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## Traditional Milk Sector: *the need for a paradigm shift*

AK Joseph<sup>1</sup>, N Raghunathan<sup>2</sup>

and Satish Kulkarni<sup>3</sup>

This article is based on a multi-stakeholder, multi-partner action research<sup>4</sup> commissioned by the CALPI programme of SDC and Intercooperation with a view 'to understand the dynamics of the traditional milk sector and to take up actions to improve the same'. The action research was led by Catalyst Management Services, Bangalore and supported by CALPI, the Government of Andhra Pradesh, National Dairy Research Institute, two NGOs (ACTIVE and SECURE) and the International Livestock Research Institute. It was also guided and steered by faculty members of the Indian Institute of Management (Ahmedabad), the State Management Institute for Livestock Development (Hyderabad), the Natural Resource Management Programme Andhra Pradesh and others.



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### 1. Introduction

India's growth in terms of milk production is well acclaimed all over the world. The output has been phenomenal over the last 30 years and more specifically in the Eighties and Nineties. This escalation has been spearheaded by the dairy cooperative movement under Operation Flood, which focused on about 250 high producing districts in the country. Further, the various programmes of the central and the state governments aimed at milk production enhancement and the market access provided by the organised private dairies also contributed to this growth.

With the growing investments in the last three decades, the organised dairy sector, both cooperative and private, has grown phenomenally. However, the informal dairy sector continued to be ignored despite its vast coverage, spread, reach and potential for impacting millions of the resource poor in India. Data from secondary sources indicate that, at the national level, an estimated 46 million producer households (70 per cent of the total), 110 million consumer households (77 per cent of the total) and a few million vendor households are dependent on the traditional milk sector. About 134 million litre of milk per day (77 per cent of the milk marketed in India) passes through this channel. It was in this context that the CALPI programme of SDC and Intercooperation commissioned the action research (AR), towards accelerated growth in dairying; an action research to improve the traditional milk sector<sup>5</sup>, in India.

<sup>1</sup> Senior Programme Coordinator, CALPI, New Delhi.

<sup>2</sup> Director, Catalyst Management Services, Bangalore.

<sup>3</sup> Principal Scientist, Dairy Technology, NDRI, Bangalore.

<sup>4</sup> Action research is a flexible spiral process that allows actions (improvements, changes) and research at the same time. The process generates participation of deciders and doers and thus guarantees commitment for action. It integrates both qualitative and quantitative approaches.

<sup>5</sup> The study report is available at intercooperation (info@intercooperation.org.in)

The specific objectives of the AR were:

- To test an action research methodology to understand the dynamics of the traditional milk sector (TMS) and experiment with field actions for improving the sector
- To facilitate community-identified spontaneous decisions and actions
- To test the relevance of the methodology to identify and address the constraints and opportunities
- Through the above, contribute to sustainable livelihood options for poor producers and supply of assured quality of milk to consumers.

## 2. Study Sample and Tools

The study was conducted in two districts (Khammam and Vijayawada) of Andhra Pradesh in South India. The TMS in this study context was defined as those channels served by either producers or vendors serving unprocessed, unbranded milk in loose form or in plastic bottles or pouches, in flexible quantities and prices.

Within the two study districts, the sample included eight habitations and four markets involving 949 producer households, 819 consumer households, 179 institutional consumers and 75 market intermediaries (65 vendors, two creameries, one ghee-maker and seven dairies). Of the eight habitations studied, four had an exclusive traditional market chain and the other four, a combination of organised (cooperative and private) and traditional market chains. The markets studied were also of different profiles such as rural (villages), semi-urban (Satupally town), urban (Khammam) and corporation (Vijayawada). Two main routes for TMS were included in the research (i) producer-to-consumer and (ii) producer-to-vendor-to-consumer. Similarly, two categories of vendors were identified: (i) vendors who are also primary milk producers; and (ii) vendors who are pure market agents.

The AR made use of a wide spectrum of tools. At the habitation level, these included social mapping, seasonality analysis,



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dairy timeline and milestones, dairy livelihood analysis, interviews with stakeholders at various levels, case studies, veterinary camps, producer-vendor meetings, interviews at various levels etc. At the market level, these included mapping of vendor points, interviews with different stakeholders which included over a 1,000 consumers, vendors and private dairies, observations in creameries and transit points, scientific tests for quality through samples, and others.

