“A Study on Brand Preference and Retail Trade Practices of Chemical Fertilizers in Bhadra Command Area”

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MBAL 0007

DEPARTMENT OF AGRICULTURAL MARKETING CO-OPERATION AND BUSINESS MANAGEMENT

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Project Report submitted to the

University of Agricultural Sciences, Bangalore

In partial fulfillment of the requirements for the degree of

Master of Business Administration

In

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Affectionately Dedicated

To

All My Family Members &

My Chairman

In

Humble reverence

To

Lord Hanuman Almighty

DEPARTMENT OF AGRICULTURAL MARKETING, CO-OPERATION AND BUSINESS MANAGEMENT, UAS, GKVK, BANGALORE- 560065

CERTIFICATE

This is to certify that the Project Report entitled, ***"A Study on Brand Preference and Retail Trade Practices of Chemical Fertilizers in Bhadra Command Area"*** *submitted by* ***Mr. Harish Reddy. A.,*** *ID No. MBAL- 0007 in partial fulfillment of the requirement for the degree of* ***Master of Business Administration (AGRI BUSINESS MANAGEMENT)*** *to the University of Agricultural Sciences, Bangalore, is a record of bonafide research work done by him during the period of his study in this University under my guidance and supervision and the Project Report has not previously formed the basis for the award of any degree, diploma, associate ship, fellowship or other similar titles.*

Bangalore
August, 2012

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"A Study on Brand Preference and Retail Trade Practices of Chemical Fertilizers in Bhadra Command Area"

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Abstract

The self-sufficiency in food grains in India was achieved as result of green revolution of 1960's which can be attributed to using of High Yielding Varieties seeds and chemical fertilizers. The chemical fertilizer industry has grown substantially and supported by the government. Presently 65 large size fertilizer manufacturing plants are operating in the India with as many brands. The present study is an attempt to understand farmers brand preference of chemical fertilizers, factors influencing preference, estimating the market share of different companies and retail trade practices. Twenty farmers and 5 retailers were selected from each taluk of Bhadravathi, Davanagere, Harihara and Shimoga. The FACT, IFFCO, MCF and ZIL brands are known to cent per cent of the farmers. The MCF brand is preferred for urea and DAP fertilizers. The brand, price, quality and previous experience with brand were the major factors influencing the preference of particular brand. The RCF, CFL and IPL companies together have major market share of Urea (23.75%), SSP (53.94%) and MOP (41.55%) respectively. The IFFCO company have 27.5 per cent in DAP Indigenous and IPL 20.8% per cent in DAP imported. The retailers have rated the fertilizer companies based on volume of sales, farmers awareness and service provided by the companies. The fertilizer companies are suggested to intiate strategies influencing brand preference. The market leadership in one product category can be used to expand to other products. Retailers of chemical fertilizer can be treated as integral part of company distribution strategy.

Signature of student

Major Adviser
(T. N. Venkata Reddy)

ಭದ್ರ ಜಲಾನಯನ ಪ್ರದೇಶದಲ್ಲಿ ರಸಗೊಬ್ಬರಗಳ ಬ್ರಾಂಡ್ ಅದ್ಯತೆ ಮತ್ತು ಚಿಲ್ಲರೆ ವ್ಯಾಪಾರ ಪದ್ದತಿಗಳ ಅಧ್ಯಯನ

ಹರೀಶ್‌ರೆಡ್ಡಿ. ಎ.

ಸಾರಾಂಶ

1960ರ ಹಸಿರು ಕ್ರಾಂತಿಗೆ ಮುಖ್ಯ ಕಾರಣ ಎಂದರೆ ಹೆಚ್ಚು ಇಳ್ಳುವರಿ ಕೊಡುವ ತಳಿಗಳ ಬಿತ್ತನೆ ಮತ್ತು ರಾಸಾಯನಿಕ ಗೊಬ್ಬರಗಳ ಬಳಕೆಯಾಗಿದೆ. ಭಾರತ ಸರ್ಕಾರದ ಅದ್ಯತೆಯಿಂದ ರಸಗೊಬ್ಬರ ಉಧ್ಯಮ ಭಾರತದಲ್ಲಿ ಸಾಕಷ್ಟು ಬೆಳೆದಿದೆ. ಸುಮಾರು 65 ರಸಗೊಬ್ಬರಗಳ ಬ್ರಾಂಡ್‌ಗಳು ಚಾಲ್ತಿಯಲ್ಲಿದೆ. ಪ್ರಸ್ತುತ ಅಧ್ಯಯನದ ಮುಖ್ಯ ಉದ್ದೇಶಗಳಿಂದರೆ ರೈತರಿಂದ ರಸಗೊಬ್ಬರಗಳ ಬ್ರಾಂಡ್ ಅದ್ಯತೆಗೆ ಮುಖ್ಯ ಕಾರಣಗಳು ವಿವಿದ ಸಂಸ್ಥೆಗಳ ಮಾರುಕಟ್ಟೆಯಲ್ಲಿ ಪಾಲು ಮತ್ತು ಚಿಲ್ಲರೆ ಮಾರಟ ಪದ್ದತಿಯಾಗಿದೆ. ಮಾಹಿತಿಗಾಗಿ ಭದ್ರಾವತಿ, ಶಿವಮೊಗ್ಗ, ಹರಿಹರ ಮತ್ತು ದಾವಣಗೆರೆ ತಾಲ್ಲೂಕಗಳಿಂದ ತಲಾ 20 ರೈತರು ಮತ್ತು ಐದು ಚಿಲ್ಲರೆ ಮಾರಟಗಾರರಿಂದ ಮಾಹಿತಿ ಪಡೆಯಲಾಗಿದೆ. ಶೇಕಡ 100 ರಷ್ಟು ರೈತರಿಗೆ ಫ್ಯಕ್ಟ್, ಎಂ.ಸಿ.ಫ್ಲ್., ಇಫ್ಕೊ ಮತ್ತು ಜುವಾರಿ ಬ್ರಾಂಡ್‌ಗಳ ಬಗ್ಗೆ ಅರಿವು ಕಂಡುಬಂದಿದೆ. ಯೂರಿಯ ಮತ್ತು ಡಿ.ಎ.ಪಿ. ರಸಗೊಬ್ಬರಗಳ ಖರೀದಿಗೆ ರೈತರು ಎಂ.ಸಿ.ಅಫ್ಲ್. ಬ್ರಾಂಡ್‌ಗೆ ಅದ್ಯತೆ ಕಂಡುಬಂದಿದೆ. ರಸಗೊಬ್ಬರಗಳ ದರ, ಗುಣಮಟ್ಟ, ಬ್ರಾಂಡ್ ಮತ್ತು ಮೊದಲೆ ಉಪಯೊಗಿಸಿದ ಬ್ರಾಂಡ್‌ನ ಅನುಬವಗಳ ಅದಾರದ ಮೇಲೆ ಬ್ರಾಂಡ್‌ಗಳನ್ನು ಯ್ಕೆ ಮಾಡಿರುತ್ತಾರೆ. ಯೂರಿಯ ರಸಗೊಬ್ಬರದಲ್ಲಿ ಶೇಕಡ 23.75 ಮಾರುಕಟ್ಟೆ ಪಾಲುನೊಂದಿಗೆ ಆರ್.ಸಿ.ಫ್ಲ್., ಎಸ್.ಎಸ್.ಪಿ. ರಸಗೊಬ್ಬರದಲ್ಲಿ ಸಿ.ಫ್ಲ್.ಎಲ್. ಕಂಪನಿಯ ಶೇಕಡ 53.94 ರಷ್ಟು ಮತ್ತು ಎಂ.ಒ.ಪಿ. ಯಲ್ಲಿ ಶೇಕಡ 41.55 ರಷ್ಟು ಐ.ಪಿ.ಎಲ್. ಕಂಪನಿಗಳು ಮಾರುಕಟ್ಟೆ ಪಾಲನ್ನು ಪಡೆದು ಮುನ್ನುನಿಯಲ್ಲಿ ಇರುವುದು ಕಂಡುಬಂದಿದೆ. ಡಿ.ಎ.ಪಿ. ರಸಗೊಬ್ಬರದಲ್ಲಿ ಸ್ವದೇಶ ಉತ್ಪಾದನೆ ಮಾರುಕಟ್ಟೆಯಲ್ಲಿ ಶೇಕಡ 27.50 ರಷ್ಟು ಇಫ್ಕೊ ಸಂಸ್ಥೆಯ ಪಾಲಾಗಿದ್ದು ಅಮದು ಮಾಡಿಕೊಂಡ ಡಿ.ಎ.ಪಿ.ಯಲ್ಲಿ ಶೇಕಡ 20.80 ರಷ್ಟು ಮಾರುಕಟ್ಟೆಯ ಪಾಲಿನೊಂದಿಗೆ ಐ.ಪಿ.ಎಲ್. ಸಂಸ್ಥೆಯು ಮುನ್ನುನಿಯಲ್ಲಿ ಇರುತ್ತದೆ. ರಸಗೊಬ್ಬರ ಚಿಲ್ಲರೆ ಮಾರಟಗಾರರು ಗೊಬ್ಬರ ಸಂಸ್ಥೆಗಳ ಯೋಗ್ಯತೆಯನ್ನು ಅಳೆಯಲು ಕಂಪನಿಯ ಗೊಬ್ಬರ ಮಾರಟದ ಮೊತ್ತ, ರೈತರಲ್ಲಿ ಅರಿವು ಮತ್ತು ಸಂಸ್ಥೆಗಳು ಒದಗಿಸುವ ಸೇವೆಗಳು ಆಧಾರವಾಗಿರುತ್ತವೆ. ಬ್ರಾಂಡ್ ಅದ್ಯತೆಯ ಮೇಲೆ ಪರಿಣಾಮ ಬೀರುವ ರೀತಿಯಲ್ಲಿ ರಸಗೊಬ್ಬರ ಸಂಸ್ಥೆಗಳು ತಂತ್ರಗಾರಿಕೆ ಅಳವಡಿಸಿಕೊಳ್ಳಬಹುದಾಗಿದೆ. ಒಂದು ರಸಗೊಬ್ಬರದಲ್ಲಿ ಮಾರುಕಟ್ಟೆ ಮುನ್ನುನಿಯಲ್ಲಿ ಇರುವ ಸಂಸ್ಥೆಗಳು ಆ ಆಧಾರದ ಮೇಲೆ ಇನ್ನೂಂದು ಮಾದರಿಯ ಗೊಬ್ಬರ ಮಾರಟ ಹೆಚ್ಚಲಿಕೆಯನ್ನು ಮಾಡಿಕೊಳ್ಳಬಹುದು. ರಸಗೊಬ್ಬರ ವ್ಯಾಪಾರದಲ್ಲಿ ಚಿಲ್ಲರೆ ಮಾರಟಗಾರರನ್ನ ರಸಗೊಬ್ಬರ ಸಂಸ್ಥೆಗಳ ಒಂದು ಅವಿಭಾಜ್ಯ ಅಂಗವಾಗಿ ಪರಿಗಣಿಸಿ ವ್ಯಾಪಾರ ಅಭಿವುದ್ದಿಯನ್ನು ಮಾಡಿಕೊಳ್ಳಬಹುದಾಗಿದೆ.

ವಿದ್ಯಾರ್ಥಿಯ ಸಹಿ

ಪ್ರಧಾನ ಸಲಹಾಗಾರರು.
(ಟಿ.ಎನ್. ವೆಂಕಟರೆಡ್ಡಿ.)

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CHAPTER I

INTRODUCTION

Agriculture which accounts for one fifth of GDP provides sustenance to two-thirds of our population. Besides, it provides crucial backward and forward linkages to the rest of the economy. Successive five-year plans have laid stress on self-sufficiency and self-reliance in food grains production and concerted efforts in this direction have resulted in substantial increase in agriculture production and productivity. This is clear from the fact that from a very modest level of 52 million MT of food grain production in 1951-52, rose to about 250.40 million MT in 2011-12. In India's success in agriculture sector, not only in terms of meeting total domestic requirement of food grains but also generating exportable surpluses were generated. The significant role played by chemical fertilizers is well recognized and established in achieving this milestone.

The important features of the Indian Green revolution of 1960s were the use of chemical fertilizers with fertilizer responsive hybrids and high yielding varieties and expansion of irrigation facility which resulted in quantum jump in food production. Fertilizers continue to play major role in India's agriculture economy. Due to modernization in the agricultural techniques, fertilizers have provided an important source of plant nutrients to increase crop production. It is estimated that about 50 per cent increase in crop production could be attributed to fertilizer usage and future increase in crop production; it could be yield comes through increased and efficient use of agri-inputs.

Keeping in view the vital role played by chemical fertilizers in the success of India's green revolution and consequent self-reliance in food-grain production, the Government of India has been consistently

pursuing policies conducive to increased availability and consumption of fertilizers in the country. As a result, the annual consumption of fertilizers in nutrient terms (N, P & K), has increased from 0.7 lakh MT in 1951-52 to 264.86 lakh MT 2009-10, while per hectare consumption of fertilizers, which was less than 1 Kg in 1951-52 has risen to the level of 135.27 Kg (estimated) in 2009-10.

The country has achieved near self-sufficiency in production capacity of urea with the result that India could substantially manage its requirement of nitrogenous fertilizers through the indigenous industry. Similarly, adequate indigenous capacity has been developed in respect of phosphatic fertilizers to meet domestic requirements. However the raw materials and intermediates for the same are largely imported. As for as potash (K) is concerned since there are no viable sources/ reserves in the country, its entire requirement is met through imports.

Growth of Fertilizer Industry in India

Fertilizer Industry made a very humble beginning in 1906, when the first manufacturing unit of Single Super Phosphate (SSP) was set up in Ranipet near Chennai with an annual capacity of 6000 MT. The Fertilizer & Chemicals Travancore of India Ltd. (FACT) at Cochin in Kerala and the Fertilizers Corporation of India (FCI) in Sindri in Bihar (now Jharkhand) were the first large sized - fertilizer plants set up in the forties and fifties with a view to establish an industrial base to achieve self-sufficiency in food-grains. Subsequently, green revolution in the late sixties gave an impetus to the growth of fertilizer industry in India.

Fertilizer production capacity as on 31.03.2009 has reached a level of 120.61 lakh MT of nitrogen and 56.59 lakh MT of phosphatic nutrient, making India the 3rd largest fertilizer producer in the world. The rapid build-up of fertilizer production capacity in the country has been

achieved as a result of a favorable policy environment facilitating large investments in the public, co-operative and private sectors.

Presently, there are 65 large size fertilizer plants in the country manufacturing a wide range of nitrogenous, phosphatic and complex fertilizers. Out of these, 30 (as on date 29 are functioning) units produce urea, 21 units produce DAP and complex fertilizers, 5 units produce low analysis straight nitrogenous fertilizers and the remaining 9 manufacture ammonium sulphate as byproduct. Besides, there are about 85 medium and small-scale units in operation producing SSP.

Fertilizer Subsidy

Subsidy on fertilizers is passed on to the farmers in the form of subsidized MRPs. The selling prices as notified by Government for the subsidized fertilizers are much lower than the normal delivered cost of these fertilizers at farm gate level. The difference prices are paid as subsidy to manufacturers/importers on sale of fertilizers to the farmers at the subsidized prices. The increase in rate of subsidy on fertilizers combined with increase in consumption of fertilizers has led to a substantial increase in requirement of subsidy. In spite of increase in cost of fertilizers, the Government has completely kept the farmers insulated from this increase in cost and have increased the subsidy allocations to meet the consumption needs of the farmer at subsidized level of prices. The subsidy on fertilizers has been decreased over the last few years.

Fertilizer Policy:

Urea is the only fertilizer under statutory price control. Government of India has introduced nutrient based subsidy with effect from 1st April, 2010 in respect of phosphatic and potassic fertilizers. Under the policy, subsidy is based on the nutrient (N,P,K and S) content

of the decontrolled P and K fertilizers. Price of Urea has been increased by 10% while price of other subsidized fertilizers are being maintained around current levels. Additional subsidy on micronutrients has been introduced on Boron and Zinc, to begin with. In order to promote the concept of balanced use of fertilizers and to encourage use of micronutrients, several fertilizers fortified with Boron and Zinc has been incorporated in the Fertilizer (Control) Order, 1985.

Fertilizer Pricing Policy

Fertilizer pricing and subsidization has direct implications with reference to the growth and development of agriculture and sustainability of the fertilizer industry, the need for streamlining the subsidy scheme in respect of urea producing units had been felt for a long time. A High Powered Fertilizer Pricing Policy Review Committee (HPC) was constituted, under the chairmanship of Prof. C.H. Hanumantha Rao, to review the existing system of subsidization of urea, suggest an alternative broad-based, scientific and transparent methodology, and recommend measures for greater cohesiveness in the policies applicable to different segments of the industry. Prices of Major fertilizers, such as Urea, DAP and MOP and fertilizer inputs such as Ammonia, Sulphur, Rock Phosphate and Phosphoric acid increased manifold during 2008-09. This resulted in steep increase in prices of both finished fertilizers as well as consequently led to substantial increase in subsidy out go of the Government.

