A STUDY ON
SUPPLY CHAIN MANAGEMENT OF IFFCO
IN KHURDA DISTRICT

By

Dinesh Singh

Admission no: 03 ABM/14

Department of Agribusiness Management
Centre for Post Graduate Studies
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Bhubaneswar-751003
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A Thesis submitted to the Orissa University of Agriculture and Technology
in Partial fulfillment of the Requirement for the degree of
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(Agribusiness Management)

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ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
DEPARTMENT OF AGRIBUSINESS MANAGEMENT
CENTRE FOR POST GRADUATE STUDIES (CPGS)

CERTIFICATE I

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Date:

This is to certify that the thesis entitled "A study on Supply Chain Management of IFFCO in Khurda district" submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration in Agribusiness Management to the Orissa University of Agriculture and Technology is a faithful record of bonafide and original research work carried out by *Dinesh Singh* under my guidance and supervision. No part of this thesis has been submitted for any other degree or diploma.

It is further certified that the assistance and help received by him from various sources during the course of investigation has been duly acknowledged.

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Advisory Committee

ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
DEPARTMENT OF AGRIBUSINESS MANAGEMENT
CENTRE FOR POST GRADUATE STUDIES (CPGS)

CERTIFICATE II

This is to certify that the thesis entitled "A study on Supply Chain Management of IFFCO in Khurda district" submitted by *Dinesh Singh* to the Orissa University of Agriculture and Technology, Bhubaneswar in partial fulfillment of the requirements for the degree of Master of Business Administration (Agribusiness Management) has been approved/disapproved by the students' advisory committee and the external examiner.

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DECLARATION

I hereby declare that this thesis entitled, “A study on Supply Chain Management of IFFCO in Khurda district” being submitted to the Department of Agribusiness Management, Center for Post Graduate Studies, Orissa University of Agriculture and Technology, Bhubaneswar, is my own work to the best of my knowledge and belief and it contains no materials previously published or written anywhere for the award of any other degree or diploma of the university or other institute of higher learning, any time before.

Dinesh Singh

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Place

Date Dinesh Singh

ABSTRACT

Efficient and organized marketing is essential for the healthy growth of the any community. It benefits the producer as well as the consumer. Unregulated market involves a long chain of intermediaries before the commodity reaches to the final consumer, with the result that the cost of the commodity becomes exorbitant. To eliminate the middleman from the marketing activities and provide better price for agricultural producers the cooperative marketing societies were established during 1912 Act. Cooperative marketing societies are organized by the farmers themselves and the profits are distributed among the members based on the quantity of the produce marketed by them. Indian Farmer Fertilizer Cooperative Ltd. (IFFCO), a premier organization in the cooperative sector engaged in production and marketing of Urea and complex fertilizers over five decades, is now standing amidst competition of private and public sector fertilizer brands in the country. IFFCO has as many as 30000 member societies and aims at serving them through cooperative way. Hence it has chosen a single distribution channel that is Federation at state level, to market its various fertilizer brands. Of late the experiment to market the fertilizer directly to the society is also carried out. However, the need to explore an effective alternative marketing channel still exists to make the IFFCO fertilizer a universal brand in the country.

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LIST OF ABBRIBIATIONS

IFFCO	Indian Farmers Fertiliser Co-operative Limited
IPL	Indian Potash Ltd
ICS	Industries Critiques du Senegal
OMIFCO	Oman India Fertiliser Company
JIFCO	Jordan India Fertiliser Company
ITGI	IFFCO-Tokio General Insurance Ltd
NCDEX	National Commodity and Derivative Exchange
ICPL	IFFCO Chhattisgarh Power Ltd
MKCO	Marketing Central Office
FSC	Farmers Service Centre
IFFDC	Indian Farm Forestry Development Cooperative Ltd
CORDET	Cooperative Rural Development Trust
NCMSL	National Collateral Management Services Ltd
IFFDC	Indian Farm Forestry Development Cooperative Ltd
ICEF	India Canada Environment Facility
PFFCS	Primary Farm Forestry Cooperative Societies
CORDET	Co-operative Rural Development Trust
KRIBHC	Krishak Bharati Cooperative Limited
GFCL	Godavari Fertilizers and Chemicals Limited
NAFFAC	National Films and Fine Arts Cooperative Limited
MARKFED	Orissa State Cooperative Marketing Federation Ltd
PSS	Price Support Scheme
RKVY	Rashtriya Krishi Vikas Yojana
NAFED	National Agricultural Cooperative Marketing Federation of India
FCI	Food Corporation of India
MSP	Minimum Support Price
OSCMF	Odisha State Cooperative Marketing Federation
PACs	Primary agriculture Co-operative Societies

CHAPTER 1

INTRODUCTION

INTRODUCTION

During mid- sixties the Co-operative sector in India was responsible for distribution of 70 per cent of fertilizers consumed in the country. This Sector had adequate infrastructure to distribute fertilizers but had no production facilities of its own and hence depended on public/private sectors for supplies. To overcome this lacuna and to bridge the demand supply gap in the country, a new cooperative society was conceived to specifically cater the requirements of farmers. It was a unique venture in which the farmers of the country availed fertilisers through their own Co-operative Societies. These societies worked for interest of farmers. The number of Co-operative Societies associated with IFFCO has risen from 57 in 1967 to 39,824 at present. Indian Farmers Fertilizer Co-operative Limited (IFFCO) was registered on November 3, 1967 as a Multi-unit Co-operative Society. On the enactment of the Multistate Co-operative Societies act 1984 & 2002, the Society is deemed to be registered as a Multistate Co-operative Society. The society is primarily engaged in production and distribution of fertilizers. The byelaws of the society provide a broad frame work for the activities of IFFCO as a co-operative Society. IFFCO commissioned an ammonia - urea complex at Kalol and the NPK/DAP plant at Kandla both in the state of Gujarat in 1975. Another ammonia - urea complex was set up at Phulpur in the state of Uttar Pradesh in 1981. The ammonia - urea unit at Aonla was commissioned in 1988. In 1993, IFFCO had drawn up a major expansion programme of all the four plants under overall aegis of IFFCO VISION 2000. The expansion projects at Aonla, Kalol, Phulpur and Kandla were completed on schedule. All the projects conceived as part of VISION 2000 had been realized without time or cost overruns. All the production units of IFFCO have established a reputation for excellence and quality. Another growth path was chalked out to realize newer dreams and greater heights through Vision 2010. As part of this vision, IFFCO has acquired fertilizer unit at Paradeep in Orissa in September 2005. As a result of these expansion projects and acquisition, IFFCO's annual capacity has been increased to 3.69 million tonnes of Urea and NPK/DAP equivalent to 1.71 million tonnes. In pursuit of its growth and development, IFFCO had embarked upon and successfully implemented its Corporate Plans, ‘Mission 2005’ and ‘Vision 2010’. These plans have resulted in IFFCO becoming

one of the largest producer and marketer of chemical fertilizers by expansion of its existing units, setting up Joint Venture Companies Overseas and Diversification into new Sectors. IFFCO has now visualized a comprehensive plan titled ‘Vision-2020’ which is presently under implementation. IFFCO has made strategic investments in several joint ventures. Indian Potash Ltd (IPL) in India, Industries Chimiques du Senegal (ICS) in Senegal, Oman India Fertilizer Company (OMIFCO) in Oman and Jordan India Fertilizer Company (JIFCO) are important Fertilizer joint ventures. As part of strategic diversification, IFFCO has entered into several key sectors. IFFCO-Tokio General Insurance Ltd (ITGI) is a foray into general insurance sector. Through ITGI, IFFCO has formulated new services of benefit to farmers. 'Sankat Haran Bima Yojana' provides free insurance cover to farmers along with each bag of IFFCO Fertilizer purchased. To take the benefits of emerging concepts like agricultural commodity trading, IFFCO has taken equity in National Commodity and Derivative Exchange (NCDEX). IFFCO Chhattisgarh Power Ltd (ICPL) which is under implementation is yet another foray to move into core area of power. IFFCO is also behind several other companies with the sole intention of benefitting farmers. The distribution of IFFCO's Fertilizer is undertaken through over 39824 Co-operative Societies. The entire activities of Distribution, Sales and Promotion are coordinated by Marketing Central Office (MKCO) at New Delhi assisted by the Marketing offices in the field.

In addition, essential agro-inputs for crop production are made available to the farmers through a chain of 158 Farmers Service Centre (FSC). IFFCO has promoted several Institutions and Organizations to work for the welfare of farmers, strengthening cooperative movement, improve Indian agriculture. Indian Farm Forestry Development Cooperative Ltd (IFFDC), Cooperative Rural Development Trust (CORDET), IFFCO Foundation, IFFCO Kisan Sewa Trust (IKST) belong to this category. An ambitious project 'ICT Initiatives for Farmers and Cooperatives' is launched to promote e-culture in rural India. IFFCO obsessively nurtures its relations with farmers and undertakes a large number of agricultural extension activities for their benefit every year. IFFCO, today, is a leading player in India's Fertilizer industry and is making substantial contribution to the efforts of Indian Government to increase food grain production in the country.

