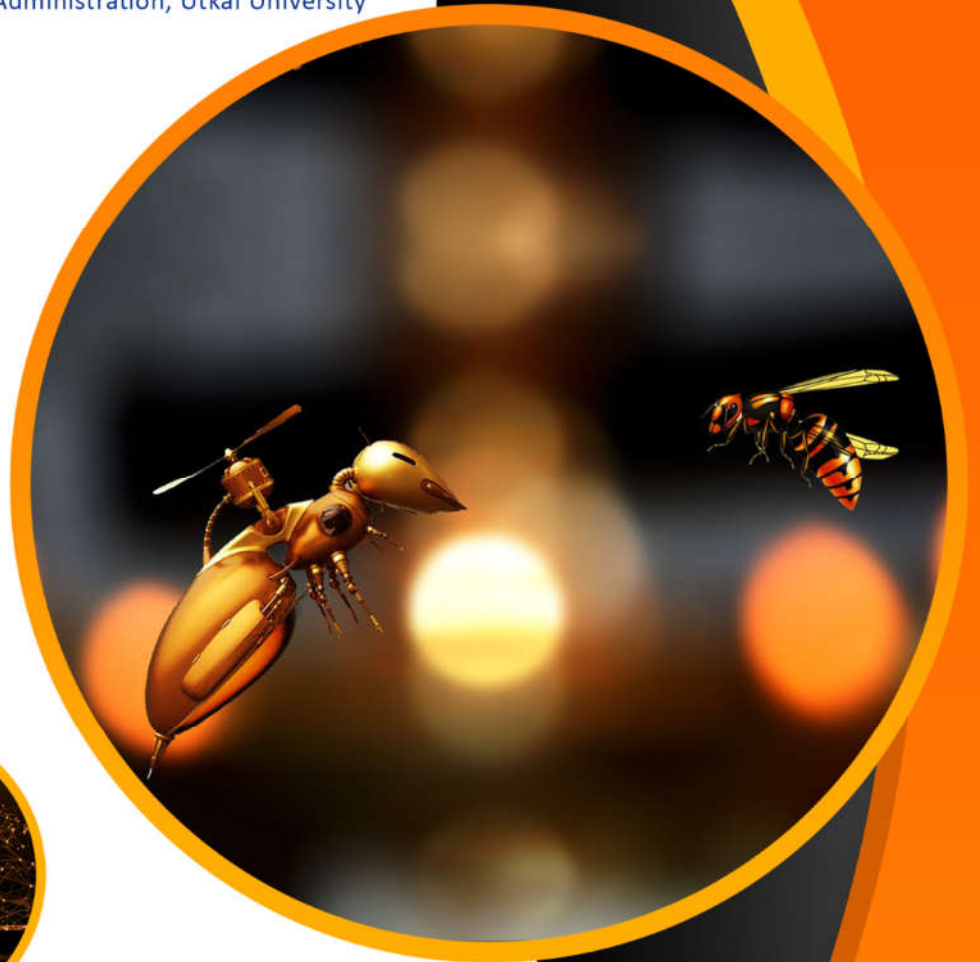
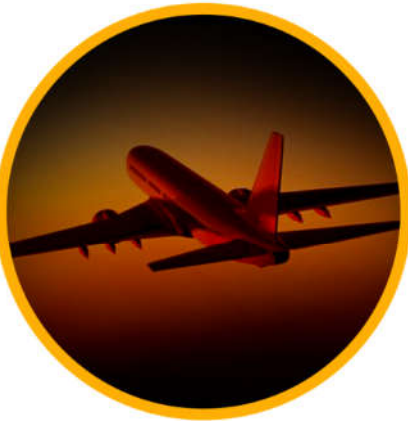




AGRONICA

A Newsletter from Centre for Agri-Management,
Department of Business Administration, Utkal University



Focused on

AGRI-LOGISTIC & SUPPLY CHAIN



// This Newsletter Includes //

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SUPPLY CHAIN MANAGEMENT IN AGRIL SECTOR



Agriculture supply chain management for layman's point of view is flow and movement of goods from the farm to the consumers. But to a student of agribusiness, it implies managing the relationship between the organisations responsible for efficient production and supply of products from the farm level to the consumers to meet their requirements in terms of quantity, quality and price. The concept appeared in 1980 as an inventory approach laying emphasis on supply of raw materials to manufacturing industries, finally it has spread to the agriculture sector also. The primary objective is to fulfill the consumer demands through efficient use of resources. The logistic in supply chain applies to activities relating to product distribution where as supply chain includes all participants working together to meet the demands of the consumers for a product or service. The supply chain management for perishable agriculture products differs from that of processed products, where agriculture products are used as raw materials for producing consumer products with higher added value. In case of former, intrinsic characteristics of products are untouched and in case of later conservation and conditioning process extend shelf life of products.

To strengthen integration of supply chain business process it has to pass through four stages.

1: Base line (Functional islands), where activities are vested with different independent departments, such as purchasing, production, distribution and marketing.

2: Functional integration: emphasized on cost reduction and value addition

3: Internal Integration (logistic management), involves integration of aspects of the chain directly under control of company, outward goods management, integrating supply and demand along the company's own chain and emphasizing on efficiency.

4: External integration: focuses from product oriented to consumer oriented, penetrating into consumer's organization to understand attitude towards product and market.

It confronts certain issues i.e. Firstly the original quality is subject to decay because of inadequate action of another participant, as, when a milk producer leaves a can of milk without any cover on the road side under the sun for pick up, there will be loss of quality rendering raw material unfit for processing. Similarly low quality packaging material does not maintain freshness of product, and retailers likely to face wrath of the consumers. Secondly Involvement of middlemen leads to price rise and difference between consumer's price and producer's price transmits weak price signals causing under production of farms. Thirdly often lack of storage facilities like warehouses and cold chains lead to post harvest losses, and, finally unavailability of insurance does not protect goods while on move.