Utilization of Fertilizers in India

The consumption of chemical fertilizers nutrients (N+P+K) increased by 6.8%, from the total 264.86 lakh tonnes during 2009-10 to 281.22 lakh tonnes during 2010-11. The consumption of nitrogen and phosphate fertilizers at 165.58 and 80.5 lakh tonnes represented growth

of 8.4% and 10% respectively during 2010-11 over 2009-10. However the consumption of potash fertilizer at 35.14 lakh tonnes showed a decline of 3.24% during the period 2010-11. The consumption of urea 28.2 million tonnes, DAP 11.1 million tonnes, NPK complex fertilizer 9.8 and SSP 3.6 million tonnes. Major fertilizers and nitrogenous, phosphatic and potassic (NPK) nutrients average estimated consumption of fertilizers (N+P+K) (Nitrogen, Phosphorus and Potassium) in the country has registered an increase in 2009-10 (135.3 kg/ha) over 2008-09 (127.2 kg/ha).

A wide variability has, however, been observed in fertilizer consumption among the States. While per hectare consumption of fertilizers is 237.1 kg in Punjab, 225.7 kg in Andhra Pradesh, 209.9 kg in Haryana and 205.8 kg in Tamil Nadu, the consumption is quite low in Rajasthan (48.6 kg/ha), Himachal Pradesh (54.8 kg/ha), Orissa (57.6 kg/ha), Jharkhand (70.0 kg/ha) and certain other States. The consumption is less than 5 kg/ha in some of the northeastern States.

Promotion of Integrated Nutrient Management (INM):

The NPK consumption ratio widened to 5.2:2.4:1.0 during 2010-11 from 4.3:2.0:1.0 during 2009-10. Balanced and integrated fertilizer use is key to increase crop productivity and state government and central government have take various initiatives to promote the balanced and integrated use of fertilizers. The Government is promoting soil test-based, balanced and judicious use of chemical fertilizers, biofertilizers, and locally available organic manures such as farmyard manure, vermicompost, and green manure, to maintain soil heath and productivity. A centrally sponsored scheme, namely, the National Project on Management of Soil Health and Fertility (NPMSHF) has been introduced during 2008-09. The components of the new scheme include the setting up of 500 new Soil Testing Laboratories (STLs), strengthening

of the existing 315 STLs, setting up of 250 mobile STLs, promotion of organic manure, soil amendment, and distribution of micro nutrients, setting up of 20 new Fertilizer Quality control Laboratories (FQCLs) and strengthening of 63 existing FQCLs during the Eleventh Plan.

Quality Control of Fertilizers:

To ensure adequate availability of fertilizers of standard quality to farmers, the fertilizers were declared as an Essential Commodity as per Essential Commodities Act-1955 and Fertilizer Control Order (FCO)-1985, was promulgated under Section 3 of Essential Commodities Act, 1955 to regulate the trade, price, quality and distribution of fertilizers in India.

Fertilizer Control Order (FCO), 1985: In order to promote balanced use of fertilizers, this Ministry is encouraging the fortified fertilizers and so far incorporated nine such fertilizers in the FCO. Further, it has introduced a new concept of customized fertilizers with the main objective of promoting site-specific nutrient management so as to achieve maximum fertilizer use efficiency of applied nutrients in a cost effective manner. These fertilizers are soil-specific and crop specific and are formulated on the basis of soil testing results. So far, 32 such fertilizers have been notified under clause 20B of FCO, 1985.

The Central Fertilizer Quality Control & Training Institute (CFQC&TI), Faridabad: The main activities of CFQC&TI and its three Regional Fertilizer Control Laboratories (RFCLs) located at Navi Mumbai, Chennai and Kalyani consist of drawal, inspection and analysis of both indigenous and imported fertilizers, training of State Fertilizer Inspectors, Analysts and other Enforcement Officers. The Institute organizes exclusive international training programmes for officers from developing countries, under ITEC/ SCAAP/AARDO/COLOMBO Plan. Development

of methods of analysis for inclusion in FCO has been undertaken. It also acts as a Referee laboratory and Advisory Body on issues relating to Fertilizer Quality Control.

Movements and Distribution of fertilizers

Fertilizer companies continued to suffer from the problems of inadequate availability of rakes to loading, cost of labour, demurrage, penalty, etc., throughout the year. The companies have overcome this problem after introduction of BCNHL rakes by railways within the permitted time. The data is up loaded to Fertilizers Monitory System (FMS) distribution of fertilizers through various dealers relating to sales and stock holding by distributors.

Consumption of Fertilizers in Karnataka

The fertilizer consumption in the state increased from 2.058 million tonnes during 2009-10 to 2.11 million tonnes during 2010-11 recording a marginal increase of 2.5%. The consumption of total fertilizer nutrients recorded as positive growth of 8.6% in kharif. The consumption of nitrogen and phosphate at 1.016 and 0.696 million tonnes during 2010-11 registered increase of 5.5% and 10.5% respectively over 2009-10. The consumption of Potash is 0,398 million tonnes with decaling of 14.5% during the period. NPK usage ratio changed marginally from 2,1: 1,4 :1 to 2,6: 1,7: 1 during the period. Per hectare consumption of total nutrients increased from 166.4 kg during 2009-10 to 170.6 kg during 2010-11. As on 1st April 2010 , the total number of fertilizer sales points in the state was 11,503. Out of the total number of sale points, the share of private channels was 78% and that of co-operative and other institutional channels, it was 22%.

Special Features of the Study

The government of India in order to encourage higher productivity and production encouraged to establishment of chemical fertilizer companies either is co-operative, private and public sectors. As a result of the policy and support of the government, many companies have entered industry. Each of the companies have come out with their brands mainly for the identify, the company's product. When it comes to the final preference of a particular brand many factors will influence. Inspite of less product difference among the companies few companies have more market share compare to other companies.

The prices and related trade practices are mainly regulated by the government. However many of the time scarcity or marketing are the common complaints in retail trade. In this background the research project titled "A Study on Brand Preference and Retail Trade Practices of Chemical Fertilizers in Bhadra Command Area" with the following objectives.

Objectives of the study

1. To examine farmers preference for various brands of fertilizers in Bhadra command area,
2. To identify the factors influencing farmers preference,
3. To analyse the market share of different brands of fertilizer and,
4. To analyse the fertilizer trade practices by retailers.

Hypotheses of the study

1. Few brands are more preferred than other Brands.
2. Farmers look various important factors before selecting the brand.
3. Few brands of chemical fertilizers are dominates in the market.

4. Fair trade practices are followed by retailers in retailing of chemical fertilizers

Significance of the study

This study will help companies to understand the like market share, factors affecting purchase decision of farmers, competitors and their products. It helps in understanding the potential opportunities to increase market share to the chemical fertilizers companies to plan business expansion in case of losing market share players. It also helps in understanding the retailers important towards brand promotion.

1.8 Limitations of the study

1. The outcome of the research is limited to the study area. The results may not depict the conditions of the other areas.

2. Farmers and dealers/retailers response were assumed to be true. However biased opinions cannot be averted. Hence it is possible that there might be some error in findings.

3. As the condition of the market changes dynamically, the results may not applicable in the long run.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

Considering the objectives of the study, relevant research work related to the present study has been reviewed. The salient findings of the various studies are summarized and are presented below.

1. Brand preference and factors influencing purchasing,
2. Market share of different brands of fertilizer and,
3. Trade practices by retailers.

Brand preference and factors influencing farmers preference

Kumar et al. (1987) examined the factors influencing the buying decision making for various food products. The country of origin and brand of the products were cross tabulated against age, gender and income. The results revealed that the considered factors were independent of age, education and income. The brand image seemed to be more important than the country of origin of the product since the consumers were attracted to the brands.

Shaw *et al.* (1993) studied the consumption pattern of processed food in Delhi. Results showed that easy availability, taste and advertisements of the processed products were more popular. Major factors which influenced buying decisions of consumers were brand name, certification and price of the product. He noticed that processed food products were boon to busy housewife as it made cooking simple and saved time. But the consumption base for these products had low domestic base on account of their high cost and ignorant about the use of these products especially among semi-urban and rural consumers.

Ragavan (1994) reported that, quality, regular availability, price, accuracy in weighing and billing, range of vegetables and accessibility as the factors in the order of importance which had influenced purchase of vegetables by respondents from modern retail outlet.

Dhillon *et al.* (1995), while studying the purchase behaviour in Ludhiana, rural and urban respondents ranked nearby market (mean score of 1.47 for rural and 2.10 for urban) and main market (mean score of 0.88 for rural and 1.38 for urban) as their first and second preference of order respectively for the purchase of food items. The prime factor indicated by the rural respondents for buying their food items was appearance with mean score of 4.01 followed by price, quality and place of buying to which they ranked second, third and fourth with mean scores of 3.81, 3.45 and 2.96 respectively. But urban respondents visualized these factors little differently and ranked quality, appearance, place of buying and expiry date as first, second, third and fourth ranks with mean score of 4.69, 4.01, 3.20 and 3.05 respectively.

Singh et al. (1995) considered factors namely quality, availability, convenient pack size, flavour, colour, freshness and mode of payment to study the preference for a particular brand of milk. The 70 per cent of the respondents preferred branded milk.

Wandel (1995) used multivariate analysis to study factors influencing the consumption of vegetables and fruits among Norwegian consumers. The factors, which determined consumption, were sex, age, income and household structure. Further it was reported that health conscious consumers used more fruits and vegetables, whereas those preferring for quickly prepared food tended to have a low consumption of vegetables.

Cicia and Giudice (2002) studied the preferences of an important category of consumers of organic products (regular consumers of organic food or RCOF) allowing for preference heterogeneity. A survey instrument was developed to elicit preferences for important qualitative and quantitative attributes of extra virgin olive oil. Each respondent made eight choices to rank-order nine product profiles in terms of their individual preference. Product attributes included price, origin of production, type of certification and visual appearance. Results displayed significant preference heterogeneity for origin of production and price. It was also found that price played an important role as quality proxy, while visual appearance was not significant in preference modeling and the type of certification program had a fixed effect.

Kamenidou (2002) is study findings on the purchasing and consumption behavior of Greek households towards three processed peach products: canned peaches in syrup, juice and peach jam, indicated that 47.50 per cent of the households purchased canned peaches in syrup, 67.40 per cent purchased peach juice and 42.60 per cent purchased peach jam. Reasons for such purchase were satisfactory taste and qualities and household's perception that they were healthy products. The results also indicated that the consumption quantities were considered low, while households usually purchased the same brand name, meaning that there was a tendency for brand loyalty.

Nandagopal and Chinnaiyan (2003) conducted a study on brand preference of soft drinks in rural Tamil Nadu, using Garrets ranking technique, to rank factors influencing the soft drinks preferred by rural consumer. They found that, the product quality was ranked as first, followed by retail price. Good quality and availability were the main factors, which influenced the rural consumers of a particular brand of a product.

Sampathkumar (2003) studied about brand preference in soft drinks in Telangana region of Andra Pradesh. He found that in rural market about 37.50 per cent of consumers preferred Thumbs-up (urban 30%), followed by Coca cola (28.50%) (urban 37.50%), Pepsi 12.50 per cent (urban 9.00%), Limca (4.00%) (urban 8.50%). Most of the urban consumers (67.00%) purchased soft drinks in nearest Kirani stores (rural 73.00%), followed by super bazaar (27.00%) (rural 26.00%) and others (6.00%) (rural 1.00%). The method of physical distribution played very vital role in company's success and failure in the market. Transportation was among the major functions of physical distribution. Transport adds time and place utility for the product.

Nagaraja (2004) while studying the buying behavior of consumers observed that their own experience, neighbour, and the involvement of their family own members were exerting maximum influence on purchase decision. Above all, the quality of the product and its easy availability were the primary vital determinants of buying behavior. Consumers were influenced by touch and feel aspect of any promotional activity.

Kim-Hyunah et al. (2005) analyzed the relationship among brand equity factors (brand awareness, brand image, brand preference and brand loyalty) and suggested a strategy for brand management in contract food service management companies. He concluded that brand awareness has positive effect on brand image and brand preference and recommended that the contract food service companies should focus on improving brand awareness as a brand strategy. In addition, brand preference and brand image had significant positive effects on brand loyalty. Thus, the companies should strive to strengthen brand loyalty through building brand preference and brand image. Brand loyalty promoted more customer visits, which was directly

related to profitability of contract food service management companies, the authors concluded.

Kubendran and Vanniarajan (2005) indicated that the change in consumption pattern was due to the changes in food habits. If income and urbanization increase among consumers, the percentage of income spent on consumption also increased. The urban consumers' preferred mostly branded products compared to rural consumers. The most significant factors influencing buying decisions were accessibility, quality, regular supply, door delivery and the mode of payment.

Ramasamy et al. (2005) studied consumer behaviour towards instant food products in Madurai, observed that consumers do build opinion about a brand on the basis of which various product features play an important role in decision making process. A large number of respondents (78.00%) laid emphasis on quality and 76.00 per cent on price which was an important factor, while 64.00 per cent of the respondents attached importance to the image of the manufacturer and 50.00 per cent considered packaging as an important factor and an equal percentage (50.00%) felt longer shelf life influenced them.

Banumathy and Hemamena (2006) in their study revealed that the company's manufacturing soft drinks must manufacture high quality soft drinks in order to compete with soft drinks of multinational companies. They suggested demand promotion by effective advertising, improving quality by keeping a check on the taste and price. Study also revealed that there was no association between age, education, occupation and choice of brands but there was association between monthly income and brand preference and also there was close relationship between price and satisfaction level.

Jyrki et al. (2006) examined the kind of views and attitudes consumers and other food chain actors have, concerning organic food and its production and how these views and attitudes differ. The main methods used in the analysis of survey responses were factor, cluster and discriminant analyses. The discriminant analysis was based on respondents' attitudes towards organic food and organic food production. As a result of the analysis, five differing attitudinal groups, Believers, Committed, Neutrals, Doubters and Negatives were identified among the consumers. In addition, six differing attitudinal groups, Believers, Supporters, Weak Doubters, Strong Doubters, Unsatisfied and Negatives were identified among the other food chain actors. It was found that the products and information in the organic food chain did not flow smoothly from producers to consumers. Consequently, both consumers and other food chain actors wanted more information about organic food production and more visibility and public sales promotion activities for organic products.

Narang (2006) opined that, a buyer does not stick to one brand. They should be able recall different brand names when they go for purchase. Repititive advertising can be used to promote brand recall. The product should be associated with style and trend, so that it appeals to the youth and the brand name should be developed as a fashion statement. Promotional schemes such as discounts and free offers with purchase were suggested to increase rates.

Vincent (2006) elicited that quality was an important factor that draws consumer towards branded products. Branded products were accepted as good quality products. People do not mind paying extra for branded products, as they get value for money. Media is a key constituent in promoting and influencing brand. A child's insistence affects family's buying behaviour. Children are highly aware and

conscious of branded items. Although unbranded products sometimes give same satisfaction as branded products, customers would still prefer to purchase a branded product.

Bardhan (2010) study was carried out in Tarai region of Uttarakhand, with the objectives of ascertaining factors influencing farmers' willingness to pay for animal health services (AHS) and preference for private veterinary practitioners. The findings of the study revealed that para-veterinary staff compared poorly with private and government veterinarians in regard to quality of services provided. Indeed quality was perceived by vast majority of farmers as their most preferred attribute of AHS. Price as an attribute was rated quite low compared to quality and even other attributes like proximity, which implied that if quality AHS is guaranteed, price is not an important determinant in the farmers' uptake decisions. The findings also revealed that the preference for private veterinarian increased with the wealth status. Risk attitude was also found to influence choice of AHS provider. Risk adverse farmers preferred government veterinarians while risk taking farmers showed a tendency to prefer private practitioner. The overall findings was that there are variations in the valuation of AHS attributes – price being only one of them - that cause farmers belonging to different wealth categories to prefer different AHS providers.

Dharmaraj (2010) examined brand preference for passenger cars. The study divided three main factors influencing brand preference. First Information factors like advertisement, dealers schemes, salesmanship, internet, friends and relatives past experience. Second main factor psychological factors like social status, image of manufacturer, celebrity endorsements, brand loyalty and name, style and driving comfort etc. Economic factor like price, disposable income, easy finance, discount offers, maintenance cost, free insurance resale value etc. Last product

factors like quality, comfort, road grip, luxury, warranty, space, power break and steering etc conducted a Meta analysis for passenger cars.