IFFCO - A success story

Indian Farmers Fertiliser Cooperative Limited, also known as IFFCO, is the world’s largest fertiliser cooperative federation based in India which is registered as a Multistate Cooperative Society. IFFCO has 40,000 member cooperatives.

History

During the 1960s the cooperative sector in India was responsible for the distribution of 70 per cent of the fertilisers consumed in the country. This sector had adequate infrastructure to distribute fertilisers but had no production facilities of its own and hence was dependent on public/private sectors for supplies. To overcome this difficulty and to bridge the demand supply gap in the country, a new cooperative society was conceived to specifically cater to the needs of farmers. It was a unique venture in which the farmers of the country through their own cooperative societies created this new institution to safeguard their interests.

The numbers of cooperative societies associated with IFFCO have risen from 57 in 1967 to more than 39,800 at present. Indian Farmers Fertiliser Cooperative Limited (IFFCO) was registered on November 3, 1967 as a Multi-unit Co-operative Society. On the enactment of the Multistate Cooperative Societies act 1984 & 2002, the Society is deemed to be registered as a Multistate Cooperative Society. The Society is primarily

engaged in the production and distribution of fertilisers. The bylaws of the Society provide a broad frame work for the activities of IFFCO as a cooperative society.

Plants owned by IFFCO

IFFCO Phulpur Unit -1 Entrance. It's one of the 5 Factories owned by IFFCO. Established in 1980 during the years 2004 and 2005, IFFCO has emerged as a cooperative in true spirit. IFFCO is now entirely owned by its cooperatives and has become a cooperative of the farmers, by the farmers and for the farmers. Initially, IFFCO commissioned an ammonia – urea complex at Kalol and the NPK/DAP plant at Kandla both in the state of Gujarat in 1975. Another ammonia – urea complex was set up at Phulpur in the state of Uttar Pradesh in 1981. The ammonia – urea unit at Aonla was commissioned in 1988. Recently, IFFCO has acquired an NPK/DAP and Phosphoric acid fertiliser unit at Paradeep in Orissa in September 2005. The marketing of IFFCO's products is channelled through cooperative societies and institutional agencies in over 28 states and union territories of India.

Production and Sales

During the year 2008-09 IFFCO produced 71.68 lakh tonnes of fertiliser material; registering overall capacity utilisation of 98 percent for nitrogenous and 53 per cent for phosphatic fertiliser. It contributes 21.4% of country's total nitrogenous fertiliser production and 27% of total phosphatic fertiliser production in the same period. Plant productivity during the year stood at 1373 tonnes/person. The Society has also achieved another important landmark in the field of energy conservation by clocking overall annual energy of 5.943 Gcal/tonne of urea. The Society has cloaked an all time high sales of 112.58 lakh tonne of fertilizers during 2008-09

Financial Performance

The society has recorded an all-time high turnover of Rs. 32933 crore and harvested a pre-tax profit of Rs. 441.95 crore during the year 2008-09. It has paid dividends for the year 2008-09 at the rate of 20 percent of the paid up equity to its shareholders for the eighth consecutive year.

Diversification and Joint Ventures

IFFCO has made strategic investments in several joint ventures. Indian Potash Limited in India, Industries Chimiques du Senegal (ICS) in Senegal and Oman India Fertiliser Company (OMIFCO) in Oman are important fertiliser joint ventures. Indo Egyptian Fertiliser Company (IEFCO)in Egypt, Jordan India Fertiliser Company in Jordan are under implementation. As part of strategic diversification, IFFCO has entered into several key sectors. IFFCO-Tokio General Insurance Ltd (ITGI) is a foray into general insurance sector. Through ITGI, IFFCO has formulated new services of benefit to farmers. 'Sankat Haran Bima Yojana' provides free insurance cover to farmers along with each bag of IFFCO fertiliser purchased. To take the benefits of emerging concepts like agricultural commodity trading, IFFCO has purchased equity in National Commodity and Derivative Exchange (NCDEX) and National Collateral Management Services Limited (NCMSL). IFFCO Chhattisgarh Power Limited (ICPL) which is under implementation is yet another foray to move into core area of power. IFFCO is developing a multi-product KISAN Special Economic Zone (IKSEZ) at Nellore in Andhra Pradesh – first of its kind with farmer's cooperatives as stakeholders. IFFCO is also behind several other companies with the sole intention of benefiting farmers. The distribution of IFFCO's fertiliser is undertaken through over 39,800 co-operative societies. The entire activities of Distribution, Sales and Promotion are co-ordinated by Marketing Central Office (MKCO) at New Delhi assisted by the Marketing offices in the field. In addition, essential agro-inputs for crop production are made available to the farmers through a chain of 158 Farmers Service Centre (FSC). IFFCO has promoted several institutions and organisations to work for the welfare of farmers, strengthening cooperative movement, improve Indian agriculture.

ABOUT MANAGEMENT

The Representative General Body (RGB) which is the General Body forms the supreme body that guides the various activities of IFFCO. The RGB consists of:

1. Members of the Board of Directors.

2. One delegate from each of the Member Societies holding shares of the value of Rs.100 thousand and above; such delegate shall be as per the provisions of the Multi-State Cooperative Societies Act/Rules as amended from time to time;

3. Delegates to be elected from amongst the representatives of Member-Societies (other than Members holding shares of the value of Rs.100 thousand and above) in each State/ Union Territory at the rate of one delegate for every 200 societies or part thereof. However, the maximum number of such delegates from any State / Union Territory shall not exceed 25. Such elected delegates shall be as per the provisions of the Multi-State Cooperative Societies Act/ Rules amended from time to time. The Board of Directors of IFFCO carry out all functions as specified under the Multi-state Cooperative Societies Act/Rules. The Board of Directors frame policies, direct the various activities of the Society, and under take any other activities conducive to overall growth and development of Societies. The Board is headed by the Chairman. The Managing Director is the Chief Executive of the Organization with responsibilities for general conduct, supervision and management of day to day business and affairs of IFFCO. These directors are assisted by Functional Directors & Senior Executives who are experts in various disciplines.

TYPES OF MINERAL FERTILIZERS

Some of the well-known Fertilizers used in India are:

Nitrogenous Fertilizers	
Urea	46% N
Ammoniam Sulphate (As)	21% N
Ammoniam Chloride (ACl)	26% N
Calcium Ammoniam Nitrate (CAN)	25% N

Phosphatic & Potassic Fertilizers	
Single Super Phosphate (SSP)	16% P2O5
Muriate of Potash (MOP)	60% K2O
Sulphate of Potash (SOP)	48% K2O
Di-ammonium Phosphate (DAP)	18 – 46
Rock Phosphate (RP)	16 - 20% P2O5

(Table 1.1)

ABOUT BIO-FERTILIZERS

Bio fertilizers are capable of fixing atmospheric nitrogen when suitable crops are inoculated with them. Bio fertilizers are low cost, effective, environmental friendly and renewable source of plant nutrients to supplement Fertilizers. Integration of chemical, organic and biological sources of plant nutrients and their management is necessary for maintaining soil health for sustainable agriculture. The bacterial organisms present in the bio fertilizer either fix atmospheric nitrogen or solubilise insoluble forms of soil phosphate. The range of nitrogen fixed per ha/year varies from crop to crop; it is 80 - 85 kg for cow pea, 50 - 60 kg for groundnut, 60 - 80 kg for soybean and 50 - 55 kg for moongbean.

IFFCO PRODUCTS

UREA

(Fig 1.1)

IFFCO's Urea is not merely a source of 46% of nutrient nitrogen for crops, but it is an integral part of millions of farmers in India. A bag of IFFCO's urea is a constant source of confidence and is a trusted companion for Indian farmer. When farmers buy IFFCO's urea, they know that what they get is not just a product but a complete package of services, ably supported by a dedicated team of qualified personnel. More importantly, they are aware that it is their own urea, produced and supplied by a cooperative society owned by themselves. Urea is the most important nitrogenous Fertilizer in the country because of its high N content (46%N). Besides its use in the crops, it is used as a cattle feed supplement to replace a part of protein requirements. It has also numerous industrial uses notably for production of plastics.

If urea is applied to bare soil surface significant quantities of ammonia may be lost by volatilization because of its rapid hydrolysis to ammonium carbonate. The

hydrolysis of urea can be altered by the use of several compound called urease inhibitors. These inhibitors inactivate the enzyme and thereby prevent the rapid hydrolysis of urea when it is added to soil. The rapid hydrolysis of urea in soils is also responsible for ammonia injury to seedlings if large quantities of this material placed with or too close to the seed. Proper placement of Fertilizer urea with respect to seed can eliminate this difficulty.

NPK

As far as Indian farmer is concerned, IFFCO's NPK/DAP is not just a source of crucial nutrients N, P, K for the crops, but is an integral part of his/her quest for nurturing mother earth. The bountiful crop that results from this care is an enough reason for the graceful bags of IFFCO NPK/DAP bags to be an integral part of the farmers' family.