In face of these constraints, the supply chain in form of vertical integration is marching ahead and is able to optimize the entire chain rather than sub-optimizing based on local optimization. It plans overall production and distribution, resulting in reduction of costs and giving attractive final product, leading to better sales. The ongoing supply management leads to a new kind of its definition on global market where competition stands between companies vs. companies rather than supply chain vs. supply chain.

It is revolutionizing the agriculture sector, orienting it to global export market, benefitting the producers with value addition and benefitting the consumers with added services.

Prof Benudhar Bhuyan

*Advisor, Centre for Agri-management
Utkal University*

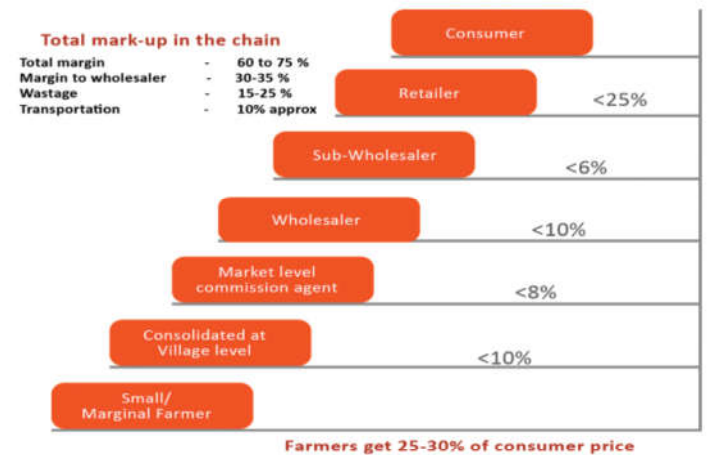


An Analysis of Value Chain in Fruits & Vegetables Distribution

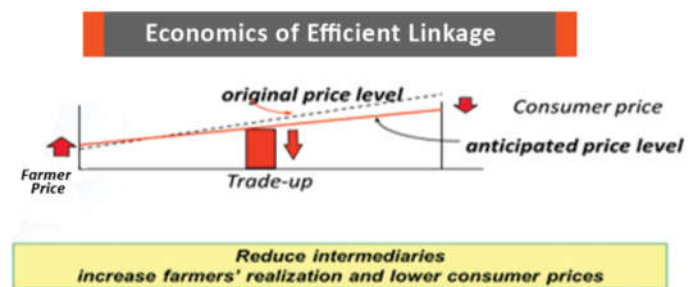
A value chain is a particular form of supply chain that is created when chain partners have a shared vision and common goals that aim to meet specific market objectives and consumer needs. The value chain may encompass the entire spectrum of the supply chain, from customer to producer. The value chain entails the addition of value as the product progresses from input suppliers to producers to consumers. A value chain, therefore, incorporates productive transformation and value addition at each stage of the value chain. At each stage in the value chain, the product changes hands through chain actors, transaction costs are incurred, and generally some form of value is added. Value addition results from diverse activities including bulking, cleaning, grading, packaging, transporting, storing and processing.

India is the world largest producer of many fruits and vegetables but there still exist huge gap between per capita demand and supply due to enormous waste during post-harvest storage and handling caused by improper bagging without crating, lack of temperature controlled vehicles, unavailability of cold chain facilities in various parts of country for preserving the produce, along with significant processing of the agricultural produce which results in immense losses to the nation. Hence a proper supply chain management in fruits and vegetables has to be improved in all the stages of the supply by adopting best global practices in storage, packaging, handling, transportation, value added service etc. to meet the country's demand for fruits and vegetables. Though India has many positives in the F&V production and marketing sector, it has several disadvantages too. The country lacks an efficient supply chain for the distribution of the fruits and vegetables. Supply chain management plays an integral role in keeping business costs minimum and profitability as high as possible. There are many factors involved in supply chain management of which flow is one of the most important factors. Flow includes the product flow, the information flow and the finances flow. The product flow includes the movement of goods from a supplier to a customer, as well as any customer returns or service needs. The information flow involves transmitting orders and updating the status of delivery and the finance flow includes all the financial aspect such as invoices and payments. The present challenge in supply chain management is to maintain all three flows in an efficient manner, resulting in optimal results for farmers, growers, wholesalers and customers.

Our company, Global Agri System Pvt. Ltd. has conducted extensive survey on the supply chain of fresh fruits and vegetables in the 5 metropolitan markets of India viz: Mumbai, Delhi, Bangalore, Chennai and Hyderabad to study the mark up in price at different stages.



It was found that there are at least 5 to 6 steps in each case by the time the produce from farmers' field reaches the consumer. At each stage there is an escalation in price as shown above with the result that the actual grower receives only 25 to 30 % of the cost to the consumer.



Establishment of a more efficient supply chain by eliminating unnecessary intermediaries will not only reduce the cost to the consumers, but also increase the price to the farmers. However this will require putting up infrastructure like establishment of cold-chains, warehouses, better roads and market facilities as well as Government's resolve to usher in necessary policy changes and statutory amendments.

Gokul Patanaik, IAS(RETD),
 Chairman, Global Agrisystem,
 J-10 Green Park Main-New-Delhi

Fruits & Vegetables Supply Chain of Mother Dairy

Fresh fruits & vegetables hit the headlines when the tomato price is sky high and onion brings tear to the house wives due to lacuna in supply chain management, resulting loss of about 30-40% of the produce. Most of the farmers commit suicide every year due to low returns for their produce, The news of the tomato, milk and some other vegetables thrown on the highways are the common picture due to low price. The fruits & vegetable (F&V) supply chain is normally complex and complicated. The transportation, logistics and other factors affect the supply chain management. This is victim to seasonality, cyclicity and climatic factors. The value addition occurs only due to assembling, sorting, grading, transportation and packaging. The industry is mostly dominated by unorganised traders.

