implementation of the project, mainly those not covered under the structured questionnaires.

## Field Orientation and Survey

In the conduct of the sample survey, PEO sought collaboration of independent local research institutes in the sample states. The field survey was conducted by the Centre for Youth and Social Development (CYSD), Bhubaneswar, (in Balasore and Koraput districts of Orissa), MITCON Consultancy Services Ltd, Pune, (in Akoal and Ratnagiri districts of Maharashtra) and Omeo Kumar Das Institute of Social Change and Development, Guwahati, (in Dimapur district of Nagaland).

The field teams were oriented in July 2002 in Bhubaneswar. Field survey was carried out in the sample States during August- November 2002.

# Report for the State of Maharashra

# Chapter 1

## Introduction

The hilly and under-developed areas of Ratnagiri, Sindhudurga, Yeoatmal, Chandrapur, and Gadchiroli districts of Maharashtra were covered under IDDP during 1995-96. The coverage got extended to Thane, Raigad, Jalna, Parbhani, Akola and Washim during 1997-98. Approval of the Government of India is awaited for the proposal for third project of IDDP covering the districts of Amravati, Nanded, Bhandara, Gondia, Buldhana, Latur, Nashik and Nandurbar. The financial performance of IDDP in Maharashtra is given in Table 1.1.

(Figures in Lakh)

| Project | Approved outlay | Release (upto 31-3-2002) | Unspent balance as on 1-4-2002 |
|---|---|---|---|
| Project I | 1985.24 | 1985.23 | Nil |
| Project II | 1941.55 | 1620.75 | 161.22 |
| Total | 3926.79 | 3605.98 | 161.22 |

Project I stands complete. Even as on 1.10.2002, an amount of Rs. 161.22 lakh is shown as an unspent balance and a balance amount of 320.80 lakh remains to be released in Project II.

# Chapter 2

# Planning and Implementation

## 2.1 Coverage

IDDP covered 5 districts in phase I and 6 districts in phase II out of 35 districts in state of Maharashtra. Phase III of the project is not yet finalized. 19 districts had already been covered under Operation Flood. This leaves five districts of the State not covered under any dairy scheme. 1262 DCSs were formed under IDDP in the state to which 1,37,000 milk farmers were inducted as members.

**Table 2.1**

**Formation of DCSs in the sample districts**

| Category | District 1 | District 2 |
|---|---|---|
| Number of DCSs formed under IDDP | 008 | 085 |
| Number of DCSs formed under OF/other schemes | 218 | 172 |

Table 3.2, given below, shows that 7 of the 8 sample DCSs covered only one village each. This means that IDDP, with 8 DCS formed under it, covered only a negligible number of villages in Akola. The coverage of villages in Ratnagiri too is not so wide as to create a marked impact of the project in the district. The effective coverage gets further reduced due to the fact that out of 8 IDDP DCSs in Akola, 5 are non-functional and out of 85 in Ratnagiri, 45 are non-functional.

**Table 2.2**

**Coverage under the sample DCSs**

| DCS | No. of revenue villages covered | Area of revenue villages covered (in sq Kms) | Distance from district Headquarters | Number of milch animals covered | Number of cross breed cows covered |
|---|---|---|---|---|---|
| **Akola** | | | | | |
| DCS1 | 01 | 05 | 18 | 388 | 14 |
| DCS2 | 01 | 08 | 22 | 525 | 20 |
| DCS3 | 01 | 04 | 37 | 582 | 130 |
| DCS4 | 01 | 05 | 05 | 278 | 6 |
| **Ratnagiri** | | | | | |
| DCS5 | 01 | 10 | 40 | 228 | 36 |
| DCS6 | 01 | 17 | 100 | 219 | 8 |
| DCS7 | 01 | 35 | 116 | 474 | 18 |
| DCS8 | 02 | 15 | 65 | 350 | 200 |

Since the sample DCSs are arranged in the ascending order of their milk procurement in the year 2001-02 in each district, it may be seen from Table 2.2 that ***there is no strong relation between milk procurement and the number of milch***

***animals and crossbreed cows possessed by the villagers covered by the sample DCSs. Coverage of area and population differs widely across the sample DCSs.***

## 2.2 Institutional set up for Implementation

The nodal departments for implementing IDDP are Department of Animal Husbandry and Dairy Development Commission, Maharashtra State. The nationalized Banks working in the respective districts and service areas and branches are participating in the scheme along with the above-mentioned Government Departments. The project is being implemented with the existing staff strength of the departments. Departments of animal Husbandry and Dairy Development are both under the same Secretary. The hierarchy in Dairy Development includes Commissioner, Regional Director, District Dairy Development officer and the infrastructure for processing and chilling procured milk. The hierarchy in Animal husbandry includes Commissioner, Regional Joint Directors, Deputy Directors at the district level and veterinary officials at the block and village levels.

## 2.3 Establishment of Dairy Co-operative Societies

The officials at the State and district levels claim that their field functionaries have carried out field surveys in the project areas, convinced the villagers need of co-operation and assessed the financial viability of the DCSs by estimating quantity of milk potential of area. However the estimates of the daily milk production of the villages covered by the sample DCSs at the time of their formation reveals that the marketable surplus of milk in the area and the viability of the DCSs were not taken into account while forming them. Table 2.2 has already shown that the coverage of area and animals is widely different among the sample DCSs. The membership of the sample functional DCSs varied between 25 to 84 around the average of 36. Beneficiary statistics reveal that while 72% of the sample members were persuaded by the village leaders and their neighbors to become members of the DCSs, only 9% were encouraged by government functionaries to become DCS members.

## 2.4 Criteria for Provision/Distribution and Benefits

Districts not covered under Operation Flood and districts of which a considerable portion was not covered under Operation Flood were selected to be covered under IDDP. 5 out of the 6 functional sample DCSs have declared to have got involved in the identification of beneficiaries for input support. Support was extended to non-members of the project areas too. While 33% of the sample members felt that greater benefits were conferred on to those with greater number of cattle, 39% felt that members were covered systematically under IDDP benefits. While 9% of the sample members declared that greater benefits could be appropriated by those with greater intimacy with the officials, another 8% believed that IDDP benefits could be cornered by bribing officials.

## 2.5 Fixation of Prices

The milk prices, fixed by the expert committee appointed by Govt. of Maharashtra and declared on half yearly basis, are to be uniform across the State. There is separate rate for cow milk and Buffalo milk based on percentage of fat and Solids Not Fat (SNF) in the milk. Since cow milk contains lower quantity of fat and consumer do not prefer cow milk, the price given to cow milk is lower compared to buffalo milk. There is no discretion at the district or village level to change the prices. Procurement prices are reported to be fixed as a markup over cost of production.

Despite the prices being differentially fixed for different percentage contents of fat and SNF, all the sample members declared that uniform prices were given to all grades of milk. None of the sample members knew the grade of the milk that they used to sell. All of them received Rs. 8/- per liter of cow milk and Rs.8.50/- per liter of buffalo milk. The average market price declared by sample members was Rs. 11.63/- per liter of cow milk and Rs.15/- per liter of buffalo milk. Testing of milk quality is often not done at the DCS level for simple reasons. For instance, a tool kit was given to DCS5 under IDDP. The buterometer and the centrifugal machine remain idle for want of a pipit worth Rs.20/-. Acid required for milk testing was also not supplied.

## 2.6 Arrangement for Marketing of Milk

The Government milk scheme working under Dairy Development Department processes the milk collected from all the DCSs in the project area. Then it is sold to consumers duly processed and packed through the private traders / service persons in the same districts and surplus milk is sent to adjoining big cities like Nagpur from Akola and to Pune and Mumbai from Ratnagiri. The milk requirement is assessed and planned by Dairy Development commissioner and all district level Milk Collection schemes are directed accordingly. After meeting liquid milk demand of the consumers, surplus milk is converted into various by -products of milk.

## 2.7 Monitoring and Coordination

There is a state level committee to monitor the implementation of IDDP in the State. The committee is constituted with Secretary, Animal Husbandry Department, Government of Maharashtra as Chairman, Commissioner, Dairy Development, Commissioner, Animal Husbandry, Government of Mahahrashta, a representative of Planning Commission, a representative of the Department of Animal Husbandry and Darying, Government of India and a representative of Finance Department, Govt.of Maharashtra as members and Joint Secretary, Dairy Development Dept., Government of Maharashtra as member secretary.

The quarterly Progress Report is supposed to be called from the IDDP Districts and reviewed in the meeting of the State Committee. The meetings of the

State Level Committee are irregular. Quarterly progress reports are not followed up and compiled on regular basis. Only one of the 6 sample DCSs suggested that there was any official monitoring of their functioning. Four of them report to have sent regular reports to the Union. There is weak coordination between Animal Husbandry Department & Dairy Development Department in the implementation of the project. At the district and block levels, the concerned staff meets in formal and informal meetings, reviews the progress of implementation and discusses problems faced if any. But there is wide scope to improve coordination at district level too.

The auditing by the co-operative auditor is reported to be regular. However, there were two sample DCSs for which audit was pending for two years and another couple for which it was pending for a year.

## 2.8 Arrangement for Training

Extension Officers of the implementing departments within the district organize training programmes for DCS secretaries. No training programme is arranged at state level for Extension Officers.

# Chapter 3

## Physical and Financial Realization

This chapter is divided into two sections. Section I discusses the correspondence between physical and financial realization of the scheme at the State and sample district levels. Section II analytically examines the support extended to the members of the sample DCSs under IDDP and its correspondence with achievements reported at the higher levels.

## 3.1 Physical and Financial Realization at the State and District Levels

Some important figures of target and achievement could not be furnished by the State and district level authorities, which constrained the analysis of table 3.1.

**Table 3.1**

**Physical Vs Financial Realization at the State Level in Project I**

| Major components financed under IDDP | Physical | | Financial | |
|---|---|---|---|---|
| | Absolute Target (in lakh) | % Achievement | Absolute Target (in lakh) | % Achievement |
| No. of DCSs established | 714 | 88 | 131.24 | 73 |
| Induction of members | 25000 | 56 | | |
| Milk procurement (LPD) | 120000 | 47 | | |
| Milk marketing (LPD) | 70000 | 37 | 753.69 | 111 |
| Number of bulk coolers established | 19 | 100 | 15.00 | 94 |
| Processing capacity established | 40000(2) | 100 | 449.67 | 118 |
| Processing capacity expanded | 50000 | 100 | 283.02 | 100 |
| Number of CB animals inducted | 7550 | 105 | Not furnished | Not furnished |
| Number of fodder plots | 5220 | 168 | Not furnished | Not furnished |
| Number of fodder mini kits distributed | 3600 | 100 | Not furnished | Not furnished |
| Mobile emergency | NA | NA | 157.51 | 102 |
| Vaccination and medicines | 20000 | 100 | 1.91 | 83 |
| Number of induction training for farmers | 2681 | 100 | 26.81 | 97 |
| Training of dairy personnel/DCS staff | 450 | 135 | 4.5 | 130 |
| Training for AI workers | 558 | 86 | 2.17 | 84 |

The per DCS target for procurement given to the envisaged number of 714 DCSs was 168 LPD (120000/714) which would have constituted a bunch of viable DCSs. However the comparison of achievements made in the creation of DCSs and in milk procurement reveals that the reported milk procurement was only 90 liters per day per DCS (= (120000*0.47)/ (714*0.88). This makes it clear without detailed analysis that many of the DCSs formed under IDDP would be inherently non-viable (assessed on the roughly calculated minimum required procurement of 100 liters a day for a viable DCS). The achievement in marketing is still lower. Shortfall in

achieving targets in the crucial areas of formation of DCSs, induction of members, milk procurement and marketing should be seen against the more or less complete achievements made in the facilitatory support (creation of processing and chilling infrastructure, fodder, vaccination, training, etc) listed in Table 3.1.

**Table 3.2**

**Physical Vs Financial Realization in Sample Districts**

| Major components financed under IDDP | Physical | | Financial | |
|---|---|---|---|---|
| | Absolute Target (in lakh) | % Achievement | Absolute Target (in lakh) | % Achievement |
| Number of DCSs | 100 | 8 | Not furnished | 85 (number) |
| Number of CB animals inducted | 966 | 99 | 2400 | 102 |
| Number of fodder plots | 48 | 154 | 2500 | 273 |
| Number of fodder mini kits distributed | Not furnished | NA | 250 | 30 |
| Vaccination and medicines | 7100 | 124 | 2000 | 100 |
| Number of induction training for farmers | 350 | 94 | 500 | 27 |
| Training of dairy personnel | 30 | Nil | Nil | NA |
| Training for DCS staff | 180 | 36 | Nil | NA |

The failure in the creation of the targeted number of DCSs in Akola speaks, inter alia, of the irrelevance of the top-to-bottom approach in the fixation of targets. Non-availability of consistent figures precludes an exhaustive analysis. The district authorities of Ratnagiri could not correctly furnish the targets and percentage achievements in the formation of DCSs, induction of members and milk procurement and marketing. The physical achievements in Ratnagiri present a mixed picture, with huge numerical achievements in the creation of fodder plots and poor performance in the distribution of mini kits and training of farmers.

## 3.2 Support under IDDP and use of Facilities Declared by Members

Seven milch animals were inducted to the villages covered by the sample DCSs under the subsidy scheme. None of the 32 sample members in Akola received crossbreed animals under the scheme. This should be contradicted with the declaration by the district authorities that 956 milch animals were inducted during Project I itself. The IDDP membership is only 209 in Akola, which menas that all members of all IDDP DCSs could easily have been covered under the scheme. In Ratnagiri where the IDDP membership is 4138, a total of 2448 crossbreed animals were inducted under the subsidy scheme. This means that 59% of the members of IDDP DCSs could have been covered under the scheme. However, only 12.5% of the sample members were covered under the scheme. ***All this would suggest that either the members of non-IDDP DCSs were covered under the scheme at the neglect of members of IDDP DCSs or there are serious problems in the reporting of figures of achievement.*** While in Akola, the subsidy cost of one inducted animal is Rs. 9402/- on an average while the corresponding figure is Rs.6382/- in Ratnagiri.

***The officials of none of the 8 sample DCSs were aware of any other facilities including input support under IDDP to have flown to their members.*** None declared the creation fodder plots or distribution of fodder kits in the villages covered by them. However, the information furnished by the sample members gave a slightly different picture.

**Table 3.3**

**Distribution of sample members who received input support under IDDP**

| District/ DCS | Number of sample members | % Of sample members who got | Finding them useful | % Declaring fodder plots in their village | % Finding them useful | % of sample members who suggested the criteria followed for input support as: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Intimacy with officials | Greater benefits to those with greater | Bribing the fficials | All were covered systematically | Other criteria |
| Akola | 32 | 0 | 0 | 21.9 | 12.5 | 6.25 | 43.8 | 9.4 | 21.9 | 19 |
| Ratnagiri | 32 | 12.5 | 12.5 | 0 | 0 | 12.5 | 21.9 | 6.3 | 56.3 | 3.1 |
| Total | 64 | 6.25 | 6.25 | 10.9 | 6.25 | 9.4 | 32.8 | 7.8 | 39.1 | 10.9 |

Table 3.3 shows that majority of the sample members, especially of Ratnagiri, did not get any benefit from IDDP that could have enhanced the fodder availability to their animals. Ratnagiri falls in the Konkan region of Maharashtra. Konkan is an undulating terrain featured by rivers and ghats. The availability of green fodder is seasonal here. Roughly speaking, June, July, August and September are the months with abundant green fodder. Apart from the low availability of fodder, the deficiency of calcium and phosphorus in soil and grass causes gradual loss in the body balance of the milch animals finally affecting significantly their milk yield and survival. Also, cows are often fed in with paddy straws, which lead to the creation of calcium oxalates in their body in considerable quantities and the gradual diminution of the calcium content of their body. Again, often animals are taken 3-4 Kms for grazing, in which process a lot of calorie is wasted unproductively. ***In Akola 6830 fodder plots were said to be developed during Project II. Since the IDDP membership is only 209, all of them could have been easily covered. But only 22% of the sample members have declared fodder plots in their villages.***

Only very few of the sample members suggested that totally unacceptable criteria like intimacy with officials and bribing them were followed in the distribution of inputs. Analyzing whether giving greater benefits to members with greater number animals is highly contextual.

**Table 3.4**

**Distribution of sample members who availed veterinary services**

| District/ DCS | % of sample members who: | | | | % dissatisfied who gave the prominent reason for dissatisfaction as: | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Availed facility of crossbreeding | Vaccinated milch animals | Found improved veterinary services after start of IDDP | Are dissatisfied with veterinary services | Qualified AH official at distance | Available local mechanisms do not have required | Officials not knowledgeable | Available facilities not offered to poor villagers | Services offered to only those intimate to officials |
| Akola | 34.4 | 71.9 | 65.6 | 37.5 | 12.5 | 3.1 | 9.4 | 6.3 | 3.1 |
| Ratnagiri | 40.6 | 100 | 96.9 | 9.4 | 0 | 3.1 | 6.3 | 0 | 0 |
| Total | 37.5 | 85.9 | 81.3 | 23.5 | 6.3 | 3.1 | 7.5 | 3.1 | 1.6 |

The veterinary services seem to be better organized in the sample DCSs of Ratnagiri than those in Akola. The achievements of Ratnagiri in getting the animals vaccinated are quite commendable. Majority of the sample members have suggested improvements in veterinary services with the advent of IDDP. However, the low-key performance in crossbreeding, which holds the key for productivity growth among milch animals, is discomforting. The proportion of sample members dissatisfied with veterinary services is quite considerable in Akola and they give a dispersed cross section of reasons for their dissatisfaction.

**Table 3.5**

**Provision of benefits according to social category of sample members**

| District/ DCS | % of SC sample members | % of ST sample members | % of OBC sample | % Who received subsidy for induction of new animals: | | % Who availed facility of crossbreeding: | | |
|---|---|---|---|---|---|---|---|---|
| | | | | % of SCs & STs | % of OBCs | % of SCs | % of STs | % of OBCs |
| Akola | 34.4 | 9.4 | 25 | 0 | 0 | 27.3 | 9.1 | 36.4 |
| Ratnagiri | 9.4 | 0 | 25 | 0 | 25 | 0 | 0 | 31.8 |
| Total | 21.9 | 4.7 | 25 | 0 | 25 | 12.5 | 4.2 | 33.3 |

Only 4 of 64 sample members received subsidy for buying crossbreed animals. Only one of them received exactly 50% of the cost of the animals as subsidy. Though none of them reported any problem in obtaining subsidy, it was observed that sometimes the veterinary doctor or other officials insisted purchasing the animals from particular parties, who showed inflated milk yield by adjusting the

timings of milking. The table shows that the 4 sample beneficiaries under the subsidy scheme did not consist of either a SC or ST sample member. One of them was an OBC, while the remaining 3 belonged to forward communities. ***There is no solid evidence to suggest that the weaker sections were discriminated against in the provision of facilities under artificial insemination.***

**Table 3.6**

**Provision of benefits according to the ownership of land**

| District/ DCS | % of landless sample members | % small & marginal farming | % of medium farming sample members | Number who received subsidy for induction of new animals: | | | Number who availed the facility of artificial insemination: | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | % of landless | % Of small and marginal farmers | % of medium farmers | % of landless | % of small and marginal farmers | % of medium farmers |
| Akola | 21.9 | 37.5 | 40.6 | 0 | 0 | 0 | 9.1 | 63.6 | 27.3 |
| Ratnagiri | 6.3 | 53.1 | 40.6 | 25 | 50 | 25 | 7.7 | 69.2 | 23.1 |
| Total | 14.1 | 45.3 | 40.6 | 25 | 50 | 25 | 8.3 | 66.6 | 25 |

The table does not suggest that benefits under subsidy for buying animals and artificial insemination were inclined unduly towards landed sample members.