The two grades of NPK produced by IFFCO, 10:26:26 and 12:32:16, indicating the content of N, P, K proportion, are tailor made to supply the exact composition required for replenishment of the soil. The Indian farmer's confidence and trust stems from the fact that IFFCO's NPK/DAP are merely a part of a complete package of services, ably supported by a dedicated team of qualified personnel. More importantly, they are aware, IFFCO is a cooperative society owned by farmers cooperatives.

Diammonium Phosphate (DAP)

(fig 1.3)

It is the most popular phosphatic Fertilizer because of its high analysis and good physical properties. The composition of pure salt of DAP is N- 21.19% and P205 - 53.76%. Fertilizer grade DAP is 18:46:0.

NPK Complex Grades

(fig 1.4)

NPK complex Fertilizers produced at Kandla are DAP based grades. At present two grades Grade I 10:26:26 and Grade II 12:32:16 are produced. Granular NPK complexes are free flowing and do not pose any problem during handling and storage. However, exposure of material for long period to very high humidity may cause caking. Therefore, NPK complexes are bagged in quality tested HDPE bags to prevent ingress of moisture.

PRODUCTION CAPACITY OF IFFCO

It is the largest producer of fertilizers in the country.
No. of Plant Locations: 5
Installed Revamped / Annual capacity ('000 MT)

UREA	4242.2
NP/NPK/DAP	4335.4
WSFs	15.0
ZnSO4 (Monohydrate)	30.0
TOTAL 'N'	2630.7
TOTAL 'P2O5'	1719.4

(table 1.2)

Contributed about 19.3% to the total 'N' and 28.8% to the total "P2O5" produced in the country during the tear 2014-15.

(As on March 2015)

SHARE CAPITAL OF IFFCO

(in Crore)

Authorized Share Capital	1000.00
Subscribed and Paid up Capital	424.98
(Entire share Capital held by Co-operatives)	

(table 1.3)

(As on 31st March 2015)

CUMULATIVE ACHIEVEMENTS TILL DATE

Fertilizer Production	1590.85Lacs MT
Fertilizer Sale	1912.81 Lacs MT
Turnover	2,57,707 crore
Profit Before Tax	12,034 crore
Profit After Tax	8,997 crore
Contribution to Exchequer	15,592 crore

(table 1.4)

(As on 31st March 2015)

IFFCO PLANTS

KALOL PLANT: The Kalol Plant which went on commercial stream in 1975comprises production units of Ammonium, Urea and Dry Ice along with necessary off-site facilities. Despite being one of the oldest plants in the country, the unit is still maintaining a fine performance level due to retrofits and revamps carried out from time to time. The plant produced 5.60 lakh MT of urea with capacity utilization of 103% surpassing its previous record. The plant bagged First Prize in fertilizer sector for National Energy Conservation. The unit received Gujarat State Safety Award and the certificate of "Lowest Disability Index"

KANDLA PLANT: The Kandla unit, one of the oldest production outfit churned out 24.76 lakh MT of NPK/DAP, the highest quantity, during 2006-07 with a capacity utilization of 102.5%.The unit has won FAI's Awards for "Excellence in Safety" and "Golden Peacock Environment Management Award". The unit is till holding good strength and is going well ahead in the production race of DAP across the country.

PHULPUR PLANT: The Phulpur plants (unit 1 and 2) registered the highest ever annual production of 14.57 lakh MT of urea during the year with the capacity utilization of 103%. The plant received National Award for "Excellence in Water Management" and second prize in "National Energy Conversation" besides "Indira Gandhi Memorial National Award for Excellence" and "Best Pollution Control Implementation Gold Award".

AONLA PLANT : Aonla 1&2 produced 17.70 lakh MT of urea with a capacity utilization of over 102.4%. The unit received second prize in fertilizer sector for the prestigious “National Energy Conservation Award” and National award for “Excellence in Energy Management”. The unit also won ICQESMS-2007 Excellence award for papers published on “Safety and Health in Chemical industry” and “Hazard Identification &Risk Management”.

PARADEEP PLANT: After necessary revamping and modifications the Paradeep Plant has started fertilizer production in April 2006. The plant could roll out 7.50 lakh MT of DAP/NP in 2006-07.

ABOUT COOPERATIVE

International Cooperative Alliance (ICA) defines Cooperative as: - “A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.” "Cooperatives are a reminder to the international community that it is possible to pursue both economic viability and social responsibility.” -United Nations Secretary-General Ban Ki-moon.

COOPERATIVE VALUES

Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

BENEFITS TO MEMBER SOCIETY- IFFCO

1 The Member societies are getting dividend on the equity held by them in IFFCO. IFFCO is providing dividend @ 20% to its Member Cooperative Societies since the last 11 consecutive years.

2 If elected as delegate of IFFCO - - Opportunity to participate in the Annual General Meeting of IFFCO. - Opportunity to participate in Plant Visit Programme. - Opportunity to participate in Inter- State Visit and Visit to Research Institutes and Agri-Universities. - Opportunity to participate in State/Zonal advisory committee meetings, local extension programmes, etc arranged by IFFCO.

SUPPLY CHAIN MANAGEMENT SYSTEM IN IFFCO

This thesis deals with the study of the supply chain management in fertilizer industry with special reference to IFFCO, more specifically, with the supply chain primary activities such as manufacturing of ammonia and urea, product storage, dispatch of products (outbound logistics) for distribution and sale.

Business in global environment should face opportunities and threats regardless of location and market. Firms cannot isolate themselves from ignoring external factors such as economic trends, technology innovations in other countries. Companies are going global truly with Supply-chain Management (SCM). A company can design and develop the product in United States, manufacture in India and sells in Europe. The Companies have changed the methods by which they manage their operations and supply chain activities. The spread and modernization of infrastructures and transport has also changed the trade and the intensified competition has elevated the importance of supply chain management to new levels.

The fertilizer movement / supply chain management in IFFCO is carried out in three modes. They are:-

- By Road
- By Rail
- By Ship

There are two forms of fertilizer movement in IFFCO. They are indigenous and import. In case of fertilizer distribution through train there are 42 compartments. Each train carries about 1260-1263 tones of fertilizer. When the train has reached its destination the fertilizer are unloaded in the rake point warehouse. It is that warehouse which comes within 10 km radius of the rake point. For a particular rake point holding and transportation contractors are there.

During the unloading of fertilizers the railway receipt is to be verified. Some of the examples of rake point are:

1. Cuttack rake point
2. Khurda rake point
3. Brahmapur rake point

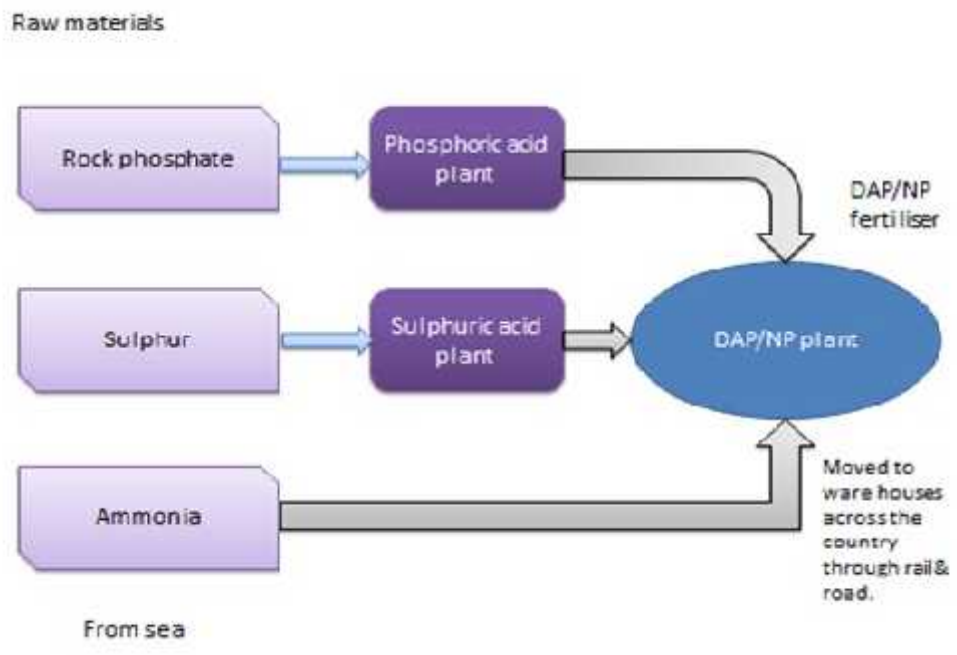
The nearest IFFCO plant from Bhubaneswar is the Paradeep plant. By road the fertilizers are first brought to the IFFCO wholesaling unit. Then it is transported to the retailing unit. The third step is to the PACS. The PACS directly sell the fertilizers to the farmers at the subsidy rate.