For instance a retail supply chain of cauliflower in Delhi one has to source it from 5 different geographies within radius of 6 to 600 kms in plain areas and from places at 700 to 7000ft above sea level. The variability of supply creates new chain every alternate month. The price fluctuates from Rs10 /kg to Rs100/kg. The high priced frozen cauliflower is not a good substitute for which the demand goes down to adjust to the domestic budget.

About 4% of fresh F&V in India is transported by cold chain, compared to more than 90% in U.K. Many of the F&V mandi's/ haats in Northern and Eastern states of India suffers from mixture of all kinds of small sized vegetables. Massive aggregation is required for export to distant places. The Lack of uniformity in quality also adds to low returns. For solution of such problem it is advocated for "elimination of the middlemen or de-layer the supply chain". A formal organisation subjected to legality and conventional rules and regulations, delays the decision making and enhances costs .The F&V deteriorates at a faster rate due to inordinate delay to reach the consumers. Most of the organised players tend to lose for such nature of supply chain. Though the small player/ vendors are efficient in operation but it is difficult to scale up or replicate their operations.

The farm acreage for current year is estimated based upon

the previous year's data but data on' return is silent on future opportunities. Farmer is always tempted to sow more if he has better returns in previous year and vice-versa. As a result of this there are cyclical supplies of high & low availability. This leads to sharp rise / fall of prices. Due to disproportionate rise of prices, speculators and traders enters into the trade making it more complicated and unreasonable. The traders gain on uptrend situations while farmers are on loosing trend. There is absence of formal or informal planning mechanism regarding, area, time and places to be sown.

The farmers are deprived of proper return due to their ignorance of post-harvest management. The Government is emphasising more on modern technology rather than post-harvest and marketing issues. However, there have been some developments like use of standard boxes in apple trade in Himachal Pradesh, use of crates in tomato and potato trades at Nashik and grading for Alphonso mango. Just like other state Odisha govt. should bolster post harvest infrastructure to store fresh produce and control the market price fluctuation in fruits and vegetables. By doing this, farmer get the best rumeration and it will also curtail the middle men in supply chain.

Mihir Mahant

(IIM Ahmadabad)

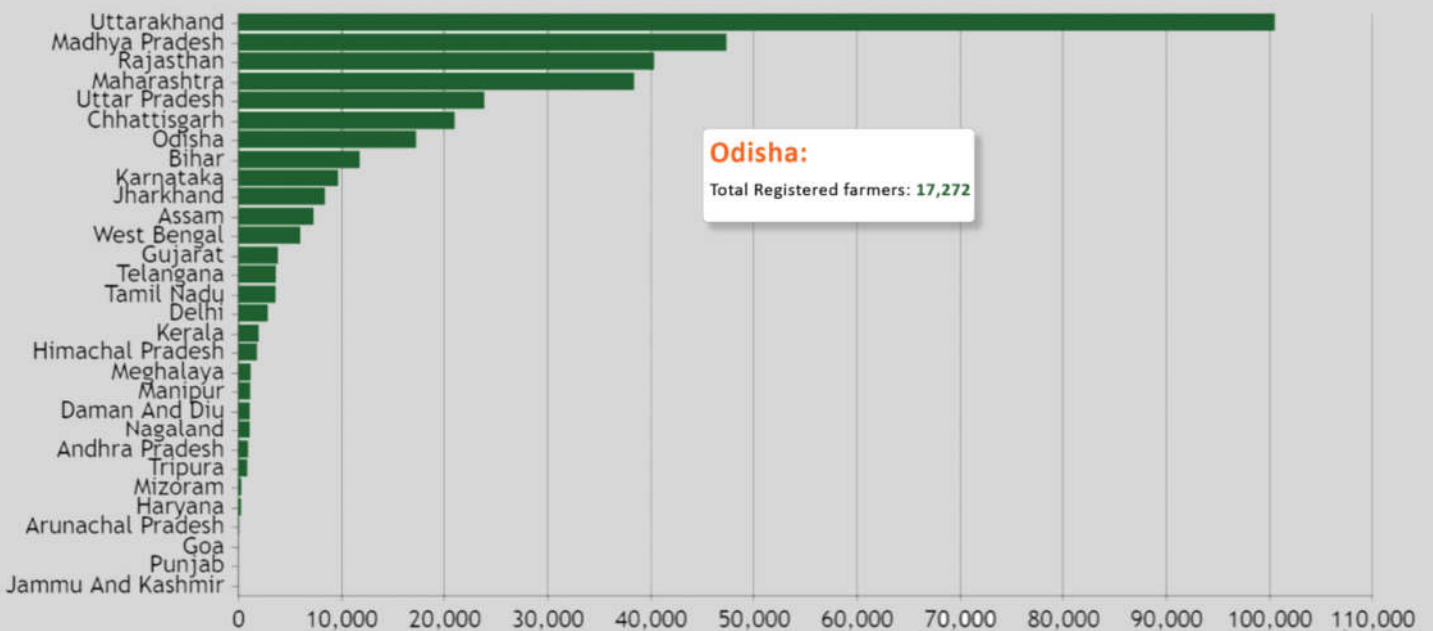
*General Manager, Supply Chain,
Mother Dairy, New-Delhi*



Supply Chain of Organic Vegetables in Odisha

The Present Pandemic situation has enhanced the scope for development of organic farming for its positive impact on the health care system of the community by enhancing level of immunity. The various programs of Govt of India to support the farming, the PKVY has made a land mark by introducing the marketing, trading system for promotion of organic farming under MoA&FW, with the name Jaivik Kheti Portal or Rasayan Mukh Bharat (www.jaivikkheti.in). Under this program as on 2nd Dec 2020 about 3, 57,277 farmers have registered all over India on this portal including 17,272 farmers from Odisha.