**Table 3.7**

**Distribution of sample members who underwent training under IDDP**

| District / DCS | % of sample members who underwent training under IDDP | % suggesting the training useful |
|---|---|---|
| Akola | 34 | 34 |
| Ratnagiri | 19 | 19 |

In Akola, it is reported that 329 DCS members were given induction training. The membership of IDDP DCSs is only 209. Naturally all of them should have been trained. However, the percentage of sample members trained is only 34.

# Chapter 4

## Functionality and Viability of Co-Operative Institutions

Functionality and viability of co-operative institutions are inseparable, for, both affect and reinforce each other. Irregular functioning or constant under-utilization of capacity will make a unit unviable. Non-viability will eventually lead to non-functionality and closure. This chapter analyses functionality and viability of the milk co-operative institutions at different tiers. The institutions on focus include milk-processing plants, chilling plants, bulk coolers and the dairy co-operative societies. The chapter has two sections. The section I analyses the functionality and viability of processing and chilling plants. Section II analyses the functionality and viability of sample DCSs.

### 4.1 Viability of Chilling and Processing Plants in the Sample Districts

**Table 4.1**

**Capacity utilization of processing and chilling plants**

| District/ category | Created under IDDP | Number Created under other schemes | Capacity utilization as % of installed capacity | |
|---|---|---|---|---|
| | | | 2001-02 | Latest month available |
| **Akola** | | | | |
| Processing | None | 1 | 67.10 | 10.5 |
| **Ratnagiri** | | | | |
| Chilling | None | 2 | 22.43 | 8.0 |
| Processing | None | 2 | 48.69 | 19.43 |

The average levels of utilization of the installed capacity of processing and chilling plants in Akola and Ratnagiri during the year 2001-02 are enough to show that they did not operate profitably (except perhaps the processing unit of Akola). June is a lean month in milk production and procurement. This notwithstanding, the alarmingly low level of capacity utilization of these units in June 2002 points to their fast dwindling viability. The dairy in the district headquarters of Ratnagiri was established in 1978. This dairy never achieved its full capacity utilization.

### 4.2 Functionality and Viability of IDDP DCSs in the Sample Districts

**Table 4.2:**

**Functionality of DCSs in the sample districts**

| **Akola** | Total Number | Average membership | % Functional |
|---|---|---|---|
| Created before start of IDDP | 218 | 38 | 25 |
| Created under IDDP | 8 | 26 | 38 |
| **Ratnagiri** | | | |
| Created before start of IDDP | 120 | 139 | 72 |
| Created under IDDP | 85 | 49 | 47 |

The membership base of pre-IDDP DCSs is larger than that of IDDP DCSs in both the sample districts. The general levels of functionality of DCSs in the sample districts shown in 4.2 are poor. The fact that in Ratnagiri, the proportion of functional DCSs formed before IDDP is far greater than that of IDDP DCSs indicates that the lives of IDDP DCSs are generally shorter than those of non-IDDP DCSs of the district. Of the 40 IDDP DCSs functional in Ratnagiri, many are seasonally non-functional. Seasonal non-functionality is mainly due to wide seasonal fluctuations in milk production. They go in hibernation during the lean season and get rejuvenated during the flesh season.

### 4.2.1 Reasons for Non-functionality of IDDP DCSs

An observation of the causes of non-functionality of the IDDP DCSs would suggest that, if carefully planned, this dismal scenario could have been avoided.

**1.** Many of the non-functional DCSs were formed under nagging compulsions from political and other pressure groups. Some of them even in their initial stages could procure only a small quantity of milk with which their viable survival could not be possible. Such marginal existence made them function erratically. This was also accompanied by a gradual decline in the milk production in the area. Both these factors reinforced mutually over time, finally leading the running of the DCSs to a halt. In some other cases, DCSs were formed in anticipation of the import of foreign breed or cross breed animals. The import took place in many places. But subsequently, the foreign breeds could not sustain their milk yield and their very lives under adverse alien conditions. Milk production came down steeply; leading finally to the disintegration of the DCSs. DCS 6 selected from Ratnagiri presented the picture of seasonal non-functionality. The DCS is currently non-functional. It collects milk during July-March and remains inactive in the other months.

**2.** The departmental circular lays down four criteria for the formation of a DCS in the Konkan region. A) There should at least be 25 members. b) Each member should have at least one milch animal. c) The DCS should be procuring at least 25 liters of milk every day and d) Women co-operatives be given preference. What could be learnt from the fieldwork in Ratnagiri is that the first three conditions crucially affect the viability of a DCS. The DCSs formed in Ratnagiri may have satisfied the above-mentioned three criteria, but may well be non-viable and non-functional as on date. This is because the insistence on 25 members and 25 LPD cannot at all ensure the viability of a DCS. According to the current rates of commission per liter – 40 pais- a DCS with a procurement of 25 generates a paltry monthly income of Rs.300/-, which will form only a portion of their recurring expenses.

3. Originally, all DCSs are claimed to be formed only in the milk routes. But in the terrain with sparse density of population, DCSs are separated by considerable distance. A couple of milk routes got trimmed because it became uneconomical to procure marginal quantities of milk riding vehicles for very long. Procurement could not be made from some seasonally / marginally functional DCSs. This is said to be one cause for their non-functionality. 4 functional DCSs in Ratnagiri district supply their milk procurement to Kankavalli dairy, which is in the adjacent Sindhudurg district. These DCSs are only 55 Kms from Kankavalli, but 85 Kms from Ratnagiri.

### 4.2.2 Reasons for non-functionality of DCS1

The DCS was formed in 1998 with 35 members. But it got closed before its getting registered. Out of 35, 10 members contributed milk during the last month of its operation, ie, the second month after its formation. All together contributed a monthly quantity of 150 liters, which means 5 liters per day. But the lone village that it covered had a milk production of 150 liters per day when it stopped its operation. Though the DCS officials speak of inadequate number of milch animals in the village and shortage of water for feeding the animals, the primary reason cited for the closure of the DCS is the un-remunerative sale price offered by it vis-à-vis the open market price. There was no communication between government officials and DCS officials after its closure.

### 4.2.3 Reasons for Non-Functionality of DCS5

The DCS was started in 1997-98 with 27 members. It remains closed since October 2000. Immediately after the formation of the DCS in 1997-98, 15 Holstein cows were given to the locals with 50% of their cost as subsidy under IDDP and the remaining 50% as bank loan. During the initial days each cow yielded 12 liters of milk per day. But the yield slowly came down to 2-3 liters. Finally all the cows perished infected with Mastatis. In the unfamiliar conditions and under the ill equipped care of the villagers, their feet got spoilt and finally they perished. The animals died before the recovery of loans. Since the cows were insured, the farmers did not loose any money, but did loose their efforts. The Government of India lost Rs.6000/- each per animal paid as subsidy to farmers.

Apart from the death of animals, the non-co-operation among the members is said to be a reason for the failure of the DCS. The DCS authorities complain that inadequate land to house and graze cattle and low yield of milch animals are the most serious problems faced by the dairy farmers in the village.

### 4.2.4 Viability of Sample Functional DCSs

**Table 4.3**

**Calculations of profits earned by the sample DCSs during 2001-02***

| DCS | Quantity procured in liters | Average daily quantity procured (in liters) | Normative gross profits generated | Wages and salaries | Recurring expenses | Net profits |
|---|---|---|---|---|---|---|
| DCS2 | 9979 | 27 | 3992 | 0 | 3276 | 716 |
| DCS3 | 10242 | 28 | 4097 | 0 | 1602 | 2495 |
| DCS4 | 75997 | 208 | 30399 | 7200 | 13763 | 9436 |
| DCS6 | 10194 | 28 | 4078 | 2601 | 1335 | 142 |
| DCS7 | 20969 | 57 | 8388 | 8400 | 7590 | -7602 |
| DCS8 | 75200 | 206 | 30080 | 9000 | 8075 | 13005 |

Since the correct figures of sales income and payments to members are not available, normative gross profits are calculated by multiplying the quantity of milk procured by each DCs during the year with the normative margin per liter, ie, 40 paise. It may be seen that the net profits generated by the DCSs do not move in proportion to the quantity of milk procured. ***This lends evidence to state that those DCSs which procure less than sustainable quantities of milk survive by underpaying their officials (and perhaps by underpaying their members too, which does not come out clearly for want of correct income and expenditure statements.)*** Assuming the envisaged price margin of 40 paise per litre, only those DCSs that procure 100 LPD of milk can set apart an amount of Rs. 1200/- for wages, salaries and other recurring expenses like rent, electricity charges, DA&TA to the staff, stationery, etc. Considering this, at least 4 of the 6 selected functional DCSs are inherently un-viable. It may be seen that DCS7 with 57 LPD of procurement incurs loss. DCS 4 and DCS8 represent the ideal scenario in which they are able to pay the farmers' and office bearers' due. This is because daily volume of milk transactions is so high as to generate a real surplus even after making the due payments.

# Chapter 5

## Profile of Sample Households

This chapter is divided into 2 sections. Section I presents the relevant details of the sample members while section II introduces sample non-members.

## 5.1 Profile of Sample Members

**Table 5.1**

**Social and Educational Composition of the Sample Members**

| District /DCS | Number of sample members | % Of female sample members | % Of SC sample members | % Of ST sample members | % Of OBC sample members | % of illiterate sample members | % With more than matric education |
|---|---|---|---|---|---|---|---|
| Akola | 32 | 50 | 31.3 | 12.5 | 25 | 15.6 | 40.6 |
| Ratnagiri | 32 | 50 | 9.4 | 0 | 31.3 | 9.4 | 15.6 |

Four out of the eight sample DCSs- two each in each district- were women DCSs and hence 50% of the sample members are females. Akola has a higher proportion of SC&ST sample members than Ratnagiri. Akola again has a combination of higher number of illiterate sample members and a higher number of sample members with more than matric education.

**Table 5.2**

**Occupational Status of Sample Members**

| **District/ DCS** | **% of sample members whose primary occupation is:** | | | | | **% of sample members who are:** | | |
|---|---|---|---|---|---|---|---|---|
| | **Animal husbandry** | **Cultivation** | **Agricultural labour** | **Other labour** | **Petty business** | **Landless** | **Medium farmers** | **Small and marginal farmers** |
| Akola | 12.5 | 50 | 21.9 | 9.9 | 3.1 | 21.9 | 59.4 | 15.6 |
| Ratnagiri | 9.4 | 75 | 3.1 | 0 | 0 | 6.3 | 65.6 | 28.1 |

In Akola sample members are basically cultivators and agricultural labourers. In Ratnagiri, they are predominantly cultivators. Only 7 of the 64 sample members had animal husbandry as their main occupation. None of the sample members was a large farmer, but majority of them were medium farmers (2 to 10 hectares).

**Table 5.3**

**Ownership of cattle according to the ownership of land**

| District/ DCS | % of sample members with only one milch animal | | | % of sample members with 2 to 5 milch animals | | | % of sample members with more than 5 milch animals | | |
|---|---|---|---|---|---|---|---|---|---|
| | Landless | Small and marginal farmers | Medium farmers | Landless | Small & marginal farmers | Medium farmers | Landless | Small & marginal farmers | Medium farmers |
| D1 | 9.4 | 3.1 | 18.8 | 12.5 | 0 | 31.3 | 0 | 0 | 3.1 |
| D2 | 0 | 15.6 | 18.8 | 3.1 | 9.4 | 37.5 | 0 | 0 | 0 |

21.8 % of the sample members of Akola (D1) and 15.6% in Ratnagiri did not have milch animals. The sample of cattle owning members in Akola consisted of 21.9 % of landless people, 3.1% small and marginal farmers and 53.2% medium farmers. The corresponding for Ratnagiri are 3.1% 25% and 56.3%. Majority of the landless and medium farming members had 2-5 milch animals.

## 5.2 Profile of Sample Non-members

**Table 5.4**

**Social profile of the sample non-members with milch animals**

| District/ DCS | Number of sample non-members | Out of sample non-members, the number of: | | | | |
|---|---|---|---|---|---|---|
| | With milch animals | SCs | STs | OBCs | Illiterates | With metric/ more than matric education |
| D1 | 8 | 0 | 0 | 62.5 | 0 | 25 |
| D2 | 8 | 25 | 0 | 12.5 | 0 | 12.5 |
| | Without milch animals | | | | | |
| D1 | 8 | 25 | 12.5 | 50 | 25 | 12.5 |
| D2 | 8 | 12.5 | 0 | 12.5 | 25 | 0 |

SCs and STs formed only a minority of the sample non-members with and without milch animals. There is no significant difference in the social non-mmbers with milch animals and those without milch animals but for the fact that while none of the former is illiterate, 25% of the latter are illiterate.

**Table 5.5**

**Occupational status of the sample non-members**

| District/ DCS | With milch animals | Out of the total sample non-members, the number of: | | | | | |
|---|---|---|---|---|---|---|---|
| | | Whose primary occupation is animal husbandry | Whose primary occupation is Cultivation | Agricultural and other labourers | Landless | Small/ marginal farmers | Medium farmers |
| D1 | 8 | 25 | 75 | 0 | 25 | 0 | 75 |
| D2 | 8 | 0 | 75 | 25 | 62.5 | 25 | 12.5 |
| | Without milch animals | | | | | | |
| D1 | 8 | 0 | 12.5 | 62.5 | 37.5 | 12.5 | 50 |
| D2 | 8 | 0 | 50.0 | 37.5 | 25 | 37.5 | 37.5 |

In Akola, the land possession is visibly better in the case of sample non-members with milch animals than those without milch animals. But, in the case of Ratnagiri, the converse seems to be true. None of them in either district is a large farmer. Majority of the sample non-members with milch animals are cultivators.

**Table 5.6**

**Composition of annual income of the sample non-members**

| District/DCS | No. Of sample non-members | Average Annual Income | % Income from Animal Husbandry | % Agricultural Income |
|---|---|---|---|---|
| | With milch animals | | | |
| D1 | 8 | 19325 | 18 | 79 |
| D2 | 8 | 17588 | 10 | 52 |
| | Without milch animals | | | |
| D1 | 8 | 20313 | Nil | 19 |
| D2 | 8 | 13875 | Nil | 42 |

Though income composition is different, the annual income of the sample non-members with milch animals and without milch animals is not significantly different in Akola. In fact it is marginally greater for the latter category. Annual income is considerably greater for those with milch animals in Ratnagiri. The dependence of non-members with milch animals on agriculture is greater than that of non-members without milch animals in both the districts.

# Chapter 6

## Impact

In line with the objectives laid down for the implementation of Integrated Dairy Development Project, its impact is proposed to be examined on:

- Organised procurement, processing and marketing of milk in the project areas;
- Development of milch cattle;
- Milk production;
- Ensuring remunerative prices to milk producers;
- Generating additional income and employment for milk producers.

To assess the impact of the Project on the beneficiary households, we propose to employ a combination of the available methods of impact evaluation, viz,' before-after' method, 'with-without' method and regression method. This is done partly to overcome the limitations of data and partly to reinforce the findings of the study through triangulation. In the ' before-after approach, the current situation in the project area is compared with that which prevailed prior to the implementation of the project. In the 'with-without' method, households have been analysed in three categories, ie, member households and non-member households in the project areas and non-member households in the non-project areas. Wherever these two methods could not be employed due to data limitations, the regression method has been employed to analyze the inter-household variations, to test specific hypotheses and to derive meaningful conclusions.

Achievements made in procuring, processing and marketing milk in a cost-effective manner are examined elsewhere and hence not discussed in this chapter. Table 6.1 presents the membership base of the project in the sample districts, as this helps in understanding the spread of the impact of the project in these districts, examined only for a limited sample in this chapter.

| Category | Akola | Ratnagiri |
|---|---|---|
| Number created under IDDP | 8 | 85 |
| Number currently functional | 3 | 40 |
| Members inducted into DCSs | 209 | 4138 |

That more than 50% of the IDDP DCSs in both the districts is currently non-functional considerably reduces the effective membership. In the villages covered by

the sample DCSs, it was found that only about 9% and 27% respectively of the households with milch animals could be made members of the DCSs in the villages covered by the sample villages of Akola and Ratnagiri. Low membership base coupled with high mortality rate of the DCSs tends to suggest that the project does not offer adequate incentives to the owners of milch animals to be members and make DCSs viable and sustainable.

Table 6.2 compares the position of the sample members in the possession of milch animals with that of the sample non-members and households selected from the control villages.

**Table 6.2**

**Possession of Animals Averaged for Sample Households**

| | **Average number of milch animals held** | | **Average number of cross breeds held** | |
|---|---|---|---|---|
| | **Akola** | **Ratnagiri** | **Akola** | **Ratnagiri** |
| Members | 1.88 | 1.72 | 0.34 | 0.22 |
| Non-members | 3.25 | 1.75 | 0.13 | 0.00 |
| Households of control villages | 6 | 4 | 0.25 | 0.50 |

Table shows that IDDP has not succeeded in bringing the status of its beneficiary households at least on par with that of the non-member households selected from the project villages and the households selected from the control villages in the possession of milch cattle. Development of milch cattle is the instrument by which milk production can be raised and hence both can together be explained. Table 6.3 compares the per-capita milk yield of selected members, non-members and households of control villages.

**Table 6.3**

**Milk yield averaged for sample households**

| | **Yield per day per household (liters)** | | **Yield per day per yielding animal (liters)** | |
|---|---|---|---|---|
| | **Akola** | **Ratnagiri** | **Akola** | **Ratnagiri** |
| Members | 3.56 | 3.20 | 3.56 | 2.33 |
| Non-members | 10 | 2.44 | 4.71 | 2.17 |
| Households of control villages | 3.88 | 4.25 | 1.41 | 1.42 |

Tables 6.2 and 6.3 together make some interesting reading. **First,** in Akola, per-capita yield of the currently yielding milch animals of the sample members is lower than the sample non-members despite the latter having a greater number of crossbreed cows on an average. Also, despite having a greater number of crossbreeds per capita, the per capita yield of milch animals is lower for the sample households of the control villages than the sample non-members. One is reminded of the widely held argument that the local breed of animals, suited and adapted to the

local conditions, are the best breed for the area given its natural conditions. The field team observed that the crossbreeds held by the sample members were not fed with the required quantum of concentrates and mineral mixture to sustain their productivity levels. Again, after the initial crossbreeding, some of the sample members bred second generation animals with local bulls. The seller of animals many a time fooled the buyer farmers by inflating the milk yield, sometimes in connivance with the veterinary officials. **Second**, in Akola, the daily yield per sample member household is less than half of that of sample non-member households. This not only signifies a good opportunity lost for the DCSs to improve their viability by attracting these potent milk farmers to them, but also that the IDDP failed to elevate the dairying status of its members on par with their non-member counterparts. The average land possession of sample non-members of Akola, all of whom principally agriculturists, was lower than that of the sample members (2.45 hectare and 2.74 hectare respectively). This indicates the failure of the project to attract the highly potent non-members who too were in need of supplementary income.