SCM & OUTSOURCING

Economics and institutional Liberalization, Privatization and Globalization (LPG) increased the competitiveness of the corporate. A number of factors changed globalization dramatically since the last decade. As a result the corporate faced increasing competition from global firms. The drivers of globalization are the reduction of tariffs,

improved transportation systems, information and communication technology, and availability of global markets, products and services. These changes have enabled the global competitors to make the products and services available to customers worldwide. These pressures have led to increased emphasis on re engineering internal business processes and improve services to customers and as a means to reduce costs, and better supply chain throughout the planning and operations working in closer collaboration with suppliers. Products and services, changes in technology and globalization have increased the most dynamic markets and greater uncertainty in customer demand. Users can access more goods and services in the market. Therefore, to understand the company's competitive position, changes in customer demands and the requirements for the goods and services depends on its ability to respond. SCM tools and technology allows organizations to respond to the environmental changes and policies.

Therefore these are the reasons why SCM has become essential during the last decade. This intensified competition had driven the business world to look for core competencies and enhanced performance. If a particular organization in some country has the core competence for a certain product or service, it will get the business for that product or service. This is called global outsourcing.



(Fig 2.1)

SUPPLY CHAIN MANAGEMENT

According to Lambert and Stock (1993) logistics, a widely accepted term by today's professionals, had in the past a variety of names including physical distribution, supply chain management and business logistics. The Council of Logistics Management defines logistics as "The process of planning, implementing and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements" According to the above definition logistics consists of the following four flows:

Material Flow: Flow of materials from their sources through necessary processes including their storage, retrieval and the delivery of raw materials.

Merchandise Flow: Flow of finished goods from the factory to the end user in the distribution channels.

Money Flow: Flow of money including advances from organizations to suppliers of raw materials, energy, services, etc. and into organizations from the wholesalers, distributors, customers, etc.

Information Flow: Flow of required information from and into the organization through various communication channels in the logistics system.

(Fig 2.2)

Since, interruptions in any of the above four flows affect an organization's raw materials supply (purchasing), manufacturing (operations) and marketing (distribution) functions. According to Fawcett and Fawcett (1995) there exists a need to integrate these flows through effective management of infrastructure, materials, technology and people. In this thesis, the concern is with the supply chain management of NFCL. More specifically, it is concerned with the inbound and outbound logistics of the company

SUPPLY CHAIN MANAGEMENT PRACTICES

In India approximately two percent of the GDP is spent on logistics (Planning Commission report-2002), whereas this Figure is 13 percent for developed countries. Supply chain management and logistics are still in the embryonic stage in India. The current lull in the economy is forcing many industries to examine their costs, and cut it down in size. Today excellent logistics management has become essential for success of companies. Logistics function includes the total flow of material, from the purchase of raw materials to delivery of completed products to the ultimate users. As such, it includes the activities of sourcing and purchasing, conversion including capacity planning, technology selection, operations management, production scheduling, materials planning, distribution planning and management of industry warehouse operations, inventory

management, inbound, internal, and outbound transportation; linkage with customer service, sales, reverse logistics, promotion and marketing activities.

Successful supply chain management is extremely complex because of large numbers of players with varying interest or objectives are involved. Though the supply chain of each company has its own unique features, the following general principles help in management of supply chains.

- Begin with the customer
- Manage logistic assets
- Organize customer management
- Integrate sales and operations planning
- Leverage manufacturing and sourcing
- Focus on strategic alliances and relationship management
- Develop customer driven performance measures

A significant new trend has been evolving in logistics management in the last decade - one that involves the collaboration of all participants in the supply chain in order to reduce the cost of total logistics system. It has been referred to as "Supply Chain Management",

"Logistics Partnership" or "Inter-Corporate Logistics Management". In traditional Logistics "total cost concepts" model, companies worked to manage logistics as an entity and to lower the total logistics costs to the organization. The model evolved balancing trade-off among production run lengths, inventory, transportation, and warehousing and customer service. Later an increasing number of companies realized that though the total cost concepts might be useful, it is tainted because it does not consider the efficiency of the entire supply chain. The supply chain management on the other hand involves the active collaboration of two or more participants in the supply channel (Supplier, manufacturer, distributor, and/or customer) to manage all the logistics resources in the most efficient manner possible.

The concept of "quick response" gained broad favor as companies in all parts of supply chain developed an appreciation of its potent benefits. Quick response involves the integration of the supply chain, effectively linking retailers, suppliers (manufacturers/ distributors) and carriers in close communication and integrated decision making.

Just - in - time (JIT) Logistics: It is useful to classify JIT programs into two categories, JIT production and JIT logistics. These programs typically focus on the reduction of set up funds for key operations, the reduction of lot size, and the enhancement of quality - all leading to lower work - in - progress inventories.

JIT logistics programs, on the other hand, apply JIT principles to the management of raw materials, inventories and beyond supplies. For JIT logistics plans to work, four `Pillars' must be in place. They are:

• Stable production schedules
• Efficient Communication
• Co-coordinated transportation
• Quality control

These four principles are critical to the integrated management of suppliers. The 1990s have been called the "decade of customer service". All industry sectors are placing a premium on quality, including quality customer service. Serving customers as they want to be served and "making company easy to do business with" is competitive objective for the next millennium. At the same time the meaning of effective customer service is changing, and companies must meet an increasingly higher standard. Customer Service Pyramid is an effective framework for formulating a customer service strategy in a fluid marketing environment.

The distribution of IFFCO's fertilizer is undertaken through over 39824 co-operative societies. The entire activities of Distribution Sales and Promotion are co-ordinate by Marketing Central Office (MKCO) at New Delhi assisted by the Marketing offices in the field. In addition, essential agro-inputs for crop production are made available to the farmers through a chain of 158 Farmers Service Centre (FSC).

In Khurda district there are 10 blocks namely Balianta, Balipatana, Banapur, Bhubaneswar, Bolagarh, Chilika, Jatni, Khurda, Tangi comprising of 168 Garam panchayat and 1561 villages. An attempt has been made to study IFFCO in Khurda districts with following objectives.

Objective of the study

- To study and analyze existing supply chain of the organization.
- To study the problems present in the business.
- To study about the techniques and facilities necessary for progress.
- To study about the different promotional activities carried out by IFFCO
- To have a close observation on the reactions of farmers towards IFFCO products.

CHAPTER 2
REVIEW OF LITREATURE

REVIEW OF LITERATURE

The thoughts and concepts of fertilizer marketing executives, professionals at the Fertilizer Association of India (FAI) New Delhi, Academicians at Universities, including

Agricultural university, Management schools (IIMs) contained in their publications have been critically reviewed. This overview brings out some of the highlights of the literature.

Saleem Ahemed, Chodhury and Others (1992) have made an in depth analysis of several aspects of fertilizer demand projections and also the agricultural productions based on time series data on past consumption trends of fertilizer consumption and food production estimates for South eastern countries. According to them “To meet the year 2000projected Agricultural production targets would grow by 45% in case of India and would double in respect of Bangladesh and Nepal and would grow about 77% in case of Pakistan.

Ramaswamy (1985) described the process of fertilizer marketing in India as existed prior to 80s. It had brought out the strengths, weakness, opportunities and threats (SWOT) of fertilizer marketing system. It also brought out the need and projected long term fertilizer demand in South Asia.

“ A study of the marketing of fertilizers in India” published by the Gupta (1984) had made a detailed study of the problems and issues relating to marketing of fertilizers. According to this analysis; the cooperatives cover 97% of the six lakh villages and the membership accounts for 45% of the rural population. He contends that even through in absolute terms in the quantum of fertilizers marketed by the cooperatives has increased, their share has come down from 70% to 45% partly because of internal problems and partly external problems.

Vittal (1984) had brought out strategies of cost reduction in logistics of fertilizer distribution in a lucid way. He contends in the most efficient manner in an issue of Prime National Importance.

Seetharaman (1988) had examined the emerging opportunities in agricultural input marketing. Agricultural inputs comprise of a heterogeneous group of products such as fertilizers, seeds, pesticides, farm equipments, irrigation mix in case of fertilizer are decided by Government.

Chauhan (1984) had emphasized the critical importance of promotion and extension in fertilizer marketing system. In his paper he has covered effect of various agronomic practices on fertilizer use efficiency, increasing coverage on high yield varieties, fertilizer efficiency in dry land cultivation.

Bhinde and Pal (1984) have analysed the implications of policy measures on fertilizer consumption. The selected policy measures are increased in irrigated area, produce prices, irrigation facility etc. One of the important measures to stimulate fertilizer consumption is to improve the economics of its use. The paper discusses the major ways in which the economics of fertilizer use can be increased.

Shanti Narayan (1984) had brought out the need for adopting a system approach in fertilizer distribution. Fertilizer is a significant and basic input for the growth of Indian Agriculture. The challenges to cope with distribution of fertilizers from present level of 12.2 million tonne to 20 million tones/annum by the turn of the century large scale stream lining of the current system and the infrastructer are brought out. The paper analysed the inter-model mix of fertilizer movement by rail and road during the past two decades and brought out the steep fall in the proportion of fertilizer moved by rail during this period.

