

Improved Market Access and Smallholder Dairy Farmer Participation

for Sustainable Dairy Development

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Session 1 Paper: Emerging Changes in the Indian Dairy Industry

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1. Indian Dairy Industry is at cross roads. An industry strongly which has strongly been dominated by the government sector and working in co-operative mode is going to face keen competition from private sector in procurement and marketing of dairy products in the coming years. Dairy co-ops performed well in some states, example, AMUL co-operative in Gujarat. But in many states, these institutions are weak representative of farmer interest. The functioning is more of a parastatal with strong interference of the government. Further, private companies coming in take co-op price as a bench market for farmer milk price. In this situation, weak co-ops competing with private sector may severely affect farmer interest. In this situation, the key questions are: *What is the policy direction in this times of rapid change? Which models better service the interests of the farmers? Livestock health and breeding services have also been the domain of government departments. Explore scope to bring institutional plurality to this area?*

2. Overview of the Indian dairy Sector: Production and Productivity

India is the largest milk producer in the world, with milk production at 100 million MT. Value of output was Rs. 1179 billion (2004 -05) (Almost equal to the combined output of paddy and wheat!!). The country also has 1/5th of the world bovine population. Of the milch animals (45% indigenous cattle, 55 % buffaloes, and 10% cross bred cows). Milk productivity per animal is very low at, around 1000 kg/lactation (world average 2038 kg/lactation). Low genetic potential, poor nutrition and lack of services key factors for low productivity. Different regions in India are at a different level of progress in the dairy industry. Punjab and Maharashtra can be considered as well developed states in the area of dairy. Tamil Nadu, Andhra Pradesh, fall in the category of states with average progress, while, the states of Bihar, Orissa and most NE states fall in the category of less developed areas.

3. Tremendous Growth through Operation Flood

During the period of 1950s and 60s milk production in the country was stagnant. Major changes in the dairy policy were brought through Operation Flood which was initiated in the 1970s. The key objectives were: i) Linking-up rural producers with the urban consumers through pricing, procurement, processing and marketing and ii) Large public investment in milk processing sector (chilling plants, milk processing and product manufacturing plants) through cooperatives. Growth rate of agriculture is stagnant, below 2%, livestock sector growth rate is more than 4.5%. The biggest impact of these changes was on rural nutrition, employment, income, women empowerment.

4. Dairy and Livelihoods (*Pro-poor impact*)

Dairying in India is a small farmer activity. Small and marginal farmers own 33 % of land (<2 hectares), and about 60% of female cattle and buffaloes (pro-poor impact). 75 % of HH own cattle. Average size of ownership is 2-4. Dairying is a part of the farming system. Feed is mostly residual from crops (paddy straw, ground nut straw) and is an important input into farming. Dairying gives regular income to the farmer throughout the year, crop income is seasonal – risk minimization (suicides). Dairying activity comprises about 1/3rd of the rural incomes. Further, livestock is a security – asset to be sold in times of crisis. Needless to say Livestock is the key to inclusive growth.

5. Marketing

15 % of marketable surplus goes through organized sector, where as the rest goes through traditional unorganized sector, which until recently was only the co-operatives. The AMUL model of Gujarat was replicated in all states of the country with NDDDB as the lead agency. The co-operative is a 3 Tier structure - Village society, district unions federated at state level. Model adopted with some variations in different states and governance and management was with government. Because of heavy government interference and weak democracy at the village level, co-operatives have achieved limited success in various states.

6. Regulatory Environment

Dairy sector was de-licensed in 1991. However, some controls were re-installed through Milk and Milk Products Order 1992. These included: Specification of collection areas/milk sheds and fixing processing capacity. With revised MMPO in 2002, almost all controls stand withdrawn. Evidently, because of government control, until recently, co-operatives did not have any competition from the private sector. After liberalization, private sector investment in dairying has increased considerably. To strengthen co-operatives in the face of private competition, MACS Act was passed in 1995 with the objective of minimizing government interference and strengthening democratic societies at the village level. Finally, the MACS societies do not have to follow prices set by the Co-operative.

7. Livestock Inputs and Services

Agriculture is a state policy in India. Department of Livestock is with the Ministry of Agriculture. Department of livestock has a network of veterinarians providing livestock veterinary services. These services were fully subsidized by the government. However, due to

financial constraints, partial cost recovery has now been initiated in several states. Efforts to enhance coverage through paravets and community based animal health workers (CAHW). Co-operatives are also involved in feed distribution at subsidized rate to the member farmers.

8. *Future Potential*

Dairy demand is income elastic. With increasing incomes and increase in population, the dairy industry is likely to have a high growth rate in the coming years. This growth presents huge opportunities to enhance farmer incomes from dairy enterprise. In this situation it is important to assess the critical weaknesses in the dairy value chain.