**Third,** in Ratnagiri, the members fare better than the non-members in terms of milk yield per-household and per-yielding animal. It is seen in Chapter III that while 12.5% of the sample members of Ratnagiri received crossbreed animals under IDDP, none received the same in Akola. Again, a greater percentage of sample members of Ratnagiri utilized the available veterinary services for inseminating and vaccinating their milch animals than those of Akola. While in Akola none of the sample members who declared increase in milch animals during the project period attributed the increase to IDDP, in Ratnagiri 50% of them suggested that the increase in animals was due to IDDP. **Fourth,** as tables 6.2 and 6.3 show, the sample members and non-members of Akola are distinctly better off than their counterparts of Ratnagiri in all the selected parameters. This is partly due to possession of a larger number of crossbreed cows by the sample members of Akola and partly to the greater fodder availability.

Ceteris paribus, table 6.4, following the ' before-after' approach, presents an estimate of the impact of IDDP on the milk production of sample members.

**Table 6.4**

**Milk yield of sample members averaged for sample districts**

| **District** | **Daily milk yield per household** | | Daily milk yield per animal | |
|---|---|---|---|---|
| | Before becoming member | 2001-02 | Before becoming member | 2001-02 |
| Akola | 6.91 | 5.71 | 3.25 | 3.21 |
| Ratnagiri | 3.69 | 3.16 | 2.00 | 1.74 |

**Table 6.4 shows that the average milk production of the sample member households and the productivity of their animals declined in both the sample districts during the project period.** What needs to be explained is the fall in the

yield in both the districts, because one would not have expected a yield propelling impact of IDDP under the low levels of input and other support provided to the members (Chapter III). 53% of the sample members declared that inadequate availability of fodder is the most important problem faced by them in dairying. Not only is the availability of fodder inadequate and seasonal, but it is fast dwindling also. Apart from the low availability of fodder, the deficiency of calcium and phosphorus in soil and grass causes gradual loss in the nutrition balance of the milch animals affecting significantly their milk yield and survival. Also, cows are often fed in with paddy straws, which lead to the creation of excess calcium oxalates and the gradual diminution of the calcium content in their bodies. Again, often animals are taken 3-4 Kms for grazing, in which process a lot of calorie is wasted unproductively. Under IDDP, only 6% of the sample members received fodder kits and 6% received the benefits of useful fodder plots (Chapter III). This would hardly have created any impact on fodder supply.

Given that IDDP failed to increase the milk production of the sample members, the only way it could have increased the household incomes was by providing them remunerative prices. This is examined in Table 6.5.

**Table 6.5**

**Prices of milk received by sample members**

| District | Average price received by sample members from DCSs | Average market price declared by sample members | | Quantity of milk sold in the market as % of marketed surplus |
|---|---|---|---|---|
| | | Cow milk | Buffalo milk | |
| Akola | 8.67 | 12.53 | 16.32 | 51 |
| Ratnagiri | 9.12 | 12.34 | 14.50 | 20 |

Even conceding that the members may have inflated the market prices of milk (to show that their DCS prices are too low in comparison with market prices) and that the market prices reported are lean season prices, it appears that there is an enticing margin that the open market offers over DCS prices. This margin tempts DCS members to divert some quantity to the open market. The incidence of open market sales, as shown in table 6.5, is greater in Akola where the price differentials are greater. The regression equation given below, presents the per liter income from sale of milk to the sample members in the year 2001-02 (Y) as a function of their DCS sales of milk expressed as a percentage of total milk sales (X1).

$$Y = \underset{(47.63)\ (-14.34)}{14.30 - 0.05X1} \qquad df = 48 \qquad R^2 = 0.81 \qquad \text{Equation (I)}$$

The equation suggests that the per liter income from milk sales decreases significantly with an increase in the proportion of milk yield sold in the DCS. This is because the proportion of milk sold in the DCS can be stepped up only by reducing

the proportion of its open market sales, which fetches them higher returns per liter. Hence this result is perfectly consistent with table 6.5.

**Table 6.6**

**Perceptions of members about the impact of the project**

| District | % of members declaring positive externalities in terms of: | | | % of members declaring increased village politics |
|---|---|---|---|---|
| | Greater awareness among non-member farmers | Greater employment in the area | Less role of money lenders | |
| Akola | 19 | 22 | 13 | 25 |
| Ratnagiri | 16 | 16 | 3 | 19 |
| Total | 17 | 19 | 8 | 22 |

The beneficiaries' perceptions about the positive externalities created by the DCSs are not so significant as to make a special mention. 19% of the non-members too endorsed the member perception that the awareness of the non-members about dairying increased with IDDP. This may be in the areas of the need for vaccination, the maintenance of milk quality due to quality checks in the DCSs etc. The following regression examines the otherwise inconceivable emplyment impact of IDDP. The number of man hours spent on dairying by the member households (Y) is regressed on the number of milch animals possessed by them (X1) and DCS sales expressed as a percentage of total yield (X2).

$$Y = 4.14 + 0.013\,X1 + 0.039\,X2 \quad df = 39 \quad \text{Equation (II)}$$
$$(6.65) \quad (1.96) \quad (0.196) \quad R^2 = 0.09$$

The equation indicates that there is no significant relation between the percentage DCS sales of milk and the manhours spent on dairying. While open market sales of milk would mostly mean sale of milk at the doorstep to the private collectors and the neighbouring households, the sale to the DCSs involves taking milk to the DCSs and queuing up there for its delivery. The average distance to be covered by the sample members at one go to the DCS is 1.6 KMs to and fro, and the average time spent by them for the delivery of milk at the DCSs is 8 minutes.

The prominent negative externality declared by the members is the spurt in village politics. 34% of the selected non-members too supported this view. The formation of a good number of DCSs, most of which eventually became non-functional was politically driven.

**Table 6.7**

**Impact of IDDP on the women folk of sample members**

| District | The % of hours spent by women on dairying | % of female sample members | % of sample members who declared the nature of accrual spending of dairy income as: | | | |
|---|---|---|---|---|---|---|
| | | | Whole proceeds accrue to men and are mostly spent unproductively | Proceeds accrue to men and are sent on family requirements | Accrue to men and a portion is given to women for discretionary spending | Accrue partly or fully to women who do dairying |
| D1 | 59 | 50 | 0 | 53 | 25 | 9 |
| D2 | 47 | 50 | 0 | 84 | 9 | 3 |
| Total | 52 | 50 | 0 | 69 | 17 | 6 |

It may be seen from the table that women do as much or greater toil for the upkeep of milch animals. Despite 50% of the sample members being women only 6% of the sample members declared that the income from their DCS sales of milk accrued partly or fully to women. DCS2, DCS4, DCS7 and DCS8 are women DCSs. Only one of the 32 sample members drawn from these DCSs received any income from the sale of milk to the DCSs. This points glaringly towards the failure of women DCSs to act as instruments of entitlement of women in the villages. The only consolation to the women members was that the dairy income that accrued to their men folk was not squandered. (This may not be fully factual, as the response of the women sample members might have been affected by the physical presence of their men during canvassing.)

# Chapter 7

# Persistent Problems in Dairying and Animal Husbandry

The persistent problems in dairying with (in the presence of) IDDP are the problems faced by officials at different tiers in implementing the project and the problems faced by the target group. The problems of control villages are studied with the intention of exploring whether there is any genuine need for establishing DCSs in these areas under IDDP.

## 7.1 Persistent Problems in the IDDP Project Areas

## 7.2 Problems Reported at the State Level

1. The project period was originally for 2-3 years and its extension got delayed due to technical factors. The efficacy of the project is lost partly due to delay in its extension.

2. The internal re-appropriation of sanctioned funds gets delayed because every time State Government must approach Government of India for this. This delays project activities.

3. The isolated efforts of Government functionaries do not succeed in achieving targets. The State department plans to remedy this by involving willing NGOs in tasks like procurement of milk at the DCS level, processing and packaging of milk, transporting milk to processing dairies and market places and other activities like cattle feed manufacturing and distribution, community milk sheds and other veterinary services.

### 7.1.2 Problems Reported at the District Level

The authorities of the Animal Husbandry Deptt suggested that there are many reasons for the low-key efforts at artificial insemination under IDDP (or otherwise) in Ratnagiri district. One suggested reason is the letting loose of the milch animals, especially during the harvesting season. The milch animals are tied up only for 4 months in the year, with the result that for most of the time, animals are not available for crossbreeding. The Deputy director, Animal Husbandry (AH), suggested thorough education to the farmers or even legislation preventing the letting loose of milch animals in this regard. A second reason suggested is that the AH officials (doctors / diploma holders) lack facilities for movement to reach out to the farmers in the terrain separated by ghats and rivers. There is a communication gap between the doctors and the farmers. The range of distance that separates the AH doctors with the farmers is between 5 Kms to 30 Kms. Under such circumstances, it is argued, a phone and a vehicle are an absolute necessity in every

dispensary. Another reason suggested for the poor performance of the AH officials is the meager allocation on AH made to the district.

In Akola it was observed by the field team that in Akola, in many cases, after the initial crossbreeding of the local nondescript cattle stock, the first generation animals are again bred with local bulls. The veterinary doctors say that the villagers do not inform them when animals become heated.

### 7.1.3 Problems Identified at the DCS Level

The fundamental problem faced by the sample DCSs is their inherent non-viability. There are many factors leading to this. The important among them are discussed below.

The incidence of diversion of marketable surplus to open market, which affects the viability of the functional DCSs, is quite considerable among the sample DCSs.

**Table 7.1**

**Composition of milk sales by the sample members**

| Districts/DCSs | Number of sample members of selected functional DCSs | Number who sell milk to their DCS | Number who sold milk to open market | Number who sold milk to DCS and open market | % of marketable surplus sold to the open market |
|---|---|---|---|---|---|
| Akola | 24 | 7 | 8 | 1 | 50% |
| Ratnagiri | 24 | 14 | 3 | 0 | 23% |

It is the enticing margin that open market offers over the DCS prices that cajoles DCS members to sell their milk outside the DCS. Knowing this well, none of the sample DCSs initiated any action against those members who diverted their milk into the market. It may be seen that the incidence of open market sale is markedly higher in Akola than in Ratnagiri. Coincidentally, the average DCS price is lower in Akola (than in Ratngiri) where the open market prices are higher (than in Ratnagiri) (Table 6.5). The table 7.1 shows also that those who are inclined to open market sale of sale generally do not sell any quantity to their DCS.

Village level estimates show that the membership of sample functional DCSs consisted of only 10% and 24% of the total milch animal owning households of the covered villages in Akola and Ratnagiri respectively.

**Table 7.2**

**Reasons given by non-members for not becoming members**

| District/ DCS | Number of sample non-members with milch animals | Average milk yield | Marketable surplus as % of yield | Market sales as % of yield | Number of sample non-members reporting reason for not becoming a member of DCS as: | | |
|---|---|---|---|---|---|---|---|
| | | | | | Price offered by DCS lower than market price | Maintaining milch animal only for self consumption | Facilities offered by DCS not attractive |
| Akola | 8 | 10 | 82 | 82 | 6 | 1 | 1 |
| Ratnagiri | 8 | 2.44 | 59 | 46 | 7 | 1 | 0 |
| Total | 16 | 6.22 | 77 | 75 | 13 | 2 | 1 |

It may be seen that the failure to attract potent non-members is one of the prominent reasons for low procurement of DCSs. In Akola, the average milk yield of selected non-members (10 LPD) is discernibly greater than that of the sample members (7.39 LPD). In Ratnagiri too, the average yield of selected non-members (2.44) is comparable with that of sample members (3.02). The predominant reason for their opting out of the membership of DCSs is the lower milk prices offered by the DCSs. Only DCS4 (from Akola) collected any significant quantity from non-members during May 2002, the latest month for which figures were collected. 94% of the non-members suggested that better procurement price of milk will induce them join the DCS. While 50% suggested that financial assistance for buying additional milch animals would make them become members, only 13% would opt membership for better animal care facilities.

**Table 7.3**

**Continuing problems in dairying for sample members**

| District/ DCS | % Of sample members reporting continuing | % Of sample members reporting continuing problems in terms of : | | | | | |
|---|---|---|---|---|---|---|---|
| | | Inadequate veterinary services | Indifferent attitude of veterinary officials | Inadequate fodder | Persisting with less productive local cows due to | Lack of awareness about maintainin | Un-remunerative DS |
| D1 | 91 | 38 | 28 | 63 | 19 | 3 | 3 |
| **D2** | 97 | 28 | 28 | 44 | 34 | 25 | 34 |
| Total | 94 | 33 | 28 | 53 | 27 | 14 | 19 |

Inadequate availability of fodder has been reported to be the most important problem faced by sample members in dairying. The availability of green fodder is highly seasonal here. Roughly speaking, June, July, August and September are the months with abundant green fodder. Deficiency of calcium and phosphorus in soil and grass causes gradual loss in the body balance of the milch animals. Also, cows are often fed in with paddy straws, which lead to the creation of calcium oxalates in their body in considerable quantities and the gradual diminution of the calcium content of their body. Again, often animals are taken 3-4 Kms for grazing, in which process a lot of calorie is wasted unproductively.

Though 34 and 41 percent of the sample members of Akola and Ratnagiri respectively have declared to have crossbred their milch animals under government schemes, only 31% of sample members in Akola and 16% of Ratnagiri currently own crossbreed animals. 80% of those with crossbreed milch animals have only one crossbreed each, while the remaining 20% own 2 each. A notable proportion of sample members have realized the difficulties in pursuing dairying with local cows.

Although majority of the sample members think themselves to be educated about commercial dairying, a good number of them are found to be incapable of timely heat detection and insemination. In Akola, some villagers are still scared of getting their milch animals vaccinated because they content that the animal may die with vaccination.

Un-remunerative prices offered by DCSs is not an important problem suggested by the sample members of Akola because their milk market is not a captive market to their DCSs and they conveniently divert their surplus to the open market where they fetch remunerative prices.

Apart from all this, 19% of the sample members suggested undue delay in payment of their sales price as a genuine problem in dealing with the DCSs.

## 7.3 Problems of Control Villages (CVs) (Problems without IDDP)

Four control villages were selected for the Study- CV1&CV2 from Akola and CV3 and CV4 from Ratnagiri.

**Table 7.4**

**Availability of milch animals and milk surplus in CVs**

| Sl. No. of NBV | Number Of cows& buffaloes | % of CB Cows | Daily milk Production In liters | Daily Marketable Surplus in liters |
|---|---|---|---|---|
| CV1 | 39 | 8 | 40 | 0 |
| CV2 | 140 | 7 | 165 | 60 |
| CV3 | 65 | 6 | 155 | 60 |
| CV4 | 180 | 4 | 70 | 20 |

Table 7.4 shows that there is ample room for developing milch cattle and milk production in the control villages, which is the first objective of IDDP. However, none of the CVs can mobilise a daily marketable surplus in excess of 100 liters. Considering that at least 100 LPD of procurement is required for the viable functioning of a DCS, none of them can afford to form a viable DCS on its own.

Tables 6.2 and 6.3 (chapter 6) have shown that the dairying profile of the selected CV households is better than that of the selected DCS members in terms of the possession of milch animals and the milk yield per household. Despite this, the productivity of the yielding animals of the selected CV households is very low in

comparison, suggesting the need for increasing the milk of milch animals in the CV areas.

**Table 7.5**

**Socio-economic profile of sample CV households with milch animals**

| District / CVs | Number of sample households with milch animals | Number who belonged to OBCs and forward castes | Number of landless labourers | Number of small and marginal farmers | Number whose main occupation is animal husbandry |
|---|---|---|---|---|---|
| Akola | 4 | 4 | 0 | 1 | 1 |
| Ratnagiri | 4 | 3 | 2 | 0 | 1 |
| Total | 8 | 7 | 2 | 1 | 2 |

Apart from what is shown in the table, it was observed than none of them was illiterate. All in Akola were matriculates or more educated. However, two of them are landless and another two have less than one hectare of land. Two medium farmers, with crossbreed animals, have declared their main occupation as animal husbandry.

**Table 7.6**

**Serious Difficulties Faced in Dairying in the Sample CVs**

| DCS | Is there any serious difficulty Yes (1), No (2) | If Yes, ranks given to the most serious problems faced by members: | | |
|---|---|---|---|---|
| | | Insufficient fodder | Inadequate veterinary services | Insufficient marketing avenues |
| CV1 | 1 | 2 | 1 | |
| CV2 | 1 | 2 | | 1 |
| CV3 | 2 | | | |
| CV4 | 1 | | 1 | |

The local representatives and knowledgeable persons of all CVs barring one have reported serious difficulties in dairying. The most pressing difficulties, as made out from the table, are inadequate veterinary services and insufficient fodder. Utmost importance must be given for the provision of both. CV2, with a marketable surplus of 60LPD has reported that its basic problem is inadequate marketing avenues. Importantly, none reported that un-remunerative prices offered by their buyers, reportedly neighboring non-producing households and private collectors, was a pressing problem. None of the milk-selling sample households complained that the arrangement is exploitative in terms of cheating in measurement or under-pricing or irregular payment. Given all this, none of the CVs required cooperative procurement of milk as such; however they did require improvement in the veterinary facilities including those for artificial insemination and better availability

of fodder. This can be done by strengthening the available public infrastructure for the delivery of services, with the help of resourceful village nodal points.

The following table presents sample households' perception about difficulties in the formation of DCSs in control villages.

**Table 7.7**

**Problems faced in organizing DCS in the sample CVs**

| DCS | Is there any serious difficulty (Yes(1), No(2)) | If yes, ranks given to the most serious problems faced by members: | | |
|---|---|---|---|---|
| | | Village politics | Less than required number of milch animals | Lack of officials efforts |
| 1 | 2 | 3 | | 4 |
| CV1 | 1 | | 1 | |
| CV2 | 2 | | | |
| CV3 | 1 | 1 | 3 | 2 |
| CV4 | 1 | 1 | | |

The biggest problem will be to tide over the problem of divisive village politics, which is reported to have crept into many functional DCSs. The local leaders of CV2 declared that there was no problem in forming the DCSs, but even without it, the farmers go remunerative prices. The field team additionally observed that the villagers are not keen to undertake dairying on a commercial basis, which requires regular and proper attention of animals. It is required to make them change their mindset and develop an inclination towards commercial dairying.