## 3. Main findings

### 3.1. Strengths of TMS

TMS is well grounded in the long-standing relationships among producers, vendors and consumers. This relationship also forms the platform on which the vast number of producers and consumers stand in relationship to TMS. The traditional milk market has strong roots, which the producers and consumers value over those of the organised dairy sector. Some of the major strengths of TMS are:

- Serves as the only market access for producers in low-productive /remote areas and is the only source of milk in a vast majority of towns
- Provides non-price incentives such as morning wake-up call to producers, helps in animal preparation/milking, doorstep milk collection/delivery, no sample for milk testing, supplies milk when animals dry up, supplies groceries and emergency loans
- Offers monthly milk payments to producers and credit to consumers
- Boosts income, employment and nutrition and empowerment of women in low-potential areas
- Evokes favourable consumer confidence (60-74 per cent consider TMS milk to be fresh, thick, creamy and tasty)

### 3.2. Size, Spread and Reach

TMS has enormous size, spread and reach within the district. In Khammam town alone, an estimated 1,700 vendors operate. TMS accounts for 61 per cent of milk production and 91 per cent of the milk marketed in the district. Of the total milk marketed in the vendor-only-operated habitations, 76 per cent is sold to the vendors and 24 per cent is sold directly to the consumers. Even in habitations where all the three channels operate, the traditional channels serve 50 per cent (flush season) and 57 per cent (lean season) of producing households. Ninety-eight per cent of households in Sathupally, 89 per cent in Khammam and 42 per cent in Vijayawada purchase milk from TMS. The market shares of TMS in these towns are 99 per cent, 88 per cent and 42 per cent, respectively.

### 3.3. Scale of Operations

In general, the individual vendors operate at a very low scale. About 45 per cent of the vendors operate at less than 20 litre per day. Only about 25 per cent of vendors operate quantities of above 50 litre per day. Among the participating vendors, the average quantity handled is only 38 litre per day. In general, the procurement operations take about two to four hours per day and the total cycle time is five to six hours. Considering the low volume transacted by the vendors, the labour input per unit quantity handled appears to be high. The low scale of operations is also because the balancing of the milk quantity takes place at each vendor level and there is no mechanism for pooling or bulking among vendors to balance the quantities effectively. In effect, each vendor procures only what he /she can sell and each sells only what he/ she can procure.

### 3.4. Quality of Milk

The quality assessment work from sample collection till analysis was carried out by the team of the National Dairy Research Institute (NDRI), Bangalore. All the samples collected at the producer level consistently conformed to the standards of milk solids (for buffalo milk). This might be primarily because of the presence of vendors or their representatives at the time of milking. At the vendor level, less than half of the samples did conform to the legal quality standards in respect to total solids. At the point of sale by vendors, more than three-fourths of the consumer samples did not conform to the standards with respect to total solids. Of the



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samples collected from consumers, which included samples from other sources as well, 67 per cent of samples in Khammam, 88 per cent in Sathuppally and 55 per cent in Vijayawada were found to be not conform to legal standards. Institutional consumer samples (hotel, tea shops etc) had the poorest rate. The smaller-scale vendors had a higher proportion of samples meeting the requisite standards vis-à-vis larger vendors. The correlation between price paid (as reported by the consumers) and milk solids from these tests is moderate (correlation coefficient 0.50122 for total solids).

No chemicals or thickeners were found in the milk sold at any level during the flush season. However, during the lean season, about 50 per cent of the vendor samples were found to carry neutralisers (sodium carbonate). While at the producer level the quality of milk was consistently good, at the vendor and consumer level about two-thirds of the samples were of 'fair' or 'poor' quality (with methylene blue reduction time ranging from five minutes to an hour). In spite of all these, 60-74 per cent of the consumers feel TMS milk to be thick, creamy and tasty.

### 3.5. Milk Price

The price paid to producers was Rs 11.20 per litre in case of small-scale vendors compared to Rs 10.60 in the case of large-scale operators (average Rs 10.75 per litre). In the case of producer price, a sort of a common price existed among all the vendors and habitations. Compared to the organised sector, the price spread at 51-59 per cent of the consumer rupee flowing back to the producer was found to be slightly lower. This, however, excludes the non-price incentives such as loans/advances and information on animal management provided by vendors. Vendors supplying grocery items were also observed helping in milking operations and supplying milk during dry periods etc. Very little variation was found in the rates offered by vendors between all-three operators and vendor-only habitations. As mentioned earlier, a moderate correlation existed between price realised from consumers and the milk solids.

### 3.6. Stakeholder Organisations

Sadly, no form of stakeholder organisations, neither of producers nor of vendors, existed in the vendor-only-operated habitations or markets. Similarly, no form of training, capacity or awareness building efforts were taken up in these locations. There were also no effective pressure groups facilitating quality regulation of milk.

### 3.7. Infrastructure

Traditional dairy operations were mainly found to depend on very primitive forms of facilities in the form of milk cans/containers, carriers, transport vehicles etc. No suitable infrastructure for testing, bulking, processing, storage, packing or preservation was found to aid the traditional operations. Similarly, because of the low scale of operations, TMS was unable to cope with high investments or equipment requiring higher operational costs or cycle time.