Venkateswaran et al. (2011) examined the brand preference of selective household brands FMGC's at Dindigul, Tamil Nadu. The study observed that in forming tendency of customers to prefer a particular brand, the market variables like advertisement, quality of product, brand name and image plays essential role. So a market must understand how consumer made the purchase decision towards the brand. And also observed factors influence the consumer to go for purchase decision.

Market share of different brands of fertilizer

Shankarmurthy (1986) analyzed the market share of seeds, fertilizers and plant protection chemicals of the Karnataka State Cooperative Marketing Federation (MARKFED) in Karnataka. He observed that the share of federation was negligible being only 0.06 per cent per year in seeds marketing. The share of fertilizer marketing was on an average 22.5 per cent compared to 1.83 per cent in the marketing of plant protection chemicals. This showed that federation had a marginal role in the seed marketing and plant protection chemicals. However, it was next only to the private sector in fertilizer marketing. Hence, he suggested the federation should increase its share by penetrating further into the market and also called for an advance planning to serve the farmers effectively.

Hentschel (1991) in his study on European mushroom market opined that mushroom production 90 per cent champignons in the European Union increased by an average 5.6 per cent per year in the 1980s, with rates in the Netherlands, Italy, the UK and Irish republic as high as 8-9 per cent. The effects of this in increasing competition for

market share in Germany, which has the highest consumption of fresh and processed mushrooms, is discussed.

Durand (1992) studied the trends in retail sales of fruits and vegetables in France. It was found that, increasingly large market share was held by hyper and supermarket outlets. Supermarkets, which were already the leading outlet for fruits and potatoes, also became the key distribution channel for vegetables in 1991, moving just ahead of markets. As for the revenue share of specific product varieties, each type of distribution is characterized by its own trends. Hyper markets seem to be heading toward a broader product offering.

Ramli and Mohammad (1992) examined some economic relations on the oils and fats sector from the standpoint of oil market shares with the objective of determining the world market potential for palm oil. Market share analysis is used assuming continuity of past trends in consumption of oils and fats, consumption is expected to increase to the year 2000 and a similar pattern is also observed for the share in palm oil consumption.

Kunnal and Marlby (1994) showed that the private seed firms or others dominated the seed market in the state with the share of 67 per cent of seeds of pulse crops and about 85 per cent in seeds of oil seed crops. The state seed corporation had fairly good share of 28.30 per cent in distribution of seeds of pulse crops but in case of oilseeds it was not satisfactory. The Karnataka oil seed grower's co-operative federation has captured only about 10 per cent of oil seed market in the state.

Shivakumar (1994) observed that greater share of required pesticides from private dealers. Friends, neighbors' and relatives were the major source of information on dealers and in case of brands it was extension personal of department of agriculture. The price, quality and

advertisements about the brands contributed significantly to brand loyalty credit availability, advertisements and price of products available with dealer contributed significantly to dealer loyalty.

Shakeel (1997) studied the market share of liquid milk in Gulbarga city. The highest share in Gulbarga milk market was accounted by Shivamurty with 40.14 per cent followed by the union (26.87 per cent) and Doodh pandhri (27.52 per cent), the other two brands; S.B. dairy and Poornima had 2.29 per cent and 1.38 per cent of share respectively.

El Sawalhy *et al.,* (2008) analyzed the Egyptian grapes market shares in the world markets. The main exporting countries of grapes through the period 2001-06 were Chile, Italy, South Africa, Netherlands, Turkey, Spain and Greece. While the main importer countries through the same period were Germany, UK, the Netherlands, France, Belgium and Saudi Arabia. The exported quantities of the Egyptian grapes are still 1.4 per cent of the total grapes production through the period 2001-06. This study aims to identify the main factors affecting foreign countries' imports of the Egyptian grapes.

Zhang Han *et al.,* (2008) in their analysis on the change of China's plywood used the constant market share model to carry on the causation analysis on the continual growth of China's plywood export from market scale, market distribution and competitive strength during 1992-2006. The conclusions indicate that the increase of export competition played the most important role in the augment export of China's plywood; the positive effect of market scale has increased in a certain, but still not obvious; and the market distribution effect embarrasses the export, although its exportation hindrance function reduces gradually.

Behr (2008) studied the market for vegetables. The 2007 growing season saw some 33.2 million tonnes of tomatoes processed worldwide,

more than the previous year but below the record of 35 million in 2004-05. Other processing crops, such as asparagus, sweet corn, and peas, were affected by unfavourable weather in China, France, Hungary, Spain, Belgium and the UK. Open-ground production in central Europe was higher than elsewhere in the continent. The harvests in Poland and the Czech Republic were up by 12 per cent and 3 per cent. Exports from Spain were down, those from the Netherlands little changed. Germany was Europe's leading importer of fresh produce but also an increasingly significant producer of asparagus. Discount retailers' market share rose to 52 per cent of vegetables purchased.

Weber (2008) studied the Management of brands in case of apple industry in Switzerland and found out that the active use of brand names and branding (Club varieties) in the apple industry is relatively recent. It is estimated that the number of branded varieties in the EU was 4 in 1997, 20 in 2007 and predicted 35 in 2012 with a volume of 420 000 tonnes or 5 per cent of total market share. Apple varieties have a product cycle as any other product and data show that the top-5 varieties with 81 per cent market share 35 years ago have only 15 per cent today. The boom varieties of the early 2000s, Gala and Braeburn, are not expanding as fast as they used to. In Switzerland new consumers brands like Diwa and Mairac are an attempt to improve Swiss production and consumption. New varieties Milwa, La Flamboyante and Galmac have promising potential but it is too early to decide if they will succeed within the consumer brands Diwa and Mairac.

Rahman (2009) analyzed the market share of mineral water. The study was conducted at Barisal metropolitan city area in Bangladesh in December 2007 to determine the market share of branded mineral water (Fresh drinking water). For this purpose, the Barisal metropolitan city was divided into 10 areas with 10 randomly selected retail outlets in each

area. It was found that Fresh 1 litre is the market leader, occupying a 10.56 per cent market share in the overall market based on sales turnover in taka, while Fresh 0.5 litre occupies a 13.86 per cent market share based on sales turnover in quantity. Based on company-wise market share analysis, Partex Beverage Ltd. is the market leader, holding a 29.47 per cent market share, followed by United Water and PET Industries Ltd. (27.99 per cent), Acme Agrovet and Beverages Ltd. (15.22 per cent), Pran Foods Ltd. (11.80 per cent), City Pet Industries Ltd. (8.05 per cent) and Akij Food and Beverages Ltd. and take a market penetration strategy to hold its leading position.

Shivakanth shetty (2011) analyzed the market share of Nokia mobile. The study was conducted Nokia's shrinking market share in India due to the misinterpretation of market trends and customer needs. But the market also brings the big potential in the internal strengths such as advance technology, innovative products, economy of scale, could let it surpass the competitor's and solidity its market leader position.

Fertilizer trade practices by retailers

Feighery et al. (1999) studied retail trade practices in tobacco industry by comparing the incentive payments for premium shelf space and discounts on volume purchases paid to retailers by 5 types of companies. In study they interviewed 108 merchants by selecting randomly small retail outlets, California. Majority of retailers reported receiving slotting/display allowances for tobacco (62.4%) than for any other product type. An average store participating in a retailer incentive program receive 78% comes from all sampled product of tobacco companies. There is more impact of tobacco industry incentive programs on the in-store marketing and sales practices of retailers.

Linda Calvin et al. (2001) studied U.S. Fresh Fruit and Vegetable Marketing: Emerging Trade Practices, Trends, and Issues In the past year, trade practices between fresh produce shippers and food retailers gained national attention. Trade practices also refer to the overall structure of a transaction-for example, long-term relationships or contracts versus daily sales with no continuing commitment. This study compares trade practices in 1999 with those prevalent in 1994, placing them in the broader context of the evolving shipper/retailer relationship. Most shippers and retailers reported that the incidence and magnitude of fees and services associated with transactions has increased over the last 5 years. Fees paid to retailers are usually around 1-2 percent of sales for most of the commodities we examined, but 1-8 percent for bagged salads. Information on the incidence and magnitude of these new practices is scarce. To augment information that is publicly available, we interviewed a limited number of shippers, retailers, and wholesalers about their firms and trade practices. We received a high level of voluntary cooperation from the interviewed firms.

James Michael Harris et al. (2002) studied U.S. food marketing system, competition, coordination, and technological innovations to the 21st century focuses on recent trends in the food supply chain. Food manufacturing, wholesaling, grocery retailing, and food service provide a detailed overview of structure, performance, information systems, new technology, and foreign direct investments. The study also comprehensive about sales, concentration, trade, productivity, and other indicators.

Ade Freeman and Wachira Kaguongo (2003) studied Fertilizer Market Liberalization and Private Retail Trade in Kenya examined the factors influencing the entry and sales decision of private traders in fertilizer retail trade in a liberalized market using survey data from

Kenya. A two-stage econometric model is used to examine traders' entry and sales decision. The results provide insights into factors that are associated with private retail traders' entry and sales decisions in an era of liberalized fertilizer markets. It shows substantial entry into fertilizer retail trade following market liberalization. Relatively limited investments in trading assets and equipment are predicted to hold back firm expansion.

Carolyn Dimitri et al. (2003) studied in the fresh produce Retail consolidation, technological change in production and marketing, and growing consumer demand for produce have altered the traditional market relationships between producers, wholesalers, and retailers. Increasingly, produce suppliers are asked to provide additional marketing services and incentives in exchange for volume purchases and other commitments by buyers. This study synthesizes the results from a multiphase project that examined the dynamics of produce marketing, the produce shipper-retailer relationship, and how changes in the produce market affect the relative market influence of producers, retailers, and consumers.

Omamo (2003) examined Fertilizer Trade and Pricing in Uganda by liberalized fertilizer markets in eastern Africa typically deliver fertilizer to smallholder farming regions at prices that render its use unprofitable. Simultaneously, faced with little demand for fertilizer in these regions, fertilizer traders appear unwilling to invest in measures that might reduce farm-gate prices. A basic question throughout the region is therefore how to cost-effectively increase smallholders' access to fertilizer, under conditions of liberalized and privatized trade in the input. This paper explores that question for Uganda using data from a wide-ranging study of Uganda's fertilizer sub-sector. The prevailing system of fertilizer procurement and distribution is found to imply a market structure

dominated by retail-level trade, high prices, and low net margins. The study concludes that there is no inherent pressures in the extant system of fertilizer procurement and distribution toward development of a wholesaling backbone that might allow capture of scale economies.

Lourdes Martinez and Suzanne Thornsbury (2006) studied the wholesale sector trade practices in U.S. fresh produce distribution and management has created new forms of commercial relationships between intermediaries and their suppliers. In some cases these changes represent valuable opportunities for business, beyond the demand for additional marketing services from suppliers. In terms of trade practices governing intermediaries' relationships with customers, more requests for contracts, strategic alliances, inventory management, third-party certifications, traceability systems, packaging standards and private standards are expected to be prominent in the future for increase in sales in the market.

Bridget k Behe et al. (2008) analyzed the regional trade practices in U.S. nursery production. The objective of this analysis was to provide a regional profile of the marketing practices of nursery producers. Regional differences were present in several areas of sales management, selling practices, pricing, and advertising. Generally, the coastal regions had a higher percentage of wholesale sales, whereas interior regions had a higher percentage of retail sales. Newsletters and yellow pages were the most important form of advertising in the Great Plains; trade journals were the most important method in the south central and southeast regions; and catalogs were the most important advertising method for all other regions. The percentage of sales to repeat customers varied from a low of 65.6% in the Great Plains to a high of 76.2% in the southeast. The Appalachian (26.9%) and southeast (26.8%) regions had the highest percentage of negotiated sales, whereas the northeast had the lowest.

Although significant differences generally existed among regions in the percentage of sales spent on various transaction methods, nurseries in all regions used in-person, telephone, and mail order as their three most important sales transaction methods, except for the southeast where trade shows were the third most important method of sales transactions. Landscape professionals, where wholesalers, and single-location garden centers were the major market outlets in all regions. Respondents in all regions identified production, personnel, and marketing as limitations for expansion.

Methodology

CHAPTER III

METHODOLOGY

In this chapter a brief description of the study area, sampling frame, database and method of analysis employed are presented under the following headings:

3.1 Description of the study area

3.2 Sampling design

3.3 Nature and source of data

3.4 Analytical tools and techniques employed

3.1 Description of the study area

3.1.1 Location of the study area

The study was conducted in Shimoga and Davanagere Districts of the Karnataka State. The Shimoga District falls under 'Southern Transition Zone (Zone 7)" of the Agro-climatic zones. The Shimoga district is a part of the Malnad region of Karnataka and is also known as the "Gateway to Malnad" or Malenaada Hebbagilu in Kannada. District lies between 13°27' to 14°39' North latitude and 74°38' to 76°04' East longitude, extending over an area of 8,465 km². Elevation from the Mean Sea Level (MSL) is 640 m Kodachadri hill peak altitude of 1343 m. The district bounded by Haveri District to the northeast, Davanagere District to the east, Chikmagalur District to the southeast, Udupi District to the southwest, and Uttara Kannada to the northwest.

The Davanagere district classified into three agro climatic zones 'Northern Dry Zone, Central Dry Zone & Southern Transition Zone (Zone 3, 4 and 7)" of the Agro-climatic zones. The Davanagere District lies in the plain region on the Deccan Plateau locally known as bayalu seeme. District lies between 13°45' to 14°50' North latitude and 75°30' to 76°30' East longitude, extending over an area of 5975.97 km². Elevation from the Mean Sea Level (MSL) is 599 m high altitude.

Table 3.1: General Features of the Study Area

Sl. No	Particulars	Shimoga District	Davanagere District
1	Geographical Area (Ha)	8,47,784	5,97,597
2	Taluks	7	6
3	Hoblies (No.)	40	24
4	Villages (No.)		
4 A	Inhabited	1443	810
4 B	Un-inhabited	87	113
5	Population (No.)	17,55,512	19,46,905
6	Density of population (per sq. km)	207	329
7	Decadal growth of population (%)	6.88	8.71
8	Annual average rainfall (mm)	2252.7	845.4
9	Average no. of rainy days per year	86	67
10	Temperature (^{o}C)		
10 A	Minimum	20	16
10 B	Maximum	35	43

Source: Shimoga and Davanagere District at a Glance 2009-10, District Statistical Office,

Fig 3.1 Map of the study area

3.1.2 Population and demography

The geographical area of Shimoga district is 847,784 hectares, spread in seven taluks, 40 hoblies and 1443 inhabited villages, as well as 87 uninhabited villages. The population of the district according to 2011 census was 17, 55,542 with 1000: 995 male to female ratio. The overall population density of the district is 207/ sq. km compared to the state's figure of 319/ sq. km in 2011.

The geographical area of Davanagere district is 5,97,597 hectares, spread in six taluks, 24 hoblies and 810 inhabited villages, as well as 113 uninhabited villages. The population of the district according to 2011 census was 19, 46,905 with 1000: 967 male to female ratio. The overall population density of the district is 329/ sq. km compared to the state's figure of 319/ sq. km in 2011.

3.1.3 Climate, rainfall and soil type

There are three distinguishable agricultural seasons in the district viz., Kharif (June-September), Rabi (October-January) and summer (February-May). The South West monsoon commences by about the end of May or early June and it continues intermittently till the end of September.

The actual rainfall in the Bhadravathi during 2009-10 was 1427.4 mm with a major portion of the same being received from South-West monsoon only. The average number of rainy days during the same period was 79 days. The major soil forms found in the Bhadravathi are Red clay soil, Lateritic clay soil and Medium deep black soil,

The actual rainfall in the Shimoga during 2009-10 was 1506 mm with a major portion of the same being received from South-West monsoon only. The average number of rainy days during the same period was 75 days. The major soil forms found in the Shimoga are Red

clay soil, Lateritic gravelly clay soil, Lateritic clay soil and Medium deep black soil,

The actual rainfall in the Davanagere during 2009-10 was 1015.2 mm with a major portion of the same being received from South-West monsoon only. The average number of rainy days during the same period was 65 days. The major soil forms found in the Davanagere are Red sandy soil and Medium deep black soil,

The actual rainfall in the Harihara during 2009-10 was 845.4 mm with a major portion of the same being received from South-West monsoon only. The average number of rainy days during the same period was 65 days. The major soil forms found in the Harihara are Red sandy soil mixed red and black soil.