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# Report for the State of Nagaland

# Chapter 1

## Introduction

Kohima District Cooperative Milk Producers' Union Limited (KOMUL) was started in 1985-86 during the second phase of the Operation Flood. Apart from catering to the marketing need of the milk producers, KOMUL has had the added responsibility of making the rural people accept dairying as a commercial activity. Dairying had never been a traditional activity and milk did not constitute a main item in the diet in Nagaland. The withdrawal of the Operation Flood from the entire North Eastern region, on its identification as commercially non-viable, had its effect on KOMUL. KOMUL then requested the NDDB to initiate another project so that it could remain functional. The proposal was approved and KOMUL started operating under IDDP.

The first phase of IDDP in Nagaland, spanning the period 1993-97, covered two districts - the undivided Kohima and Mekakchung. During the second phase (1998-2002) six districts were covered. These included the divided Kohima, Dimapur, Phek, Wokha, Zunhabote and Mon. Thus, except the Tuensang district, all the seven districts have been covered by IDDP in Nagaland. However, the project is concentrated in Dimapur while training and motivational programmes are initiated in other districts.

The budgeted allotment in Phase I was Rs. 668.25 Lakh. However, the state had spent Rs. 678.74 lakh during Phase I. In the second phase of IDDP, the budget allotment was Rs. 347.46 lakh. During the first phase, the allotment was more due to the requirement that an amount of Rs. 515.28 lakh had to be spent on the establishment of the processing plant. As the second phase is still continuing, the detailed expenditure made in this phase is not available.

# Chapter 2

# Planning and Implementation

## 2.1 Coverage

At present, IDDP covers seven out of the eight districts of Nagaland. The only uncovered district is Tuensang. 70 DCSs have been formed under IDDP in the State. In Dimapur district alone 54 DCSs (77% of the total number in the State) have been formed under IDDP.

**Table 2.1**

**Coverage of the sample DCSs**

| DCS | Number of revenue villages covered | Area of revenue villages covered (sq. km) | Total population of all villages covered | % ST population in the villages covered | Number of cows covered | Number of DCS members inducted |
|---|---|---|---|---|---|---|
| DCS1 | 1 | 4.41 | 2103 | 91.82 | NA | NA |
| DCS2 | 1 | 8.40 | 5441 | 98.40 | 300 | 20 |
| DCS3 | 1 | 4.42 | 3353 | 94.04 | 100 | 10 |
| DCS4 | 1 | 2.38 | 1265 | 94.86 | 1000 | 80 |

One DCS covers only one revenue village in Dimapur. The villages, with widely varying population, are predominantly tribal. The coverage of milch animals and membership too are widely different among them. The highest procuring DCS4 stands out in the coverage of members and milch animals.

## 2.2 Institutional Set up for Implementation

Department of Veterinary and Animal Husbandry of Government (V&AH) of Nagaland is the nodal department implementing IDDP in the state. Nagaland State Dairy Cooperative Federation Limited and Kohima District Co-operative Milk Producers' Union Limited (KOMUL) assist the nodal department in project execution. The State level federation has 8 technical personnel to co-ordinate the dairy development activities in the State. KOMUL has the strength of 11 technical personnel (apart from 8 dairy attendants) to promote dairy development in Dimapur. Barring this, it is the infrastructure available with the Veterinary Department (given in table 7.3) that is in place to promote dairying in the State.

## 2.3 Establishment of DCSs

The field staff of the V&AH department is reported to have conducted village wise surveys to identify the potential areas for commercial dairying. Project report was not prepared for each DCS. The production and marketed surplus of milk in the villages covered by the sample DCSs tend to nullify the departmental claim that the quantity of milk that can be procured by each DCS was estimated during their formation. The villages covered by two out of the three functional sample DCSs had only a daily production of 10 liters per day during their formation. 70 DCSs with an average membership of 41 households were formed in the state under IDDP. The minimum membership fixed per DCS is 25. However, two (50%) of the sample DCSs did not satisfy this criterion during their formation. No steps were seen to be made to make the non-functional DCSs functional.

Motivated by KOMUL, the chairman and the secretary were instrumental in the formation of three out of four sample DCSs. In case of one DCS, the officials of KOMUL were directly involved. All of them charged a nominal membership fee (Rs.5/- to Rs.50/-) while only one charged an annual fee on membership renewal. The sample DCSs are not registered. The registration of the DCSs is conditional on a no-objection certificate from the village development board. In all the three sample functional DCSs, the posts of president and Secretary were filled in. Except President, all the office bearers get some honorarium. The secretaries were paid in the range of Rs. 100/- to Rs.1000/- in the sample DCSs.

## 2.4 Fixation of Prices

Milk pricing is reported to be done on the basis of prevailing market rate and trend of cost of production of milk. Flexibility is given to the district milk unions for fixation of procurement and sale prices under IDDP. However, individual DCSs have no freedom in the fixation of their procurement price. The price offered by KOMUL to the DCSs varies between Rs. 9.90 to Rs. 14.58 depending upon FAT and SNF contents.

The sample DCSs pay differentiated prices to their members. It is reported that prices had not been revised since 2000. Every fortnight, DCSs get their payment from the processing plant. 2 out of the 4 sample DCSs deduct some amount per liter from the prices paid to members to meet administrative expenses. KOMUL also makes a standard deduction of 0.08 percent per litre of milk for the technical inputs and other extension services provided to the DCSs by the district union. The DCSs make payments to their members only after receiving their payments from the processing plant.

The field survey reveals that the the milk prices received by sample members varied between Rs. 8 to Rs. 12 per liter of milk. The average market price declared by the sample members, however, is between Rs. 13.50 to Rs. 14.00. Almost all members from DCS 3 and DCS4 declared that price offered by their DCSs are lower than the

cost of production of milk. Despite this, it is the obligation to the DCS, attachment to KOMUL and expectation of some kind of benefits that reportedly restrain them from selling milk to the open market. Not a single member of the sample DCSs reported that they had ever received bonus.

## 2.5 Arrangement for Milk Procurement from DCSs

Milk procured by the DCSs is collected only by the chilling and processing centres. In Dimapur district, only hired vehicles are used to procure milk from the society. KOMUL makes head load service payment to attendants of those DCSs which lift their procured milk to the processing plant, according to the distance of the DCSs from KOMUL and quantity of milk procured by the DCSs.

## 2.6 Arrangement for Marketing

The entire milk procured in each district is marketed by the district milk union. Milk procured from the state is marketed outside the state also. About 40 percent of the milk procured by KOMUL in Dimapur district is marketed outside the district. The district milk union of Dimapur is affiliated to the state federation. In Dimapur district, apart from toned milk, KOMUL also derives other products like curd and lassi. Milk is marketed by both the district union and by its agents. Apart from inadequate transport facilities, customarily low consumption of milk by the people of the district precludes extensive milk marketing.

## 2.7 Monitoring and Coordination

There is a Technical Management Committee (TMC) at the state level to monitor the implementation of IDDP. TMC monitors, without a regular frequency, both physical and financial progress of the project. There is no monitoring committee at the district level. Annually, districts are reported to send their progress reports to the state and to the Ministry of Agriculture, Government of India, on which they do not get any feedback.

The DCSs are not in the habit of keeping the records properly. It was found that among the four sample DCSs, only one has its financial records audited ever. Monitoring of the DCSs is observed to be generally done by the chairman or secretary of the DCSs. Only one DCS was found sending regular progress reports to the district nodal agency.

## 2.8 Arrangement for Training

The NDDB conducts trainings programmes under IDDP at different levels. There is no other training programme organised at the state or district level.

# Chapter 3

## Physical And Financial Realization

The chapter is divided into two sections. Section-I discusses the correspondence between physical and financial realization of the scheme at the State and sample district levels. Section II examines the input and other support extended to the members drawn from the sample DCSs.

## 3.1 Physical and Financial Realization at the State and District Levels

**Table 3.1**

**Physical Vs Financial Realization at the State Level in phase I & II**

| Major Components Financed under IDDP | Physical | | Financial (In Lakhs) | |
|---|---|---|---|---|
| | Absolute Target | % Achievement | Absolute Target | % Achievement |
| No. of DCSs | 80 | 69 | 16.46 | 105 |
| Induction of Members | 3700 | 93 | | |
| Milk Procurement (LPD) | 1441 | 89 | 38.74 | 108 |
| Chilling Capacity Established | Nil | NR | NR | NR |
| Processing Capacity Established | 10000 (1) | 100 | 533.29 | 97 |
| Number of CB Animals inducted | Nil | 90 numbers | NA | NA |
| Number of Fodder Plots | 40 | 88 | 5 | 102 |
| Number of Induction Training for Farmers | 160 | 85 | 5 | 102 |
| Training for Lead Farmers (No.) | 720 | 19 | 2.85 | 99 |
| Training of Dairy Personnel/ DCS Staff | 176 | 59 | 0.35 | 126 |
| Others | Nil | 20 in numbers | 4.76 | 95 |

The Central financial allotment has already been spent completely under phase I. As per the envisaged targets, each of the 80 targeted DCSs was to be constituted by 46 members on an average (3700/80) procuring 18 liters per day (1441/80). A DCS procuring 18 liters a day cannot at all be viable commercially. The figures of achievement show that 55 DCSs formed under IDDP have achieved a procurement of 23 LPD each. Training of all kinds, especially of lead farmers fell short of targets despite expenditure being more or less complete.

Table 3.2
Growth of DCSs in IDDP Districts in the State

| DCSs in all IDDP Districts in the State | Number | % Functional |
|---|---|---|
| Created before start of IDDP | 21 | 90 |
| Created under IDDP | 70 | 86 |
| Revived / taken over by IDDP | 12 | 42 |
| Total number as on 31-3-2002 | 91 | 78 |
| **DCSs in Dimapur** | | |
| Created before start of IDDP | 21 | 90 |
| Created under IDDP | 54 | 100 |
| Total number as on 31-3-2002 | 75 | 97 |

Table 3.2 shows that prior to launching IDDP, Dimapur was the only district with DCSs in Nagaland. It further shows that 54 out of the 70 DCSs (77%) formed under IDDP in the State are formed in Dimapur. The functionality statistics further show that out of the 16 DCSs formed under IDDP outside Dimapur, 10 are non-functional. All the above is to suggest that whatever tangible has been hitherto done under IDDP in Nagaland is highly concentrated in Dimapur, despite 7 out of the 8 districts of Nagaland are reported to be covered under IDDP.

**Table 3.3**

**Growth in Membership of DCS in IDDP districts**

| Membership in the DCSs of all IDDP districts | Membership | As % of total membership |
|---|---|---|
| DCSs Started before start of IDDP | 777 | 21 |
| DCSs Created under IDDP | 2863 | 79 |
| Total Membership | 3640 | 100 |
| Membership in the DCSs of Dimapur | | |
| DCSs Started before start of IDDP | 777 | 25 |
| DCSs Created under IDDP | 2290 | 75 |
| Total Membership | 3067 | 100 |

The table corroborates the pre-eminent position of Dimapur as an IDDP district of Nagaland. Dimapur has about 80% (2290 / 2863*100) of the total IDDP membership in the State.

## 3.2 Supports and Benefits Declared by Sample DCSs and Members

The sample DCSs and their members benefited only sparsely from IDDP. DCS2 and DCS3 received some furniture and a kit of testing equipments from KOMUL. Only in DCS2, infertility camps were organized (2 camps). Crossbreed animals were not inducted to any village covered by the sample DCSs. Vaccination camps were conducted in DCS2 (two camps) and in DCS3 (one camp). One fodder

plot was developed in the village covered by DCS2, which beneficiary member declared to be useful. Two plots were reported from DCS3, which got withered away.

Only the officials of DCS2 and DCS4 felt that animal husbandry services had improved with the introduction of IDDP. None of the functional DCSs was fully satisfied with the AH services. The formost reason given for dissatisfaction was feeling that the facilities were not offered to the poor villagers. DCS3 additionally complained that the available mechanisms in the village did not have the required facilities.

**Table 3.4**

**Distribution of sample members who availed veterinary services**

| % of sample members availed crossbreeding facility | % of sample members vaccinated milch animals under IDDP | % of sample members dissatisfied with AH services | % of sample members suggesting the reason for dissatisfaction as: | | | | |
|---|---|---|---|---|---|---|---|
| | | | No qualified AH official at accessible distance | Locality does not have required facilities | Facilities not offered to poor villagers | Services offered to only those intimate to officials | Others* |
| 37.5 | 8.3 | 100 | 29.2 | 20.8 | 37.5 | 4.2 | 8.3 |

The proportion of sample members who availed veterinary services is not satisfactory. All of them were dissatisfied with the AH services in their localities. Non-availability of qualified officials at an accessible distance, absence of officials with adequate knowledge, non-reach of facilities to the poor villagers and inability to avail of the existing services due to financial stringency (there is a user charge on artificial insemination and vaccination) are the reasons declared by the DCS members for their dissatisfaction.

About 19% sample members underwent training under IDDP, of whom 9% found the training useful. In DCS2, all the officials were trained. The Secretary of DCS4 too got trained. The officials who underwent training found the programmes useful to a limited extent.

## Observations

The physical achievements made in the State under IDDP were made mostly in the Dimapur district. The sample survey reveals that the input and other support extended to the members is not sufficient to create an impact the project in the district.

# Chapter 4

# Viability and Functionality of Co-operative Institutions

The chapter has two sections. Section I analyses the functionality and viability of processing plant of KOMUL. Section II analyses the functionality and viability of sample DCSs.

## 4.1 Functionality and Viability of Chilling and Processing Centers

**Table 4.1**

**Functionality and utilization of chilling and processing capacity in the state**

| IDDP districts | | | | | Capacity utilization as % of installed capacity | |
|---|---|---|---|---|---|---|
| Capacity created under IDDP | | | Capacity created under other schemes | | 2001-02 | Latest month available |
| | Total | % Functional | Total | % Functional | | |
| Chilling & Bulk Cooling | 3 TLPD | Nil | Nil | NR | NR | NR |
| Processing | 11 TLPD | 91 | 2 TLPD | 0 | 40 | 45 |

There is one chilling and two bulk cooling plants in Nagaland. These are created under IDDP and still not functional. Though machinery is already installed, they are still not functional because ancillary services are not completed. The capacity creation at the processing plant of KOMUL is 10 TLPD and it is functional. It is highly difficult for a plant to be viable at a capacity utilization of 40 percent. Table 4.2 further examines this.

**Table 4.2**

**Profit and Loss Account of KOMUL for the Year ended 31st March 2002**

| **Income** | (in Rs. Lakhs) | Components as % of total |
|---|---|---|
| Sales | 191.68 | 98.7 |
| Other income | 2.46 | 1.3 |
| Total Income | 194.14 | 100.0 |
| **Expenditure** | | |
| Cost of materials | 137.56 | 59.5 |
| Manufacturing & Administrative expenses | 46.00 | 19.9 |
| Other expenses | 0.81 | 0.4 |
| Expenses on employees | 19.51 | 8.4 |
| Loss on sale of car | 0.63 | 0.3 |
| Depreciation | 26.80 | 11.6 |
| Total Expenditure | 231.31 | 100.0 |
| **Loss** | | |
| Loss for the year | 37.17 | 29.8 |
| Loss brought forward from the last year | 87.77 | 70.2 |
| Total loss carried to the balance sheet | 124.94 | 100.0 |

Considering that KOMUL was started in1985-86, the loss incurred by it during 2001-02 was quite substantial in comparison with the loss brought forward from yester years. KOMUL has, of late, declared to have lost a large chunk of its liquid milk market due to pulling out of troops from the State. Allegedly due to tightening of measures for enhancing the quality of procured milk, the procurement of milk declined from 11.07 lakh liters in 2000-01 to 10.00 lakh liters in 2001-02. The improvement in the quality of procured milk is said to be evident from the fact that the quantity of total solids received at the plant during 2001-02 was greater than in 2000-01. Assuming that the depreciation and the overhead expenses will remain more or less fixed (or increases less than proportionately with the increase in the quantity of milk handled) the only way to improve the viability of KOMUL is to process and market a greater quantity of milk.

## 4.2 Functionality and viability of sample DCSs

### 4.2.1 Reasons for Non-Functionality of DCS1

The sample non-functional DCS, DCS1, covers the Naga United village, 5 Kms from the Dimapur Headquarters and inhabited by different tribes of Naga community. Before the formation of the DCS in 1998, there were about 5 crossbreed and 25 indigenous cows and 35 buffaloes in the village. However, subsequently, the members of the DCS lost all their crossbreed and some indigenous cows due to an epidemic. In April, 2002 the DCS stopped functioning. Before formation of the DCS, the daily production of milk in the village was 110 liters, which came down to a paltry 10 liters during its closing. There were 25 members during the inception of the DCS, which came down to 5 when it stooped operation. These factors apart, financial constraints to acquire crossbreeds and un-remunerative sale prices were also cited as reasons for stopping the operation of the DCS. While the DCS was functional, its members did not get any assistance under IDDP.

### 4.2.2 Viability of the Sample Functional DCSs

Balance sheets or any systematic records of money flows on account of milk transactions were not available with the sample DCSs.

**Table 4.3**

**Income and expenditure of DCSs**

| Sl. No | Average quantity procured per day (in liters) | Average price declared to be received by sample members (in Rs) | Monthly income from milk sales-monthly payment on milk (at a per liter margin of 58 paise) (in Rs.) | Monthly expenses on wages and salaries (in Rs) |
|---|---|---|---|---|
| DCS2 | 9.4 | 9.38 | 163 | 500 |
| DCS3 | 37.2 | 10.00 | 647 | 300 |
| DCS4 | 291.1 | 9.00 | 5065 | 2000 |

In the absence of any systematic norm, DCSs used to keep a margin, which ranged between 15 paise to Rs.1/- above their procurement price of milk. Evaluated

on the average margin of 58 paise, only the highest procuring sample DCS (DCS4) could have generated a net monthly income of Rs. 1200/-. DCS2, which generates a monthly income of Rs.163/-, cannot afford to pay a monthly wage of Rs.500/- to its employees after scrupulously paying to its members. The Annual Report of the Dimapur District Co-operative Milk Producers' Union Ltd claims that the improvement in the quality of milk procured took the producer member's average price to Rs.10.90 per liter during 2001-02. That the prices declared by the sample beneficiaries are way below the aforesaid price reveals that prices that the DCSs reported to KOMUL to have paid to their members are inflated.

### 4.2.3 DCS 4 –The Highest Procuring IDDP DCS in Dimapur District

DCS4, the highest pouring IDDP DCS in Dimapur district, has certain features that single it out from the other sample DCSs. First, almost all the 85 households in the village possess milch cattle and the DCS could make them all its members. Secondly, when the DCS was formed, it was made obligatory that every member pours his/her whole surplus to it. The sale of milk other than DCS sale is nil among the sample members. Thirdly, the covered village has vast open land suitable for grazing animals. The main occupation of the villagers is agriculture. There are around 1000 cows in the villages, which are mostly indigenous. Fourthly, non-members from the nearby villages contribute a considerable quantity of milk to the DCS. 30 such non-members together contributed more than 1000 liters during the month before the field visit. Nonetheless, there has been a 27% fall in the procurement of milk by the DCS during 2001-02 from the last year. The suggested reasons are the late payment by KOMUL and an alternate remunerative market for milk. Some dissatisfied members have started selling some portion of their milk outside the DCS. The DCS members did not get any benefits under IDDP during the project period. Contrary to other sample DCSs, this DCS gets audited regularly.