## 4. Actions Initiated

Together with producers, vendors and consumers and the support of the Department of Animal Husbandry (DoAH), the dairy Dept, DRDA and NDRI, the AR took up a number of actions simultaneously with research. Some of these like organising vendors and producers, their training, interface

### Actions taken up side by side with research

- Organised associations of Vendors & producers and platforms of consumers
- Conducted training and awareness building of vendors and producers
- Arranged interface meetings and negotiations
- Established quality testing facility
- Linked with productivity enhancement activities (trevis, bulls, health camps, vaccinations, deworming, feeds, seeds, fodder, exposure visits)

meetings, establishment of fat testing facility, building consumer awareness etc, have produced encouraging results, positively impacting the quality and price of milk, business operations and the delivery of services. The vendors have shown a readiness to learn, address the shortcomings related to milk quality, pricing, payment to farmers, scale of operations and others and thus enhance their performance. These small improvements can be occur faster when taken up together with capacity building, mentoring and some minimum infrastructural support and have the capacity to force the vendors also to follow good practices.

## 5. Need for Support

Indeed, the market share of TMS gets displaced by the organised milk sector, but at a snail's pace. At the current rate of displacement, it might take six to seven decades to reduce TMS to a level of 10 per cent of the milk marketed in India. Is it then wise to leave the sector unaddressed and consumers continue to suffer on account of the milk quality while the producers and vendors lose the opportunity to improve their livelihood? It is also worth pondering whether merely a set of

new food laws or their stricter enforcement can ensure that millions of resource-poor market intermediaries abide by them in the absence of an enabling environment for reforms. It needs to be appreciated that milk is produced and consumed everywhere; the organised sector is unable to extend market access everywhere; and, even where they do extend, the producers and consumers value the services provided by TMS that go beyond the price of milk. Providing enhanced market access through improvements in the traditional channels in areas with low volumes, linking productivity enhancement services and, when volumes increase, stimulating market competition, can contribute to the envisaged 'socially inclusive and regionally balanced economic growth'. Similarly, support to TMS can help to partly cope up with the erratic growth in milk production witnessed in recent years.

## 6. Suggested Changes in Approaches and Policies

Some of the changes in approaches and policies suggested by the AR are summarised below:

- Criteria for selection of districts and deployment of development funds for dairy programmes may be reviewed to set a balance between commercial routes for developed areas and development funds for low producing areas.
- The existing legal standards favour processed and packed milk. These may be reviewed to enable unprocessed, loose milk vendors to also operate within the legal framework.
- Accord priority to building institutions of producers and vendors and platforms of consumers and developing their capacity /awareness.
- Create an enabling regulatory environment to help vendors also to operate within the food laws.
- Support for quality-based pricing system.
- Support to build some minimum infrastructure for low-volume, low-cost, instant milk processing such as mobile milk testing/tamper proof milk samples for testing, introduction of quality-based pricing, immersion/instant low-volume chilling,

hygienic packing, fat balancing and standardisation, suitable containers and carriers for milk transport by two wheelers, overnight (transit/association level), storage for surplus milk etc.

- Effective coordination and linkage under TMS for livestock service delivery in low-producing areas.
- A thorough review of poverty alleviation programmes using low-producing animals.
- Exposing policy makers, planners and academia to TMS to develop a balanced view so as to capitalise on potential development outcomes.

## 7. Conclusion

It needs to be emphasised that the action research is not promoting traditional milk sector as a preferential value chain to be singularly promoted in preference to the organised milk sector. India's model for dairy development involving small-holder producers through the organised sector is indeed unique, praiseworthy and should remain the country's flagship



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in the years to come. However, the organised milk sector is unable to reach out to a majority of the districts and villages, producers and consumers are left out due to the inherent norms of milk surpluses, and economic viability. It is in these areas that TMS could contribute immensely, provided they are extended a helping hand by way of appropriate technology, management and the process support they rightly deserve.

The Knowledge Management Platform aims at improving the access to knowledge of stakeholders in the domains of Livestock Livelihood and Environment; Local Governance and Civil Society; and Climate Change and Adaptation. Through this platform we seek to capture, analyse and consolidate evidence based lessons that can help address some of development challenges before us today.

The platform shares knowledge through documents (newsletters, publications), face to face interaction (workshop, networking /CoP meetings) and electronic exchange (e-discussion, e-newsletter, ask the knowledge group). 'Ask the Knowledge Group' is a special function where one can pose a question to different groups of experts having wide experience on different themes. This is to support professionals in taking informed decisions.

The knowledge management platform can be accessed through the Intercooperation India website ([www.intercooperation.org.in](http://www.intercooperation.org.in)). The website also houses, among other things, important links such as National Rural Employment Guarantee Act, Right to Information Act, Forest Rights Bill, National Environment Policy, India's first National Communication to UNFCCC, Poverty-wellbeing-net, CoP on Water for Food etc.

We welcome your suggestions to improve the content of the website and the platform, which may please be sent to:

### Intercooperation Delegation in India

8-2-351/r/8, Road No.3, Banjara Hills,  
Hyderabad 500 034, AP, India.

Phone: +91- 40-2335 5891/92 Fax: +91- 40-23356275

e mail: [info@intercooperation.org.in](mailto:info@intercooperation.org.in)