Statewise Registered Farmers



Source : www.jaivikkheti.in



ROLE OF KASAM IN SUPPLY CHAIN OF TURMERIC IN THE KANDHAMAL DISTRICT

Kandhamal



Kandhamal is the centrally located District of Odisha pre dominantly inhabited by SC & ST population about 60% of the geographical area is hilly and with forest cover. The District is devoid of industry and agriculture is the main occupation of the villagers. The agro climatic condition is conducive for spices cultivation (turmeric, ginger, black pepper etc.). But due to lack of Modern Production Technology, proper Post Harvest Management and market linkage the farmer are not getting remunerative income from cultivation. Huge products are accumulated during harvest season resulting in distress sale by the farmers and exploitation by the middle man.

KASAM procures its required quantity from farmer members with a price fixed by the District Administration i.e. Rs. 60/- per kg at their door steps with the help of Society Members which is much more than the market price i.e. below Rs. 50/-, online payment will be made within 7 to 10 day depending upon the quantity procured from the farmer member by the Society. Then processes in its own processing center (at Bandhagada, Daringbadi, Bamunigaon and Raikia block) add value and then sell to its buyers (both international & domestic). Approximately 85% of its total transaction is exported to different destinations through exporters.

KASAM (Kandhamal Apex Spices Association for Marketing) is an apex body of 61 Spices Development Societies comprising more than 12,000 organic farmers spread over 5 blocks (Phiringia, K. Nuagaon, Daringibadi, Raikia & G. Udayagiri) of Kandhamal District which is centrally located having more than 70% SC and ST population. The farmers since time immemorial have been engaged in cultivation of different crops viz:- Turmeric, Ginger, Mustard, Maize, Rice, Black gram, Sesame, Niger etc without using any fertilizer and pesticide. They are organic by default. In true sense they are the 'Care taker of Mother Earth'. To highlight this hidden treasure, KASAM formed in the year 1998 under the President ship of District Collector and took up export marketing of the organic produce of the farmers since 2000. KASAM is certifying the area as organic by Skal International, Netherlands (presently known as Control Union). Since very 1st year of entry in to marketing, KASAM has been able to export the value added products to different countries through various exporters. Our motto is upliftment of the socio economic conditions of the poor farmers through minimization of exploitation by traders and by paying proper value for their product at their doorsteps. KASAM is helping the farmers to increase the organic production and guiding on Internal Control System (ICS), which is mandatory for organic certification. Moreover the margin gained through business is ploughed back to the members for their economic development. KASAM is maintaining its processing center for production of quality, hygienic value added organic products and in the process provides employment to the local people. So purchase of KASAM products is a direct help to the people.





With the coordination of local farmers & Government supported body KASAM is able to have the following Infrastructure. --

- 1 Factory and ware house at Bandhagada
- 2 Factory and ware house at Daringbadi
- 3 Ware house capacity of 5000MT and primary processing unit at Bramhunigaon
- 4 Ware house at Katadaganda, G. Udayagiri
- 5 Primary Processing centre at Raikia
- 6 Testing facilities at any APEDA accredited laboratories.

Costing of Turmeric finger (Per Quintal)

Procurement Cost	:	6,000.00
Transport	:	60.00
Bags	:	16.00
RMC Tax 1%	:	60.00
Certification	:	18.00
Processing charge	:	2,100.00
Standardisation Cost	:	60.00
Loading & Unloading	:	16.00
Miscellaneous	:	10.00

Total
8340 /-

The final processing cost of the double polished finger is around Rs. 84/- per kg and for Turmeric Powder is Rs. 94/- (Only adding the Electric, Labor and Loss charges), our whole sale price will be start from Rs. 85 to 90 /- per kg for Finger and Rs. 95 to 100/- per kg for Powder in organic form. As we are a farmer's organization our main motto is quantity sale not for the profit. Approximately 1200 to 2000MT will be procured annually from the farmer member and around 1000 to 1500MT will be sold directly from factory to different exporter friend in India. The main buyer of our turmeric finger and powder is from Europe, USA, JAPAN like countries and very less quantity was sold in domestic market. The price for both export and domestic is same.

Sanjit Kumar Pattnaik

Secretary, KASAM

Phulbani, Kandhamal





Understanding

milk mantra's Dairy Supply Chain

Milk Mantra is a new age dairy foods company that solves the problem of trust deficit between consumers and food in the large \$50 billion dairy category. It is also India's first VC funded agri-food startup. With a vision of nourishing truly pure living from its consumers to farmers, Milk Mantra is built on a conscious capitalist model that is geared towards purpose & profitability as the pillars to create a functionally innovative brand by leveraging brand capital, technology and functional innovation.

In 2012, Stanford Business School did a case study on Milk Mantra on raising VC funding in India and in 2018, it is also a marketing case study at IIM Ahmedabad. Milk Mantra was also featured by Fast Company- New York as one of the most innovative companies in India and in India's Growth Champions 2020 by The Economic Times. Wall Street Journal, Forbes & Fortune have also featured the company for its transformative business model.