3.1.4 Land utilization

The land utilization pattern in the district is presented in the table 3.2. The total geographical area of Shimoga and Davanagere during 2009-10 was 8, 47,784 and 5,97,597 hectares, out of which the net sown area was 2,55,854 and 4,60,637 hectares. The total irrigated area was 1, 32.037 and 2, 20,916 hectares, because channel, tanks and tube wells are the major source of irrigation in the Districts. The area not available for cultivation was 1, 01,765 and 38,963 hectares, fallow land was 44,443 and 22,986 hectares and forest land was 2, 76,855 and 89,918 hectares.

The total geographical area of Bhadravathi Taluk during 2009-10 was 69,010 hectares, out of which the net sown area was 39,782 hectares. The total irrigated area was only 25,338 hectares, because canals and tanks are the major source of irrigation in the Taluk. The area not available for cultivation was 8,445 hectares, fallow land was 5,850 hectares and forest land was 18,239 hectares.

Table 3.2 Land Use Pattern in study area

Sl. No	Particulars	Bhadravathi Taluk	Shimoga Taluk	Davanagere Taluk	Harihara Taluk
1	Geographical Area	69,016	111,358	99,410	49,866
2	Forest	18,239	42,892	2,362	2,060
3	Not available for cultivation	8,445	10,310	6,462	3,910
4	Other uncultivable land	9,024	12,818	1,653	1,311
5	Fallow land	5,850	7,352	2,274	2,640
6	Net sown area	39,782	45,724	77,230	38,378
7	Irrigated area	25,338	26,211	30,293	43,487

Source: Shimoga and Davanagere District at a Glance 2000-10, District Statistical Office,


DEEPAK FERTILISERS
AND PETROCHEMICALS
CORPORATION LIMITED


GODAVARI


GUJARAT STATE FERTILIZERS & CHEMICALS LIMITED
GUJARAT
STATE
FERTILIZERS &
CHEMICALS LTD.
An ISO Certified Company


GNFC


JAI KISAAN


MCF
Mangalore Chemicals
& Fertilizers Limited


NAGARJUNA
GROUP


SPIC
Nourishing growth

Fig 3.2: Major Players of chemical fertilizer business in the study area

The total geographical area of Shimoga Taluk during 2009-10 was 1, 11,358 hectares, out of which the net sown area was 45,724 hectares. The total irrigated area was only 26,211 hectares, because canals, tanks and borewells are the major source of irrigation in the Taluk. The area not available for cultivation was 10.310 hectares, fallow land was 7,352 hectares and forest land was 42,892 hectares.

The total geographical area of Davanagere Taluk during 2009-10 was 99,410 hectares, out of which the net sown area was 77,230 hectares. The total irrigated area was only 30,293 hectares, because canals and borewells the major source of irrigation in the Taluk. The area not available for cultivation was 6,462 hectares, fallow land was 2,274 hectares and forest land was 2,362 hectares.

The total geographical area of Harihara Taluk during 2009-10 was 49,866 hectares, out of which the net sown area was 38,378 hectares. The total irrigated area was only 30,293 hectares, because canals, lift irrigation and borewells the major source of irrigation in the Taluk. The area not available for cultivation was 3,910 hectares, fallow land was 2,640 hectares and forest land was 2,060 hectares.

3.1.5 Cropping pattern

The cropping pattern in the Shimoga, District during 2009-10, the net sown area was 2, 55,854 hectares. Out of which, Cereals and other minor millets accounted for 67.35 per cent of the total net sown area. Total Spices plantation, Beatle nut, fruits and vegetables accounted for 17.35, 14.70 and 5.20 per cent of the net sown area, respectively. While the area under sugar cane and coconut was negligible, that is 2.60 per cent of the net sown area.

The cropping pattern in the Davanagere, District during 2009-10, the net sown area was 4, 60,637 hectares. Out of which, Cereals and other minor millets accounted for 74.26 per cent of the total net sown area. Oil seeds plantation, Beatle nut, fruits and vegetables ac-

counted for 8.12, 5.80 and 3 per cent of the net sown area, respectively. While the area under coconut, pulses and sugar cane was negligible, that is 2.60, 2 and 1.27 per cent of the net sown area.

The cropping pattern in the Bhadravathi taluk during 2009-10, the net sown area was 39,782 hectares. Out of which, Cereals and other minor millets accounted for 47.06 per cent of the total net sown area. Total Spices plantation, Beatle nut and sugar cane accounted for 30.70, 30.15 and 11 per cent of the net sown area, respectively. While the area under fruits and vegetables coconut and pulses was negligible, that is 3.10, 1.23 and 1.11 per cent of the net sown area.

The cropping pattern in the Shimoga taluk during 2009-10, the net sown area was 45,724 hectares. Out of which, Cereals and other minor millets accounted for 66.58 per cent of the total net sown area. Total Spices plantation, Beatle nut, coconut, fruits and vegetables accounted for 18.42, 16.25, 4.33 and 3.58 per cent of the net sown area, respectively. While the area under sugar cane, pulses and oil seeds was negligible, that is 2.60, 1.13 and 1.06 per cent of the net sown area.

The cropping pattern in the Davanagere taluk during 2009-10, the net sown area was 77,230 hectares. Out of which, Cereals and other minor millets accounted for 66.58 per cent of the total net sown area. Cotton, Beatle nut, coconut, fruits and vegetables accounted for 18.42, 16.25, 4.33 and 3.58 per cent of the net sown area, respectively. While the area under sugar cane, pulses and oil seeds was negligible, that is 2.60, 1.13 and 1.06 per cent of the net sown area.

Table 3.3: Cropping Pattern in the Study Area (2009-10)

(In hecters)

Sl. No	Particulars	Shimoga District	Davanagere District
1	Cereals and millets	1,72,307 (67.34)	3,42,089 (74.26)
2	Pulses	2039 (0.79)	9,669 (2.09)
3	Oil seeds	3403 (1.33)	37,446 (8.12)
4	Fruits and Vegetables	13,328 (5.20)	14,099 (3.06)
5	Beatle nut	37,631 (14.70)	26,931 (5.80)
6	Sugar cane	6,623 (2.58)	6,623 (1.27)
7	Coconut	6,655 (2.60)	12,013 (2.60)
8	Other non food crops	17,176 (6.17)	1,732 (0.38)

Note: Figures in parentheses represent percentage to total

Source: Shimoga and Davanagere District at a Glance 2009-10, District Statistical Office

The cropping pattern in the Harihara taluk during 2009-10, the net sown area was 45,724 hectares. Out of which, Cereals and other minor millets accounted for 66.58 per cent of the total net sown area. Beatle, Beatle nut, coconut, fruits and vegetables accounted for 18.42, 16.25, 4.33 and 3.58 per cent of the net sown area, respectively. While the area under sugar cane, pulses and oil seeds was negligible, that is 2.60, 1.13 and 1.06 per cent of the net sown area. 3.2

3.3 Sampling Design and Data Collection

Bhadra command area of Karnataka is purposively selected because of its potential for the fertilizer business. Bhadra command area is one among highest fertilizer consuming area in Karnataka. The area is known for intensive fertilizer usage for cultivation and package of practices. About 70% of the command area workforce is engaged in the agricultural sector which contributes about 70% of their income. The cropping pattern, which included predominately rice, sugarcane and permanent gardens under project area, has resulted in substantial improvements in both area and consequent agricultural crop production. The modernization of Bhadra Reservoir Project increased command area from 1.3 lakh hectares to 1.7 lakh hectares for both the seasons, it leads to increase the market size of fertilizers.

3.3.1 Sample Selection

In order to achieve the objectives of the study, data was collected from both primary and secondary sources. The Primary data was collected from 20 farmers and 5 retailers from each Taluk relating to brand preference, factors influence the purchase decision and retail trade practices in chemical fertilizers. The secondary data regarding market share, cropping pattern, land utilization, general information of district and area under cultivation were collected from Agriculture Department of Shimoga and Davanagere.

3.4: Details of selected for the study

Sl. No	Taluks	No. Farmers each Taluk	No. Retailer each Taluk
1	Bhadravathi	20	5
2	Shimoga	20	5
3	Davanagere	20	5
4	Harihara	20	5
Total		80	20

3.3.2 Some of the major companies in south India fertilizer industry:

A. Public sector companies
   - National Fertilizers Limited
   - Fertilizers & Chemicals Travancore Limited
   - Rashtriya Chemicals & Fertilizers Limited
   - Madras Fertilizers Limited
   - Indian potash limited.

B. Co-operatives companies
   - Indian Farmers Fertilizers Co-operatives Ltd
   - Krishak Bharat Cooperative Limited

C. Private sector companies
   - Chambal Fertilizers & Chemicals Limited
   - Deepak Fertilizer and Petrochemicals Corporation Limited
   - Coromandal Fertilizers Limited.
   - Godavari Fertilizers & Chemical Limited.
   - Gujarat state fertilizers and Chemicals Limited.
   - Mangalore Chemicals & Fertilizers Limited.
   - Nagarjuna Fertilizers & Chemicals Limited
   - Southern Petro Chemical Industries Corporation Limited.
   - Tungabhadra Fertilizers and Chemicals Ltd
   - Zuvari Industries Limited- Fertilizer Limited

3.3.3 The selected commercial chemical fertilizers available in the market

The main products manufactured by the fertilizer industry in India are straight fertilizers and complex fertilizers. The fertilizer industry in India with its rapid growth is all set to make a long lasting global impression.

A. Nitrogenous fertilizers
   Urea, ammonium sulphate and calcium ammonium nitrate
B. Phosphatic fertilizers
   Single super phosphate
C. Potassic fertilizers
   Muriate of potash
D. Nitrogenous and phosphatic complex fertilizers
   DAP and 28:28:0
E. Nitrogenous, phosphatic and potassic complex fertilizers
   15:15:15, 17:17:17, 19:19:19, 10:26:26, 12:32:16, 14:28:14 and 14:35:14
F. Nitrogenous, phosphatic and sulphate complex fertilizers
   20:20:0:13 and 16:20:0:13

Classification of farmers based on size of land holding

The respondents were post-stratified into marginal, small, medium and large farmers based on the operational holding. The size of operational holding was converted into standard dry land equivalent (one ha. of wetland was considered equivalent to two ha. of dry land).

Analytical tools and techniques employed

3.4.1 Tabular presentation/ analysis

This technique was exclusively used for the presentation of the market share of different companies by using tabular form. The companies present in the business in the district were tabulated, computed and presented meaningfully to avail percentages. The share of

each firm was worked as percentage to total. Tabular analysis is also used to know the purchase practice, purchase pattern, sales pattern, opinion about brand preference, factors considered for purchase of chemical fertilizers.

3.4.2 Garret ranking technique

In this study, Garret ranking technique was used to compute following 9 factors viz. price, quality, availability, brand, previous experience, advertisement, co-farmer opinion, sales promotional activities and dealer's recommendation Farmers were asked to rate the factors based on their importance which helps to make a decision to choose a particular brand of chemical fertilizers. The order of the merit given by the respondents was converted into ranks by using the formula. Accordingly these ranks were converted to scores by referring to Garrets table.

Garrett's formula for converting ranks into per cent was given by per cent position = 100*(Rij-0.50)/Nj

Where Rij = Rank given for ith item by jth individual

Nj = Number of items ranked by jth individual

The per cent position of each rank was converted to scores by referring to tables given by Garret and Woodworth (1969). Then for each factor, the scores of individual respondents were summed up and divided by the total number of respondents for whom scores were gathered. The mean scores for all the factors were ranked, following the decision criterion that higher the value the more important in order of preference by customers.

Results

CHAPTER IV

RESULTS

The empirical results of the study are presented as below. Keeping the objectives in view, the results are presented under the following headings.

4.1 Profile of the respondents.
4.2 Farmers' preference for various brands of fertilizers in Bhadra command area.
4.3 Factors influencing farmers' preference of fertilizers.
4.4 Market share of different brands of fertilizer and
4.5 Retail trade practices in chemical fertilizers.

4.1 Profile of the respondents

4.1.1 Profile of the sample farmers

The demographic profile of the sample farmers is presented in the Table 4.1. The average age of the sample farmers was found to be 41.6 years in the study area. The age wise classification of sample farmers showed that majority (46.25 %) of them are under age group of 36-50 years. The remaining sample farmers are under the age group of less than 36 (33.75%), and more than 50 (20.00 %) years.

With respect to the education level, 11.25 per cent of farmers were illiterates. The highest number of sample farmers has high school education (38.75%) followed by primary school (17.50%) and pre university (15.00%) of sample farmers, (20.00%) of farmers studied up to graduation level.

The farmers were post classified into different groups based on the size of the land holding. Among sample farmers majority (46.25 %) are large farmers followed by medium (43.75 %) farmers and small farmers

constituted only to an extent of 10.00 per cent. The average size of land holding of the sample farmers was 7.72 acres.

4.1.2 Profile of the sample retailers

The profiles of the sample retailers are presented in the Table 4.2. The average age of the sample retailers was found to be 42.25 years in the study area. The age wise classification of sample farmers showed that majority (60.00 %) of them are under age group of 36-50 years. The remaining sample farmers are under the age group of less than 36 (30.00%), and more than 50 (10.00 %) years.

With respect to the education level, 40.00 per cent of retailers had pre university level education and 60.00 per cent of the retailers studied up to graduation level.

The average experience in retailing chemical fertilizer was 22.4 years. Among sample retailers 95 per cent are handing seeds and pesticides, 100 per cent of them handing fertilizers. Only 20 per cent of retailers handled farm machinery. The type of ownership of the agri-input business was proprietorship 75 per cent and partnership 25 per cent.

4.2 Farmers' preference for various brands of chemical fertilizers in Study area.

Different brands of fertilizers were preferred for various kinds of fertilizers purchased by farmers there are Urea, Ammonium sulphate, Single super phosphate, Muriate of potash, Diammonium phosphate, 10:26:26, 15:15:15, 17:17:17, 19:19:19, 12:32:16, 14:28:14, 20:20:0:13 and 16:20:0:13. In spite of prestigious of many companies, only few companies brands are preferred. The details of the brand preference of different kinds are indicated in the tables from 4.4 to 4.13.

Table 4.1 Profile of sample farmers

(N =80)

Sl. No.	Particulars	Number	Percentage to total
1.	**Age group**		
1A.	Up 35	27	33.75
1B.	36-50	37	46.25
1C.	>50	16	20.00
	Total	**80**	**100.00**
2.	Average age of respondents (Years)	41.60	
3.	**Education level**		
3A.	Illiterate	09	11.25
3B.	Primary school	14	17.50
3C.	High School	31	38.75
3D.	P U	12	15.00
3E.	College	14	17.50
	Total	**80**	**100.00**
4.	**Size of holding**		
4A.	Small farmers (< 2.5 Acres)	08	10.00
4B.	Medium farmers (2.5 – 5 Acres)	35	43.75
4C.	Large farmers (> 5 Acres)	37	46.25
	Total	**80**	**100.00**
4	Average land holdings (Acres)	7.72	
6.	Experience in cultivation (Years)	20.90	
8.	Average FYM purchasing (Tonnes)	8.21	

Table 4.2 Profile sample of Retailers

(N =20)

Sl. No.	**Particulars**	**Number of retailers**	**Percentage**
1.	**Age group**		
1A.	Up 35	06	30.00
1B.	36-50	12	60.00
1C.	>50	02	10.00
	Total	**20**	**100.00**
2	Average age of respondents (Years)	42.25	
3.	**Education level**		
3A.	PU	8	40.00
3B.	College	12	60.00
4	Diploma in Agri-inputs handling	10	50.00
5.	Experience in retailing (years)	22.4	
6.	**Agri-inputs handling**		
6A.	Seeds	19	95.00
6B.	Pesticides	19	95.00
6C.	Fertilizers	20	100.0
6D	Farm machineries	04	20.00
7.	**Nature of ownership**		-
7A	Partnership	05	25.00
7B	Proprietorship	15	75.00

4.2.1 Awareness about fertilizers companies or brands by farmers.

It is observed from the table 4.3 the awareness about selected chemical fertilizer companies and brands were very high. Few fertilizer companies and brands like FACT, IFFCO, MCF and ZIL are known cent per cent of farmers in study area. The companies like CFL, IPL, MFL, NFCL, RCF and KRIBCO are known almost all (75 to 98.75 %) respondents. Other companies like TFCL (58.75 per cent), Deepak (31.25 per cent) and Mahadhan fertilizers (21.25 per cent) were least aware among sample farmers in study area.

4.2.2 Brand preference of Urea fertilizer in study Area.

The MCF company brand preference of urea fertilizer was preferred by highest number of the sample farmers (23.75 %) followed by the ZIL (20.00 %) IFFCO (15.00 %) and RCF (11.25 %) companies brands. The least number of sample farmers preferred SPIC (2.50 %) and KRIBCO (3.75 %) companies brands has their preference as indicated in the table 4.4.