## Observations

Interaction with the DCS members reveals that their association with KOMUL is more emotional than commercial. They want to see that KOMUL survives. Commercial and professional orientation is not seen among the DCSs members. Dairying is considered by the members as a secondary source of income, and hence rigorous and persistent efforts are required to make dairying in the area commercially oriented and viable.

# Chapter 5

# Profile of the Sample Households

## 5.1 Profile of Sample Members

**Table 5.1**
**Social and educational composition of the sample members**

| DCS | Total Number of Sample Members | %of Female Sample Members | % Of SC Sample Members | % Of ST Sample Members | % Of Illiterate Sample Members | % With More than Matric Education |
|---|---|---|---|---|---|---|
| Total | 29 | 55.2 | 6.9 | 93.1 | 13.8 | 37.9 |

The non-functional DCS had a total of only 5 members and all of them were included in the sample. (Hence the sample size is 29 instead of 32). 55% of the sample size is women. Sample members were predominantly scheduled tribes. Apart from the good levels of education reflected in the table, it was observed that the sample members of the highest procuring DCS had the least educational accomplishments.

**Table 5.2**

**Economic Composition of Sample Members**

| DCS | % of sample members whose primary occupation is: | | | |
|---|---|---|---|---|
| | Animal husbandry | Cultivation | Agricultural labour | Service |
| Total | 6.9 | 17.2 | 20.7 | 55.2 |

Table 5.2 brings out the prominently non-agrarian character of the dairy farmers covered by the sample DCSs.

**Table 5.3**

**Ownership of Cattle According to the Ownership of Land**

| % of small and marginal farmer sample members | % of medium farmer sample members | % of sample members with only one milch animal | Of them, % share of small and marginal farmers | % of sample members with 2 to 5 milch animals | Of them, % share of small and marginal farmers | % of sample members with more than 5 milch animals | Of them, % share small and marginal farmers |
|---|---|---|---|---|---|---|---|
| 52 | 48 | 24.1 | 100 | 62.1 | 39 | 10.3 | Nil |

The sample size of 29 members was composed only by small and marginal farmers (52%) and medium farmers (48%). One of the sample members from DCS1 did not have milch animals. The table reveals that the number of milch animals

possessed by sample members increases with increase in their size of landholdings. It was also found out from the sample that the average milk yield of a medium farming DCS member (5.50 LPD) was considerably higher than that of a small and marginal farming member (3.27 LPD).

**Table 5.4**

**Month-wise Yield and Utilization of Milk by Sample Members in 2001-02**

| Month | Average milk yield per sample member (liters) | Self consumption as % milk yield | Quantity sold to DCS as % of milk yield | Number of sample members not selling entire surplus to DCS |
|---|---|---|---|---|
| April, 2001 | 218 | 20 | 71 | *8* |
| May, 2001 | 222 | 20 | 71 | *9* |
| June, 2001 | 222 | 20 | 71 | *9* |
| July, 2001 | 223 | 20 | 71 | *10* |
| August, 2001 | 217 | 21 | 71 | *10* |
| September, 2001 | 216 | 21 | 71 | *9* |
| October, 2001 | 231 | 19 | 70 | *11* |
| November, 2001 | 222 | 19 | 66 | *12* |
| December, 2001 | 217 | 20 | 65 | *12* |
| January, 2002 | 218 | 19 | 67 | *12* |
| February, 2002 | 205 | 19 | 67 | *11* |
| March, 2002 | 197 | 20 | 66 | *12* |
| Yearly Average | 217 | 20 | 69 | *10* |

From the monthly variations in milk yield, the seasonality in milk production, which normally gets spilled over to a number of months, does not unfold. There is no vivid seasonality in the self-consumption of milk too. However, in general, it is seen that the inclination for open market sales of milk is slightly greater during November-March 2001-02.

## 5.2 Profile of Sample Non-Members

It was reported that all the households of the village had milch animals and all were members of the DCS in the village covered by DCS4. Hence the sample of non-members with and without milch animals is limited to 6 each.

**Table 5.5**

**Social and Educational Composition of the Sample Non Members**

| Category | Sample Size | % of STs | % of Illiterates | % of those with Matirc or more than Matric Education |
|---|---|---|---|---|
| Sample non-members with milch animals | 6 | 100 | 0 | 66.7 |
| Sample non-members without milch animals | 6 | 100 | 0 | 33.3 |

All sample non-member households belonged to the ST community. None was illiterate. Their educational accomplishments are better than those of sample members (table 5.1 vs table 5.5).

**Table 5.6**

**Principal Occupation of the Sample Non-Members**

| Category | % Of whose primary occupation is: | | | % Who are: | | |
|---|---|---|---|---|---|---|
| | Animal Husbandry | Service | Petty / other Business | Landless | Small or Marginal | Medium Farmers |
| Non-members with milch animals | 16.7 | 66.7 | 16.7 | 16.7 | 66.7 | 16.7 |
| Non-Members without milch Animals | 0 | 83.3 | 16.7 | 0 | 100 | 0 |

There is nothing that markedly differentiates sample non-members with milch animals from those without milch animals in their occupational pattern. None of them reported agriculture as their primary occupation.

**Table 5.7**

**Composition of Annual Income of the Sample Non-Members**

| Category | % Income from animal husbandry | % Agricultural income | % Income from other sources | Average annual income |
|---|---|---|---|---|
| Sample non-members with milch animals | 3 | 16 | 81 | 69950 |
| Sample non-members without milch animals | 2 | 6 | 92 | 84750 |

Table 5.7 confirms the non-agrarian base of the villages covered under the sample DCSs. Most of them are engaged principally in the service sector. This poses a major hurdle in promoting commercial dairying and milk-drinking habits among the original Nagas, who are reported to suffer from health problems for want of a balanced diet.

# Chapter 6

## Impact of IDDP

In line with the objectives laid down for the implementation of IDDP, its impact is proposed to be examined on organised procurement, processing and marketing of milk in the project areas, development of milch cattle and milk production, ensuring remunerative prices to milk producers and generating additional income and employment for milk producers. Achievements made in procuring, processing and marketing milk in a cost-effective manner are examined elsewhere and hence not discussed in this chapter.

To assess the impact of the project on the beneficiary households, we propose to employ a combination of the available methods of impact evaluation, viz,' before-after' method, 'with-without' method and regression method. This is done partly to overcome the limitations of data and partly to reinforce the findings of the study through triangulation. In the ' before-after approach, the current situation in the project area is compared with that which prevailed prior to the implementation of the project. For the 'with-without' method, households are analysed in three categories, ie, member households and non-member households in the project areas and non-member households in the non-project areas. Wherever these two methods could not be employed due to data limitations, the regression method has been applied to analyze the inter-household variations, to test specific hypotheses and to derive meaningful conclusions.

55 DCSs were formed in Dimapur under IDDP, to which 2290 members were inducted. The number of DCSs formed under IDDP in Dimapur constitutes 72% of the total number of DCS formed in the district and 59% of the DCSs formed in the State. The impact of the project, studied for a limited sample here, will have a reasonable spread in the villages covered by the sample DCSs as their membership covered about 46% of the households with milch cattle in these villages. Table 6.1 compares the current position of the sample members in the possession of milch animals with that of the sample non-members and of the households selected from the control villages**.**

**Table 6.1**

**Possession of Animals Averaged for Sample Households**

| **District: Dimapur** | **Average Number of Milch Animals held** | **Average Number of Cross Breeds held** |
|---|---|---|
| Members | 2.38 | 1.41 |
| Non-members | 2.67 | 2.33 |
| Households of control villages | 1.67 | 1.33 |

Table 6.1 shows that the sample members fare better the selected households of the control villages in the possession of milch animals. IDDP, however, could not bring the status in the possession of milch cattle, including that of crossbreed cows, of its beneficiaries at least on par with that of the non-beneficiaries selected from the project villages. None of the sample received subsidy for buying crossbreed animals. It was found out that though about 38% of the sample member households reported increase in the number of milch animals possessed during the project period, none of them attributed this increase to IDDP. Table 6.2 compares the per-capita milk yield of selected members, non-members and households of control villages.

**Table 6.2**

**Milk Yield Averaged for Sample Households**

| District: Dimapur | Yield per day per household (liters) | Yield per day per yielding animal (liters) |
|---|---|---|
| Members | 4.34 | 2.74 |
| Non-members | 6.33 | 4.22 |
| Households of control villages | 3.67 | 2.20 |

The milk yield per household and per milk-yielding animal of members and non-members shows the same pattern as the cattle possession did. The sample non-members selected from the project areas are distinctively better off than the sample members in milk yield. This must be mainly due to the greater possession of milch animals especially of crossbreeds by the sample non-members (table 6.1). Table 6.2 also suggests that the DCSs had failed attract many milk producers of the villages, some of whom were more potent than the members. This must have reduced their viability and ability to pay better milk prices to their members considerably. Lower (than market) prices offered by the DCSs and lack of awareness about the facilities under IDDP were the main reasons suggested by the selected non-members for not becoming member. Table 6.3, ceteris paribus, following the before-after approach, presents an estimate of impact of IDDP on the milk production of the member households.

**Table 6.3**

**Milk Yield of Sample Members**

| **Daily Milk Yield Per Households** | | **Daily Milk Yield per Animal** | |
|---|---|---|---|
| Before becoming member | 2001-02 | Before becoming member | 2001-02 |
| 10.24 | 7.15 | 3.26 | 3.01 |

Table 6.3 shows that the daily milk yield of the sample member households got reduced considerably during the project period. The yield per animal too came down mildly. One important factor that led this is decreasing availability of fodder in the sample villages. Dimapur district had abundant supply of green fodder due to thick forest cover. The size of forest is reported to be dwindling fast due to encroachment by bourgeoning population; so is the number of cows held by individual families, some of which do not have titles to land. The sample survey

reveals that 10% of the milch animals possessed by the sample members were sold off due to non-availability of fodder. While none of the sample members received fodder kits, only 3% of them reported receiving useful fodder plots. The cattle feed processing unit with KOMUL claims to have distributed Rs. 6.00 lakh worth fodder (which comes around 235 Kg per day estimated at the current price of Rs.7/- per Kg), which, given the cattle population, especially of crossbreeds in the district, could have met only a marginal fraction of the demand for concentrates. Besides, the sample members availed the veterinary services only sparingly. While 31% of the sample members attempted crossbreeding their animals, only about 7% of them vaccinated their animals. 25% of the animal deaths occurred with the sample members was reportedly due to lack of effective veterinary services.

Secondary data reveal that there has been an 8% decline in the yield per animal in the State as whole during 1995-96 to 2000-01. Given that the decline in the per animal milch yield among the sample members during the period works out to 7.7%, it can be concluded that IDDP has failed to arrest the declining trend in milk production in the project areas. Whatever happens to milk yield and possession of animals, the final impact of IDDP is envisaged to get translated into a positive income effect. This is tested with the following equation regressing the per litre income from milk sales (Y) on the milk sales to DCS expressed as a percentage of total milk sales.

$$Y = 13.55 - 0.039\,X1 \qquad \text{R square} = 0.57 \quad \text{Equation (1)}$$
$$(23.2) \quad (-5.9) \qquad \text{degree of freedom} = 26$$

The estimated equation suggests that the per litre income from milk sales (Y) decreases significantly with an increase in the percentage milk sales to DCS (X1). Table 6.4, below, explains the equation adequately.

**Table 6.4**

**Average DCS and Market Prices Received by Sample Members**

| Current DCS Price | Current Market Price | Sale in Open market as % of Marketed Surplus |
|---|---|---|
| 9.62 | 14.21 | 28 |

Given the differentials between market and DCS prices, it is clear that price effect of pouring the marketed surplus to DCS rather than to the open market milk on the dairying income of the DCS members is negative. Table 6.4 also suggests that income effect of becoming member of DCS and pouring milk to DCS cannot be correctly assessed by simply examining the change in dairying income of member households during the project period, because shift of market from individual collectors/ neighboring households to DCS was only partial. Table 6.5 attempts to remedy this by assessing both market and DCS sales of milk by sample members in 2001-02 at current DCS prices and their market sales of milk before becoming member at the current market prices.

**Table 6.5**

**Change in milk Sales and Dairying income of Sample Members**

| % Change in Sales | % Change in Sales Income |
|---|---|
| -31.5 | -53.2 |

The sample members of Dimapur experienced a fall in the milk sales and income from milk sales during the project period. This result is consistent with Equation I and table 6.4

**Table 6.6**

**Declared Externalities Aggregated for Sample Members**

| % of members declaring positive externalities | % of members declaring negative externalities | % of members declaring positive externalities in terms of: | | |
|---|---|---|---|---|
| | | Greater awareness among non-member farmers | Greater employment in the area | Less role of money lenders |
| 69 | 3 | 48 | 62 | 3 |

The only instance of negative externality cited is that the rise of dairy movement leads to altercation and brawl over collection of fodder from limited space. None of the sample members declared positive externalities in terms of better village infrastructure and greater milk price due to the advent of DCSs. Greater awareness among the non-member farmers and increased employment opportunities were declared by 14 (48%) and 18 (62%) of them respectively. 33% each of the non-members too have endorsed the above-given member views. It was observed that the activities of KOMUL and the gradual emergence of dairying activity had infused an initial enthusiasm among some of the villagers of Dimapur. However, the fodder constraint has applied breaks on the whole activity. The employment effect of IDDP on members is tested by estimating the equation that expresses the number of man hours spent on dairying by the member household (Y) as a function of the number of milch animals possessed by it (X1), its DCS sales of milk expressed as a percentage of its milk yield (X2), the proportion of yielding animals to the total number of animals held by the household (X3) and the

number of crossbreed cows possessed by it as a percentage of the total number of cows (X4).

$Y = 4.74 + 0.73 X1 - 0.02 X2 - 0.01 X3 - 0.002 X4$ df = 18 Equation (2)

(2.61) (3.63) (-1.85) (-0.80) (-0.39) R square= 0.60

The equation indicates that as the percentage DCS sales increase, the man-hours spent on dairying per day declines. This is consistent with the income effect of percentage DCS sales assessed in equation (1). It is also worth-mentioning that the equation does not suggest any significant relation between the proportion of yielding animals held and the proportion of crossbreed animals held by the member households and the hours spent on dairying suggesting that the members have not attached greater care to those aspects of dairying which entailed such care.

**Table 6.7**

**Impact of dairying on women**

| % of Women Sample Members | % of Hours Spent by Women | % of members who declared the nature of accrual and spending of dairy income as: | | | | |
|---|---|---|---|---|---|---|
| | | Whole income accrue to men and are mostly spent unproductively | Proceeds accrue to men and are spent on family requirements | Accrue to men and a portion is given to women for discretionary spending | Accrue partly or fully to women who do dairying | Other ways |
| 55 | 50 | 0 | 62 | 3 | 24 | 10 |

Despite 55% of the sample members being women and women sharing half of the toil on dairying, only 24% of them could get to handle the proceeds of the dairy income of their households either partially or fully. 62% of the respondents declared that the dairy incomes of the sample households were handled fully by their male folk, despite their women's crucial role in generating these incomes, stands testimony to the failure of the strategy of increasing female membership in IDDP DCSs as an instrument of women entitlement. The response that the proceeds were not spent unproductively could be biased because of the unavoidable presence of the male heads of households during canvassing.

# Chapter VII

## Persistent Problems in Dairying – with and without IDDP

### 7.1 Problems in the Presence of IDDP

Delay in the release of IDDP funds by the State Government to the implementing agency and the lack of milk culture in the State are reported by the officials as the main problems in the implementation of the Project in Nagaland.

### 7.1.2 Problems faced by DCSs

The most important problem faced by the DCSs (excluding the highest procuring sample DCS) is their commercial non-viability. The factors that lead to non-viability include low milk production in the villages covered by the DCSs, diversion of the milk surplus of sample members to open market and the failure to attract potent non-members to them.

**Table 7.1**

**Market Sales of Milk by Sample Members**

| District | Number of functional sample DCS | % Market sales made by sample members |
|---|---|---|
| Dimapur | 3 | 24 |
| Dimapur excluding the highest pouring sample DCS | 2 | 38 |

Higher market prices and late payment by KOMUL have been suggested as the reasons for sale of milk outside the DCSs. The emotional attachment that villagers used to have with KOMUL seems to be eroding gradually. DCSs are facing stiff competition from private vendors who collect milk at a much higher price than the DCS price, adultrate it and sell it at lower prices. Some DCSs are observed to be surviving on ban effected through Gram Panchayat resolutions on the entry of private milk vendors to the covered villages. The highest procuring sample DCS, during its formation, stipulated that all its members would be bound to sell their surplus milk to it and hence the market sales of milk by its members is nil. A considerable number of members of sample DCSs remain permanently non-contributing due to more remunerative price elsewhere, possession of dry cattle, sale of milch animals and the absence of any marketable surplus.

Whereas the sample members have an average milk yield of 4.34 LPD, the non-members selected from the project areas have an average yield of 6.33 LPD. The failure to attract their milk surplus to the DCS is a factor that reinforces the non-viability of the sample DCS. There is no household with milch animals in the village

covered by the highest procuring DCS remaining non-member. This explains, to a large extent, its success in milk procurement. Greater open market prices of milk and ignorance about the support under IDDP were the most important reasons why non-members did not become members.

### 7.1.3 Problems Faced by Sample Members

None of the sample members reported any problem in dealing with the DCS officials. The important problems faced by them in dairying are summarized in table 7.2.

**Table 7.2**

**Continuing Problems in Dairying Faced by Sample Members**

| % of Sample Members Reporting Continuing Problems | % Of Members Reporting Continuing Problems in Terms of: | | | |
|---|---|---|---|---|
| | Inadequate Veterinary Services | Inadequat e Fodder | Owning less productive local cows due to inadequate cross breeding | Un-remunerative Prices offered by the DCS |
| 97 | 38 | 24 | 21 | 14 |

Absence of any qualified AH official at an accessible distance, absence of required facilities in the available local veterinary infrastructure and non-offer of the available facilities to the poor villagers were the reasons reported by the sample members for their dissatisfaction with the veterinary services in their villages. None of the sample members declared that the veterinary services have improved with the inception of IDDP. Table 7.3 gives the veterinary infrastructure available in Nagalad, apart from three veterinary hospitals situated in Dimapur, Kohima and Mekakchung

**Table 7.3**

**Distribution of the Veterinary Infrastructure in Nagaland**

| District | Veterinary Dispensary | Veterinary Outpost | Cattle Breeding Farm | AI Centre | Disease Investigation Centre | Intensive Cattle Development Unit |
|---|---|---|---|---|---|---|
| Dimapur | 0 | 3 | 1 | 0 | 1 | 1 |
| Kohima | 7 | 12 | 1 | 1 | 1 | 0 |
| Mokukchung | 1 | 9 | 1 | 1 | 0 | 0 |
| Tuensang | 9 | 7 | 1 | 1 | 0 | 0 |
| Wokha | 2 | 9 | 0 | 1 | 0 | 0 |
| Zhuneboto | 2 | 13 | 0 | 0 | 0 | 0 |
| Phek | 4 | 6 | 0 | 1 | 0 | 0 |
| Mon | 2 | 5 | 0 | 1 | 0 | 0 |
| Total | 27 | 64 | 4 | 6 | 2 | 1 |

The deficiency of the available veterinary infrastructure in Dimapur, ie, one hospital and three outposts for service delivery, reiterates the members' viewpoint. There are wide inter-district variations in the availability of infrastructure.