Krishnan Kutty (1993) had covered a sample of eight public sector units for analyzing their performances. These units account for 41.4% of the total Nitrogenous fertilizers and 28.9% of Phosphate fertilizers during 1991-92. Despite increase in sales by over 30% these units jointly incurred a heavy loss of Rs. 9.347 cr.

Aurna Parimi (1993) in her study had stated that the two samples (IFFCO and KRIBCO) taken for the study have indicated excellent overall performance.

Mittal (1991) in his analytical paper had brought out the several forces and factors that have acted on the fertilizer pricing system. The paper has made an analysis of the fertilizer price trends over a 20 year period. The paper estaliblishes that low input-output price mix for Agriculture is evident from the behavior of the movement of UREA, produce prices and prices in general.

Anonymous 2013, In Prataprudrapur Co-operative society which was established in 1965, total number of members are 1685. They are cultivating about 5 to 6 vegetables every year like potato , cabbage, paddy, cauliflowers, ladies finger etc. They are using UREA, DAP, NPK COMPLEX (20:20:0) .

Kharif fertilizers:

In 2013-14 –800 bags DAP, 3 M.T. UREA, 0.3 M.T. NPK, 3.4 M.T. MOP

In 2014-15 – 347 bags(3 M.T.) DAP, 942 bags UREA, 4 M.T. MOP

In 2015-16 - 400bags DAP, 1100 bags (5 M.T.) UREA

Rabi fertlizers:

In 2013-14 –0.5 M.T. MOP
In 2014-15 –325 bags UREA, 100 bags (1.1 M.T.) MOP
In 2015-16 – 1.4 M.T. – 1.5 M.T. DAP, 200 bags (2 M.T.) UREA, 1.2 M.T. MOP

Anonymous 2013, In Arisal Co-operative society which was established in 1963 total number of members are 1685. They are cultivating about 6 to 7 vegetables every year like potato , cabbage, paddy, cauliflowers, ladies finger, sugarcane etc. They are using UREA, DAP, NPK COMPLEX.

In 2013-14 –750 bags DAP, 3 M.T. UREA, 0.3 M.T. NPK,
In 2014-15 – 347 bags(3 M.T.) DAP, 900 bags UREA, 4 M.T. MOP
In 2015-16 - 200bags DAP, 1000 bags (4.5 M.T.) UREA, 5M.T. MOP

Anonymous 2013, In Sarkana Co-operative society which was established in 1965, total number of members are 1134. They are cultivating about 5 to 6 vegetables every year like potato , cabbage, paddy, cauliflowers, ladies finger etc. They are using UREA, DAP, NPK COMPLEX.

Anonymous 2013, In Kudiri Co-operative society which was established in 1958, total number of members are 1050. They are cultivating about 7 to 8 vegetables every year like potato , cabbage, paddy, cauliflowers, etc. They are using UREA, DAP, NPK, MOP.

Anonymous 2013, In Gobindapur Co-operative society which was established in 1954, total number of members are 1200. They are cultivating about 7 to 8 vegetables every year like potato ,brinjal, cabbage, paddy, cauliflowers, etc. They are using UREA, DAP, NPK Complex, MOP.

CHAPTER 3
MATERIALS AND METHODS

Khurda district Agriculture scenario

Villages: 1,561

Blocks: 10

Gram panchayat: 168

Tehsils: 8

Towns: 5

Municipality: 2 (Khurda, Jatni)

Municipal Corporation: 1 (Bhubaneshwar)

N.A.C: 2 (Balugaon, Banpur)

Tehsils: Balianta, Balipatna, Banapur, Begunia, Bhubaneswar, Bolagarh, Chilika, Jatni, Khurda, Tangi

(fig 3.1)

IRRIGATION	AREA ('000 ha)
Net Irrigated Area	52.61
Gross Irrigated Area	82.89
Rain fed Area	74.39

(table 3.1)

SOURCES OF IRRIGATION	NUMBERS	AREA ('000 ha)
Canals	21	92.84
Tanks	-	-
Open wells	2950	1.35
Bore wells	1489	2.9
Lift irrigation schemes	7167	14.15
Micro-irrigation	-	-
Other sources (please specify)		23.45
Total Irrigated Area		131.79
Pump sets	200	
Tractors	64	

(table 3.2)

COOPERATIVE DATA

1. Sarkana Cooperative Society

General data

Cooperative Name	SARKANA cooperative
Address	At/ Gadasrirampur, Block-Balianta
Village	Sarkana
Pin	752001
No. of members	1134
Consumption Area	Local
President	Bipin bihari Patra
Secretary	Bhagyadhara Mohanty
Contact no.	8908905071
Year of Establishment	1957
Fertilizers available	DAP,UREA,NPK Complex
Availability of Water	Irrigated land
No. of vegetables cultivated Every year	5 to 6 (potato, Cabbage, Paddy, Cauliflowers, Ladies finger etc)

(table 3.3)

Financial status

TYPE OF BUSINESS	AMOUNT (in Rupees)

Short term (viz. Krushi Loan)	70,000 /-
Medium term loan(SSG, GLG)	50,000 /-
Long term loan	42,000/-
Fertilizer distribution	About 1 lacs (Potash, UREA, NPK)
Paddy procurement	About 22,000 quintal
Turnover	2.10 lacs

(table 3.4)

2. Prataprudrapur Cooperative Society

General Data

Cooperative Name	PRATAPRUDRAPUR cooperative
Address	At/ Prataprudrapur, Block-Balianta
Village	Prataprudrapur
Pin	752102
No. of members	1685 (Agricutural family- 1712) (Loany member- 1204)
Consumption Area	Local
President	-
Secretary	Biswanath Panda
Contact no.	-
Year of Establishment	1965
Fertilizers available	DAP,IFFCO UREA,NPK Complex(20:20:0)
Availability of Water	Irrigated land
No. of vegetables cultivated Every year	8 to 9 (potato, Cabbage, Paddy, Cauliflowers, Ladies finger, Mung, Biri etc)

(table 3.5)

Financal status

TYPE OF BUSINESS	AMOUNT
Short term (viz. Krushi Loan)	65,000 /-

Medium term loan(SSG, GLG)	50,000 /-
Long term loan	40,000/-
Fertilizer distribution	About 1 lacs (Potash, UREA, NPK)
Paddy procurement	About 21,000 quintal 4 M.T. DAP (year 2015-16) 5 M.T. or 1100 bags UREA (year 2015-16 0.3 M.T. NPK (year2013-14)
Turnover	2.13 lacs (year 2014-15)

(table 3.6)

Fertilizer data

DAP

Year	Yield in Metric Tonne(M.T.)
2013-14	800 bags
2014-15	347 bags(3 M.T)
2015-16	400 bags

UREA

Year	Yield in Metric Tonne(M.T.)
2013-14	3 M.T.
2014-15	942 bags
2015-16	1100 bags (5 M.T.)

NPK

Year	Yield in Metric Tonne(M.T.)
2013-14	0.3 M.T.
2014-15	-
2015-16	-

MOP

Year	Yield in Metric Tonne(M.T.)
2013-14	3.4 M.T.
2014-15	4 M.T.
2015-16	-

RABI
DAP

Year	Yield in Metric Tonne (M.T.)
2015-16	1.4 – 1.5 M.T.

UREA

Year	Yield in Metric Tonne (M.T.)
2014-15	325 bags
2015-16	200 bags (2 M.T.)

NPK - NO-
MOP

Year	Yield in Metric Tonne (M.T.)
2013-14	0.5 M.T.
2014-15	100 Bags (1.1 M.T.)
2015-16	1.2 M.T.

(table 3.7)

4. Arisal Cooperative Society

General data

Cooperative Name	ARISAL cooperative
Address	At/ Arisal, Via Jatni
Village	Arisal
Pin	752102
No. of members	1685 (Agricultural family- 535)
Consumption Area	Local
Secretary	Premanada Srichandan
Contact no.	-
Year of Establishment	1963
Fertilizers available	DAP,UREA,NPK Complex
Availability of Water	Irrigated land
No. of vegetables cultivated Every year	6 to 7 (potato, Cabbage, Paddy, Cauliflowers, Ladies finger etc)

(table 3.8)

Financial status

TYPE OF BUSINESS	AMOUNT
Short term (viz. Krushi Loan)	70,000 /-
Medium term loan(SSG, GLG)	50,000 /-
Long term loan	42,000/-
Fertilizer distribution	About 1 lacs (Potash, UREA, NPK)
Paddy procurement	About 25,000 quintal
Turnover	3.0 lacs

(table 3.49)

Fertilizer data

DAP

Year	Yield in Metric Tonne(M.T.)
2013-14	750 bags
2014-15	347 bags(3 M.T)
2015-16	500 bags

UREA

Year	Yield in Metric Tonne(M.T.)
2013-14	3 M.T.
2014-15	900 bags
2015-16	1000 bags (4.5 M.T.)