9. Critical Issues in Inputs

- **Breeding:** Large majority of indigenous cattle (45% indigenous cattle, 55 % buffaloes, and 10% cross bred cows). Efforts have been undertaken to enhance breeding facilities through the National Cattle and Buffalo Breeding Program. However, the performance is far from satisfactory. Only small percent is covered by AI, rest is dependent on natural breeding; Performance of AI is not up to mark.
- **Health/Extension:** State veterinary departments are the key players. They have well qualified technical manpower but lack financial resources. NGOs, private veterinarians, and paravets are the other key players. Partial or full cost recovery has been started in many states. This has enhanced the reach as well as the quality of services. Regions with high producing dairy animals, willingness to pay for the services and private veterinary services flourishing. Extension services have been severely lacking. Lack of information about good feeding practices does not enable farmers to capitalize on potential
- **Feed :** Availability, quality and cost of feed is an issue. 70% of arable land is dry or rain-fed with erratic rainfall - poor productivity of cereal grains and low output of dry fodder. Availability of land for fodder grass, is an important issue as farmers prefer to plant high value crops in the scarce land. Subsidized feed is available through co-ops, but quality and affordability are issues.
- **Credit:** Farmers have highlighted lack of access to credit as a major factor in enhancing dairy activity. Access to institutional credit is very poor. Credit through informal channel is very high loan rate, and results in exploitation of farmer through lower milk prices

10. *Critical Issues: Production*

Dairying is a part of the farming system. Farmers have 2-4 animals on average, thus milk production is scattered throughout the country. Milk productivity is very low, because of poor genetic resources, low affordability of feed as well as poor feeding practices. Farmer has low interest in dairying at times when crops are good. Far flung areas do not have access to health and breeding services.

11. *Critical Issues: Marketing*

Two major channels for marketing are organized channel which has mostly been the co-operative and the traditional channel where traders procure milk from rural areas and sell in urban areas. Milk prices are set by the co-operatives. A typical phenomenon in India is that Fat content in milk is very valued. This leads to prices for cow milk. Farmer price is Rs. 11 for cow milk and Rs. 14 for buffalo milk (0.25 USD & 0.35 USD) (1 liter bottle of water costs Rs. 12). Premium on fat content hence buffalo milk fetches higher price, cow milk pricing based on total solids. The trader as well as the emerging private usually pay a small amount higher than the co-operative price (co-op price is the benchmark). In a large part of the country, there are no testing facilities at the village level. Quality of milk is also an issue, and the bacterial load is high as the time taken to take the reach the bulk cooling/chilling center. There are ongoing government efforts to enhance “clean milk production” by improving practices and providing subsidies and loans to develop this infrastructure.

12. Critical Issues: Competitive Environment

So far co-operatives have not had much competition from the private sector. In recent years, private sector activity is increasing. In this situation, it is important to strengthen co-operatives to compete with the private sector. Regulatory changes in the co-operative sector through MACS and formation of “Producers company”.

- Key features of MACS (Mutually Aided Co-operative Societies)
 - Two tier, village level and union level, no state federation
 - No government control in administration
 - Democracy at the village and union level
 - Freedom in setting prices
 - Accountability and ownership at the village/union level
 - Strong governance and internal audit system
 - More freedom to village level societies (more than 1 soc/village)

13. Comparative Analysis of three value chains

Andhra Pradesh state in South India is a leader in dairy activity and has experimented with various new models for dairy. It was the first state to introduce the MACS Act. Also, the private sector in this state is very active. Of the three chains chosen for analysis, two are in Andhra Pradesh and the third is a state co-operative from a lagging region. First is a large private sector dairy, second is an MACS society in AP, instituted in 1998.

14. Background of the Private Dairy:

The Dairy is Head Quartered in Andhra Pradesh. The company was initiated in 1992 after MMPO permitted private dairies and is now traded on the stock exchange. Daily milk collection is about 7 lakh liters per day. Collects milk from 1,50,000 households, and 3500 villages in three states, though the major operations are in AP. The company is now serving 3 main metros with fresh milk – Hyderabad, Chennai and Bangalore, and is now ready to enter Mumbai.

15. Business model of Private Dairy

The company procures milk through agents in the village. Thus, how much milk an agent can procure depends on the personal relations of the agent with the villagers. Also, several villages have more than one agent, depending on the social structure as well. The company is not directly involved with the farmers. Agents collect milk from the villagers and give to the company. The company has negotiated price with agent, but is not involved with what price the agent gives the farmers. The price that he pays the farmers is slightly above co-op price in the state. Agent often times gives loans to farmers to maintain loyalty. Many times, the agent in the village is competing with agents of other private companies for milk procurement. Further, employees are previous dairy co-op employees who have enormous experience in this area. Collection areas depend on milk density and areas in which district co-op is less active and access to markets to make the logistics efficient.