The company's revenue has increased from \$2 million in 2013 to \$30 million in 2020, reaching more than 300,000 households every day, and the growth of about 70% in the income levels of more than 68,000+ network farmers. Milk Mantra, with its Milky Moo brand has created livelihood at scale, with the sustained ability to put a regular income in the hands of poor farmers along with bringing truly pure dairy nutrition to thousands of urban consumers.

Milk Mantra, with its exciting Milky Moo brand has created livelihood at scale, with the sustained ability to put a small, but regular income in the hand of poor farmers, many of whom live in poverty and on the other hand has brought truly pure dairy nutrition to thousands of urban families.

With the motto "Happy Farmers = Happy Cows = Best Milk!", it gives a unique and hard-to-replicate competitive edge in milk procurement with its Ethical Milk Sourcing (EMS) programme. EMS was a disruptive way of milk sourcing doing away with the middlemen with a technology backbone integrating a fragmented supply base, including online data capture for each farmer on a cloud based system besides strong processes and professional staffing.



Srikumar Mishra

Milk Mantra was founded in 2009 by Srikumar Mishra, who left a successful corporate career in London with the Tata Administrative Service as Director of Mergers & Acquisitions with Tata Tetley. He was recognised by the Prime Minister's office and NITI Aayog to be a Champion of Change and participate in a dialogue for transforming India by 2022.

Happy Farmers = Happy Cows = Best Milk



1 Lakh
Liters
Collected per Day

400
Collection Points

Sold across
10,000
retail outlets in Odisha & Kolkata



Milk Mantra has a strong tech-stack, across the value chain - from its sourcing to sales. It has focused on developing a robust cold chain to maintain product integrity across the supply chain, since inception. The company has established around 33 Bulk Milk Cooling (BMC) centers, 400 collection points (CP) in the last few years. At sourcing locations, cloud based Automatic Milk Collection Units (AMCU), have been rolled out at its CPs and BMC centers which gives real time access to individual farmer data. Payments are also being made digitally directly into farmer's accounts through the Digital Financial services.

Sourcing Force Automation (SoFA) maps its CPs and BMCs, to efficiently track and plan milk procurement. With Sales Force Automation (SFA), it has mapped its retail outlets and now the entire team is transacting on SFA. The 100% Vehicle Tracking System is implemented in inward and outward logistics helping in live tracking, geo-fencing and optimizing routes enabling better customer fulfillment.

Every day, about one lakh liters of milk is collected directly from the network farmers from 400 collection points (CPs). The collected milk is then transported from CP to Bulk Milk Chiller (BMC) which is located within 10 kms from the CPs. Within 12 hours of collection, the milk from the BMCs reaches the state-of-the-art dairy plants at Puri and Sambalpur districts, through insulated vehicles with controlled temperature below 4 degree celsius. The milk and milk products are packaged under the Milky Moo brand and sold across 10,000 retail outlets in Odisha and Kolkata.

Milk Mantra aims to collect 2.5 lakh liters of milk per day in Puri and 50,000 liters in Sambalpur district. Milk Mantra's transparency in collecting milk testing and payments to its farmers within a 5 days billing period, with a backbone of a strong supply chain has revolutionised the dairy ecosystem in the Eastern India. With two state-of-the-art dairy plants at Puri and Sambalpur districts, Milky Moo has become one of the fastest growing premium dairy foods brands in India, offering Truly Pure fresh dairy products to 300,000 consumers in Odisha and Kolkata.

Milk Mantra is also one the few dairy foods brands to launch its own home delivery app, Daily Moo – which has become one of the fastest growing subscription app - reaching thousands of homes every morning in Bhubaneswar and Cuttack, and is soon to be launched in Kolkata.

Biswajeet Acharya
Head -Projects & Compliances
Milk Mantra

Supply Chain Analysis of OMFED

The Dairying/Go-plan is the main allied activity for economic development of milk producers in the state. The OMFED (The Odisha State Cooperative Milk Producers' Federation) plays the key role for procuring milk from the rural areas and distribute in the urban areas after value added services like, standardization, homogeniser, pasteurisation, packing in pouch/packs etc.

OMFED was established in 1980 with three tire structure

1

Society

(Village Level Dairy Cooperatives)

To collect milk from the member Producers and deposit at the local BMCs

2

District Milk Union Centres

To collect from the BMCs and transport to the nearest OMFED centres through Milk Tankers, for processing by homogenizer /pasteurization.

3

Federation (OMFED)

To market the milk & milk products to the consumers through Wholesalers/Distributors/Milk Booths etc. after maintaining quality.

The Village Level Dairy Co-operative societies consisting of voluntary milk producers are affiliated to the District Milk Unions. There are 12 district milk Unions across the state @ one in each for 7 districts and balance 5 covering the rest 10 districts.

Milk is collected twice daily in morning & evening by the Societies after due testing for FAT & SNF contents. The secretary of the society, sells the cattle feed to the member producers. The collected milk is transported to the nearest Chilling Plant/Bulk Milk Coolers by hired/own transport/head load by the milk Unions. The registered Societies as per OSC-Act has a Managing Committee headed by the President who looks after the day to day activities of Society and co-ordinates with the dist. milk Unions. As on October'2020, about 3579 no. of Societies are functioning consisting of 2.58 lakh members supplying daily 3.72 liters of milk . The societies are equipped with milk testing equipments & stationeries, milk cans (40 ltrs.), establishment of AI Centers (Cryocans, Travis, AI Instrument, LN2, FSD etc.) EMT/DPMCU/AMCU, bulk milk cooler & accessories. They impart training to the members on dairy management & for supply of hygienic milk. The producers are assured of marketing their milk at fair price with incentive of Rs.2/liter during the lean period. Besides they obtain cattle feed at subsidized rate and mineral mixture at the 50% rate. The producers are supplied with perennial and seasonal fodder seeds/root slips and small SS Can, Mastitis kit and assistance for pucca flooring of cow shed at subsidized rate. The general manager, head of the milk unions and the presidents of societies look after day to day activities relating to milk collection, processing & marketing of inputs. Milk procured from the Societies is supplied to OMFED dairies for consumption and preparing several dairy products. The societies look after the grievances of both producers and consumers through customer care telephones after which necessary corrections are done at field level on basis of feedback from the consumers.