NPK

Year	Yield in Metric Tonne(M.T.)
2013-14	0.3 M.T.
2014-15	-
2015-16	-

MOP

Year	Yield in Metric Tonne(M.T.)
2013-14	3.4 M.T.
2014-15	4 M.T.
2015-16	5 MT

(table 3.10)

5. Kudiri Cooperative Society

General data

Cooperative Name	KUDIRI cooperative
Address	At/ Kudiri, Via-Jatni
Village	Kudiri
Pin	752001
No. of members	1050
Consumption Area	Local
Secretary	Biswajit Bhanja
Contact no.	9438374413
Year of Establishment	1958
Fertilizers available	DAP,UREA,NPK Complex
Availability of Water	No-Irrigated land
No. of vegetables cultivated Every year	7-8 (potato, Cabbage, Paddy, Cauliflowers, etc)

(table 3.11)

Financial status

TYPE OF BUSINESS	AMOUNT
Short term (viz. Krushi Loan)	60,000 /-
Medium term loan(SSG, GLG)	50,000 /-
Long term loan	50,000/-
Fertilizer distribution	About 1 lacs (Potash, UREA, NPK)
Paddy procurement	About 25,000 quintal
Turnover	2.10 lacs (for year 2014-15) 2.80 lacs (for year 2015-16)

(table 3.12)

6. Gobindapur Cooperative Society

General data

Cooperative Name	GOBINDAPUR cooperative
Address	At/ Gobindapur, Via-Jatni
Village	Gobindapur
Pin	752001
No. of members	1200
Consumption Area	Local
Secretary	Naresh Chandra Mohanty
Contact no.	9861174384
Year of Establishment	1954
Fertilizers available	DAP,UREA,NPK Complex
Availability of Water	Irrigated land
No. of vegetables cultivated Every year	5 to 6 (potato, Cabbage, Paddy, Cauliflowers, Ladies finger etc)

(table 3.13)

Financial status

TYPE OF BUSINESS	AMOUNT
Short term (viz. Krushi Loan)	60,000 /-
Medium term loan(SSG, GLG)	40,000 /-
Long term loan	35,000/-
Fertilizer distribution	About 1.5 lacs (Potash, UREA, NPK)
Paddy procurement	About 30,000 quintal
Turnover	1.70 lacs (year 2014-15)

(table 3.14)

SOURCES OF DATA COLLECTION

1. Primary Data Collection

Data were collected from 5 cooperative societies and 50 farmers, retailers in Khurda district. Responses on the questionnaire were obtained through interaction in presence of the corresponding cooperative society secretary, president and some members of the society so as to get the accurate and holistic information about the sale of the IFFCO product. Information were also collected from the farmers and retailers and producer of collection of IFFCO product.

2. Secondary Data Collection

Secondary data related to sale of IFFCO products were collected from Indian Farmers Fertilizer Cooperative Ltd (IFFCO) and some data were collected from Regional Co-operative Marketing Society (RCMS).

APPROACH OF THE STUDY

The approach for collecting the data was based on field survey. The objective was to find and analyze how Odisha State Cooperative Marketing Federation (OSCMF) plays the role in marketing business of IFFCO.

RESEARCH INSTRUMENTS

Data were collected through face to face communication and with the help of questionnaires specially designed for the purpose. The questionnaires involve all the farmers and cooperative society in the interaction. It covered various aspects, like general information about the farmers, channel of purchasing fertilizer by farmers and information were also collected from the cooperative society, like product sale by the society. The field survey was done during April and May.

SAMPLING METHOD

The method of sampling was purposive judgment sampling, i.e. where target members were to be considered and here the cooperative society and farmers were targeted sample members.

CONTACT METHOD

Face to face communication is the contact method used to obtain information from the cooperative society, IFFCO, MARKFED, RCMS and farmers.

METHODOLOGY

- Data were collected from the co-operative societies about their purchase pattern of fertilizers in Khurda district
- Sales report of IFFCO fertilizer from IFFCO branch at Bhubaneswar
- Detail characterization of procurement and distribution of IFFCO fertilizer by the Regional Cooperative Marketing Federation (RCMS)
- Analysis of data
- Drafting of report

CONSTAINTS TO THE STUDY

- As the study covers the vast area with undulated roads and poor communication system in village areas like Sarkana, Prataprudrapur etc., it became a difficult task for an individual to get all the related data.
- The study could have been better if it would have been done in a group.
- Some members of the society were seen to be reluctant to give information. They had a perception that they were not related to this study in any way.

CHAPTER 4
RESULT AND DISCUSSION

RESULT AND DISCUSSION

In Prataprudrapur cooperative society fertilizer consumption in kharif and Rabi season were described as follows in both the years.

Kharif fertilizers:

In 2014-15 – 347 bags(3 M.T.) DAP, 942 bags UREA, 4 M.T. MOP

In 2015-16 - 400bags DAP, 1100 bags (5 M.T.) UREA

Rabi fertlizers:

In 2014-15 –325 bags UREA, 100 bags (1.1 M.T.) MOP

In 2015-16 – 1.4 M.T. – 1.5 M.T. DAP, 200 bags (2 M.T.) UREA, 1.2 M.T. MOP

In Arisal cooperative society fertilizer consumption in kharif and Rabi season were described as follows in both the years.

In 2014-15 – 347 bags(3 M.T.) DAP, 900 bags UREA, 4 M.T. MOP

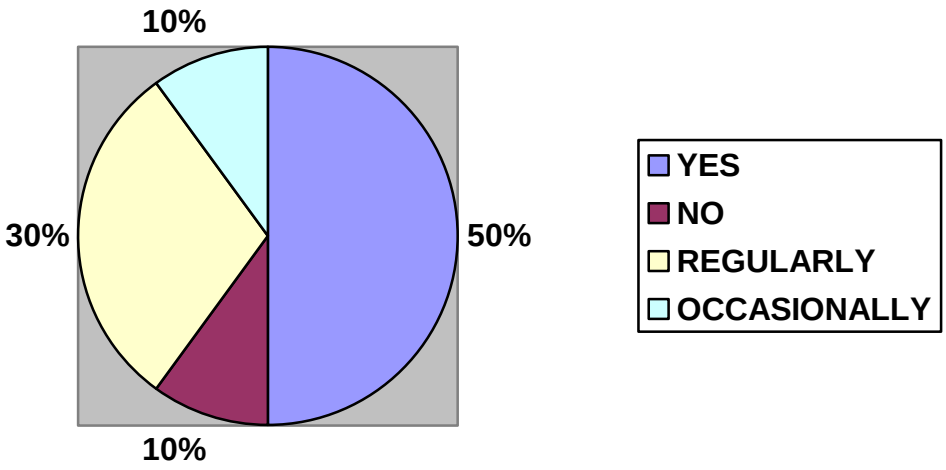
In 2015-16 - 200bags DAP, 1000 bags (4.5 M.T.) UREA, 5M.T. MOP

4.1 No. of the farmers utilizing IFFCO fertilizers.

The following data srevealed that the number of farmers is using IFFCO fertilizers. About 50% of farmers are using IFFCO fertilizers. Among them 30% use regularly and 10% use occasionally or seasonally. And 10% other farmers did not use IFFCO fertilizers as they depend upon some other brands as well as on compost {Table 4.1}

Table 4.1: No. of the farmers utilizing IFFCO fertilizers

NO. OF FARMERS/DEALERS/RETAILERS	FERTILIZER USAGE	RESPONDENTS %
50	Yes	50%
	No	10%
	Regularly	30%
	Occasionally	10%

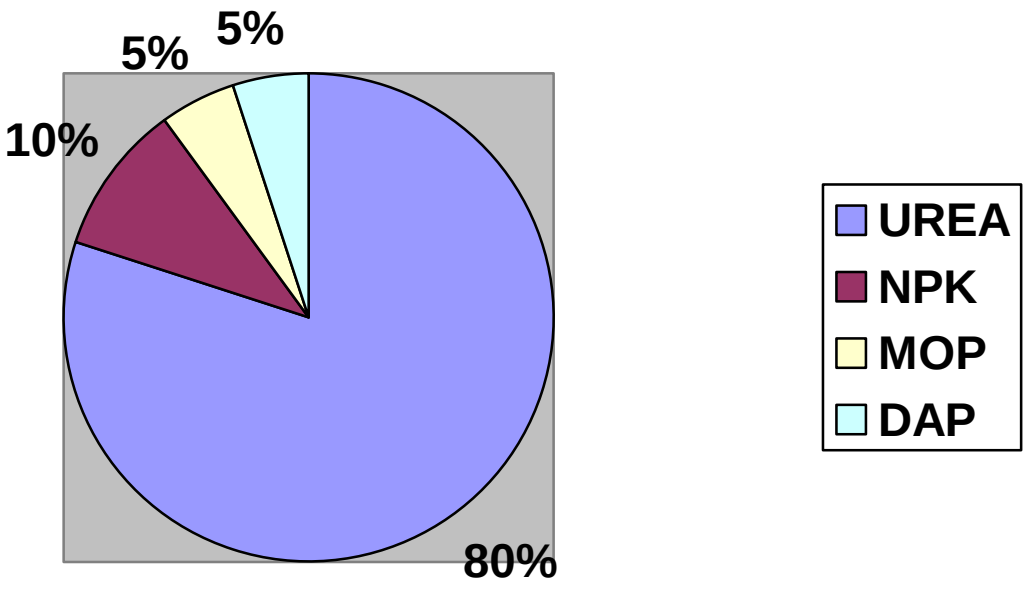


4.2 Use of IFFCO fertilizers by Cooperative society and farmers.

From the below chart we see that about 80% of the farmers and cooperative member prefer UREA fertilizer which has a major effect in Paddy production . And they use other like NPK,DAP and MOP in a less quantity.{Table 4. 2}

Table 4.2: Use of IFFCO fertilizers by Cooperative society and farmers.