Only one sample member suggested getting benefited from fodder plots created in the village. The forest cover of the villages is getting reduced gradually, because of growing encroachment by increasing population.

## 7.2 Problems and Prospects of Control Villages

The field study undertaken in the two randomly selected control villages in Dimapur district- Phevima (CV1) and Razaphe (CV2) - reveals how difficult it will be to develop dairying extensively on a commercial basis in the State.

**Table 7.4**
**Dairying Status of the Control Villages**

| Control village | Number of households | Number of households with milch animals | Daily milk production (liters per day) | Daily marketable surplus (liters per day) |
|---|---|---|---|---|
| CV1 | 150 | 10 | 35 | 25 |
| CV2 | 300 | 1 | 8 | 6 |

With the meager quantity of milk produced in the control villages, formation of viable DCSs (engaged only in milk transactions) can be thought of only after persistent extension and input support to the villagers inducing them to take up dairying on a commercial basis.

**Table 7.5**

**Ranks Given to Difficulties Faced in Dairying in the Control Villages**

| Control village | Insufficient fodder | Inadequate vet. services | Insufficient land to rear milch animals | Lack of awareness about DCS benefits |
|---|---|---|---|---|
| CV1 | 1 | 3 | - | 2 |
| CV2 | 2 | 3 | 1 | - |

There is no veterinary hospital or clinic at an accessible distance from the control villages. Moreover, veterinary specialists are not stationed near to the control villages. Dwindling forest cover of the area got reflected in insufficient fodder and land to rear animals.

Financial constraint is the main reason for the households of control villages not buying additional milch cattle.

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# Report for the State of Orissa

# Chapter I

## Introduction

In Orissa, four milk potent and comparatively developed districts were covered under the Operation Flood scheme. The Integrated Dairy Development Project (IDDP) is implemented in the hilly and backward districts of Orissa, left out from the Operation Flood. In the 1st phase, which spanned from 1994-95 to 1996-97, nine districts (four undivided districts) were covered under IDDP. These districts included Koraput, Rayagada, Nawarangpur, Kalahandi, Nuapada, Bolangir, Sonepur, Phulbani and Boudh. Again, in the 2nd phase, from 1995-96 to 1996-97, four districts (three undivided districts) were additionally covered under the project. These districts included Balasore, Bhadrak, Mayurbhanj and Sundergrh. The 3rd phase, from 1998-99 to 2002-03, covered all the 13 districts covered in the 1st and 2nd phases and additionally one district, Malkangiri. The 4th phase of IDDP was sanctioned in March 2001 for a period of five years to cover the districts of Angul, Jajpur and Ganjam. Thus, out of the total of 30 districts of Orissa, 17 have been hitherto covered under IDDP.

The financial allocation and expenditure under IDDP in Orissa are given in the following table.

(Figures in lakhs)

| Phase | Allocation | Release | Expenditure |
|---|---|---|---|
| 1st phase | 631.00 | 631.00 | 631.00 |
| 2nd phase | 443.21 | 443.21 | 443.21 |
| 3rd phase | 621.84 | 293.83 | 236.98 |
| 4th phase | 784.53 | 94.60 | Not available |
| Total | 2480.58 | 1462.64 | 1311.19 |

The release and expenditure for the third phase were not complete by the time the fieldwork was undertaken. The 4th phase, sanctioned in March 2001 for a period of five years, had only begun at the time of the fieldwork, and, hence the release figures remain incomplete.

# Chapter 2

# Planning And Implementation

## 2.1 Coverage

Orissa has 30 districts, out of which 14 districts were covered under IDDP in three phases of its implementation spanning from 1994-95 to 2002-03. The 4th phase, sanctioned in 2001 to last for a period of 5 years, is being implemented in 3 more districts taking the total coverage of districts under IDDP to seventeen. Four potent districts were covered under Operation Flood. This leaves the districts of Jagatsinghpur, Kendrapara, Gajapati, Keonjhar, Khurda, Nyagarah, Baragarh, and Deogarah not covered under any specialised Central scheme for dairying.

**Table-2.1**

**Coverage under IDDP in the sample districts**

| | Balasore | Koraput |
|---|---|---|
| Total number of DCSs | 52 | 42 |
| Number of DCSs formed under IDDP | 30 | 04 |
| Total number of villages | 2586 | 1915 |
| Number of villages covered under IDDP | 210 | 9 |

It may be derived from the table that in Balasore, though the number of IDDP DCSs are about 58% of the total number of DCSs, its coverage of the villages of the district is only about 8%. In Koraput, the coverage of IDDP is almost inconsequential in terms of the number of DCSs formed and the number of villages covered.

**Table-2.2**

**Coverage by the functional sample DCSs**

| DCS | No. of revenue villages covered | Area covered (in sq. Kms) | Population covered | Number of milch animals covered | Number of members covered |
|---|---|---|---|---|---|
| DCS2 | 9 | 6 | 18375 | 6429 | 43 |
| DCS3 | 14 | 10 | 11070 | 1743 | 54 |
| DCS4 | 8 | 5 | 3387 | 2531 | 52 |
| DCS6 | 3 | 6 | 4865 | 883 | 57 |
| DCS7 | 3 | 7 | 3965 | 1031 | 110 |
| DCS8 | 3 | 10 | 7395 | 3185 | 164 |

The table suggests widely varying patterns in terms of the indicators of coverage taken. It may also be seen that these indicators do not strongly correlate each other. Considering the terrain of Koraput, it is natural that its villages (from DCS5 to DCS8) are bigger than those of Balasore (DCS1 to DCS4). The variations in the number of animals and members covered would crucially affect the milk procurement and viability of the DCSs, which are seen elsewhere.

## 2.2 Institutional Set-up for Implementation of IDDP

Animal Husbandry & Veterinary Service (AH&VS) Department of the Government of Orissa is the nodal department for implementing IDDP in the State. Orissa State Co-operative Milk Producers' Federation Ltd (OMFED) is the other agency involved in the implementation of the scheme. IDDP, wherever departmentally executed, makes use only of existing infrastructure with the AH&VS department at the district, block and Gram Panchayat levels. While Balasore district has a full-time Chief Dairy & Veterinary Officer (CDVO), the Dairy & Veterinary Oficer (SDVO) of Koraput Taluka acts as CDVO of the district. Being in charge of several other offices too, he finds it hard to perform all his duties.

The role of OMFED varies across districts. In the sample district of Balasore, the district milk union (BAMUL) has entered into an agreement on 01-12-1999 with the OMFED for 4 years by which BAMUL would procure good quality of milk from DCSs and supply at the dairy dock while OMFED would process milk in the Renuka Dairy, handed over by BAMUL to OMFED on management basis, and market the processed milk independent of BAMUL. In Koraput, OMFED does not get involved in milk handling. The implementation of the 4$^{th}$ phase of IDDP is wholly vested with OMFED.

## 2.3 Establishment of DCSs

Though officials claimed to have done village surveys to assess milk potentials and examined the financial viability of DCSs before their formation, the field survey revealed that the marketable surplus of the milk in the village had not been taken into account before the formation of the DCS. DCSs are not concentrated only in milk routes.

At the sample DCS level, 4 out of the 6 functional DCSs reported that veterinary surgeons and livestock inspectors were most instrumental in their formation while the remaining two suggested that the strongest influence on them was the village leaders. All the functional DCSs charged a nominal initial membership fee ranging from Rs.10 to Rs.25, but none collected an annual fee on membership renewal. While all the 6 functional sample DCSs have appointed presidents and secretaries, only one DCS has employed a separate tester. Five of them have employed attenders. While the presidents were all honorary, 5 of the 6 secretaries are paid within a range of Rs. 250/- to Rs. 1200/-. The appointed attenders are paid within a range of Rs.100/- to Rs.400/-.

## Criteria for Provision of Benefits

Officials and the sample DCSs declared that the members of weaker social and economic categories were treated on par with others in the provision of benefits and that the facilities under IDDP are made available only to their members.

**Table-2.3**

**Criteria followed for provision of input support under IDDP**

| % of sample members suggesting the criteria followed for input support as: | | | | |
|---|---|---|---|---|
| Sl. Of the DCS | Intimacy with officials | Greater benefits to those more cattle | Bribing the officials | All were covered systematically |
| Balasore | 12.5 | 53.1 | 12.5 | 21.9 |
| Koraput | 37.5 | 25.0 | 9.4 | 28.1 |
| Total | 25.0 | 39.1 | 10.9 | 25.0 |

Table 2.3 shows that a considerable fraction of he sample members felt that greater intimacy with officials or bribing them would help corner input support under IDDP.

## 2.5 Fixation and Payment of Prices

The presence of FAT & SNF in milk is the basic criterion for fixation of price of milk under IDDP. Flexibility is given to districts and to DCSs in the fixation of prices.

The prices paid by the sample functional DCSs of Balasore district ranged from Rs.7.50/- per liter for the worst quality to Rs.8.90/- for the best quality. The prices are paid according to lactometer tests. Buterometer test is not done for want of essential chemicals. The sample functional DCSs of Koraput district could not differentiate between different grades of milk because in two of them the instruments for testing were non-functional while in the third, the essential chemicals for testing were not available. In the first sample functional DCS the price was as low as Rs. 7/- per liter to all its sample members. While the second paid a uniform price of Rs.7.50/- per liter for all its sample members, the highest procuring DCS of Koraput- DCS8- paid a price of Rs.9.70/- per liter for all its sample members.

Five of the six sample functional DCSs collected an administrative charge of 20 pair per liter from the members. Payment to the members was made on a weekly basis in all the sample DCSs.

## 2.6 Arrangement for procurement from DCSs

Milk is procured both in the morning and evening from DCSs by hired / own vehicles of the concerned district milk unions**.**

## 2.7 Arrangements for Marketing

While the respective milk unions market the milk procured in some IDDP districts, it is OMFED that processes and markets milk in the other districts. Milk procured is also marketed outside the State. The district unions in IDDP districts are not affiliated to OMFED. The milk procured by district unions of Balasore, Bhadrak and Mayurbanj is collected by OMFED for processing and marketing. Three milk tankers purchased under IDDP have been handed over to OMFED for lifting milk from different districts**.**

## 2.8 Monitoring and Co-ordinaton

At the state level, there is a Technical Management Committee (TMC) to monitor the implementation of IDDP. This committee consists of the Secretary, Fisheries & Animal Resources Development Department (FARD), Director, Animal Husbandry Department and Deputy Director, Dairy Development. The committee receives quarterly report from the districts. Though it was decided that the committee should meet in every month, due to pressure of work, meeting reportedly is held bimonthly. It submits quarterly progress report to the Ministry of Agriculture, Government of India. For coordination among different departments, the concerned departments were reported to have been consulted while forming the components of IDDP. Regular meetings were reportedly held with these departments.

In Balasore district, the monitoring committee consists of the CDVO, Veterinary Assistants (VAs) and Additional veterinary Surgeons. It sends monthly, quarterly, and annual reports to the State Government. For coordination with other departments the committee claims to hold informal meetings with them. In Koraput district, there is no monitoring committee at district level. There is no mechanism for ensuring coordination between departments nor they get any feedback from the State Government on progress report submitted by the district.

## 2.9 Arrangements for Training

At the State level, there is no specific agency for organising training programmes. The district milk unions except those of Bolangir and Bhadrak have placed their funds with OMFED to conduct different training programmes under IDDP. OMFED imparts training programmes in collaboration with the Animal Husbandry department.

## 2.10 Auditing of DCSs

In four of the six sample functional DCSs, auditing was complete for the year 2000-01 whereas in the remaining two, auditing was over for the year 2001-02.

# Chapter 3

## Physical and Financial Realization

The chapter is divided into two sections. The first section discusses the correspondence between physical and financial realization of the scheme at the State and district levels. The second section analytically examines the support extended to the selected DCSs and its members.

## 3.1 Physical and Financial Realisation at State and District Levels

**Table 3.1**

**Physical Vs Financial Realization at the State Level in phase I & II**

| Major Components Financed under IDDP | Physical | | Financial | |
|---|---|---|---|---|
| | Absolute Target | % Achievement | Absolute Target | % Achievement |
| No. of dairy clusters | 75 | 101 | 75.24 | 100 |
| No. of DCSs | 375 | 106 | | |
| Induction of members | 33000 | 87 | | |
| Milk procurement (LPD) | 20000 | 63 | 30.5 | |
| Chilling capacity established | 28000 (7) | 100 | 386.17 | |
| Processing capacity established | 20000 (2) | 50 | | |
| No. of CB animals inducted | 26060 | 40 | NA | |
| No. of fodder plots | 4647 | 128 | 14.62 | |
| No. of fodder mini kits distributed | 40000 | 75 | 112.4 | |
| No. of artificial insemination (in lakhs) | 5.61 | 20 | 47.80 | |
| No. of LN2 plants | 1 | 0 | 120.57 | |
| Mobile emergency | NA | NA | 32.24 | |
| Vaccination and medicines | NA | NA | 74.30 | |
| Infertility camps (and other extension) | 4500 | 113 | 50.50 | |
| No. of induction training for farmers | NA | NA | 8.60 | |
| Training for lead farmers (No.) | 1900 | 100 | 41.76 | |
| Training of dairy personnel/DCS staff | 716 | 115 | 42.01 | |
| Others | NA | NA | 32.9 | |

The Central funds allotted under IDDP have already been released and spent completely under phase I and phase II. Quantitative targets have been met or transcended in the formation of DCSs, creation of chilling capacity, development of fodder plots and training to all target groups.

The targeted procurement per DCS was 53LPD. Assuming that the per litre margin for a DCS is 40 pais, 53 LPD of procurement yields a monthly net income of Rs. 636/-. The monthly expenditure incurred by sample DCSs on running expenses including wages and salaries during 2001-02 amounted to Rs. 1106/- on an average. This means that the non-viability of some of the DCSs was implanted in their very conception itself. The achieved procurement by the DCSs formed under IDDP works

out to only 32 LPD on an average. This means that a considerable number of DCSs formed in Orissa are inherently non-viable.

**Table 3.2**

**Physical Realization in Sample District**

| Major Components Financed under IDDP | Balasore (Phase II) | | Koraput (Phase I) |
|---|---|---|---|
| | Absolute Target | % Achievement | Absolute achievement |
| No. of dairy clusters | 12 | 100 | |
| No. of DCSs / MPCs | 85 | 62 | 4 |
| Induction of members | 4320 | 71 | |
| Milk procurement (LPD) | 5500 | 82 | 984 |
| Chilling capacity established | 4000 (1) | 100 | |
| Processing capacity established | 10000 (1) | 100 | |
| No. of CB animals inducted | 1550 | 35 | 1649 |
| No. of fodder plots | 350 | 215 | 2127 |
| No. of fodder mini kits distributed | 5400 | 30 | 4040 |
| No. of artificial insemination | 13700 | 94 | |
| Vaccination (in lakhs) (and medicines) | 1.20 | 111 | 3.22 |
| Infertility camps (and other extension) | 350 | 129 | |
| No. of induction training for farmers | 7000 | 11 | 301 |
| Training for lead farmers (No.) | 180 | 67 | 59 |
| Training of dairy personnel / DCS staff | 212 | 13 | 20 |

That the achievement in the formation of DCS was only 62% of the target in Balasore should be seen against the State level statistics that achievements transcended targets (table 3.1). The results shown in artificial insemination and vaccination are noteworthy. Induction of CB animals received only a lower priority than envisaged during implementation. The achievement in training of farmers and officials fell drastically short of targets.

In Koraput, the figures of stipulated targets for most of the items were not made available. That only 4 DCSs were formed under IDDP in the whole district is indicative of the impact that the project could have in the district. Though the achieved procurement was reported to be 984 litres of milk per day, the field survey found out that the three functional DCSs of the district together procured only 525 litres per day during 2001-02, of which 96% was due to the highest procuring DCS.

## Table 3.4

### Number of facilities offered to the sample DCS since inception to 31-03-02

| DCS | Year of inception | Infertility camps | Induction of CB animals | Artificial inseminati on camps | Vaccination camps | Fodder plots | Fodder kits |
|---|---|---|---|---|---|---|---|
| DCS2 | 2000 | 5 | Nil | 1 | 1 | Nil | 2 |
| DCS3 | 1997 | 4 | 1 | 3 | 6 | Nil | 50 |
| DCS4 | 1995 | 4 | Nil | 8 | 3 | Nil | 59 |
| DCS6 | 1994 | 5 | 1 | 2 | 4 | Nil | 1 |
| DCS7 | 1997 | 3 | Nil | 2 | 4 | Nil | 25 |
| DCS8 | 1997 | 6 | 1 | 4 | 3 | Nil | Nil |

Different magnitudes of benefits have flown to the villages covered by the sample functional DCSs of Balasore (DCS2 to DCS4) and Koraput (DCS6 to DCS8). Induction of crossbreed animals was a low-key activity among these DCSs. Fodder plot was developed in none of the villages covered by these DCSs. The distribution of fodder kits shows concentration of benefits to particular DCSs.

The officials of all the 6 sample functional DCSs opined that the Animal Husbandry services in their areas have improved due to IDDP. But none of them except those of DCS6 is satisfied with AH services offered in the area. The foremost problem reported is the absence of the veterinary surgeons (VSs) and livestock officers at an accessible distance. In Balasore and Koraput , at the time of need, the members have to rely on the livestock inspectors who are not qualified enough to handle complicated cases. Even if the veterinary surgeon is available, the required facility is not available for treatment. A few of them complained that the VSs did not know anything about treating animals. Facility for crossbreeding is not available in the veterinary dispensaries.

**Table 3.5**

**Distribution of Sample Members who Availed Veterinary Services**

| District / DCSs | % of sample members who availed crossbreeding facility | % of sample members who vaccinated milch animals | % of sample members suggesting improved veterinary | % satisfied with veterinary services | % of dissatisfied sample members who declared the most important reason for dissatisfaction as: | |
|---|---|---|---|---|---|---|
| | | | | | No qualified AH official at accessible distance | Available mechanisms in the locality do not have required facilities |
| D1 | 53.1 | 68.8 | 65.6 | 53.1 | 15.6 | 21.9 |
| D2 | 90.6 | 100 | 93.8 | 90.6 | 0 | 9.4 |
| Total | 71.9 | 84.4 | 79.7 | 71.9 | 7.8 | 15.6 |

Table 3.5 shows that a greater percentage of the sample members of Koraput compared to that of Balasore availed the facilities of veterinary services under government facilities (not necessarily under IDDP) and suggested that the veterinary services improved in their areas after the launching of IDDP. The suggested reasons for dissatisfaction in the order of importance include the absence of the required facilities in the LI Centre, absence of livestock officials in an accessible distance and the ignorance of the officials.