All the District Co-operative Milk Producers' Unions are the members of OMFED and receive the guidance and assistance from the Federation. The Federation owns Dairy Plants, cattle Feed Plant and Milk Marketing infrastructure. The OMFED has established training centres to impart various types of trainings relating to the dairy development. In association with the district milk unions it is rendering services like management of dairy coop. societies, procurement of milk, supply of technical inputs, artificial insemination with frozen semen, and cattle feed and fodder development etc. The OMFED runs 13 milk processing & product manufacturing dairy plants and two cattle feed plants in the state. Both the producer's price and consumer's price are settled by the Govt. of the federation. In its endeavour to provide quality milk and milk products in every nook and corner of the state, it has engaged 254 insulated vehicles for transportation of milk, 13 vehicles for distribution for grocery articles. About 4152 booths, 599 sub-agents are engaged for distribution of milk and milk products and 352 outlets are responsible for distribution of grocery items. Besides there are 53 milk distributors, 225 product distributors and 44 ice cream distributors. About 169 no. of educational institutions, 108 Govt / private hospitals / nursing homes, 436 hotels are being supplied with OMFED milk and milk products. Facilities of home delivery system are now available in Bhubaneswar. On an average about 50,000 litters of milk are sold daily of which 62,500 litres of milk are used for processing. On basis of 50:50 cost sharing basis cold chain has started.

Sri B.K. Misra

*General Manager, Omfed
Govt. Of Odisha*



OMFED has recently introduced operation of E-Cart system in important towns of the state. The OMFED has brought about a radical change in dairy industry of the state.



Supply Chain of Fish through Chilka Lake

Odisha Fisheries Cooperative Corporation Ltd. (FISHFED) established in 1989 under the Govt. of Odisha is running with 746 working Primary Fishermen's Coop. Societies in the State.

Its Outlets are selling varieties of fish i.e. Fresh Water, Brackish Water, Marine Fish & Shrimp in Fresh and hygienic condition to the consumers in Bhubaneswar. The objective is to eliminate middleman and to prevent loss during transit. It has established Chilika Fresh Retail Outlets at Siripur Square, CRP Square and Sahid Nagar in Bhubaneswar and HIRAKUD FRESH at Sambalapur besides the FRIENDS CHILIKA FRESH at Nayagarh town in PPP mode. The consumers under Bhubaneswar Municipal Corporation are getting fish and fish by products through both offline & online.

Chilika Fresh at Siripur, Bhubaneswar

The Marine and Brackish Water fishes are collected from Mahamaya PFCSs and Manisha PFCS in Chilika area and Sandhakuda Primary Marine PFCS in Paradeep area. The Fresh Water live fishes are procured from local people and from leased tanks/ponds taken by PFCSs and WSHGs. The quantity of fish purchased varies in different days of the week and sale is more in festival days. The purchase rate varies depending upon variety, availability of fish and catch. The varieties of 18 fishes available for selling in the Chilika Fresh Retail Outlets are Bhekti, Khainga, Dangala, Khuranti, Menji, Kokoli, Elishi, Sorodi, Pomfret, Tiger Prawn, River Prawn, Sahali, Kantala, Kantali, Bhakura and Rohu etc. The quantity procured on an average per day is around 252.00 Kg. The difference between the procurement price and selling prices of different varieties of fishes range between Rs10/ for KOKOLI to Rs 200/ for Elish, average being Rs 56/-.

The fishes are transported in insulated vehicles to the retail outlets and stored in plastic crates with icing. Some valuable fishes like Pomfret and Elish are stored in Deep Freeze. The Air Conditioners are

also available in all Retail Outlets. Hence chances of deterioration in quality are less and are sold directly to the consumers. The dry fish of Marine PFCSs of Ganjam District is also sold at the Counters. The Producers are given reasonable price on the spot and the Consumers are getting fresh fish at door steps. The mode of payment to the PFCS and SHG are through Bank Cheque and RTGS.

Often problems involved in business are lack of transportation facilities and availability of ice in Fish Landing Centers. Due to increase in fish production during the last few years, there is distress sale. Fish being highly perishable, ice is used for storage and transportation for long distance. The chilled-stores are linked to the retail outlets through integrated cold chain system i.e. transportation is done in insulated vans. The fish is directly unloaded at the retail outlets equipped with refrigerated display counters. From these retail counters consumers usually purchase fish. The consumers are satisfied as per their feedback for fresh and hygienic fish with reasonable price for which, more demand now for such as Chilka Fresh counters at other locations of the state.

These Chilika Fresh Kiosks have created employment opportunities for more people various activities like fishing, grading, sorting, icing, selling and transportation etc. As on today about 2000 people are engaged in various activities.