4.2.3 Brand preference of Ammonium Sulphate fertilizer in study area.

FACT company brand of ammonium sulphate fertilizer was preferred by the highest number of the sampled farmers (66.25 %) followed by the GSFC company brand (16.25 %). The least number of sample farmers preferred NFCL company brand (5.00 %) as indicated from the table 4.5.

4.2.4 Brand preference of SSP fertilizer in study area

The brand preference of SSP fertilizer has observed from the table 4.6, (46.25 %) of the sample farmers have preferred CFL Company brand

Table 4.3 Awareness of chemical fertilizers companies to farmers in study area

(N=80)

Sl. No	**Companies**	**Number of Respondents**	**% of Respondents**
1	Fertilizers and Chemicals Travancore Ltd	80	100
2	Indian Farmers Fertilizers Co-operatives Ltd	80	100
3	Mangalore Chemical Fertilizers	80	100
4	Zuvari Industries Limited	80	100
5	Coromandel International Limited	79	98.75
6	Madras Fertilizers Ltd	78	97.50
7	Indian Potash Limited	77	96.25
8	Nagarjuna Fertilizers and Chemicals Ltd	76	95.00
9	Rashtreeya Chemicals and Fertilizers	70	87.50
10	Krishik Bharath Co-operative Ltd	60	75.00
11	Tungabhadra Fertilizers and Chemicals Ltd	47	58.75
12	Deepak Fertilizers	25	31.25
13	Mahadhan Fertilizers	17	21.25

Note: Figures indicate percentage to total.

Table 4.4 Brand preference of Urea fertilizer in study area

Sl. No	Company brands	Number of Respondents	% of Respondents
1	MCF	19	23.75
2	ZIL	16	20.00
3	IFFCO	12	15.00
4	RCF	9	11.25
5	FACT	8	10.00
6	MFL	7	8.75
7	NFCL	4	5.00
8	KRIBHCO	3	3.75
9	SPIC	2	2.50
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

as their preference followed by the TFCL (21.25 %) and CPFL (16.75 %) companies brands preferred. The KICL company brand as the least preferred by only (5.00 %) of the sample farmers.

4.2.5 Brand preference of MOP fertilizer in study area

As indicated in table 4.7 it can noticed that highest number of the sample farmers (32.50 %) have preferred IPL company brand as their choice followed by CFL (17.50 %) and ZIL (13.75 %) as their preference. The MFL company brand (6.25 %) as lost preferred brand in study area.

4.2.6 Brand preference of DAP fertilizer in study area

The brand preference of DAP fertilizer has indicated from the table 4.8, 25.00 per cent of the sample farmers preferred MCF company brand as their preference followed by IPL (21.25 %) and RCF (17.50 %) companies brands. The CFL company brand (2.50 %) least preferred brand among sample farmers.

4.2.7 Brand preference of 10:26:26 Complex fertilizer in study area

The IFFCO company brand of 10:26:26 complex fertilizer was preferred by highest number of the sample farmers (33.75 %) followed by ZIL (26.25 %) and CFL (23.75 %) companies brands. The least number of farmers preferred MCF company brand (16.25 %) as indicated in table 4.9.

4.2.8 Brand preference of 15:15:15 Complex fertilizer in study area

The study observed that RCF company brand was enjoying monopoly or cent per cent of the respondents.

Table 4.5 Brand preference of Ammonium Sulphate fertilizer in study area

Sl. No	Company brands	Number of respondents	% of Respondents
1	FACT	53	66.25
2	GSFC	13	16.25
3	SPIC	10	12.50
4	NFCL	4	5.00
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.6 Brand preference of SSP fertilizer in study area

Sl. No	Company brands	Number of respondents	% of Respondents
1	CFL	37	46.25
2	TFCL	17	21.25
3	CPFL	13	16.25
4	DMCC	9	11.25
5	KICL	4	5
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.7 Brand preference of MOP fertilizer in study area

Sl. No	Company brands	Number of respondents	% of Respondents
1	IPL	26	32.50
2	CFL	14	17.50
3	ZIL	11	13.75
4	FACT	9	11.25
5	RCF	8	10.00
6	MCF	7	8.75
7	MFL	5	6.25
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.8 Brand preference of DAP fertilizer in study area

Sl. No	Company brands	Number of respondents	% of Respondents
1	MCF	20	25.00
2	IPL	17	21.25
3	RCF	14	17.50
4	ZIL	11	13.75
5	FACT	11	13.75
6	MFL	5	6.25
7	CFL	2	2.50
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.9 Brand preference of 10:26:26 complex fertilizer in study area

Sl. No	Companies brands	Number of respondents	% of Respondents
1	IFFCO	27	33.75
2	ZIL	21	26.25
3	CFL	19	23.75
4	MCF	13	16.25
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.10 Brand preference of 17:17:17 complex fertilizer in study area

Sl. No	Company Brands	Number of Respondents	% of Respondents
1	MFL	59	73.75
2	SPIC	14	17.50
3	TFCL	7	8.75
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

4.2.9 Brand preference of 17:17:17 Complex fertilizer in study area

The brand preference of 17:17:17 all complex fertilizer has indicated from the table 4.10, (73.75 %) of sample farmers preferred MFL company brand followed by SPIC company brand (17.50 %) as their preference. The TFCL least preferred brand 8.75 % of the sample farmers.

4.2.10 Brand preference of 19:19:19 Complex fertilizer in study area

The MFL company brand of 19:19:19 all complex fertilizer was preferred by highest number of the sample farmers (33.75 %) followed by MCF (26.25 %) and ZIL (22.50 %) companies' brands. The least number of farmers preferred RCF company brand (20.00 %) as indicated in table 4.11.

4.2.11 Brand preference of 16:20:0:13 complex fertilizers in study area

The study observed that CFL company brand is monopoly to supplying the fertilizer to the market or cent per cent of the sample farmers have preferred CFL brand.

4.2.12 Brand preference of 12:32:16 Complex fertilizer in study area

The brand preference of 12:32:16 complex fertilizer has indicated from the table 4.12, (36.25 %) of sample farmers preferred IFFCO company brand followed by ZIL (26.25 %) and CFL (21.25 %) companies brands as their preference. The TFCL least preferred brand 5.00 % of the sample farmers.

Table 4.11 Brand preference of 19:19:19 complex fertilizer in study area

Sl. No	Company Brands	Number of respondents	% of Respondents
1	MFL	27	33.75
2	MCF	19	23.75
3	ZIL	18	22.50
4	RCF	16	20.00
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.12 Brand preference of 12:32:16 complex fertilizer in study area

Sl. No	Company Brands	Number of respondents	% of Respondents
1	IFFCO	29	36.25
2	ZIL	21	26.25
3	CFL	17	21.25
4	GSFC	9	11.25
5	TFCL	4	5.00
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

4.2.13 Brand preference 20:20:0:13 complex fertilizers in study area

The FACT company brand of 20:20:0:13 complex fertilizer was preferred by highest number of the sample farmers (28.75 %) followed by CFL (21.25 %) and ZIL (15.00 %) companies brands. The least number of farmers preferred RCF company brand (8.75 %) as indicated in table 4.13.

4.2.14 Source of Information about agriculture input brands and recommendation followed in purchases.

The source information about agri-input brands to the farmers is presented in the table 4.14. Traders in agri-inputs are the major information providers on agricultural-inputs (40.00 %) followed by fellow farmers (26.25 %) and KSDA officers (18.75 %) of the sample farmers. The mass media is the least information source (15.00 %) to the sample farmer in study area.

The KSDA official influences the most number of sample farmers in preferring to particular brand of agri-inputs including fertilizers (40.00 % followed by the agri-input retailers (33.75 %) and fellow farmers (16.25 %). The sales representative of companies are least influencing in the deciding the purchase of agri-inputs. The quantity of fertilizer application by farmers is indicated in the table 4.14. The quantity of chemical fertilizers applied was influenced by the type of crop and stage (48.75 %) followed by the agri-input retailers (22.50 %) and KSDA official (17.50 %)of the sample farmers. The scientific basis of applying quantity of chemical fertilizers based on soil testing details is only (11.25 %).

4.3 Factors influencing farmers' preference of chemical fertilizers.

The factors influencing the farmers purchase decision of particular chemical fertilizers were presented in table 4.15. The brand name and

4.13 Brand preference for 20:20:0:13 complex fertilizer in study area

Sl. No	Company Brands	Number of Respondents	% of Respondents
1	FACT	23	28.75
2	CFL	17	21.25
3	ZIL	12	15.00
4	MCF	12	15.00
5	IFFCO	9	11.25
6	RCF	7	8.75
TOTAL		**80**	**100**

Note: Figures indicate percentage to total.

Table 4.14 source of information about Agri-inputs brands in study area

Sl. No	Particulars					Total
1	**Source of information**					80 (100)
	Particulars	**Mass media**	**Fellow farmer**	**KSDA**	**Agri-inputs traders**	
	No. of respondents	12 (60.00)	21 (26.25)	15 (18.75)	32 (40.00)	
2	**Persons influencing preparing brands of agri-inputs**					80 (100)
	Particulars	**Companies sales representatives**	**Fellow farmer**	**KSDA official**	**Agri-inputs traders**	
	No. of respondents	8 (40.00)	21 (26.25)	15 (18.75)	32 (40.00)	
3	**Basis for the quantity of fertilizer application**					80 (100)
	Particulars	**Type of crop and stage**	**Soil test results**	**KSDA official advice**	**Agri-inputs traders advice**	
	No. of respondents	12 (48.75)	9 (11.25)	14 (17.50)	18 (22.50)	

Note: Figures indicate percentage to total.

Table 4.15 Factors influencing purchase decision of farmers in selection of chemical fertilizers brands in study area

Sl. No.	Particulars	Mean score	Rank
1.	Brand name	72.34	I
2.	Price	68.05	II
3.	Quality	62.15	III
4.	Previous experience	55.41	IV
5.	Dealers recommendation	46.53	V
6.	Availability	42.90	VI
7.	Co-farmers opinion	40.49	VII
8.	Sales promotional activity	35.01	VIII
9.	Advertisement	31.03	IX

Note: Figures in parenthesis indicated mean score of garret ranking

price are the most important factors, which are ranked first and second with the mean scores of 72.34 and 68.05 respectively. The quality (62.15), previous experience (53.42) and dealer's recommendation (46.53) are also important factors in preferring the chemical fertilizers. The 42.91 mean score of farmers have purchase chemical fertilizer just based on the availability. Due to scarcity of fertilizers which ever availability which ever available brands purchase. Sales promotional of CFL activity and advertisement are ranked eight and nine with mean scores of 35.01 and 31.03.

4.4 Market share of different brands of fertilizer

4.4.1 Market share of different companies of nitrogen chemical fertilizers in Bhadra command Area.

Market share of different companies in nitrogen fertilizers in the Bhadra command Area is presented in table 4.16. In Shimoga district for urea RCF Company is considered as market leader with a share of 26.44 per cent followed by MCF 23.85 per cent and IFFCO 20.01 per cent. The FACT Company has least market share of 0.42 per cent. In Davanagere district for urea RCF Company is considered as market leader with a share of 23.75 per cent followed by MCF 20.36 per cent and IFFCO 17.38 per cent. The NFCL and MFL Company have least market share of 4.75 per cent and 4.96 per cent.

Virtually FACT and GNFC companies' are having monopoly in the market of ammonium sulphate and calcium ammonium nitrate fertilizers respectively in Bhadra command area.

4.4.2 Market share of different companies of Phosphate chemical fertilizers in Bhadra command Area.

Market share of different companies in phosphatic fertilizers in the

Table 4.16 Company wise market share of nitrogenous fertilizers in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	% of Share	Total (tonnes)	% of Share
UREA	RCF	18554.70	26.44	14264.70	23.75
	MCF	16736.90	23.85	12236.90	20.36
	IFFCO	14042.35	20.01	10442.35	17.38
	KRIBCO	9967.25	14.20	7591.00	12.64
	ZIL	9061.00	12.91	6417.25	10.68
	SPIC	----	----	3291.50	5.48
	NFCL	----	----	2979.00	4.96
	MFL	1524.70	2.17	2853.10	4.75
	FACT	296.60	0.42	----	----
Total		**70183.50**	**100**	**60075.80**	**100**
Ammonium sulphate	FACT	6091.85	100	4926.65	100
CAN	GNFC	358.31	100	424.11	100

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

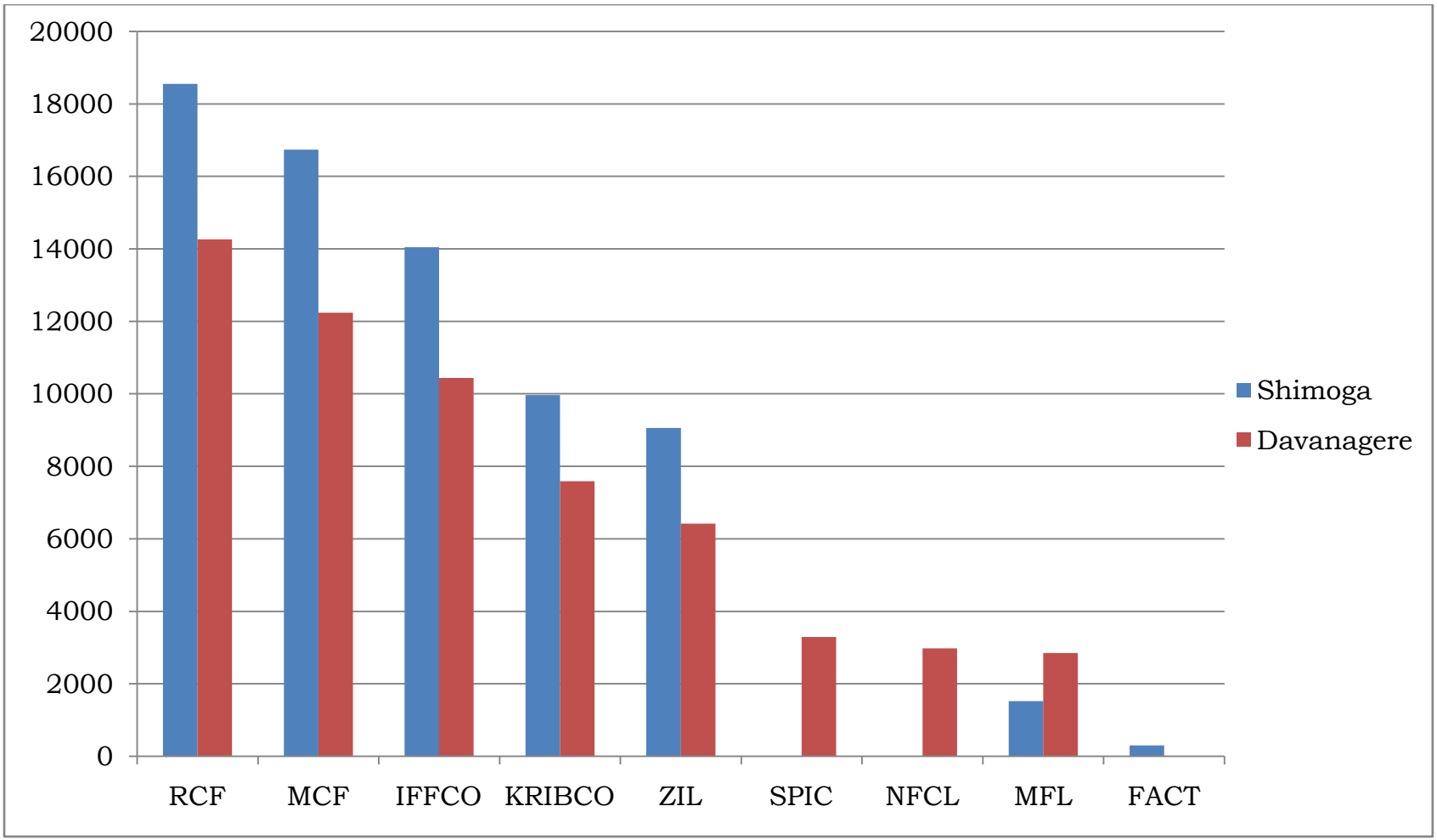

Fig 4.1: Market share of different companies in total market size of Urea in Bhadra Command Area

Table 4.17 Company wise market share of Phosphatic fertilizers brands in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	**% of Share**	**Total (tonnes)**	**% of Share**
SSP (Powder)	CFL	991.40	41.59	651.40	43.66
	TFCL	728.00	30.54	433.00	29.02
	CPFL	664.30	27.87	407.60	27.32
Total		**2383.70**	**100**	**1492.00**	**100**
SSP(Granular)	CFL	338.31	60.27	328.31	64.21
	TFCL	223.00	39.73	183.00	35.79
Total		**561.31**	**100**	**511.31**	**100**

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

Bhadra command Area district is presented in table 4.17. In Shimoga district for SSP powder CFL Company is a market leader with a share of 41.59 per cent. The CPFL Company has least market share of 27.89 per cent. In case of SSP granular CFL Company is having the market share of 60.27 per cent, again a market leader in the granular category. In Davanagere district for SSP powder CFL Company is a market leader with a share of 43.66 per cent. CPFL Company has a least market share of 27.32 per cent. In case of SSP granular CFL Company is having the market share of 64.21 per cent, again has market leader in the category.

