

Supply Chain Management in OMFED-Creating Values through White Channels: A Case Study

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Abstract The present study focuses on the supply chain management in Orissa State Co-operative Milk Producers' Federation Limited (OMFED), a leading state dairy giant that operates in Odisha which is an eastern state of India. A detailed discussion regarding its distribution channels has been carried out starting from procurement, marketing to finally delivering milk and its products to the customers. Apart from this, a comparative analysis between OMFED and AMUL, the National Dairy giant of India, has been presented to draw managerial decisions for sustaining in the competitive market. Further, the challenges faced by OMFED are stated along with the perceived opportunities that may help OMFED to build a strong competitive edge over its competing brands.

Keywords: *supply chain, distribution channels, milk and milk products, value addition*

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1. OMFED: An Introductory Framework

The history of Indian Milk Products is perhaps as old as Indian civilisation itself. Even as our ancestors began to domesticate milch animals, they found innovative ways to convert highly perishable milk into more stable and longer lasting milk products. It is a part of Indian culture to revere cows, and Kings of yore often gifted cattle as rewards to their kinsmen. Therefore, it is not surprising that Indians have a deep rooted tradition of using milk and milk products. From time immemorial, India's traditional foods with their extraordinary variety and richness have served people's needs for nutrition and sound health. Within this wide range, dairy products from different regions of the country have provided a wide array of sweets and other specialties that are a gourmet's delight. These also meet the needs for proteins and calcium in people's daily diet. The story of Indian mithais is literally of epic proportions.

Orissa State Co-operative Milk Producers' Federation Limited (OMFED) operates in Odisha, which is an eastern state of India. OMFED deals with milk and milk products and from years it has been engaged in providing livelihood to rural farmers and milk producers and safe and hygienic milk to the urban households of Odisha. Apart from this, it is known to bring a customary practice to grace the Indian ceremonies and functions with ghee, butter, and sweets.

The Orissa State Cooperative Milk Producers' Federation Limited (OMFED) is an apex level Dairy Cooperative Society registered under Cooperative Society Act – 1962. It is the leading organized milk producer of

Odisha and has come into existence to integrate the milk producers in rural areas with consumers in the urban areas with an enterprising aptitude. It got registered in 1980 and started working since 1981. It took over OMPAC in 1988.

Its main activities includes promoting, production, procurement, processing and marketing of milk & milk products for economic development of the rural farming community in Orissa.

2. Background

Odisha can be considered as one of the poorest states in India from the perspective of industrial development. In Odisha, we can find the majority of the population being dependent on agriculture, animal husbandry and other such related activities as its primary means of occupation cum livelihood and chief source of income. But the poor irrigational facilities and frequently witnessed natural calamities pose a serious threat and barrier to sustainable agriculture. If situations can turn to be favourable, it can render a decent and dramatically changed lifestyle to the dependent population. But owing to the persistent problems and countless miseries, the crowd migrates heavily from villages to cities in search of some greener pastures.

Incidentally though there is a large concentration of milch cattle such as cows and buffaloes in rural areas of Odisha, but the per capita ownership of cattle isn't large enough to justify organized milk generation and selling. Therefore, this was never considered as a feasible and viable alternative to provide means of livelihood to the rural masses. Farmers in Orissa produce milk at

competitive costs due to lower land costs and lower wage rates. The availability of grazing land in Orissa and cheaper feed also contributes to lowering the costs of milk production. Small-holders using buffalo for milk production in Orissa were found to be more cost competitive. It also appears that there is a large potential to reduce milk production costs of smallholder dairy farming and increase family farm income through milk production by better breed, feed and herd management.

OMFED came into existence after conceiving the novel idea to start a collective work with farmers/milk producers through milk generation and marketing. So, OMFED, to shortly describe, forms a rural-urban development continuum by providing livelihood to rural Odisha and offering the urban middle class with a safe, secured and hygienic source of milk.

3. Vision of OMFED

To be a leading milk producing organization at international level of efficiency with wide and satisfied customer base, maximizing wealth of stakeholders and continuing to the state economy.