**Table 3.6**

**Distribution of sample members who received subsidy and input support**

| District / DCS | % of sample members who received subsidy for buying milch animals | % of sample members who got fodder mini kits | % of sample beneficiaries finding them useful | % of sample members declaring fodder plots in their village |
|---|---|---|---|---|
| Balasore | 6.3 | 68.8 | 65.6 | Nil |
| Koraput | 15.6 | 3.1 | 3.1 | Nil |
| Total | 10.9 | 35.9 | 34.4 | Nil |

All the 5 sample members who received subsidy in Koraput are from the highest procuring DCS8. Only 3% received fodder kits in Koraput. This must be contrasted with the secondary data, which say that 4040 fodder kits were distributed in Koraput. That none of the sample members declared fodder plots in their villages must be contrasted with the secondary data, which declared 1221 plots in Balasore and 2127 in Koraput till 2001-2-02 under IDDP. This would mean 23 per each IDDP DCS in Balasore and 504 per each DDP DCS in Koraput.

**Table 3.7**

**Provision of Benefits According to Social Category of Members**

| Number of sample members | % of SC s | % of ST s | % of OBCs | % availed the facility of artificial insemination | | | % who received fodder kits | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | % of SCs | % of STs | % of OBCs | % of SCs | % of STs | % of OBCs |
| 64 | 9 | 3 | 34 | 11 | 4 | 37 | 4 | 4 | 39 |

There is no evidence to say that the weaker sections of the society were discriminated against in the provision of facilities of crossbreeding and fodder kits.

**Table 3.8**

**Provision of Benefits According to the Ownership of Land**

| Number of sample members | % of Landless members | % Small and marginal farmers (S&MF) | % Medium and large farmers | % Who availed the facility of artificial insemination | | | % Who received fodder kits | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | % of Landless members | % S & MFs | % Medium and large farmers | % of Landless members | % Sl & MFs | % Medium and large farmers |
| 64 | 23 | 69 | 8 | 33 | 63 | 4 | 4 | 78 | 17 |

There is no solid evidence to suggest that the landed aristocracy was favoured unduly in the provision of benefits under crossbreeding and fodder kits.

**Table 3.9**

**Distribution of sample members who underwent training under IDDP**

| % of sample members who underwent training under IDDP | % of them, suggesting the training useful |
|---|---|
| 26.6 | 100 |

Only 27% of the sample members under went training under IDDP- induction training or training of lead farmers. Data further suggested that any economic stratum of the society was not unduly precluded from deriving the benefits of training under IDDP.

# Chapter 4

## Viability and Functionality of Cooperative Institutions

The chapter has two sections. Section I briefly examines the functionality and viability of processing and chilling plants. Section II analyses the functionality and viability of sample DCSs.

## 4.1 Functionality and Viability of Processing and Chilling Plants

The infrastructure created under IDDP in Balasore includes a 10000 LPD dairy plant at Remuna, a 4000 LPD chilling plant at Baliapal and 3 bulk coolers. Of the chilling plant and bulk cooling units, 75 per cent are functional. The capacity utilization of the chilling and bulk cooling units was 25.59 per cent in 2001-02 and 25.2 per cent in the latest month. The utilization of the capacity of the processing plant in the latest month is only 10.60 per cent. The profit of the Balasore District Milk Producers Cooperative Union (BAMUL was Rs. 91,506/-during the year 2001-02.

In Koraput the chilling plant has been expanded under IDDP and it is functional. The utilization of the capacity of the chilling plant is 53.5 per cent 2001-02. One bulk-cooer of 500 LPD created under IDDP is functional.

## 4.2 Functionality and Viability of Sample DCSs

### 4.2.1 *Reasons for non-functionality of DCS1*

DCS1 is 25 Kms from the Dairy. This village remained cut off from the main stream for 6 months for want of a bridge across the river Swarna. From the inception of the DCS, a person was entrusted on payment basis to carry the milk in a bicycle to the chilling centre. During rainy season, he had to take a roundabout route involving greater distance. This became unsustainable in course of time. The entrusted person used to mix water with the procured milk, allegedly in connivance with the DCS officials, which reduced the price per liter that the chilling centre paid to them. Secondly, the DCS officials, with deep-rooted political affiliations, are alleged to have misappropriated the money sanctioned for constructing the DCS house with the support of local politicians. Thirdly, the members did not get any tangible benefit from the DCS. The fodder supplied by OMFED was said to be of higher price and lower quality compared to the one available in the market. The fodder kits provided were reported to have been siphoned off by the officials and those who were close to them. Though livestock inspector was available in the village the members had to bank on distant market to avail of the facilities like crossbreeding and vaccination. The disillusionment with un-remunerative prices, inner politics and mal-practices compounded gradually and the DCS, formed in 1997, came to a halt in 2001.

### 4.2.2 *Reasons for Non-Functionality of DCS5*

From the very inception of the DCS, majority of the members had not been contributing milk to it. They sold their surplus milk at a price higher than the DCS price in the open market. They opined that they were forced to become members by the president of the DCS, who had political connections. Reportedly, the officials got the DCS registered with an eye on the managerial subsidy on offer. The chilling plant officials opined that there were two rival factions within the DCSs, and despite their efforts, these groups could not be convinced of the need for its revival. The DCS officials dismissed this claim. It is observed that there is great potential for milk production in the area.

**Table 4.1**

**Procurement by sample non-functional DCSs in last month of operation**

| DCS | Total number of members | Average daily quantity of milk procured (in litre) | Average procurement price per liter |
|---|---|---|---|
| DCS1 | 58 | 9.5 | 7.50 |
| DCS5 | 51 | 3.2 | 8.50 |

From the quantities procured by the DCSs during the last month of their operation, it becomes apparent these DCSs could not have been sustained for long.

### 4.2.3 *Viability of the sample functional DCSs*

**Table 4.2**

**Profits earned by the sample functional DCSs during 2001-02 (in Rs.)**

| DCS | Quantity of milk procured (in liters) | Income from milk sales | Other incomes, grants, IDDP assistance | Payments on milk transactions | Wages, salaries, recurring & other expenses | Net profits |
|---|---|---|---|---|---|---|
| **Balasore** | | | | | | |
| DCS2 | 10800 | 115761 | 3000 | 81648 | 23940* | 13173 |
| DCS3 | 28800 | 249984 | 313 | 234000 | 9595 | 6702 |
| DCS4 | 43200 | 315360 | 585 | 297836 | 12808 | 5301 |
| **Koraput** | | | | | | |
| DCS6 | 1883 | NA | NA | NA | NA | NA |
| DCS7 | 6087 | 54784 | 4933 | 48698 | 4779 | 6240 |
| DCS8 | 183504 | 1856804 | 1050 | 1820797 | 26256 | 10801 |

- Includes Rs. 11000 on capital investment in the DCSs.

The table shows that all the functional DCSs made profits during the year 2001-02 as per their accounts. However, it may be seen that the absolute amount of profits of the DCSs does not move in proportion with their absolute income from milk sales. For example, DCS2, with about 6% of the annual quantity of milk procured of DCS8, generates a greater amount of profit than DCS8. The picture is made clear in table 4.3.

**Table 4.3**

**Profits earned by the sample functional DCSs during 2001-02**

| DCS | Average daily quantity procured (in liters) | Average sales price of milk (Rs. Per liter) | Average procurement price (Rs per liter) | % Margin on procurement price | Profits as % of income from milk sales | Average monthly expenditure on wages and salaries (Rs.) | Average monthly expenditure on recurring & other expenses (Rs) |
|---|---|---|---|---|---|---|---|
| **Balasor** | | | | | | | |
| DCS2 | 30 | 10.72 | 7.56 | 41.8 | 11.38 | 700 | 1295 |
| DCS3 | 79 | 8.68 | 8.13 | 6.8 | 2.68 | 250 | 550 |
| DCS4 | 118 | 7.30 | 6.89 | 6.0 | 1.68 | 750 | 317 |
| **Koraput** | | | | | | | |
| DCS6 | 5 | NA | NA | NA | NA | NA | NA |
| DCS7 | 17 | 9.00 | 8.00 | 12.5 | 11.39 | 150 | 248 |
| DCS8 | 503 | 10.12 | 9.92 | 2.0 | 0.58 | 1600 | 588 |

It may be seen that higher the percentage margin on procurement price of milk, the higher is the percentage profit margin. This lents evidence to state that those DCSs which procure less than sustainable quantities of milk survive by underpaying the farmers. Assuming the envisaged price margin of 40 paise per litre, only those DCSs that procure 100 LPD of milk can set apart an amount of Rs. 1200/- for wages, salaries and other recurring expenses like rent, electricity charges, DA&TA to the staff, stationery, etc. Considering this, 4 out of the 6 selected functional DCSs are inherently un-viable. DCS 8 represents the ideal scenario in which it is able to pay farmers' and its office bearers' s due scrupulously. This is because daily volume of milk transactions is so high as to generate a real surplus even after making the due payments. DCS 2 represents the other extreme where it meets out its own expenditures (wages, salaries, recurring expenses and capital expenditure) reasonably well by grossly underpaying the farmers.

**Table 4.4**

**Division of income from milk sales in the sample DCSs in 2001-02**

| DCS | % Income from sale to chilling/ processing centre | % Income from local sales | % Income from other sales |
|---|---|---|---|
| DCS2 | 74 | 26 | NIL |
| DCS3 | 100 | NIL | NIL |
| DCS4 | 100 | NIL | NIL |
| DCS6 | NA | NA | NA |
| DCS7 | NIL | 44 | 56 |
| DCS8 | 53 | 47 | NIL |

There are only two DCSs- DCS3 and DCS4- selling the whole procured milk to their Milk Union. DCS-7 does not at all contribute its milk to the chilling centre. It sells a portion of its milk in the local market and makes milk products like cheese and curd with the remaining quantity and sells in the market. It is the higher price offered by the local market that lures DCS 8 to sell a considerable portion of the procured milk in the local market. Hence, the milk union, on the whole, misses a substantial quantity of milk for its inability to pay market compatible prices to the DCSs. The State Department has stated that the respective district unions have received only 51% of the procurement made by the DCSs attached to them. Dealing with a lower quantity of milk (than their capacity) affects the viability of the processing and chilling centres.

# Chapter 5

# Profile of Sample Households

This chapter is divided into 2 sections. Section I presents the profile of the sample members while section II introduces sample non-members.

## 5.1 Profile of Sample Members

(D1 is Balasore and D2 is Koraput.)

### Table 5.1

**Social composition of the sample members**

| District / DCS | Number of sample members | % of female sample members | % of SC sample members | % of ST sample members | % of OBC sample members | % of other members |
|---|---|---|---|---|---|---|
| D1 | 32 | 25.00 | 9.38 | 3.13 | 43.75 | 43.75 |
| D2 | 32 | 15.63 | 9.38 | 3.13 | 25.00 | 62.50 |
| Total | 64 | 20.31 | 9.38 | 3.13 | 34.38 | 53.13 |

Koraput has a tribal population of around 51%. But the villages covered under the selected functional DCSs of Koraput together have an ST population of only about 17%. Table 5.1 shows that the ST sample members of Koraput are only 3% of the total sample size of members. These three figures together are indicative of the widely held view that the tribals of Koraput are not yet enabled to develop DCSs on their own, without the support of migrants. The salient reason given is that tribal people have not yet developed regular milk drinking habit. Most of them, including their female folk are used to taking country liquor. Lquor and milk may not go together. But it is alleged by the migrant DCS members that those tribals who have taken subsidy for buying animals do not take care of the animals and that even these animals are employed for agricultural purposes.

### Table 5.2

**Educational Status of sample members**

| District / DCS | % of illiterate sample members | % with more than primary education | % with more than matric education |
|---|---|---|---|
| D1 | 3.13 | 53.13 | 3.13 |
| D2 | 3.13 | 25.00 | 9.38 |
| Total | 3.13 | 39.07 | 6.26 |

In Koraput district the male literacy is 48% and female literacy is 25%. Given this, that the sample consists of only one illiterate member suggests either that the villages in which the DCSs have been established are educationally forward or that the DCSs have not attracted the most disadvantaged of the villagers to them. The proportion of sample members who are mere literates or with primary education is high; they form the majority in Koraput.

## Table 5.3

## Principal occupation of sample members

| District /DCS | % of sample members according to their principal occupation | | | | | | |
|---|---|---|---|---|---|---|---|
| | Animal husbandry | Cultivation | Agricultural & other labour | Petty business | Trade/ business | Service | Others |
| D1 | 15.6 | 59.4 | 6.3 | 0 | 6.3 | 9.4 | 3.1 |
| D2 | 18.8 | 31.3 | 0 | 12.5 | 6.3 | 28.1 | 3.1 |
| Total | 17.2 | 45.3 | 3.1 | 6.3 | 6.3 | 18.8 | 3.1 |

The table shows that 50% out of the 32 sample members of Koraput are away from the agricultural economy of the villages. Even in Balasore, their number surpasses the number of those whose principal occupation is animal husbandry. Though this does not directly contradict any of the project objectives, yet this may indicate the failure of the project to reach down to the most needy of the villages.

Table 5.4

Ownership of cattle according to the ownership of land

| District /DCS | % of sample members with only one milch animal | | | % of sample members with 2 to 5 milch animals | | | % of sample members with more than 5 milch animals | | |
|---|---|---|---|---|---|---|---|---|---|
| | Landless | Small & marginal farmers | Medium farmers | Landless | Small & marginal farmers | Medium & large farmers | Landless | Small and marginal farmers | Medium farmers |
| D1 | 3.1 | 15.6 | 0 | 3.1 | 53.1 | 9.4 | 0 | 6.3 | 3.1 |
| D2 | 3.1 | 9.4 | 0 | 31.3 | 37.5 | 3.1 | 6.3 | 9.4 | 0 |
| Total | 3.1 | 12.5 | 0 | 17.2 | 45.3 | 6.3 | 3.1 | 7.8 | 1.6 |

Table 5.4 reveals that small and marginal farmers and landless households constitute 92% (two of them did not have animals and hence do not figure in here) of the selected sample members. Of this, 67% are purely rural based. (The others are engaged in trade/business and service). Table 5.4 also shows that 73% of them have 2 or more milch animals. This is strongly suggestive of potential for increasing the incomes of the rural poor by stepping up the productivity of milch animals.

**Table 5.5**

**Month-wise yield and utilization of milk by sample members, 2001-02**

| Month | Balasore district | | | Koraput district | | |
|---|---|---|---|---|---|---|
| | Average milk yield (liters) | Self consumption as % milk yield | Quantity sold to DCS as % of milk yield | Average milk yield (liters) | Self consumption as % milk yield | Quantity sold to DCS as % of milk yield |
| April 2001 | 260 | 14 | 55 | 375 | 8 | 76 |
| May 2001 | 249 | 14 | 50 | 375 | 9 | 76 |
| June 2001 | 306 | 11 | 47 | 393 | 9 | 76 |
| July 2001 | 271 | 13 | 55 | 373 | 9 | 75 |
| August 2001 | 269 | 13 | 54 | 366 | 9 | 74 |
| September 2001 | 266 | 13 | 49 | 325 | 10 | 74 |
| October 2001 | 244 | 14 | 50 | 302 | 11 | 70 |
| November 2001 | 246 | 14 | 52 | 301 | 11 | 69 |
| December 2001 | 239 | 13 | 49 | 267 | 11 | 67 |
| January 2002 | 275 | 13 | 54 | 214 | 14 | 60 |
| February 2002 | 245 | 16 | 62 | 227 | 14 | 60 |
| March 2002 | 254 | 15 | 61 | 225 | 14 | 59 |
| Yearly average | 260 | 14 | 53 | 3742 | 10 | 71 |

In Balasore, about 63% (20 out of 32) of the sample members declared to have not poured their entire surplus to the DCSs. All of them declared the reason for this as higher market price of milk. In Koraput 56% (18 of 32) did not pour their entire surplus to the DCSs and 83% (15 of 18) gave their reason as their higher price of milk in the market. While one sample member of Balasore did so because of commitment to neighbours, 3 in Koraput gave the same reason.

## 5.2 Profile of Sample Non-Members

**Table 5.6**

**Social and educational profile of the sample non-members**

| **District/ DCS** | **Number of sample non-members** | **Out of the total sample non-members with milch animals, the % of:** | | | | |
|---|---|---|---|---|---|---|
| | **With milch animals** | **SCs** | **STs** | **OBCs** | **Illiterates** | **With metirc or more than matric education** |
| D1 | 8 | 25 | 0 | 50 | 12.5 | 37.5 |
| D2 | 8 | 12.5 | 62.5 | 0 | 0 | 12.5 |
| | Without milch animals | | | | | |
| D1 | 8 | 12.5 | 25 | 50 | 12.5 | 0 |
| D2 | 8 | 12.5 | 37.5 | 37.5 | 0 | 12.5 |

In Koraput STs constituted only 3% of the sample members (table 5.1) while 62.5% of the sample non-members with milch animals are STs (table 5.8). This confirms that there are a lot of tribals with milch animals yet to be attracted to DCSs in Koraput. The literacy level of non-members is, at least, not lower than that of members.

**Table 5.7**

**Occupational status of the sample non-members**

| Sample non-members | District | Out of the total sample non-members, the % of: | | | | | |
|---|---|---|---|---|---|---|---|
| | | Whose primary occupation is: | | | Landless | Small or marginal farmers | Medium farmers |
| | | Animal husbandry | Cultivation | Agricultural & other labourers | | | |
| With milch animals | D1 | 0 | 37.5 | 25 | 12.5 | 62.5 | 25 |
| | D2 | 0 | 87.5 | 12.5 | 0 | 100 | 0 |
| Without milch animals | D1 | 0 | 50 | 25 | 12.5 | 62.5 | 25 |
| | D2 | 0 | 50 | 25 | 37.5 | 62.5 | 0 |

Whereas about 17% of the sample members declared animal husbandry as their primary occupation (table 5.3), none of the of sample non-members with milch animals declared the same (table 5.7). About 81% of the sample non-members with milch animals are small and marginal farmers while about 63% of the of sample non-members without milch animals are the same.