4.4.3 Market share of companies of potassic fertilizers in Bhadra command Area.

Market share of different companies in potassic fertilizers in the Bhadra command Are is presented in table 4.18. In Shimoga district the IPL Company is considered as market leader with a highest share of 36.49 per cent closely followed by RCF 25.50 per cent. The MCF and CFL stands 3rd and 4th place with 14.46 and 13.48 per cent of market share respectively. FACT Company having least market share of (3.94 %). In Davanagere district the IPL Company is a market leader with a highest share of 41.55 per cent followed by RCF 18.91 and MCF 15.80 per cent respectively. The FACT Company has least market share of 4.76 per cent.

4.4.4 Market share of companies in DAP fertilizers in Bhadra command Area.

Market share of different companies in DAP fertilizers in the Bhadra command Area district is presented in table 4.19. In Shimoga district for DAP domestic IFFCO Company is a market leader with a share of 35.61 per cent followed by MCF 23.77 per cent. The GNFC Company has least market share of 18.37 per cent.

Table 4.18 Company wise market share of potassic fertilizer in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	**% of Share**	**Total (tonnes)**	**% of Share**
MOP	IPL	15110.00	36.49	17510.00	41.55
	RCF	10557.70	25.50	7967.70	18.91
	MCF	5987.30	14.46	6657.30	15.80
	CFL	5583.00	13.48	4463.00	10.59
	ZIL	2535.60	6.12	3534.65	8.39
	FACT	1630.75	3.94	2004.35	4.76
Total		**41404.35**	**100**	**42137.00**	**100**

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

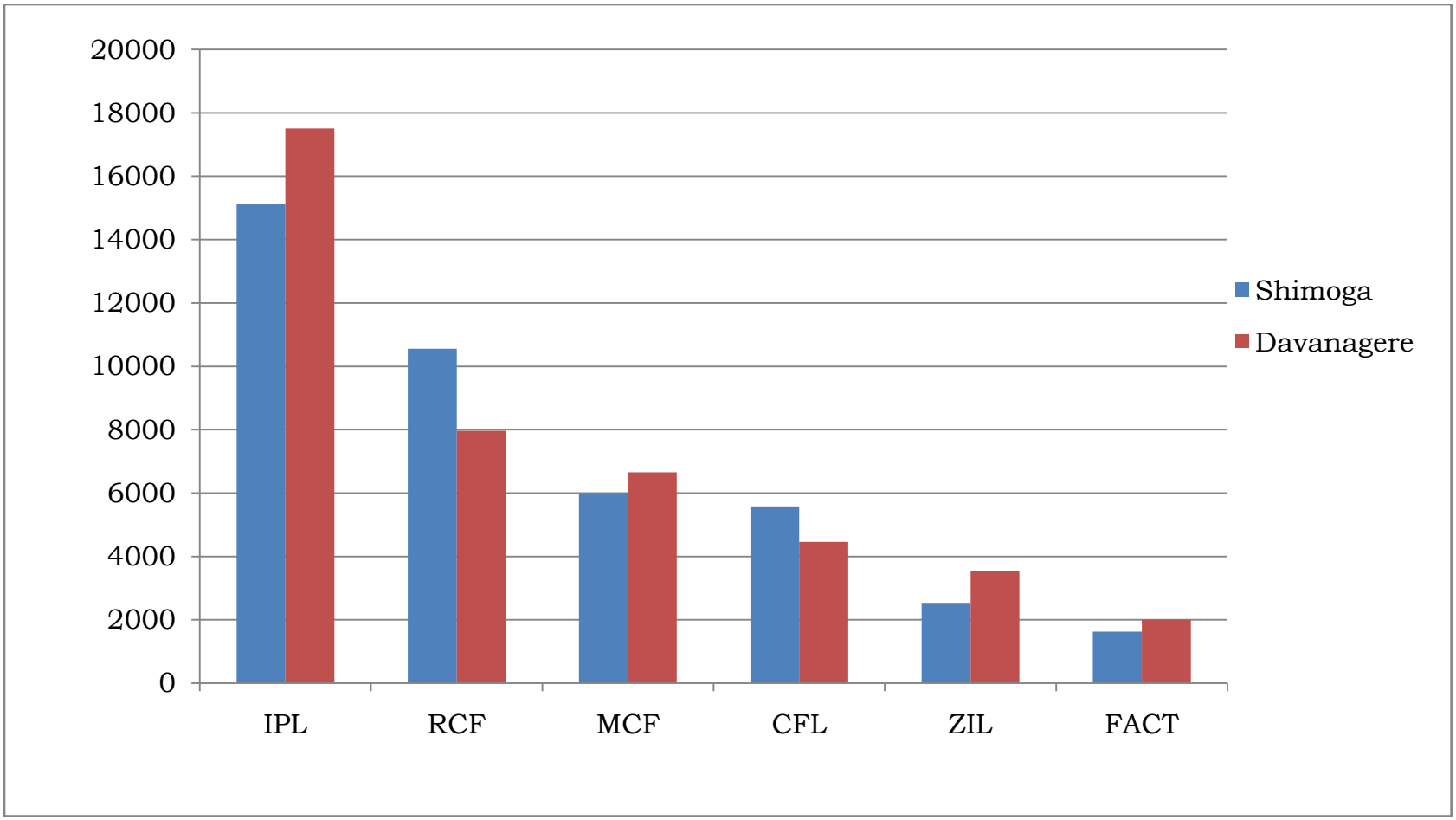

Fig 4.2: Market share of different companies in total market size of MOP in Bhadra Command Area

Table 4.19 Market share of companies in DAP fertilizers in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	% of Share	Total (tonnes)	% of Share
DAP(Domestic)	IFFCO	11610.40	35.61	7151.40	27.50
	MCF	7751.25	23.77	6761.25	26.02
	ZIL	7254.55	22.25	6254.55	24.05
	GNFC	5991.15	18.37	4491.15	17.27
	SPIC	----	----	1342.90	5.16
Total		**32607.35**	**100**	**26001.25**	**100**
DAP(Imported)	IPL	4566.00	22.32	3840.9	20.82
	FACT	3873.30	18.67	3715.1	20.14
	RCF	3850.60	18.57	3264.5	17.70
	IFFCO	3316.70	15.16	2928.5	15.88
	SPIC	3006.80	14.52	2830.5	15.34
	ZIL	2127.64	10.26	1866.9	10.12
Total		**20741.04**	**100**	**18446.40**	**100**

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

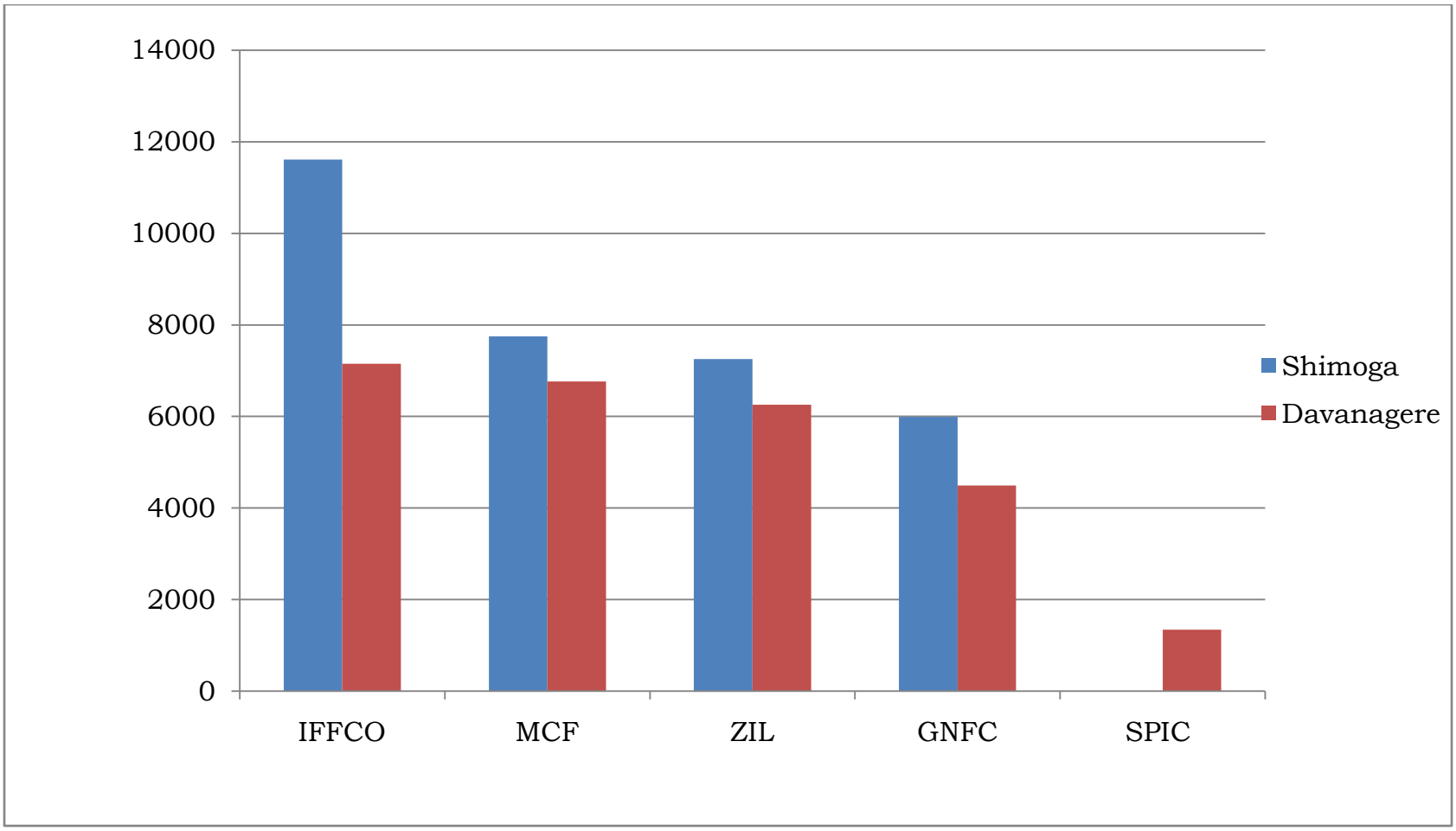

Fig 4.3: Market share of different companies in total market size of DAP (Domestic) in Bhadra Command Area

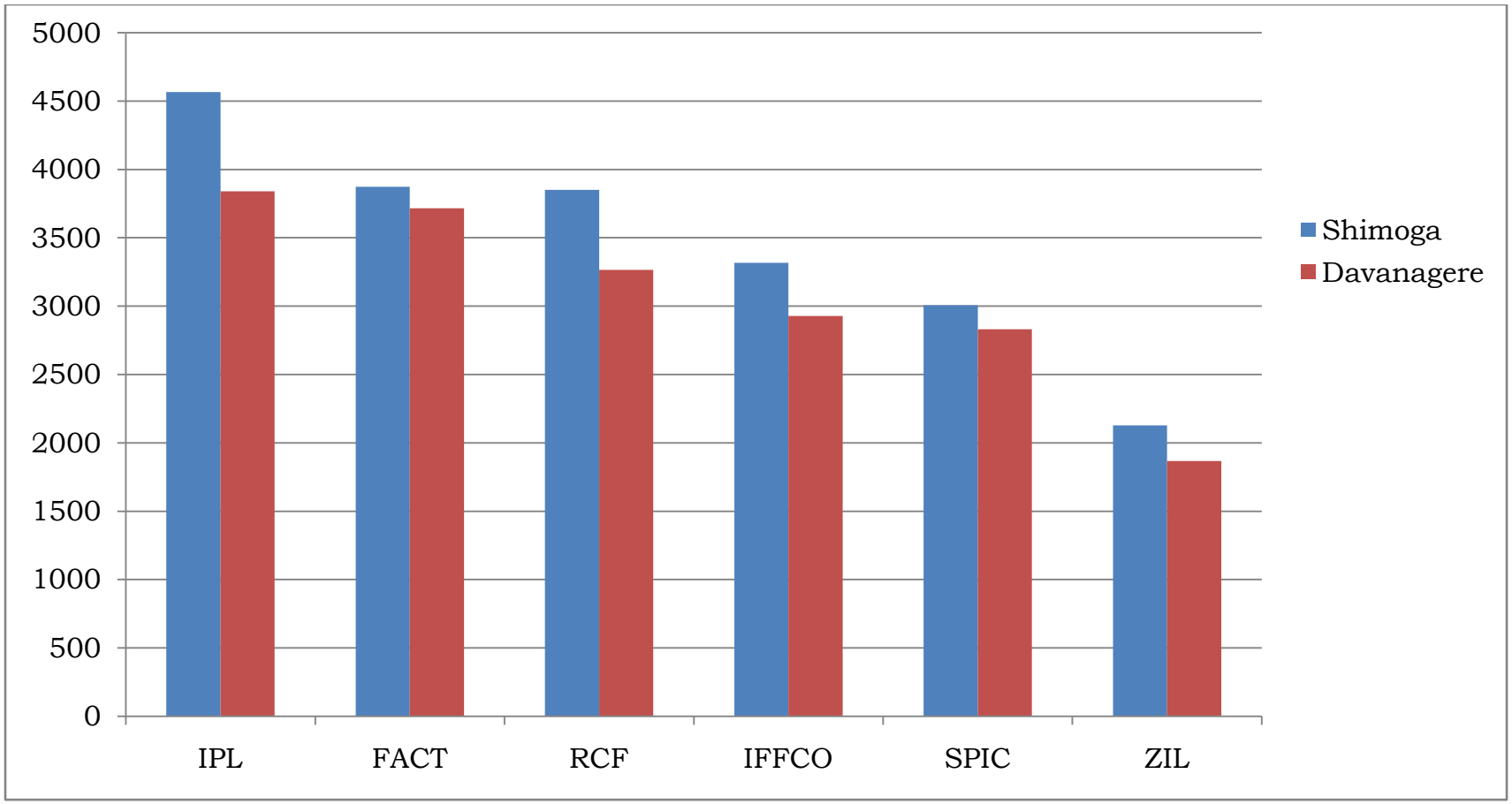

Fig 4.4: Market share of different companies in total market size of DAP (Imported) in Bhadra Command Area

In case of DAP Imported IPL Company has the market share of 22.32 per cent followed by FACT 18.67 per cent and RCF 18.57 per cent respectively. The ZIL Company has the least market share of 10.26 per cent. In Davanagere district for DAP Domestic IFFCO Company is a market leader with a share of 27.50 per cent followed by MCF 26.02 per cent. The SPIC Company has least market share of 5.16 per cent. In DAP Imported IFFCO Company is having the market share of 20.82 per cent, followed by RCF 20.14 per cent. The SPIC Company has a least market share of 10.12 per cent.

4.4.5 Market share of companies of NPK complex fertilizers in Bhadra command Area.

Market share of different companies in NPK complex fertilizers in the Bhadra command Area district is presented in table 4.20. Virtually RCF Company is has power of monopoly over the supply and sales of 15:15:15 all complex fertilizers respectively in Bhadra command Area.

In Shimoga district for 17:17:17 all complex MFL Company is considered as market leader with a share of 62.21 per cent, TFCL Company has least market share of 16.18 per cent. In case of 19:19:19 all complex MFL Company is considered as market leader with a share of 67.37 per cent. In Davanagere for 17:17:17 all complex MFL Company is a market leader with a share of 58.53 per cent, TFCL Company has least market share of 13.88 per cent. In case of 19:19:19 all complex ZIL Company is a market leader with a share of 52.37 per cent.

4.4.6 Market share of companies of special NPK complex fertilizers in Bhadra command Area.

Market share of different companies in special NPK complex fertilizers in the Bhadra command Area district is presented in table 4.21.