4. Mission of OMFED

- Advancement of dairying, encouraging and educating people, through mutual participation.
- Continuing endeavour to increase productivity and per capita consumption.
- To promote clean milk production and distribution with state-of-art technology.
- Customer satisfaction with reliable, uninterrupted service and quality products.
- To foster a performance oriented culture encouraging innovation.
- To promote a congenial work climate encouraging employees to participate and contribute for organizational growth.
- Continuous up gradation of skills and competence of employees and their career advancement.
- To enrich quality of life of people and preserve ecological balance.

5. The Major Objectives of "OMFED"

- To carry out activities for promoting production, procurement, processing and marketing of milk and milk products for economic development of the rural farming community.
- Development and expansion of such allied activities as may be conducive for the promotion of the dairy industry. Improvement and protection of milch animals and economic betterment of those engaged in milk production. In particular and without prejudice to the generality of the forgoing objective, the federation may:-
- Purchase and/or erect building, plant machinery and other ancillary objects to carry out business.
- Study problems of mutual interest related to procurement, marketing of dairy and allied products.
- Purchase commodities from the members of other sources without affecting the interests of the members, process, manufacture, distribute and sell them same, arrange to manufacture/purchase and distribute balanced cattle feed and for the purpose to set up Milk collection and chilling centres. Milk Processing Plants, Product factories etc, in any of the district covered under its area of operation.
- Provide veterinary aid and artificial insemination services and to undertake animal husbandry activities so as to improve animal health care disease control facilities.
- Advise, guide and assist the Milk Union in all respects of management, supervision audit functions.
- Render technical, administrative, financial and other necessary assistance to the member unions and enter in to collaboration agreement with someone, if the need arises.
- Advise the member unions on price fixations, public relations and allied matters.

6. Primary Activities of OMFED (The 5 P's)

1. Procurement of milk
2. Providing technical inputs to milk producers
3. Providing training in new and scientific methods to increase productivity of milk in the state.
4. Proper storing/chilling of milk
5. Processing and marketing of milk

Table 1. Product-Mix of OMFED along with Variants

Product-Mix of OMFED	Variants
Milk and Milk Products	Toned milk (with 3% fat), double toned milk (with 1.5% fat), Full cream milk (with 4.5% fat and vitamins), bottled milk, Butter milk Pure Ghee Flavoured milk (Pista, Chocolate, Elaichi) Cold Coffee Skimmed milk powder Curd (Whole milk curd, Sweet curd, Plain curd) Table butter Paneer OMFED Peda Ice-cream
Horticulture Products	Jams Sauce (Tomato, Chilly) Pickles (Mango, Mixed, Hot and Sweet) Squash and Juice (Pineapple, Lemon, Ginger)
Agro products	Kandhamal Turmeric Powder, Kandhamal honey, Mustard seeds
Cattle Feed and Fodders	For Cattle

Table 2. OMFED Product Ranges with Pricing

Product Name	Packaging Style	M.R.P	Company's Margin (Rs.)	Retailer's Margin (Rs.)
OMFED peda	Packet	25.00	3.25	2.00
Skimmed milk powder	Laminated Pouch	37.00	2.25	1.50
Cow milk	Poly Pack	20.00	0.10	0.70
Cold coffee	Disposable Bottle	15.00	2.00	1.75
Sweetened flavoured milk	Disposable Bottle	15.00	2.00	1.75
Butter Milk	Pouch	5.00	1.25	0.25
Ghee (1 Lit.)	Poly Jar	256.00	2.50	2.00
Sweet Curd	Cup	7.00	1.35	0.65
Plain curd (200 g)	Plastic	7.00	1.35	0.65
Whole milk curd (500 g)	Pouch	15.00	2.00	1.75
Table butter (500 g)	Pack	87.00	3.75	2.25
Lassi	Pouch	6.00	2.00	1.00
Chennapoda	Value Pack	50.00	3.50	2.50
Paneer (500 g)	Value Pack	60.00	3.50	2.50
Kheera	Cup	14.00	2.50	1.25

7. Product Offerings

OMFED is known for providing a wide range of products namely

- Milk and Milk products
- Horticulture products
- Kandhamal organic products
- Cattle feed

NOTE: The topic of discussion is primarily centered on the distribution system of the milk and milk products offered by OMFED. Table 1 describes the product-mix of OMFED along with variants and Table 2 represents product ranges with pricing strategies of OMFED. Exhibit 1 shows the product mix of OMFED clearly.