Sri Umesh Kumar Mohanty

Addl. Director Fishery (FISHFED)

Govt of Odisha

Supply Chain Of OPOLFED Chicken Fresh In Odisha



The Odisha State Poultry Products Co-operative Marketing Federation Ltd (OPOLFED) the apex co-operative marketing organisation of the state was established in 1976. It operates in two-tier system, i.e. Poultry Products Co-operative Society and Women Poultry Co-operative Society. OPOLFED Chicken Fresh outlets at i.e Saheed Nagar, IRC Village, & Chandrashekharpur in Bhubaneswar and at Kamali Bazar, Sambalapur and in PPP mode at Jagatsinghpur, Phulbani, jeypore and at Bhawanipatana are functioning in the state. These chicken fresh outlets are providing quality fresh packed eggs and dressed hygienic chicken meat to the consumers at reasonable prices. Poultry farmers of the affiliated PPCS/WPCS, from Balipatna, Pipili, Nimapada, Jagatsinghpur, Ranpur areas supply live broiler birds, desi & Vanaraja birds to these outlets at a price including the transportation cost, In the outlets, Deshi, Vanaraja & live broiler birds are scientifically processed in a very hygienic manner. Customers prefer the dressed chicken meat at outlet. Trend is on increase. During the pandemic period it provides a link between the rural poultry farmers and the urban consumers justifying concept of farm to fork. During this year so far, OPOLFED has marketed around 10.00 lakhs of eggs and 40 MT of chicken meat and 431 MT, feed, besides supplying four weeks old LIT birds in Angul, Raygada districts. Under livelihood Mission about 130 poor women in Arebong panchayat and 100 poor women in Boulang panchat of Puri district have been distributed laying bird chicks for self subsistence.

Sri Ratnakar Rout, IAS,

Director, AH&VS, Odisha,

Cuttack, Odisha





Supply Chain Of Rice Seeds Through Udro Agro-Solutions

Udro Agro Solutions, namely "UDRO SEEDS", established in 2018 at Baniatangi, Dist. Khorda is a farmer-centric company working on commercial basis is providing advisory and support services to the farmers of Odisha and Eastern states of India under the technical expertise of its owner-founder Sri Tarun Kanti Mohanty. The storage, Processing and bagging of rice seeds are being done at Resinga, block-Nimapara,(Puri),with the following objectives:

1. Uniform planting by proper sizing and to increase yield rate
2. Production and marketing of quality seeds
3. To protect crop from weeds, pests and diseases by application of chemicals
4. Proper drying of seed and to provide storage facility to reduce loss

The Udro Agro Solutions is working with more than 1000 farmers with coverage of about 2,000 acres of land, for production of about 17 varieties of quality rice in kharif and rabi seasons. The popular varieties are PUJA, SWARNA, 1000 and 1010 etc. The farmers are trained through technique of on-farm demonstrations for new variety of seed in different agro climatic zones of the state.

The foundation and certified seeds are distributed to the contact farmers along with financial assistance ranging from Rs 5-10 thousands as per need, besides technical trainings in villages.. The company conducts supervisions during the production stage to ensure production of quality seeds. After the harvest seeds are collected from the contact farmers variety wise, through own agencies at village level after deduction of about 10%, failing to meet the criteria for quality seeds. The harvested seeds are transported by mini trucks in 50-60 kg bags variety wise to the company store house. About 1000 M.T of seeds are collected and stored in the storage after being dried resulting in the loss of about 5% due to moisture content. After 2-3 months of storage, seeds are processed in the company's processing plant, variety wise at the rate of one quintal per hour. The raw seeds are cleaned, graded, tested and packed after passing through 8 stages i.e. inert material, common weed seed,

noxious weed seed, other crop seed, deteriorated seed, other variety seed, damaged seed and off size seed. The processed seeds are packed in 10kg/20 kg bags of different varieties separately bearing the company logo of Udro-Agro Solutions and distributed to the farmers through its 100 registered dealers and retailers in different locations of the state. The feed back of the farmers regarding efficacy of seed or germination problem are corrected by the company through germination testing again in field.

The raw seed is procured from the field at the MSP rate i.e Rs.1850/Q and the processed seed is sold to the farmers at the rate of about Rs, 3,500/Q. Of the difference in price about 90%- is spent towards cost of services on collection, grading, packaging, transportation, drying, storage, processing, bagging and distribution, including loss in transit 10% being the total margin.

The company during its life of two years has created full employment for 10 people, part time employment for 20 persons and progressing ahead with a promise for future.

Dr. Tarun Mohanty,
Managing Director, Udro-Agro Solutions
Khorda

Supply Chain Management of Fertiliser In India

(A Bird's Eye View)



The supply chain management relates to the management of flow of goods and services from point of origin to point of consumption. In case of agriculture, supply chain assumes greater importance as farmers receive agri inputs for production of crops and again to supply the produce to the consumers.

The principles of supply chain management are :

- 1) Adoption of supply chain to customer needs
- 2) Customize logistic network
- 3) Align demand planning across supply chain
- 4) Differentiate products close to the customer
- 5) Outsource strategically
- 6) Develop IT that support multilevel decision making
- 7) Adoption of service and finance material

Supply of fertiliser as an input with proper planning helps in higher productivity. Unlike other inputs fertiliser supply chain management is associated with supply of knowledge to the farmers. Fertiliser materials are produced in 57 large fertilizer factories and 64 medium and small factories in India. In addition to this fertilizer is also imported through 13 major sea ports and around 50 minor ports .

Farming is such a complex process that all types of fertilisers are not required at one time by the farmers as phosphatic, potassic and complex fertilizer are mostly needed at the early stages of plant growth whereas nitrogenous fertilizer is needed at various stages of growth. Producers, wholesalers and retailers are working together for making available a particular grade of fertilizer at a designated place at a particular point of time. The following table gives a macro level view of fertilizer supply chain in India .