FERTILIZER	RESPONDENTS %
UREA	80%
NPK	10%
DAP	5%
MOP	5%

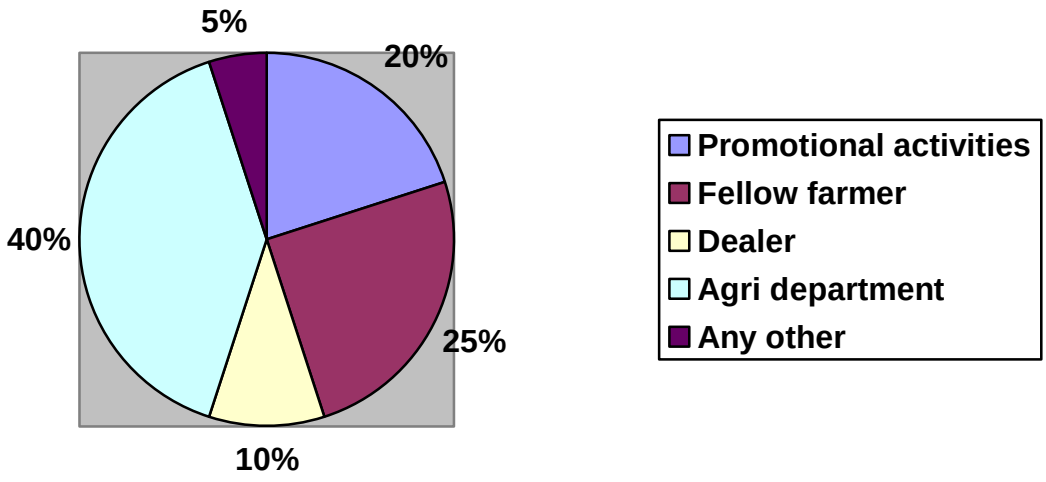


4.3 . Sources of collection of IFFCO Products.

Factors were studied to know about the IFFCO products. It revealed that Agriculture department reported 40% of product followed by promotional activities i.e. 20%. Dealer reported 10% while fellow farmer reported 25% .(Table 4.3)

TABLE 4. 3: Sources of collection of IFFCO Products

FACTORS	RESPONDENTS %
Promotional Activities	20%
Fellow Farmer	25%
Dealer	10%
Agri. Department	40%
Any other	5%

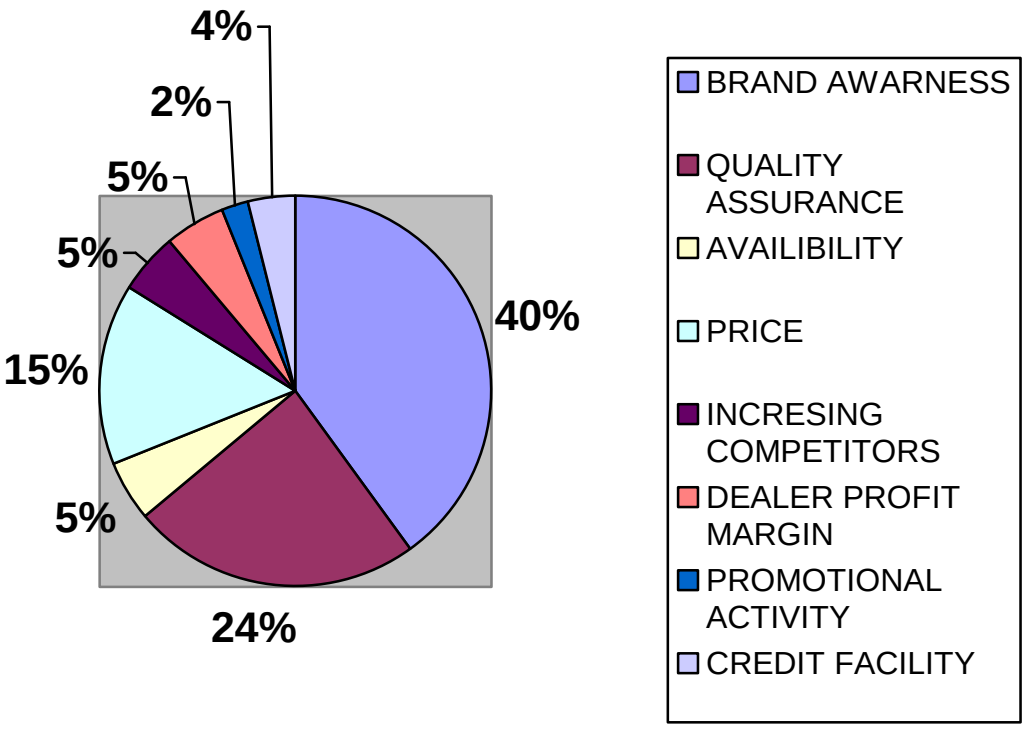


4.4 Reason for change in Sales volume.

The reason in sales volume 40% due to brand awareness, 24% was due to quality assurance. The price of product contributed 15%. Promotional activity had least influence i.e. 2% (Table 4.4)

TABLE 4.4: Reason for change in Sales volume

FACTORS	RESPONDENTS %
Brand awareness	40%
Quality Assurance	24%
Availability	5%
Price	15%
Increasing competitors	5%
Dealer profit margin	5%
Promotional activity	2%
Credit facility	4%

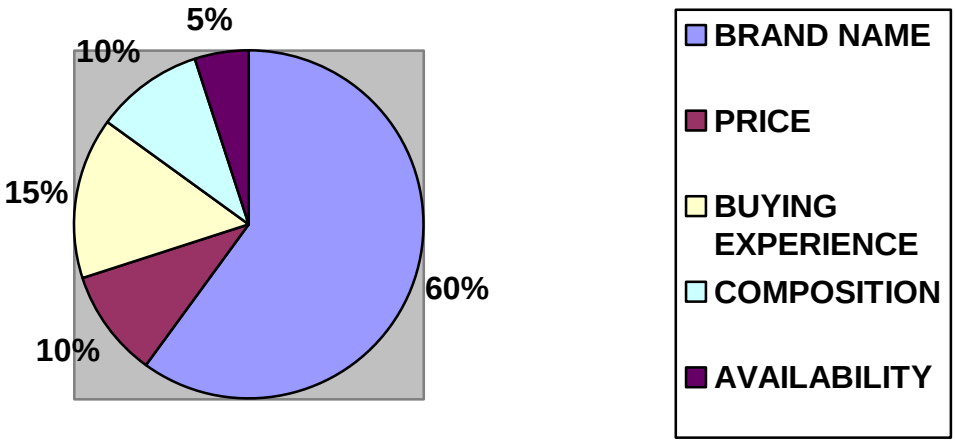


4.5. Factors affecting purchase of fertilizers.

From the below chart we know that most of the farmers and cooperative members are influenced by the brand of fertilizers. About 60% of them are highly reliable on branding. As we can see that Availability of IFFCO fertilizers also play a crucial role i.e. the IFFCO fertilizer should be available at many places as it is major band among others. (Table 4.5)

TABLE 4.5 : Factors affecting purchase of fertilizers

FACTOR	RESPONDENTS %
Brand name	60%
Price	10%
Buying experience	15%
Composition	10%
Availability	5%

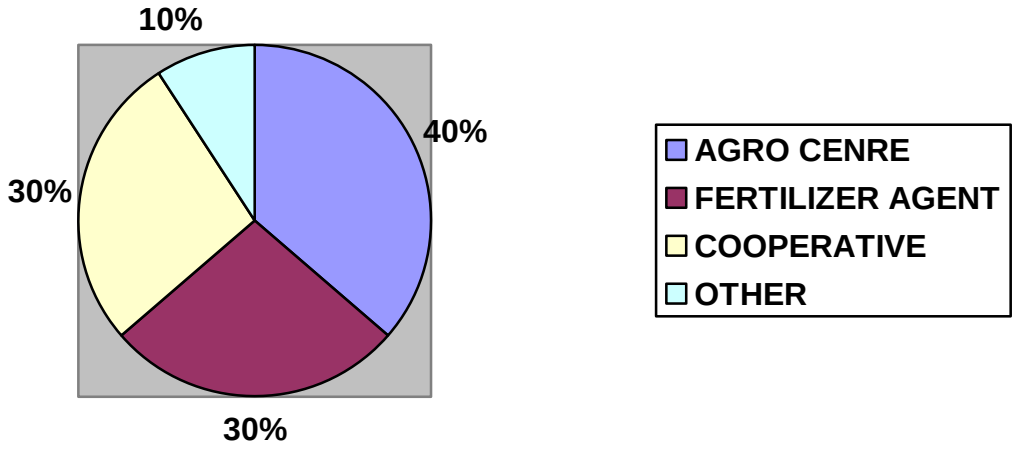


4.6. Source of purchasing of fertilizer..

From this chart we know that about 40% farmers or retailers purchase fertilizer in Agro centre as it is more reliable for them. And about 30% of them purchase from Cooperative mostly rural location.[Table 5. 6]