8. Supply Chain Management/The Distribution Channel of OMFED

The backbone of OMFED is its Supply Chain that is efficiently managed by OMFED to suit to its customers' needs and meet the stated objectives. It follows a three-tier system which was originally pioneered by AMUL Dairy in Gujarat state of India. In Figure 1 the elemental composition/configuration of the three-tier operational system of OMFED is represented as:

1. The Village Co-operative Society (The actual Milk Producers)
2. The District Milk Unions/MU's (Collect milk from producers and provide them the required inputs)
3. The Milk Federation (Engaged in processing and marketing of milk)

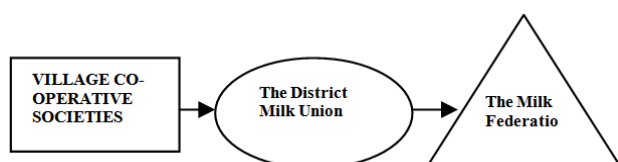


Figure 1. Three-Tier Operational System of OMFED

In OMFED, farmers are the principal stakeholders or beneficiaries as they enjoy the collective ownership and are ensured to get a fair price and return. So, OMFED thwarts the traditional distribution system, wherein middlemen used to dictate the terms to actual producers by offering lower prices to them.

Since 26th July 1981, when OMFED started functioning it has made its presence felt in many districts of Odisha. It is present in majority of districts of Western and Coastal Odisha.

Milk is procured from various village co-operative societies throughout these districts twice daily from which it is sent to the chilling centres at the nearest District Milk Union in hired trucks. From the MU's it is sent to nearest Milk Federation dairy for processing and marketing.

9. Village Co-operative Society

It represents the first tier in the whole system. It is a voluntary association of milk producers in a village who are willing to sell milk on a collective basis. Any milk producer can become a member by paying a nominal fee of Rs.1 and buying a share of Rs.10. The milk producer is expected to sell only the surplus milk to the society after meeting his personal needs. The members select a Committee and a Chairman too to better manage and handle things. The Committee then selects some more people to act as aides (milk tester, secretary etc). Milk producers bring milk to the society every morning and evening. A sample of milk from each producer is taken and tested by a Lactometer for quality. The society sells milk only to the nearest District Milk Union.

10. District Milk Union(DMU)

The Milk Union then carries the collected milk from the society by using hired transport vehicles to their processing centres. Milk is chilled to 5 degree C in the chilling centers. The collector of the district is the Chairman of the DMU. It is also the job of the Milk Unions to provide technical inputs (new methods like artificial insemination etc), training and sometimes even to provide cattle feed and fodder etc to the village societies. The MU gives various technical inputs to the producers to enhance their milk productivity. This is done in the hope that excess productivity will result in excess of surplus milk with the producers which he can then sell to the village society. Figure 2 indicates different milk unions of OMFED. Some of the prominent technical input programs (TIP) are

- Embryo Transfer Technology (ETT)
- Artificial Insemination (AI)
- Feed and Fodder programs

- Training (Odisha Milk Federation’s Integrated Training and Development Centre, OMTDC)

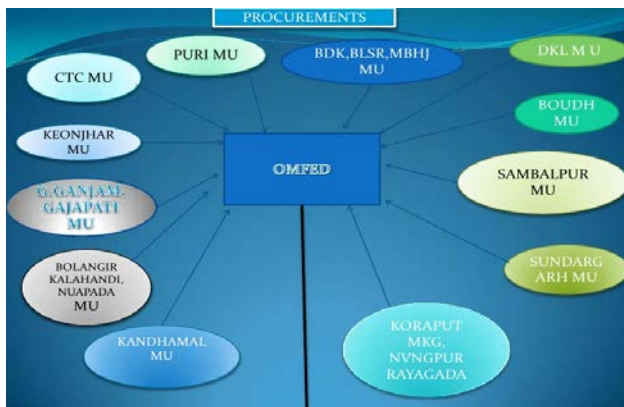


Figure 2. Milk Unions of OMFED

11. Milk Federation

It provides for processing and marketing of milk and milk products. The chilled milk from MU is sent to the nearest federation dairy for processing, packing and marketing. The federation is managed by Board of Directors (BOD). The Federation has representation from various MUs and also from the State Government of Odisha. The BOD chooses a Chairman from among its members. One more important feature in this supply chain is that after marketing the products whatever monetary realization is achieved is routed back through the supply chain to the producers once in 10 days. The milk and milk products are being marketed by authorized retailers of OMFED throughout the state. Urban consumer is the last point of milk flow supply chain of OMFED. OMFED milk is supplied in standardized poly packs to authorized retail centres once every morning in small hired OMFED trucks. These trucks pick up milk from the nearest federation dairy and have to cover all authorized retail outlets in particular areas assigned to them.