16. MACS Society in Andhra Pradesh

Dairy activities started in the district started in 1971. This district union has now delinked with state Federation and changed to MACS society in 1998, following the inception of MACS Act, 1995. The union is currently collecting milk from 650 villages in the district. Milk collection is 60,000 liters per day, likely to go up to 1,00,000 in the coming 2-3 years.

17. Business Model of MACS

As per MACS norms this is a 2 tier operation at the village level and district level. Village level is managed by village society, district level by BOD. Both of these societies are run by members elected every year. The village level society itself is registered as a separate MACS society and has the freedom to use its own profits. 10% of sales allowed at the village level to earn higher profits.

18. State Co-operative

The state co-operative is an apex level Dairy Cooperative Society registered under Cooperative Society Act – 1962. Currently, milk procurement is from 12 district unions. About 3,22,000 liters per day is collected from 3800 village societies and 2,24,000 farmers. Currently, there is not much competition with private sector in the area.

19. Comparative Analysis of the three Value Chains – Input supply

In the *Private Dairy*, there is no provision for input supply except for loans given to farmers sometimes. *MACS Society* provides breeding and health services through tie up with NGO/state dept. They manufacture quality feed and supply to farmers at subsidized rates. They are also involved in organizing thrift and credit co-operative for credit for animal purchase. Finally, medicines available at cost/Farmer meetings for extension. In the *State Co-operative*, feed available at subsidized rate through village society while Breeding and health services through state dept. There is no facility for loans, however, medicines are available at cost, though adequate supply is a problem.

20. Comparative Analysis of the three Value Chains – Production

At the farmer level, there is not much difference between the three models, because there is not much extension activities carried out by any of the three agencies to significantly affect production practices. As an hypothesis, it is possible that in the MACS society because of extension and availability of feed may be using higher feed as compared to crop residue which is not very nutritious. However, a closer look at the data is needed to confirm this.

21. Comparative Analysis of the three Value Chains – Milk Purchase from farmer

In the ***Private Dairy***, milk purchase is done through the agent, who decides what price he will give the farmer. This is usually decided based on competition with agents of other companies and the declared co-op price. Testing is done in very few cases, that is also not transparent. This has implications for farmer confidence in the prices received. In the ***MACS society*** milk collection is done through Village MACS society, which is democratic functioning society. In this case, the MACS has the freedom to decide the price and does not have to follow the co-op price. The prices received Prices declared by the Union which are higher than Co-op pricing. Testing of milk through electronic milk-o-testers. In the ***State Co-operative*** collection is done through done through village society. The society is run by the president who wields a lot of power. Farmer prices are declared by the co-op (lowest prices). In most cases, there is no testing. Average prices are fixed for cow and buffalo milk. Strong influential people in community get better prices.

22. Comparative Analysis of the three Value Chains – Processing/Quality/Marketing

The Private Dairy processing plant is ISO certified meeting all quality requirements. They have a variety of quality products catering to children and younger generation (yoghurt, flavored milk). The company is catering mostly to the urban metro market. The ***MACS society*** has good quality products, but no certification as yet and the products are largely traditional products. They are selling milk to urban consumption areas and tapping the rural markets as well, through village societies (small packets, 250 ml). At the ***Co-operative*** quality of milk was an issue, though has improved in the recent years. The co-op is also largely selling traditional products, mostly in the urban market.

23. Comparative Analysis of the three Value Chains – Future Growth

The ***Private Dairy*** is not involved in dairy development activity and is only focusing on procurement. Faced with increasing competition, they will have to move to newer areas for expansion. In future if MACS becomes strong in these areas, procurement will be affected. The ***MACS*** society involvement in dairy development activity will help them to grow and increase milk procurement in this area. They are geared to face competition from private sector because of community tie up at the village level. Finally, the ***Co-operative***, because of low involvement of community will make it an easy target for private sector entry. Further, lack of variety and quality of products will make it difficult for them to compete with private sector.

24. Way Forward

It is evident from the above discussion, that the MACS society best represents the interests of the farmers in the coming years, with stiff competition from private sector. The Act was passed to make the co-operative strong in face of competition, however, the act is most practiced only in AP, the other states have yet to put in place this Act. In AP itself, the previous government was supportive, but the new government is not supportive of MACS and has stopped further conversions of district unions to MACS. In the past few years, about 650 MACS societies have registered in the state. A closer look at their functioning before taking this to other states