TABLE 4.6: Source of purchasing of fertilizer

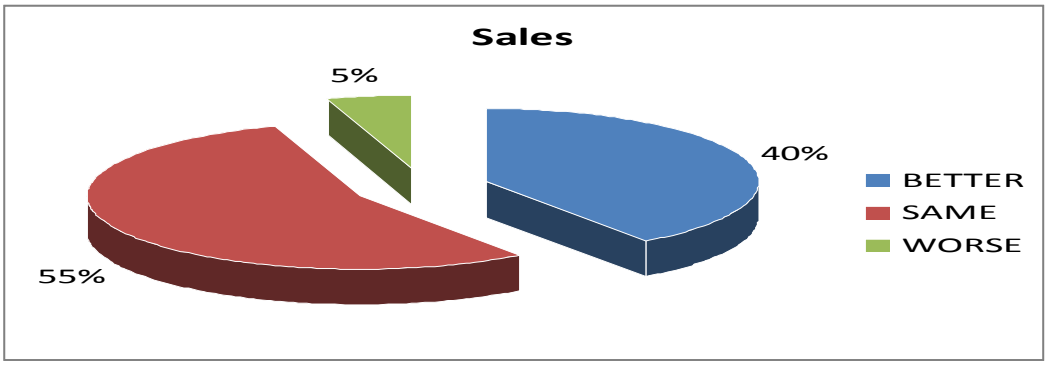
PLACE	RESPONDENTS %
Agro centre	40%
Fertilizer Agent	30%
Cooperative	30%
Other	10%



4.7. Comparison all types of IFFCO fertilizer with other brands.

This chart is drawn from the survey and it tells that most of the society members about 55% say that IFFCO fertilizer is same as other fertilizers like Nagarjun, Coromandel and 40% of the rests say that IFFCO fertilizer is better as compared to other brand. [Table 4. 7]

TABLE 4.7 :Comparision all types of IFFCO fertilizer with other brands



	Percentage(%)
BETTER	40
SAME	55
WORSE	05

4.8. **Benefits from application of Fertilizer**:

Following data reveals perceived benefits of fertilizer use by the farmers and it is found that by applying IFFCO fertilizer farmers are benefitted most by faster growth of plants(30 %) followed by high yield (25 %), better quality output (20%), enhanced capacity to withstand adverse condition (15 %) and better resistance mechanism (10 %). **[**Table 4.8]

TABLE 4.8: Benefits from application of Fertilizer

Benefits	**% of respondents**
Faster growth of plants	30
High yield	25
Bette quality output	20
Enhanced capacity to withstand adverse condition	15
Better resistance mechanism	10
Total	**100**

4.9. IFFCO fertilizers attributed rating by Khurda district farmers

TABLE 4. 9:IFFCO fertilizers attributed rating by Khurda district farmers [Table 4.9]

	Attributes	Quality	Brand Image	Availability	Packaging
IFFCO Fertilizers	Very good	60	70	55	58
	Good	25	22	30	32
	Average	15	8	15	10
	Bad	0	0	0	0

Above data indicated IFFCO fertilizer rating by farmers of Khurda district. This revealed that about 70% of the farmers rated the IFFCO fertilizers as very good due to its brand image. Also about 60 % rated it as very good for the quality, 58% for packaging and 55% for availability.

From quality point of view, majority of farmers (60%) said that quality of IFFCO fertilizer is very good and 25% of farmers said that quality of the same is good. A very few percent of farmers (15%) said that quality is average and none of the farmers said it is bad.

From brand image point of view, majority of farmers (70%) said that brand image of IFFCO fertilizer is very good and 22% of farmers said that brand image of the same is good. A very few percent of farmers (8%) said that brand image is average and none of the farmers said it is bad.

From availability point of view, majority of farmers (55%) said that availability of IFFCO fertilizer is very good and 30% of farmers said that availability of the same is good. A very few percent of farmers (15%) said that availability is average and none of the farmers said it is bad.

From packaging point of view, majority of farmers (58%) said that packaging of IFFCO fertilizer is very good and 32% of farmers said that packaging of the same is good. A very few percent of farmers (10%) said that packaging is average and none of the farmers said it is bad.

CHAPTER 6

PROJECT SUMMARY

PROJECT SUMMARY

The title of the survey: Supply chain management of IFFCO fertilizers in Khurda district of Odisha.

- Brand Equity- Price, Quality, Demand
- Sustain the long-term brand equity of IFFCO fertilizers.
- Supply/distribution of fertilizers through different intermediaries.
- Brand expansion of IFFCO products by attracting target customer.

Objective of the study

- To study and analyze existing supply chain of the organization.
- To study the problems present in the business.
- To study about the techniques and facilities necessary for progress.
- To study about the different promotional activities carried out by IFFCO
- To have a close observation on the reactions of farmers towards IFFCO products.

Scope of the study

- The field work with the farmers will help to know about the problems they are facing in their work.
- There are intermediaries of IFFCO which provide valuable information about its products and services.
- The study will help to get feedback from the farmers at an early stage and help to frame the plan of action for a given set of problems.

(pic 6.1)


IFFCO
SAIL TMT

(Interaction with farmers)

CHAPTER 7
CONCUSION, RECOMMENDATION, BIBLIOGRAPHY

CONCLUSION

IFFCO is the biggest Cooperative organization which distributes its fertilizers. The sales of IFFCO fertilizers are done through the cooperatives i.e. State cooperative Marketing Federation. District and village level societies are called PACS (Primary agriculture Cooperative Societies) are also the backbone of the Cooperative system .PACS are having direct access to the farmers to supply of fertilizer in village and remote areas. State cooperative marketing federation play a vital role in marketing business of IFFCO. State cooperative marketing federation act as a intermediary in selling the product of IFFCO. It is an appropriate channel for marketing and supply of IFFCO products still it require better management ,so that sale of IFFCO product will increase.

RECOMMENDATION

After accomplishing the survey and after analyzing the result, It may be suggest the following remedies for the betterment of marketing of IFFCO through Regional cooperative Marketing Federation (RCMS) in those prescribed areas:

- OSCMF (Orissa State cooperative Marketing Federation) and RCMS should appoint trained personnel those who have specialized knowledge in Fertilizer marketing area .So that it can help the organization for better marketing of the product such as MBA in Agribusiness or B. Sc Ag with MBA.
- More warehouses are required for the storage of the fertilizer. And the warehouses should be well repaired scientifically, so that it can be helpful for the safe storage of the product.
- Adequate funds are required by Orissa State cooperative Marketing Federation for the smooth going of the organization and also the smooth going of the marketing of the product.
- Proper management of all the process involved in marketing of the product should be required.

- More farmers aware about the composition and application of the fertilizers through Farmers' meeting.
- IFFCO may help OSCMF and RCMS in implementing all these factors mentioned above so that IFFCO's product shall be moved to farmers level smoothly.

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CHAPTER 8

ANNEXURE

QUESTIONNAIRE FOR CO-OPERATIVES

Co-operative's Name:

Address:

Village:

PIN:

No. of members:

Consumption Area:

Contact Person:

Contact No. :

1) Since how long has your organization been dealing with IFFCO?

2) Please rank all types of IFFCO fertilizers with respect to their market demand:

PRODUCTRANKING

a) NPK/DAP b) UREA

3) Do you get as much supply of IFFCO Fertilizers as you demand?

a) NPK/DAP Y/N
b) UREA Y/N

4) How is the Timing of Fertilizers supply?

Product	Timing
a) NPK/DAP	Before/On/After time
b) UREA	Before/On/After time

5) Do you maintain sufficient stock of fertilizers as and when demanded by the market?

Yes / No

If No;
Then Why? _____

_____

6) In your view what is the status of the quality of IFFCO fertilizers as compared to other Competing Brands in the market?

a) NPK/DAP Better/Best/Lesser
b) UREA Better/Best/Lesser

7) In which the Demand for fertilizers is preferred by the Farmers or Consumers.

a) Fertilizer Quality
b) Packing
c) Brand
d) Price

8) Loan sanctioned (in Rupees)?

9) Turnover?

10) Audit?

11) Do you make any Promotion for the available Fertilizers for the selling purpose?
Yes/No
Justify?
_____
_____