12. Operating Areas

OMFED operates at various places of Odisha namely Bhubaneswar, Khordha, Cuttack, Jajpur Town, Jajpur Road, Puri, Nimapara, Konark. Table 3 and Table 4 represent dairy processing plants with capacities and chilling plants along with their capacities (in litres) at Various Milk Unions in OMFED respectively.

Table 3. Dairy Processing Plants with Capacities(in litres) of OMFED

Sl No.	Dairy Processing Plants	Capacity (in Litres)
1.	Balasore	5,000
2.	Bhubaneswar	1,00,000
3.	Dhenkanal	10,000
4.	Keonjhar	10,000
5.	Rourkela	30,000
6.	Sambalpur	30,000

Table 4. List of Chilling Plants along with their Capacities(in litres) at Various Milk Unions in OMFED

Sl No.	Chilling Plants	Capacity (in Litres)
1.	Adaspur	4,000
2.	Anandpur	4,000
3.	Angul	2,000
4.	Athagarh	2,000
5.	Athmalik	1,200
6.	Balikuda	10,000
7.	Banki	1,800
8.	Bargarh	8,000
9.	Berkote	250
10.	Beghamari	1,000
11.	Bijepur	500
12.	Brahmagiri	1,000
13.	Buxma	800
14.	Doodhianali	250
15.	Kendeijuri	250
16.	Kendrapada	4,000
17.	Nayagarh	2,000
18.	Nimapara	20,000
19.	Padampur	2,000
20.	Tangi	2,000
21.	Telkoi	2,000
22.	Tirtol	20,000

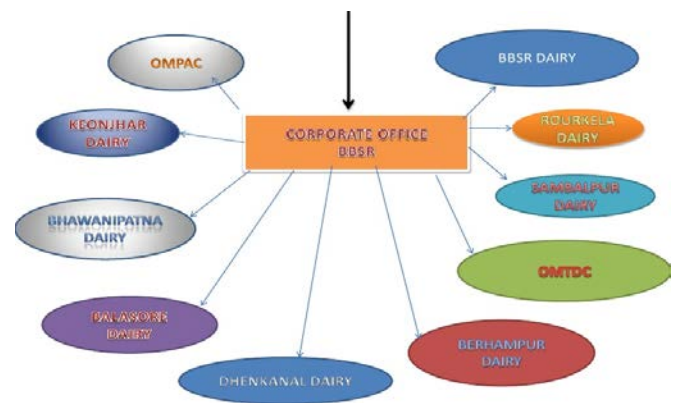


Figure 3. Different Dairies of OMFED

13. Criteria for Booth Allotment

a) Criteria for Allotment of Milk Booth:

Figure 3 explains different dairies of OMFED. For Bhubaneswar, Cuttack, Jajpur, Puri, Jatni, Nimapada and Khurda, application in plain paper is to be submitted to Dy. Gen. Manager (Marketing), Bhubaneswar Dairy through respective Marketing-In-Charges of that area. For other places application should be submitted to Plant Manager

of respective dairies enclosing Photo Identity Card / Driving License and Sketch map of the proposed location / site. After receipt of the application, field verification is to be done by field supervision staff and if report goes in favour of the applicant, he has to submit the following document for consideration of his application.