PRODUCT (Fertilizer)	PRODUCTION	IMPORTS	TOTAL (000 tonnes)	CONSUMPTION
Urea	23899	7498	313967	31418
DAP	3898	6602	10500	9211
SSP	4076	-----	4076	3576
Complex	8979	546	9535	9028
Potash	-----	4214	4214	2958
TOTAL PRODUCT	41584	18958	60542	56806

(Source – Fertiliser Association of India, Period 2018-2019)

Fertiliser is produced and imported in bulk and through proper storage, transportation and packing of the bulk in small quantities, value addition is made . The bulk fertilizers are packed in 50 kg bags for general use , 25 kg bags for North East provinces and 10 kg bags for hilly areas. Major stock is transported by the Railways through 18 administrative zones and 68 operating divisions and in open BOX wagons and closed BCN and BCX wagons on the railway tracks measuring 1,23,542 kilometers spread over 739 districts of India. Material is transported in trucks from factories to the sale points and from rake point to sale points to enable the farmers to get required quantities of fertilizer. Inland water transport is preferred in absence of rail or road transport. Fertilizers are stored in various warehouses belonging to both Central Warehousing Corporation and State Warehousing Corporation besides in Cooperative and Privately managed warehouses.

The Crops have been divided into 4 categories i.e cereals, cash crops, plantation crops and horticultural crops. There are three agriculture seasons i.e Kharif, Rabi and Summer in a year. The quantities of fertilizer differ from plant to plant with time of application and with varieties of crops and also from season to season.

The value addition is also done by Government, fertilizer companies and Agricultural Universities through awareness campaigns on use of fertilizer among the farmers. The Govt of India with the support of IT has linked the subsidy to purchase of fertiliser from the retail point which is termed as Adhar enabled Fertiliser Distribution System (AeFDS).

Thus for a country like India fertiliser supply chain management is a real challenge involving supply to approximately 16 crore farm families spread throughout the country.

Dr. Pitabas Rautaray

Visiting Faculty ,CAM

Utkal University, Bhubaneswar

Supply Chain Management of Imported Food and Beverage

Mr. Abhishek Raj (Supply Chain Planning Manager) has been invited virtually to the CAM Corporate Talk session on 29th of November 2020, in order to throw some light upon "Supply Chain Management of Imported Food and Beverage" namely Functional Beverages. He holds a vast expertise in this domain equipped with years of SCM (Supply Chain Management) experience as well as keen ground knowledge in this sector.

Functional Beverages has a well-known brand which is a global leader in its segment having a presence across 167 countries. Recently, its growth has been surged in India, thus maintaining an efficient and effective supply chain of a business helps a lot in curtailing cost as well as improving the competitiveness of the product in the market. Global supply chain team ensures the product availability in time across different locations aligned with enough safety stock and lead-time deviation.

Functional beverages are imported in India through multimodal transportation including sea, rail and road. Supply chain planning of the import finished goods requires a lot of collaboration across various teams within the organization. Planning, Logistics, Sales and Finance team always must ensure effective procurement of the product within the lead-time and distribute the product in the market. A lot of advance planning, accurate sales forecasting, warehouse space planning and vehicle availability is executed before the production is planned and shipment starts at the source location. An effective supply chain management system comprises of business strategy, business continuity plan, production to procurement of final products, cost-effective operational process including Logistic & customer service.

Multiple modes of transportation are used to move the products from the factory to the shipping point. Once the product is loaded in the vessel and the shipping starts, it takes a standard sailing day to reach the destination and the sailing Leadtime varies as per the destination. After reaching the port, vessels are unloaded, and the containers goes into custom clearance process. After the clearance is completed, the products are move to the customer warehouse and stored in the location for further distribution.

In a typical warehouse arrangement, there is block storage or rack storage and the wooden pallets are used to store the products. The



Abhishek Raj

*Supply chain Planning Manager
Redbull India*

pallets are mostly of two types, Euro Pallets or ISO pallets. When the products are prepared for any dispatch from the warehouse, checkings is done at various checkpoints, namely by, Floor Manager, Floor Supervisor, Gatekeeper and Loading Supervisor respectively. A special damaged space is reserved for damaged products or expired products. Going forward, a series of supply chain process are required to further plan the distribution of stocks across the country, like, sales projections, inventory requirements, and delivery timelines.

Throughout the supply chain process, we always face real-time challenges in the market, which comprises some of the key challenges such as Out of Stock situation, Shelf-life issue, Vehicles non-availability in the market for distribution, delays due to congestion at the port, and etc. Effective supply chain ensures development of the capability to predict such situations in advance and provide immediate solutions to avoid any sales loss due to such challenges.

Supply Chain Management can be defined as a systematic approach to manage the flow of information, products and services starting from the raw material procurement to delivery of finished goods within the stipulated timeline in an efficient way, thus it plays a very pivotal role in the overall business performance leading to the utmost customer satisfaction.

LIVING LAB. IN R.T.P, UTKAL UNIVERSITY DEVELOPED BY CENTRE FOR AGRI-MANAGEMENT



AN ETHICAL INVENTIVENESS OF CENTRE FOR AGRI-MANAGEMENT, UTKAL UNIVERSITY

Centre for Agri-Management (CAM) offers a two-year Post Graduate Program in Agribusiness Management -MBA (Agribusiness) in Utkal University since 2006 with a consistent placement record and academic excellence. The CAM developed a Living Lab (learning & experimental platform) at the Utkal university campus as a live project hub , to guide students, SHG members, farmers and any interested person, to develop sustainable Agro -Enterprises involving Nursery, Mushroom cultivation, Duck-Fish integrated farming, Natural Farming, Vermin Compost, Bio Compost, Bee Keeping, Protective farming, Urban farming etc.

The CAM is planning to develop some campus garden with nutritional value in different Schools with the support of Government, public sectors and private sectors.

Pioneer By
Prof. Nishith Parida
Esteemed Member, Advisory Board

Theme for the next edition will be on

Contract Farming

Knock out the Quaterly



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