4.20 Market share of companies of NPK complex fertilizers in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	**% of Share**	**Total (tonnes)**	**% of Share**
15-15-15	RCF	10409.65	**100**	13129.65	100
17-17-17	MFL	6544.85	62.21	4478.91	58.53
	SPIC	2272.40	21.61	2111.40	27.59
	TFCL	1702.60	16.18	1062.60	13.88
Total		**10519.85**	**100**	**7652.91**	**100**
19-19-19	MFL	9400.45	67.37	3886.4	52.37
	ZIL	4553.00	32.63	3534.65	47.63
Total		**13953.45**	**100**	**7421.05**	**100**

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

Table 4.21 Company wise market share of special NPK Complex fertilizers in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	% of Share	Total (tonnes)	% of Share
10-26-26	IFFCO	9015.80	43.76	9315.80	33.86
	ZIL	6150.30	29.85	7680.30	27.93
	CFL	5437.35	26.39	6617.35	24.05
	MCF	----	----	3896.40	14.16
TOTAL		**20603.45**	**100**	**27509.85**	**100**
12-32-16	ZIL	6630.85	44.28	5336.60	34.01
	CFL	4626.00	30.90	5330.85	33.96
	IFFCO	3716.60	24.82	5026.00	32.03
TOTAL		**14973.45**	**100**	**15693.45**	**100**
14-28-14	CFL	1302.10	59.84	1601.40	63.81
	MFL	873.91	40.16	908.31	36.19
TOTAL		**2176.01**	**100**	**2509.71**	**100**
14-35-14	CFL	358.31	55.01	939.41	62.20
	GNFC	293.00	44.99	570.80	37.80
TOTAL		**651.31**	**100**	**1510.21**	**100**

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

In Shimoga district for 10:26:26 complex IFFCO Company is a market leader with a share of 43.76 per cent, CFL Company has least market share of 26.39 % per cent. In case of 12:32:16 complex ZIL Company is a market leader with a share of 44.28 per cent, IFFCO Company has least market share of 24.82 per cent. In 14:28:14 complex fertilizer CFL Company is a market leader with a share of 58.84 per cent. In case of 14:35:14 complex CFL Company is a market leader with a share of 55.01 per cent. In Davanagere district for 10:26:26 complex CFL Company is a market leader with a share of 33.86 per cent, MCF Company has least market share of 14.16 per cent. In case of 12:32:16 complex CFL Company is a market leader with a share of 34.01 per cent, ZIL Company has least market share of 32.03 per cent. In case of 14:28:14 complex CFL Company is a market leader with a share of 63.81 per cent. In case of 14:35:14 complex CFL Company is considered as market leader with a share of 62.20 per cent.

4.4.7 Market share of different companies to special Sulphatic complex fertilizers in Bhadra command Area.

Market share of different companies in Sulphatic complex fertilizers in the Bhadra command Area is presented in table 4.22. In Shimoga district for 20:20:0:16 the FACT Company is a market leader with a share of 37.06 per cent followed by IFFCO 24.54 per cent. The SPIC Company has least market share of 4.39 per cent. In Davanagere district for 20:20:0:16 FACT Company is a market leader with a share of 37.06 per cent followed by IFFCO 24.54 per cent. The SPIC Company has least market share of 4.39 per cent.

Virtually CFL Company is has power of monopoly over the supply and sales of 16:20:0:13 and 28:28:0 complex fertilizers respectively in Bhadra command Area.

Table 4.22 Company wise market share of Ammonio Phospatic Sulphate Complex fertilizers in Bhadra Command Area

Fertilizers	Companies	Shimoga		Davanagere	
		Total (tonnes)	**% of Share**	**Total (tonnes)**	**% of Share**
20-20-0-13	FACT	16364.65	37.13512	10964	30.72
	IFFCO	10787.25	24.47873	8367.25	23.45
	MCF	6457.25	14.65297	5377.25	15.07
	ZIL	4587.4	10.40986	4543.7	12.73
	CFL	3933.7	8.926462	4212.4	11.80
	SPIC	1937.6	4.396856	2220.4	6.23
TOTAL		**44067.85**	**100**	**35685**	**100**
28-28-0	CFL	11594.65	100	14594.65	100
16-20-0-13	CFL	2358.31	100	3358.31	100

Source: Dept of agriculture, Shimoga and Davanagere (2009-10)

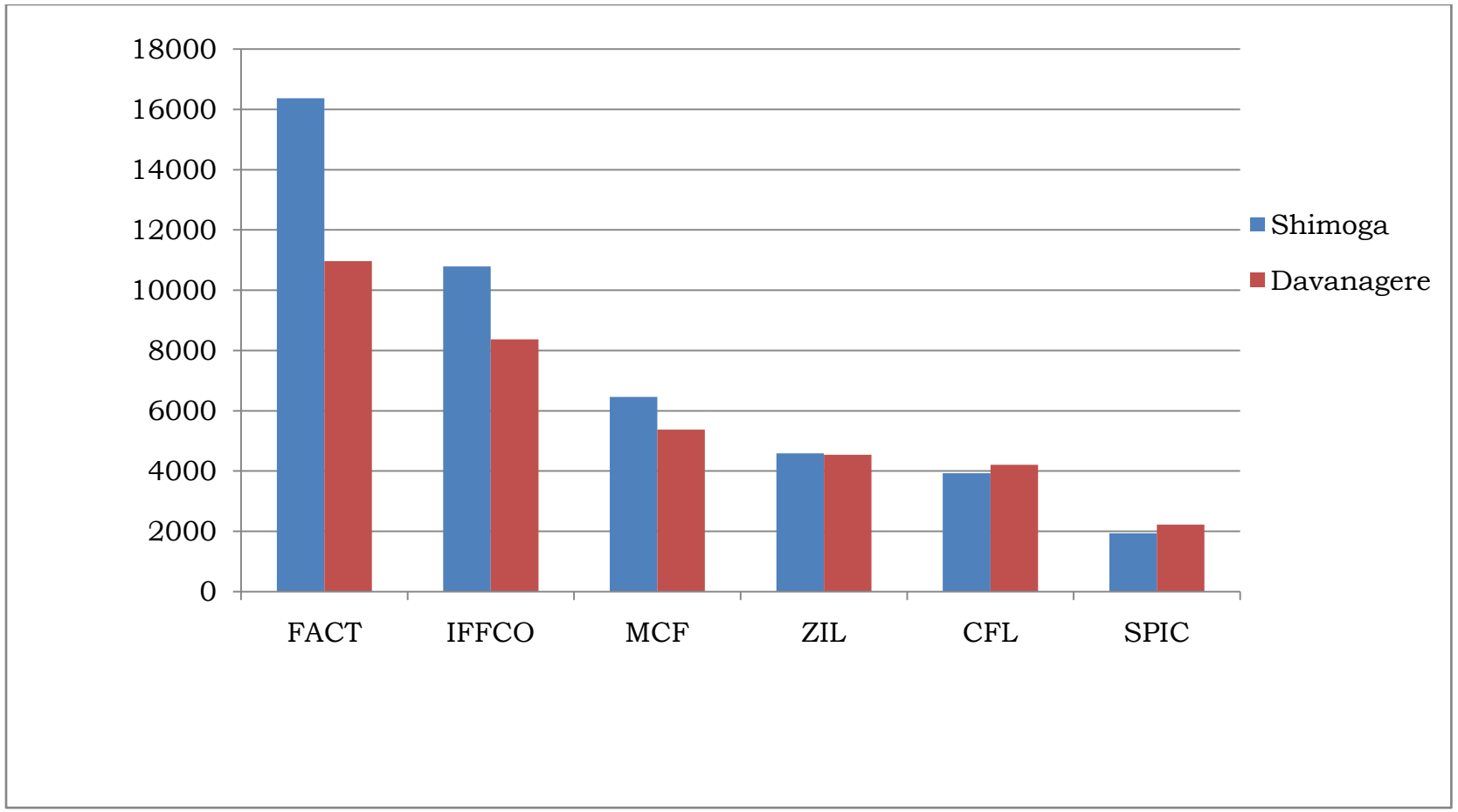

Fig 4.5: Market share of different companies in total market size of 20:20:0:13 in Bhadra Command Area

4.5 Retail trade practices in chemical fertilizers.

4.5.1 Product wise average quantity of fertilizers handled by retail traders.

The quantity of different kinds and different brands of fertilizer holding stock by retailers and sales for month indicate from table 4.23. It can be observed that 1604 bags of all kinds and all brands of fertilizer stocking by retailers. The average highest monthly sales is recorded in Urea (266.5 bags) followed by the 20:20:0:13 (230 bags), DAP (155 bags) and 10:26:26 (136 bags). The average monthly sale is least in Single super phosphate (34 bags).

The average stock holdings by retail is highest in urea (291 bags) followed by 20:20:0:13 (258.5 bags), DAP (187 bags), and 10:26:26 (154 bags). Single super phosphate (55 bags) and Ammonium sulphate (62 bags) are least stocked in retail outlets.

The majority of retailers handled all kinds of fertilizers. The Urea, DAP, MOP, 10:26:26 and 20:20:0:13 are the common fertilizers sold by all retailers with cent per cent. The 95 per cent of the retailers are selling Ammonium sulphate and 17:17:17 in their retail outlets. Only 70-75 per cent of retailers were selling 19:19:19 and Single super phosphate fertilizers in their retail stores.

4.5.2 Top five chemical fertilizer companies ranked by the retailers

The retailers have different perception to words various chemical fertilizer companies. The retailer has ranked different fertilizer companies are presented in table 4.24. The FACT ranked has number one company by 25.00 per cent another 25.00 per cent rated as 2nd rank and 20.00 per cent of sample retailers does not assigned any rank. RCF ranked has

Table 4.23 Product wise average quantity of fertilizers handled by retailers in study area

Sl. No	Products	Average stocking units by retailers	Average monthly sales (Bags / month)	% of retailers handling produce
1	Urea	291.5	266.5	0 (100)
2	20:20:0:16	258.5	230.0	0 (100)
3	DAP	187.0	155.0	0 (100)
4	10-26-26	154.0	136.0	0 (100)
5	MOP	140.0	124.0	0(100)
6	17-17-17	123.7	109.5	19 (95)
7	19-19-19	120.7	98.3	14 (70)
8	16:20:0:13	110.0	95.0	18 (90)
9	15-15-15	101.7	87.2	18 (90)
10	Ammonium sulphate	62.2	51.8	19 (95)
11	SSP	55.0	34.0	15 (75)
Total		**1604.3**	**1387.3**	

Note: Bag is equal to 50 kgs # Figures in parenthesis indicated percentage to total.

Table 4.24 Top five chemical fertilizers companies as ranked by retailers

Sl. no	Companies	Ranks 1st	Ranks 2nd	Ranks 3rd	Ranks 4th	Ranks 5th	No Ranks
1	Fertilizers and Chemicals Travancore Ltd	5 (25)	5 (25)	2 (10)	1 (5)	3 (15)	4 (20)
2	Rashtreeya Chemicals and Fertilizers	4 (20)	2 (10)	2 (10)	1 (5)	1 (5)	10 (50)
3	Zuvari Industries Limited	4 (20)	4 (20)	2 (10)	3 (15)	4 (20)	3 (15)
4	Mangalore Chemical Fertilizers	3 (15)	4 (20)	2 (10)	2 (10)	1 (5)	8 (40)
5	Coromandel International Limited	3 (15)	3 (15)	4 (20)	3 (15)	1 (5)	6 (30)
6	Indian Potash Limited	1 (5)	2 (10)	3 (15)	1 (5)	5 (25)	8 (40)
7	Madras Fertilizers' Ltd	0 (0)	1 (5)	2 (10)	4 (20)	1 (5)	12 (60)
8	Nagarjuna Fertilizers and Chemicals Ltd	0 (0)	0 (0)	2 (10)	3 (15)	1 (5)	14 (70)
9	Southern Petrochemical Industries corporation ltd.	0 (0)	0 (0)	1 (5)	2 (10)	2 (10)	15 (75)

Figures in parenthesis indicated percentage to total.

number one company by 20.00 per cent another 10.00 per cent rated as 2nd rank and 50.00 per cent of sample retailers does not assigned any rank.

The ZIL ranked has number one company by 20.00 per cent another 20.00 per cent rated as 2nd rank and 15.00 per cent of sample retailers does not assigned any rank. MCF ranked has number one company by 15.00 per cent another 20.00 per cent rated as 2nd rank and 40.00 per cent of sample retailers does not assigned any rank. The CFL ranked has number one company by 15.00 per cent another 15.00 per cent rated as 2nd rank and 30.00 per cent of sample retailers does not assigned any rank. None of the retailers given the 1st ranked to the MFL, NFCL and SPIC companies.

4.5.3 Method of payment by retailer to the companies and sales to the farmers.

Mode of transaction and payment involved in purchase of chemical fertilizers by Farmers and Retailers are presented in the table 4.25. Further it observed that 80.00 per cent and 55 per cent of retailers purchase and sale the fertilizers based on 100 % cash carry business. The 30 per cent of retailers sale fertilizers base on 60 % cash and 40 % credit. Only 20 per cent of retailers go for the 80 % cash and 20 % credit for purchasing of chemical fertilizer with the companies. Among sampled retailers 55.00 per cent use RTGS as mode of payment and other payment modes includes cheques (25.00 %) and cash (20.00 %).

4.5.4 Delivery time of chemical fertilizer to retails.

Booking requirement and Delivery time gap in the chemical fertilizer trade of retail shops is presented in the table 4.26. Among

Table 4.25 Mode of transaction and Payment details in the Retail Business of chemical fertilizers

Sl. no	The mode of transaction				Total
1	**Payment types**	**100 % cash**	**80 % cash+ 20 % credit**	**60 % cash+ 40 % credit**	
1.A	**Purchase by retailers**	16 (80)	4 (20)	0 (0)	20 (100)
1.B	**Sale by retailers**	11 (55)	3 (15)	6 (30)	20 (100)
2	**Details of payment to company**				**Total**
	Payment form	**RTGS**	**Cash**	**Cheque**	
	Number	11 (55)	4 (20)	5 (25)	20 (100)

Figures in parenthesis indicated percentage to total.

Table 4.26 Booking and Delivery time gaps in the chemical fertilizer trade to retail shops

Order placement and delivery				**Total**
Time gap	**Immediate after booking**	**10 Days after booking**	**Occasional delay**	
Number	16 (80)	0 (0)	4 (20)	20 (100)
Advance booking				**Total**
Required time	**10-30 Days**	**Within 10 Days**	**No advance**	
Number	1 (5)	6 (30)	13 (65)	20 (100)

Figures in parenthesis indicated percentage to total.

sampled 80.00 per cent of the retailer's opined there was no time gap between order placed and delivery. 65.00 per cent retailers opined there is no need for advance booking of chemical fertilizers.

4.5.5 Promotional activities, Price discrimination and Quantity restrictions in retail trade of fertilizers

By critically observing table 4.27 it is noticed that initial payment is required for booking of fertilizers as 75.00 per cent of retailers opined so. 65.00 per cent of retailers opined there was no quantity restriction on booking and delivery of fertilizers. The 70.00 per cent of retailers were not following any Promotional activities at store level as 55 per cent of them are not getting any incentives from the companies for promotional activities. The 80.00 per cent of retailers opined that companies help them to resolve any complaints by customers regarding chemical fertilizers. The price changed by companies to retail is uniform to all no discrimination down 75.00 per cent by companies.

4.5.6 Bearing of losses due to damage while handling the chemical fertilizers

The fertilizer bags delivered to retailers' loss weight during handling are seen in table 4.28, the cent per cent of sampled retailers opined the company is not bearing any losses in quantity of fertilizers during handling. The 55 per cent of retailers opined that the companies only attend to the complaints raised by farmers. 35.00 per cent of the retailers opined that companies only bear transportation cost of fertilizers from production point to retail outlets and 30.00 per cent opined both company and dealers share the transportation cost. Remaining 35 per cent retailers opined that the transportation cost is fully borne by them.

Table 4.27 Promotional activities, Price discrimination and Quantity restrictions by retail trade of fertilizers.

N=20

Sl. No	Category	Yes	No	Total
1	Promotional activities under taken	6 (30)	14 (70)	20 (100)
2	Incentives for undertaking promotional activities	9 (45)	11 (55)	20 (100)
3	Price discrimination by companies	7 (35)	13 (65)	20 (100)
4	Initial payment is required	15 (75)	5 (25)	20 (100)
5	Quantity restrictions on booking	7 (35)	13 (65)	20 (100)
6	Quantity restrictions for delivery of fertilizers by Wholesaler	7 (35)	13 (65)	20 (100)

Figures in parenthesis indicated percentage to total.

Table 4.28 Bearing of loss while handling the chemical fertilizers

Sl. no	Nature of damage	Loss is borne by			Total
		company	Company & Dealers	Retailers	
1	Loss of weight due to damage	0 (0)	0 (0)	20 (100)	20 (100)
2	Attend to the complaints of farmers	11 (55)	6 (30)	3 (15)	20 (100)
3	Transportation cost borne by	7 (35)	6 (30)	7 (35)	20 (100)

Figures in parenthesis indicated percentage to total.