1. In case of Private land, the applicant has to furnish land document on ownership of land / house:
2. In case of rented house Xerox copy of the agreement is to be furnished.
3. In case of Govt. / municipality land permission is to be obtained by the applicant from the concerned department. Allotment of booth will be considered on the basis of following criteria.
4. Substantial distance from one booth to another booth is to be maintained looking the sale potentiality of location area.
5. Applicant should have sound financial background to deposit the cost of the required milk in advance.
6. Allotment is to be done provisionally for a period of one year which will be renewed after reviewing the performance
7. After allotment, Rs. 1000/- is to be deposited towards security deposit and an agreement is to be executed on Non-Judicial stamp paper amounting Rs.5/-.

b) Criteria for allotment of Product Distributorship:

For Bhubaneswar, Cuttack, Jajpur, Puri, Nimapara, Jatni and Khurda, application in plain paper is to be submitted to Dy. Gen. Manager (Marketing), Bhubaneswar Dairy through respective Marketing-In-Charges. For other places application should be submitted to Plant manager of respective dairies enclosing Photo Identity Card / Driving License and Sketch map of the proposed location / site.

14. After Receipt of the Application Distributorship will be Considered on the Basis of the Following Criteria

1. Applicant should have sound financial background along with business experience.
2. Applicant should have valid SHRN/TIN from Commercial Tax authority.
3. Applicant should have required manpower and own distribution vehicle for distribution of products.
4. Allotment will be done for a particular area as per the requirement / feasibility.
5. Product will be supplied against 100% payment (Cash / DD), EX-Dairy / Go down.
6. After allotment Rs.5000/- is to be deposited for distributorship of all OMFED Products and Re.2000/- for fresh Milk products only as refundable Security amount.

15. Credit Policy

OMFED strictly follows the cash basis of transactions. Retailers have to make an advanced payment before milk is to be supplied. But in certain exceptional cases, it provides credit. For example: S.C.B. Medical College, Cuttack, Capital Hospital, Bhubaneswar.

16. Damaged Goods Policy

In case of damaged goods, generally the retailers have to check the milk packets while getting the delivery. If any product is found damaged or spoiled, the delivery van will provide 1 packet extra for every 50 litres i.e. 10 packets for every 500 litres. Figure 4 explains the channel management of OMFED.

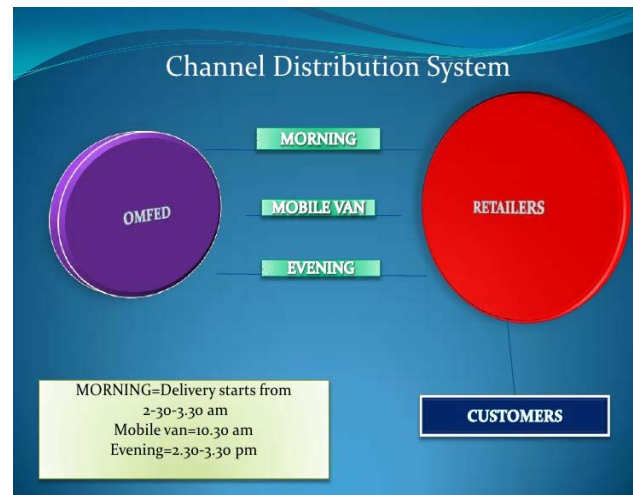


Figure 4. Channel Management of OMFED

17. About Orissa Milk Co Operatives

Milk Co Operatives in Orissa channelize an access to cattle feed and fodder and help in honing the managing skills of the milk producers so that the dairy industry can flourish. The course of action of the cooperative dairies are directed by the co-operative law, which is not so in the case of private dairy companies. The private dairy enterprises are bound by the company law. Figure 5 represents the location of milk and milk products industry in Odisha.

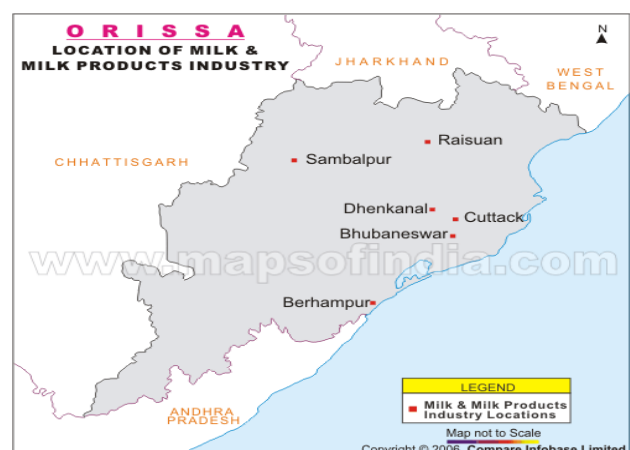


Figure 5. Location of Milk and Milk Products Industry

18. Local Competitors of OMFED

The Local Competitors for OMFED are Kamdhenu, Milky Moo, Nav Jeevan, Prithviraj, Local milk vendors etc. Figure 6 represents the market shares of the competitors of OMFED.