**Table 5.8**

**Composition of annual income of the sample non-members**

| **Sample non-members** | **District** | **Average annual income (in Rs)** | **% income from animal husbandry** | **% agricultural income** | **% below poverty line** |
|---|---|---|---|---|---|
| With milch animals | D1 | 47650 | 20 | 27 | 25.0 |
| | D2 | 16054 | 19 | 65 | 62.5 |
| Without milch animals | D1 | 52438 | 0 | 56 | 37.5 |
| | D2 | 29750 | 0 | 26 | 12.5 |

The average annual income of the sample non-members is discernibly higher in Balasore than in Koraput. About 63% of the sample non-members with milch animals is below the income poverty line in Koraput, indicating the need for them to get covered under a supplementary income scheme like IDDP. Some of them are extremely poor. The existence of poverty around a high average annual is suggestive of the considerable degree of skew ness in income distribution in the sample villages of Balasore.

# Chapter VI

## Impact of IDDP

In line with the objectives laid down for the implementation of Integrated Dairy Development Project, its impact is proposed to be examined on:

- Organised procurement, processing and marketing of milk in the project areas;
- Development of milch cattle;
- Milk production;
- Ensuring remunerative prices to milk producers;
- Generating additional income and employment for milk producers.

To assess the impact of the project on the beneficiary households, we propose to employ a combination of the available methods of impact evaluation, viz,' before-after' method, 'with-without' method and regression method. This is done partly to overcome the limitations of data and partly to reinforce the findings of the study through triangulation. In the ' before-after approach, the current situation in the project area is compared with that which prevailed prior to the implementation of the project. For the 'with-without' method, households have been analysed in three categories, ie, member households and non-member households in the project areas and non-member households in the non-project areas. Wherever these two methods could not be employed due to data limitations, the regression method has been employed to analyse the inter-household variations, to test specific hypotheses and to derive meaningful conclusions.

Achievements made in procuring, processing and marketing of milk in a cost-effective manner are examined elsewhere and hence not discussed in this chapter. Table 6.1 presents the membership base of the project in the sample districts, as this helps in understanding the spread of the impact of the project these districts, examined only for a limited sample in this chapter.

**Table 6.1**

**Membership base of IDDP DCSs**

| Category | Balasore | Koraput |
|---|---|---|
| Number created under IDDP | 30 | 4 |
| Number currently functional | 17 | 3 |
| Members inducted into DCSs | 897 | 382 |

Considering the number of DCSs formed under IDDP in Koraput, they would be quite inconsequential to the milk production of the district. That about 43% of the DCSs formed under IDDP in Balasore is non-functional considerably reduces the potential impact of the project. Field survey revealed that only about 5% in Balasore and 22% in Koraput of the households with milch animals were members of the DCSs in the villages covered by the sample DCSs. Low membership base and high mortality of DCSs tend to suggest that the scheme does not offer adequate incentives to the owners of milch animals to be members and make DCSs viable and sustainable.

Table 6.2 compares the current situation of the sample members in regard to the possession of milch animals with that of the sample non-members and the households selected from the control villages (CV households). The table singles out DCS8 (K Nagar), which has exceptional figures for the parameters considered.

**Table 6.2**

**Possession of animals averaged for sample households**

| Category | Average number of milch animals held | | | Average number of cross breeds held | | |
|---|---|---|---|---|---|---|
| | Balasore | Koraput | | Balasore | Koaput | |
| Members | 2.84 | Knagar | 4.38 | 1.97 | Knagar | 4.00 |
| | | Others | 3.17 | | Others | 1.17 |
| | | Total | 3.53 | | Total | 1.88 |
| Non-members | 2.38 | | 2.75 | 1.50 | | 0.25 |
| CV households | 1.00 | | 2.50 | 0.00 | | 0.50 |

Table 6.2 shows that the members are better off than non-members and households of control villages in the possession of milch animals. This information alone cannot conclude on the impact of IDDP since this gives only a snapshot picture and does not take into account the base figures for members. It may be seen that if the figures for DCS8, formed in Kolabnagar (Knagar) are taken out, then the remaining picture of Koraput looks less attractive.

**Table 6.3**

**Milk yield averaged for sample households**

| **Category** | **Yield per day per household (liters)** | | **Yield per day per yielding animal (liters)** | |
|---|---|---|---|---|
| | **Balasore** | **Koraput** | **Balasore** | **Koraput** |
| Members | 9.13 | 9.28 | 5.73 | 5.60 |
| Non-members | 8.88 | 3.00 | 5.46 | 1.41 |
| CV households | 0.75 | 3.50 | 1.50 | 2.33 |

While the position of the DCS members of Balasore is marginally better than that of their non-member counterparts in per capita milk yield, the members of Koraput are way ahead of non-members in this respect. This too cannot establish a positive impact of IDDP, because it is quite possible that the bigger milk farmers of the villages might have joined the DCSs. Yet, it is highly contextual to examine whether the incentives provided under IDDP were capable of creating an impact on its beneficiaries. Only 11% of the members (6% in Balasore and 16% in Koraput) received subsidy for buying crossbreed animals. 36% of the sample members (69% in Balasore and 3% in Koraput) received fodder kits, most of whom found them useful. None of the members reported to have received benefits of fodder plots under the scheme. Table 6.4 examines, ceteris paribus, whether these inputs actually led to an improvement in the milk yield of the DCS members.

**Table 6.4**

**Milk yield of sample members**

| **District** | | **Daily milk yield per household** | | **Daily milk yield per animal** | |
|---|---|---|---|---|---|
| | | **Before becoming member** | **2001-02** | **Before becoming member** | **2001-02** |
| Balasore | | 8.34 | 9.71 | 3.10 | 3.41 |
| Koraput | Kolabnagar | 13.25 | 23.77 | 7.57 | 5.43 |
| | Others | 4.71 | 3.67 | 2.05 | 1.16 |
| | Total | 6.84 | 8.70 | 3.17 | 2.47 |

The daily milk yield per household and per animal increased among the members of Balasore during the project period, suggesting the possibility of some incentive effect of IDDP on the milk production of the member households of Balasore. While the milk yield per household increased in Koraput too, the productivity of milch animals declined during the period. Again, when the figures for Kolabnagar DCS are taken out, then the change in the milk yield, both per household and per milch animal, becomes negative. Whatever happens to milk yield and possession of animals, the final impact of IDDP is envisaged to get translated into a positive income effect. This is tested with the following equation regressing the per litre income from milk sales (Y) on the milk sales to DCS expressed as a percentage of total milk sales (X1).

$$Y = 12.59 - 0.0044\ X1 \qquad R^2 = 0.60$$
$$(51.9)\quad (-9.6) \qquad df = 62$$

The estimated equation suggests that the per litre income from milk sales (Y) decreases significantly with an increase in the percentage milk sales to DCS (X1). Table 6.5, below, explains the equation adequately.

**Table 6.5**

**Milk prices received by sample members**

| District | DCS price | Market price of cow milk | Market price of buffalo milk | Open market sale as % of marketed surplus |
|---|---|---|---|---|
| Balasore | 8.32 | 12.84 | 13.43 | 49 |
| Koraput | 9.10 | 11.84 | 12.84 | 28 |

The table shows that it is the large margin of market price above the DCS price that creates the negative income effect of percentage DCS sales of milk. In Balasore where the price margin is more pronounced, a greater percentage of the marketed surplus is sold to the open market. Table 6.5 also suggests that income effect of becoming member of DCS and pouring milk to DCS cannot be correctly assessed by simply examining the change in dairying income of member households during the project period, because shift of market from individual collectors/ neighboring households to DCS was only partial. Table 6.6 attempts to remedy this by assessing both market and DCS sales of milk in 2001-02 by sample members at current DCS prices and their market sales of milk before becoming member at the current market prices.

**Table 6.6**

**Change in milk sales and dairying income of sample members**

| District | % Change in sales | % Change in sales income |
|---|---|---|
| Balasore | 26.6 | -18.9 |
| Koraput-DCS8 | -23.2 | -52.4 |
| Koraput | 53.2 | 19.6 |
| DCS8 | 135.6 | 110.6 |

First, selected DCS members of Balasore had an increase in their milk sales during the project period; but this increase failed to translate itself into a positive income effect, because the current market prices of milk are very much higher than the DCS prices. Second, Koraput, barring the highest procuring DCS8, experienced a fall in the milk sales and income from milk sales during the project period. Third, the sample members from DCS8, which prospered under the continuous care of the local veterinary officials, had a boost in their quantity of milk sold and the income derived therefrom during the project period.

**Table 6.7**

**Impact of dairying on women**

| District/ DCS | % of time spent by women on dairying | % of female sample members | % of members who declared the nature of accrual and spending of dairy income as: | | | |
|---|---|---|---|---|---|---|
| | | | Whole proceeds accrue to men and are mostly spent unproductively | Accrue to men and are spent on family requirements | Accrue to men and a portion is given to women for discretionary spending | Accrue partly or fully to women who do dairying |
| Balasore | 50 | 25 | 0 | 91 | 0 | 0 |
| Koraput | 59 | 15.6 | 0 | 84 | 13 | 3 |
| Total | 54 | 20.3 | 0 | 88 | 6 | 1.6 |

The table reveals that though women do more work than their men on dairying, only less than 8% (6+1.6) of them get to handle the income derived there from. However, it was almost unanimously declared that the proceeds from milk sales are spent on household purposes. (The presence of men while canvassing the relevant block might have affected this result). In Balasore it was observed that in women DCSs too, men controlled every activity. It was they who attended the training programmes in place of the women members.

**Table 6.8**

**Declared externalities aggregated for sample members**

| District/ DCS | % of members declaring positive externalities | % of sample members declaring positive externalities in terms of: | | | | % Declaring Increased village politics |
|---|---|---|---|---|---|---|
| | | Greater milk price | Greater awareness among non-member farmers | Greater employment in the area | Less role of money lenders | |
| D1 | 47 | 6 | 9 | 25 | 13 | 75 |
| D2 | 38 | 19 | 6 | 13 | 13 | 91 |
| Total | 42 | 13 | 8 | 19 | 13 | 83 |

The percentage of members who have declared the presence of negative externalities in their villages in terms of increased village politics on account of the functioning of the DCSs is almost double the percentage declaring positive externalities. Even DCS8, which exhibited exemplary features in many respects, has a court case pending between the present and earlier officials of the DCS.

## DCS8 singled out

The DCS 8, formed in Kolabnagar village of Koraput district in 1997 currently has the highest throughput of milk per day (503 liters) among the DCSs selected

from the three sample states. The village, 20Kms away from Koraput headquarters, is surrendered by dense forest and mountains and inhabited mostly by the lower grade employees of the Upper Kolab Dam project. This DCS, among all sample DCSs, could attract the highest percentage of milch farmers of the villages covered. It has the highest number of members, the highest number of contributing members, the highest percentage of female membership, highest education level among the members and highest satisfaction level among the members. Among all sample DCSs of Orissa, DCS8 paid the best prices to its members and the best salaries to its employees. All the selected members were landless. Despite this, the village covered by this DCS witnessed the highest growth of crossbreed animals among all the sample DCSs, challenging the notion that the possession of a minimum of agricultural land that ensures the required forage to the crossbreeds is essential for the growth of crossbreeds. (However, table 7.4 shows that the productivity of milch animals of the members came down during the project period.) The required forage is collected from the surrounding forest, which at least has created an enabling environment. However, the biggest factor that made the achievements possible is the constant involvement of the veterinary doctor of the village right from its formation. This speaks of the need for co-ordination between the Animal Husbandry and Dairy Development Departments in the formation and nurturing of DCSs.

# Chapter 7

# Persistent Problems in Dairying with and without IDDP

The persistent problems in dairying with (in the presence of) IDDP are the problems faced by officials at different tiers in implementing the programme and the problems faced by the target group. The problems of control villages are studied with the intention of exploring whether there is any genuine need for establishing DCSs in these areas under IDDP.

## 7.1 Persistent Problems in Dairying in the Project Areas

### **7.1.1** *Problems faced by the District Unions*

OMFED is only a recent entrant into the arena of marketing of milk. It faces stiff competition from private dairies that market low-priced low-quality milk. Ever since the Remuna Dairy of **Balasore** was handed over by the Animal Husbandry Department to OMFED on a management basis, with the responsibility of processing and marketing of milk, there has been a tussle between the two. AH officials complain that it is due to the un-remunerative milk prices given by OMFED that farmers are diverting their milk to the open market. But the OMFED officials opine that there was a huge grant under IDDP, which has now dried up and that the farmers get lower prices because their milk is of low quality.

The Managing committee of **Koraput** Milk Union has been dissolved. The management in-charge of the Union has the charge of some other offices too. The union does not have any plant operator or any other technical staff to operate the plant. The plant is managed by the existing departmental staff. There is a demand for milk products and packed milk in Koraput. Since the union does not have a procuring / preserving unit, procured milk is sold without packing and processing. The incomplete state of the processing plant testifies that IDDP activity is locked in bureaucratic tangles. The plant and equipments have been purchased. Civil work was partially complete by February 2002. The infrastructure is remaining idle because of the misunderstanding between the Block Development Officer and the Union officials. Another problem is that the low consumption of milk by the original tribes of the district reduces milk output, procurement and marketing.

### 7.1.2 *Problems faced by the DCSs*

The fundamental problem faced by the sample DCSs except the highest procuring Kolabnagar DCS is their non-viability, caused mainly by the non-contribution of milk by a large proportion of their members, sale of significant quantities of milk outside the DCS by the producer members and the failure to attract potent non-members to the DCSs. 52% of the total membership of the sample functional DCSs is found to be permanently non-contributing. Again, only 38% of the members contributed milk to the DCSs during the month of their maximum

procurement. The main reason for non- contribution was the lure of higher market prices. The other reasons included possession of non-milk-yielding cattle, sale of milch animals, conflict with other members and the absence of marketable surplus.

**Table 7.1**

**Market sale of milk by sample members of functional sample DCSs**

| DCS | Number of functional sample DCSs | % of marketed surplus of sample members sold outside DCS |
|---|---|---|
| Balasore | 3 | 47 |
| Koraput | 3 | 23 |
| Koraput without Kolabnagar DCS | 2 | 92 |

Market sale was mainly due to enticing market prices and partly to commitment to neighbours. Private vendors normally collect milk at a much higher price than the DCS price, adulterate it and sell it at a price lower than the price of the of the government dairies. Sample DCSs did not take action against the market sale of milk. Open market sales have an enormous opportunity cost, considering the fact that most of the functional DCSs are inherently non-viable. Apart from the low milk price paid by the district milk union, the non co-operation by the Union officials was also suggested as a problem faced by 5 of the 8 sample DCSs.

**Table 7.2**

**Distribution of problems faced by sample members**

| District | % of sample members declaring the problems faced by them as: | | | | |
|---|---|---|---|---|---|
| | Low DCS Price of milk | Lack of Veterinary Services | Absence of facilities for AI | Absence of facility for transporting milk | Lack/ high price of fodder |
| Balasore | 22 | 28 | 31 | 25 | 56 |
| Koraput | 47 | 16 | 47 | 25 | 44 |
| Total | 34.5 | 22 | 39 | 25 | 50 |

Insufficient veterinary services, including facilities for crossbreeding and limited access to fodder have been the most important problems faced by sample members in dairying. Low DCS price is not seen as an overwhelming problem by the sample members because, most of them, at will, diverted their milk to open market. Absence of facility for transporting milk signifies failure of milk route designs.

### 7.1.4 *Problems of Non-Members*

The prominent reasons given by the sample non-members with milch animals for not becoming DCS members included lack of awareness about the benefits from DCSs (given by 38%), un-remunerative DCS prices of milk (25%) and unattractive DCS facilities (19%). 94% of non-members with milch animals were interested in

becoming members. They suggested that facilities like provision of assistance for buying milch animals (63% of them), offer of higher procurement price (25% of them) and better animal care services (6% of them) would induce them becoming members. 69% of the 16 sample non-members without milch animals were interested in buying milch animals. However, 50% of them were constrained by financial problems and three of them did not have adequate land to rear cattle.

## 7.2 Problems of Control Villages (Problems without IDDP)

**Table 7.3**

**Availability of milch animals and milk surplus in CVs**

| Sl. No. of CV | Number of milch animals (Cows+Buffaloes) | % of CB Cows | Daily milk Production In letters | Daily Marketable Surplus in liters |
|---|---|---|---|---|
| CV 1 | 241 | 4 | 81 | 53 |
| CV 2 | 345 | 6 | 200 | 110 |
| CV 3 | 126 | 6 | 60 | 40 |
| CV 4 | 205 | 14 | 100 | 75 |

Four contol villages (CVs) were selected for the Study- CV1&CV2 from Balasore and CV3 and CV4 from Koraput. Only one CV can mobilise a daily marketable surplus in excess of 100 liters. Considering that at least 100 LPD of procurement is required for the viable functioning of a DCS (with milk procurement as the sole activity), only one of them can afford to form a viable DCS on its own. Otherwise, as in the case of the sample DCSs, a number of villages may join together and form a viable DCS.

That there is ample room for developing milch cattle and milk production is seen from table 7.3. Besides, the sample survey revealed that only one of the 8 sample households with milch animals had crossbreed animals. The milk yield per sample member was 9.13 and 9.28 respectively in Balalore and Koraput, while these figures for CV households stood at 0.75 and 3.5 respectively in Balasore and Koraput. They required additional income because all of them belonged to the small and marginal farmer category. 7 out of the 8 were cultivators or agricultural labourers.

**Table 7.4**
**Serious difficulties faced in dairying in the sample CVs**

| DCS | Ranks given to the most serious problems faced by NBVs: | | | | | |
|---|---|---|---|---|---|---|
| | Insufficient fodder | Inadequate veterinary services | Insufficient land among poor to rear cattle | Unremunerative milk price | Insufficient marketing avenues | Poverty of villagers |
| CV1 | 2 | 1 | | | | 3 |
| CV2 | 1 | 4 | 3 | 5 | 2 | 6 |
| CV3 | | 1 | | 2 | 3 | |
| CV4 | 2 | 1 | 5 | 3 | 4 | 6 |

The most pressing difficulties reported by the CVs are inadequate veterinary services and insufficient fodder. Dissatisfaction with the veterinary services was because of the non-availability of officials of Animal Husbandry Department in their villages. The market prices received by the CV households ranged between Rs. 10/- to Rs. 12/- per liter of cow milk. These are far greater than DCS prices. In the current situation, none of the sample households suggested exploitation in terms of cheating in measurement, under-pricing and irregular payment. The collection of milk was made at the residence itself. Given all this, perhaps barring CV2, which has a considerable marketable surplus, none of the CVs required co-operative milk procurement as such; however they did require improvement in the veterinary facilities and greater availability of fodder. IDDP, while getting extended, needs to be strategized to satiate these requirements.

**Table 7.5**
**Ranks given to problems faced in organizing DCS in the sample CVs**

| | Village politics | Lack of official efforts | Lack of knowledge about the benefits from DCS |
|---|---|---|---|
| CV1 | 3 | 1 | 2 |
| CV2 | 3 | 2 | 1 |
| CV3 | 2 | 3 | 1 |
| CV4 | 1 | 2 | 3 |

The biggest problem will be to evolve mechanisms to diffuse divisive village politics in the make-up of the newly formed DCSs. Often, factional tendencies get built into the constitution of the DCSs, which lead to their disintegration.