Discussion

CHAPTER V

DISCUSSION

The results presented in the previous chapter are discussed in this chapter under the following headings,

5.1 Demographic profile of the respondents

5.2 Farmer's preference for various brands of fertilizers in Bhadra command area.

5.3 Factors influencing farmer's preference.

5.4 Market share of different brands of fertilizer and

5.5 Retail trade practices of chemical fertilizers.

5.1 Demographic profile of the respondents

5.1.1 Profile of the sample farmers

The Demographic profile of the sample farmers like age, education, and experience in farming, land holding and purchase power factors influence their agricultural operations. From this study it is evident that 46.25 per cent of farmers were belonging to middle age group (35-50 years) and 33.75 per cent were belonged to young age group (< 35 years). So it is the young and middle age farmers were engaged in farming and the famers of the study area were highly skilled and having good knowledge about practices to be followed in cultivation.

Education is another factor influencing farmer's perception about particular brand of the company. 38.75 per cent of the respondents were having an educational level of high school level, so most of them were aware of dosage as well as time application and also they are contacting

the other sources like KSDA fellows and retailers in concern to fertilizer application.

5.1.2 Profile of the sample retailers

The study is evident that the about 90 per cent of retailers engaged in the retailing of agricultural inputs were young and middle aged. Enthusiasm and courageousness along with experience of these age groups lead to good networking with various companies involved in handling of agricultural inputs.

Cent per cent of the retailers were literates that too above pre-university level, which had helped them in their retailing business by way of monetary handling, maintaining relationship with both customers and companies. Of the retailers selected for the study cent per cent are dealing fertilizers, since its importance in agriculture and margins derived from which may contributed maximum to their incomes.

5.2 Farmers preference for various brands of fertilizers in study area

5.2.1 Awareness of farmers about fertilizers companies in the study area.

Generally awareness of farmers about particular brand of a company is correlated with sales of products of that company. Among respondents cent per cent are aware about FACT, IFFCO, MCF and ZIL company brands due to their continues supply and brand image. And these companies were having highest market shares in the study area. The companies like Mahadhan and Deepak fertilizer companies were have the least awareness among farmers since their seasonal supplies, and few promotional activities. These companies should go for the more awareness programmes which influence the farmers know about the companies.

5.2.2 Brand preference for fertilizers in study area.

It is the MCF company brand of urea and Diammonium phosphate has been preferred to a maximum extent sample farmers. The reason behind its higher preference is brand name, its availability throughout year their previous experience and promotional activities followed. The supply chain maintained by MCF leads to successful in the preference of its brand. The ZIL and IFFCO company brands were also having good potentiality and evolving as competitors for MCF.

When it comes to ammonium sulphate fertilizer cent pre cent of respondents were aware about FACT company brand. The striking factor behind its preference is FACT is the only firm supplying ammonium sulphate throughout the year and it is fast dissolve in the water supply nutrients to plants.

In case of phosphatic (single super phosphate) fertilizer, CFL company brand is preferred by most of farmers, since its difference in attributes like superior quality, brand image, availability in both powder as well as granular form, easily accessible in every fertilizer retail outlets. The many companies were supplying SSP fertilizer in the form of rock phosphate. None of well aware companies competing to the CFL Company brand in the study area in case of single super phosphate fertilizer as in the both from.

IPL company brand of Muriate of potash has preferred by majority of farmers because of its quality, brand name, awareness and other important factor is dissolvability in the soil compared to other brands. The brand of CFL Company is almost familiar as like IPL in potassic fertilizer, so it is suggested to expand its promotional activities to compete against IPL. The CFL is all ready preferred by highest number of

farmers in different kinds of fertilizer, taking as advantage in case of muriate of potash fertilizer.

In case of special complex fertilizer (10:26:26 and 12:32:16) majority of farmers preferred IFFCO company brand since its lower price. The ZIL company brand has an opportunity to cross IIFCO brand in sales, provided good promotional activities. The IFFCO company brand has good image in the fertilizer market for the different kinds of fertilizers, known for the least price brand comparatively on other companies' brands. The RCF company brand of 15:15:15 available with good quality hence most farmers of Bhadra command area were preferred it. The RCF company is the only having the production of 15:15:15. In case of other complex fertilizers (17:17:17 and 19:19:19) MFL company brands is preferred by the majority of farmers as it is having well market networking. It is one of the oldest southern Indian chemical fertilizer company leading in the market.

The FACT company brand of 20:20:0:13 have been preferred by majority of respondents due its special feature of quality. The CFL company brand of 16:20:0:13 is most preferred by majority of farmers due its accessibility to farmers in almost all retail stores and CFL is the only company supplying 16:20:0:13 fertilizer to the market. The FACT company brand of 20:20:0:13 is having good water soluble and nutrients supply to the crops by there previous experience.

The results of the present study are on par with the previous study of Sampathkumar (2003) studied brand preference in soft drinks in the Telangana region of Andra Pradesh for various products by consumers where brand played an influential role.

5.2.3 Sources of information about agri-inputs

The traders are the major source of information about agri-input to farmers. The retailers' plays curial role in promoting and promising information about the brands of fertilizers and various agri- inputs to the farmers. Almost agri- input retailers deals with the all inputs like fertilizers, seeds, pesticides and farm machinery it create single point of centre for the farmers to know about various inputs. The traders created brand loyalty among farmers. Further farmers were also following KSDA officers' advice in usage of agri-inputs. The services provided by KSDA to the farmers like subsidized supply of inputs (fertilizers, pesticides, implements and seeds) made farmers to follow KSDA advice. The farmers does not go for the soil testing which intern leads to blind follow the by their experience in cultivation. The fertilizers retailers also plays crucial role in the recommendation of the fertilizers

5.3 Factors influencing farmer's preference

The factors influence brand preference such as price, quality, availability, brand, previous experience, advertisement, co-farmers opinion, dealers' recommendation and sales promotional activities. Brand name and price are the major factors of sample farmers for selecting particular company brand of chemical fertilizers as they are the prime things to be admitted. The prices of all fertilizers are regulated by Government of India, Price is slightly difference between public and private company brands. There is no much price difference between one company to another food. Some brands are well known to the farmers form many years, leads to choice the particular brand among all the company brands. The quality and previous experience with particular brand plays one of the major factors in purchase decision. Which is due presence of brand from experience from past. The company should

analyse the market conditions for long and short terms for the selling of any kind of fertilizers.

The results of the present study are on par with previous studies, Nandagopal and Chinnaiyan (2003) identified quality, price, and availability as the driven factors influenced consumer's preference for soft drinks in Tamil Nadu and Dharmaraj (2010) analyzed the factors influencing the preference of passenger cars such as social status, image of manufacturer, celebrity endorsements, brand loyalty, style, and driving comfort quality, comfort, road grip, luxury, warranty, space, power break and steering among which price and brand played a crucial role in consumer preference.

5.4 To analyse the market share of different brands of fertilizer

Market share is the per cent of sales of particular product in a given market by any company. Market share is used to know the overall performance of the business of a company both in long or short-run. Achieving the status of market leader with increasing market share is one of the most important objectives of any company. Market share is considered as a measure of business performance since what has happened in micro resembles in macro also.

From the results it is clear that the RCF Company have major share in urea. The FACT and GNFC companies are monopoly to supply ammonium sulphate and calcium ammonium nitrate in the study area, mainly due to these companies products were fast moving and their supply network. The MCF Company has opportunity to grab the highest market share by various promotional activities in the market, it also having good brand image in the market. In Phosphatic fertilizers, CFL Company has the highest market share in both powder and granular form. The IPL Company has the major share in muriate of potash. The

IFFCO, IPL retained first position in case of DAP (Indian and Imported) due to its good quality and popularity of brand name.

In case of complex fertilizers, 15:15:15 the RCF is market leader with 100 per cent market share. In 17:17:17 and 19:19:19 the MFL Company having the maximum shares in the market mainly due to brand name, service and retailers recommendation.

The special NPK complex fertilizers like 10:26:26, 12:32:16, 14:28:14 and 14:35:14 the IFFCO, ZIL and CFL are having highest market shares, because of they are timely available apart from this their quality, previous experience and promotional activities lead to achieve the status of market leader. FACT Company had highest market share in special sulphate complex fertilizer like 20:20:0:13 since its awareness among farmers and quality. The CFL Company is virtual monopoly in supplying and marketing of 16:20:0:13 complex fertilizers.

The results of the present study are on par with previous study of Rahman (2009) analyzed the market share of mineral water in Barisal metropolitan city area in Bangladesh for the market leader in the overall market sales. Based on company-wise market share analysis, Partex Beverage Ltd. is the market leader, holding a 29.47 per cent market share.

5.5 Retail trade practices in chemical fertilizers.

5.5.1 Product wise average quantity of fertilizers handled by retail traders.

Average monthly sale and stock holding is highest in Urea followed by 20:20:0:13 and DAP. Because of their fast movement and more demand. Since Urea is the basic fertilizer used by farmers and also

cheaper than other fertilizers. Many of retailers are avoiding sale of 19:19:19 due to its unavailability.

5.5.2 Top five brands of chemical fertilizers ranked by the retailers in store

The FACT and MCF are the top most brands in the retail stores based on opinion of sampled retailers, since the movement of theses company brands was relatively better than other brands (table 4.31).

5.5.3 Mode of transaction and payment details in the retail business of chemical fertilizers

Mode of transaction with farmers and companies by the retailers are cent per cent cash payment. Since retailers were offering fertilizers discriminating price for loyal customers hence they seek cash payment. The majority of retailers pay in the form of RTGS to the companies, since there will not be any extra charges (table 4.32).

5.5.4 Booking and Delivery time gaps in the chemical fertilizer trade to retail shops

The time gap between order placement and delivery is very less as seen from table 4.33, since majority of retailers' opined that there is immediate delivery after placing the order and even there is no advance booking required.

5.5.5 Promotional activities, Price discrimination and Quantity restrictions in retail trade of fertilizers

Initial payment for the placement of order is very much necessary, since for fastening further proceedings of delivery. There is no quantity restriction on booking of chemical fertilizers, retailers can place order

according to their need. As such there is no much price discrimination from company's side. The retailers are not playing major role in promotional activities but it is most of company's efforts working at field level. With respect to the customers grievances companies ready to assist majority of problems.

5.5.6 Participation of company, dealers and retailers regarding baring transportation, loss and conventions

It is very clear that loss in weight of fertilizers mainly due to damages is not borne by companies. Companies play major role in attending the complaints to solve disputes. The transportation cost is partly borne by companies and remaining by retailers.

Summary and Conclusion

CHAPTER VI

SUMMARY AND PRACTICAL UTILITY

Fertilizers continue to play major role in India's agriculture economy. Due to modernization in the agricultural techniques, fertilizers have provided an important source of plant nutrients to increase crop production. It is estimated that effective utility of fertilizers contribute for achieving for higher yield of crop production. They were 65 number large working equal number of brands. Farmers facing dilemma to particular brand of chemical fertilizers for few brands, there various factors influence the farmers preference for the purchase decision of chemical fertilizers. In spit of 65 companies in business of chemical fertilizers the business lion share of market size fertilizer owned by single company. The market leader may vary from the one place to another place from single product. The fertilizer retailers are the last link in the marketing channel of chemical fertilizers. The trade practices followed by agri-input retailers are important to both companies and customers, retailers are most important in Creation Bridge between farmers and companies.

The study was under taken with the following specific objectives.

1. To examine farmers preference for various brands of fertilizers in Bhadra command area,
2. To identify the factors influencing farmers preference,
3. To analyse the market share of different brands of fertilizer,
4. To analyse the fertilizer trade practices by retailers.

Bhadra command area of Karnataka is purposively selected because of its potential for the chemical fertilizers market. For evaluating the specific objectives of the study, both primary and secondary data were utilized. The primary data is collected from 80 farmers and 20

traders in Bhadravathi, Davanagere, Harihara and Shimoga taluks of Bhadra command area. Five farmers from each village and four villages from each taluk were interviewed, for the brand preference, factors influencing preference. Five fertilizers retail traders for the trade practice. The secondary data of company wise sales of chemical fertilizer for the estimation of market share.

The descriptive analysis is extensively used to explain the brand preference, market share and trade practices in chemical fertilizers. Garrett's ranking technique was used to analyse factors influencing farmers' preference for particular brand of chemical fertilizers.

MAJOR FINDINGS OF THE STUDY

1. The average age of the sample farmers was found to be 41.6 years in the study area, majority of sample farmers (46.25 %) of them are under age group of 36-50 years. Only 11.25 per cent of farmers were illiterates, majority of sample farmers (38.75 %) are having education level of high school. The 46.25 per cent of sample farmers are large farmers with average land holding of 7.72 acres.

2. The average age of the sample retailers was found to be 42.25 years, majority (60.00 %) of them are under age group of 36-50 years. The experience in retailing chemical fertilizer is about 22.4 years.

3. Brands of few fertilizer companies like FACT, IFFCO, MCF and ZIL are known to cent per cent of farmers in the study area. 75 to 98.75 per cent respondents were aware of brands of companies like CFL, IPL, MFL, NFCL, RCF and KRIBCO.

4. Most of the sample farmers have preferred urea and DAP brands of MCF company fertilizers. Ammonium sulphate and 20:20:0:13 fertilizers brands of FACT Company were preferred by sample

farmers. SSP (powder and granular), 28:28:0 and 16:20:0:13 brands of CFL company were preferred by sample farmers.

5. The farmers of study area followed in preferring of brand by KSDA advice for agricultural inputs. Traders were important role in dissemination of knowledge about various agricultural input brands.

6. The prime factors influencing the purchasing behavior of farmers particular brand of chemical fertilizers are brand, price, quality and previous experience.

7. The RCF, CFL and IPL companies having maximum market share of single fertilizer like urea, single super phosphate and muriate of potash in the Bhadra command area.

8. The CFL (16:20:0:13 and 28:28:0), FACT (ammonium sulphate), GNFC (calcium ammonium nitrate) and RCF (15:15:15) companies having 100.00 % of market share for the fertilizers mentioned in the parenthesis.

9. MCF company is having maximum market share in DAP (Indian), IPL company is having highest market share in DAP (Imported). The FACT (20:20:0:13) and CFL companies (14:28:14 and 14:35:14) is having highest market share for the fertilizers mentioned in the parenthesis in the study area.

10. Urea, DAP, MOP, 19:19:19, 10:26:26 and 20:20:0:13 these are the fast moving chemical fertilizers hence their stock holding and average monthly sales were high.

11. The retailers were ranked fertilizer companies based on volume of sales, awareness about brand and service provide by company.

12. Advance booking of chemical fertilizers not required and delivered immediate after placing order. The 75% 0f retailers expressed that initial payment required at the time of booking.

POLICY IMPLICATIONS

1. The Bhadra command area is the one of intensive chemical fertilizer consuming command areas in the state. So there is lot of opportunities existed to achieve the status of market leader by creating awareness among farmers about the products.

2. From the study it is inferred that the brand preference chemical fertilizers vary from product to product so single company cannot enjoy the status of market leader. So it is advised to achieve their goal of higher sales by concentrating on the product in which it has attained market leadership by improving quality and availability.

3. Factors influencing purchase of fertilizers by farmers are quality, price, previous experience, retailers recommendation, brand name and advertisement with addition that companies can provide additional services like free facilities like soil testing, information about fertilizer dosage and its usage for seeding brand loyalty among farmers.

4. Retailers' play a vital role in product sales and promotion there fore the companies should maintain a good relationship. So that the companies can sustain in long run.

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CHAPTER VII

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Appendix

APPENDIX

CAN: Calcium ammonium nitrate

DAP: Diammonium phosphate

MOP: Muriate of potash

SSP: Single super phosphate

CFL: Coromandal Fertilizers Limited

CPFL: Coimbatore pioneer fertilizer ltd

DFPCL: Deepak Fertilizer and Petrochemicals Corporation Limited

FACT: Fertilizers and Chemicals Travancore Ltd

GNFC: Gujarat Narmada value fertilizers and Chemicals Limited

IPL: Indian potash limited

IFFCO: Indian Farmers Fertilizers Co-operatives Ltd

KSDA: Karnataka state department of Agriculture

KRIBCO: Krishak Bharat Cooperative Limited

MCF: Mangalore Chemicals & Fertilizers Limited.

MFL: Madras Fertilizers Limited

NFCL: Nagarjuna Fertilizers & Chemicals Limited

NFL: National Fertilizers Limited

RCF: Rashtriya Chemicals & Fertilizers Limited

SPIC: Southern Petro Chemical Industries Corporation Limited

TFCL: Tungabhadra Fertilizers and Chemicals Ltd

ZIL: Zuvari Industries Limited