Figure 6. Market Share of Competitors of OMFED

19. Challenges Encountered by OMFED in Supply Chain Management

- Milk is a perishable item, so it has to be made readily available to the customer at the right time.
- As OMFED is an organized Co-operative consisting of different village societies and District Milk Unions, there come issues resulting from maintaining consistent product quality throughout the procurement chain.
- Though standardised and diligent care and precautions are taken during milk testing at village societies there arise cases when the tester using lactometer to test the viscosity of milk has been duped by addition of cheap milk powder to increase the viscosity of milk.
- Supply chain requires well-furnished and improved ware houses with proper cold storage facilities and cold chain enabled vehicles.
- Smoother functioning of channel gets suffered as the road infrastructure of Odisha is concerned.
- Certain areas in rural markets are yet untapped but if tapped can turn into potential procurement areas.
- Urbanized parts of Odisha can be a potential market for pasteurized and packaged milk.
- The perishability factor of milk somehow acts as a hindering force to the expansion plan as formulated by OMFED to penetrate into the Cities and townships of the neighbourhood state of West Bengal such as Kharagpur, Midinapur, Digha and Kolkata.
- To tackle this issue, OMFED is planning for increasing the capacity of its Balasore Dairy Plant and the Milk Unions that serve the Dairy plant. The underlying reason is that Balasore's geographical location is strategically to serve the above mentioned places of West Bengal.
- Another problem is of reverse supply chain. Any milk or milk product that fails to get sold at retail outlets within the consumable period of the product, it has to be brought back to the nearest dairy plants of the co-operative. This stands for an approx 7-10% loss for the company. So, it becomes highly essential to effectively forecast the customers' demands to prevent undesirable losses.

- It is necessary to have a clear understanding about the expected demand and actual demand at each retailer's outlet.

20. Comparing Supply Chain Management of OMFED with National Dairy Giant AMUL

- Amul is a cost leader in the dairy market and enjoys a developed market demand for offering affordable and attractive products to customers and guaranteeing value for money.
- Amul has a widespread distribution network of 10 lakh retailers and 5000 dealers in India.
- Apart from adding higher value products, it maintains the desired growth in existing ones.
- Due to its strong co-operative roots, AMUL collects 3.45 billion litres of milk from over 3 million farmers.
- Amul adopts the umbrella branding strategy and is the common brand for most product categories produced by various Unions such as liquid milk, milk powder, butter, ghee, cheese, cocoa products, sweets, ice-cream, condensed milk.
- Amul handles the distribution of end products and co-ordination with retailers and dealers. The Unions co-ordinate the supply side activities. These include monitoring of milk collection contractors, the supply of animal feed and other supplies, provision of veterinary services and educational activities.

21. Recommendations

- OMFED should follow an organizational structure emphasizing on quality issues insisting its suppliers to have a consistent focus on quality.
- There is a greater need to build awareness of quality among its suppliers.
- There is a need for imparting the importance of ethical business practices to the entities involved.
- Steps should be taken overcome the problems such as lack of infrastructural facilities by approaching the Government for allowing grants.
- There is a need for cost optimization and enhancing the infrastructure facilities of warehouse with cold storage.
- For dairy products, quantity and quality are just analogous to muscles and bones. So, the distributors must be properly educated to effectively forecast the demand and thereby reduce the chances of volume or quantity loss.
- The buffalo-based system should be promoted to improve dairying.

22. Conclusion

In short, OMFED has to put emphasis on the following points while planning/designing an efficient distribution channel,

- Overall focus on quality and co-ordination of distribution activities

- M- Meeting the demands of external and internal customers effectively
- F- Focussing on untapped and rural markets
- E- Expanding the existing customer base
- D- Developing infrastructure(warehouse, roads etc)

Exhibit 1 Product-Mix of OMFED



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