Market Share , Market Potential and Farmer's Perception of Fungicide on Chilies Crop In Khargone District With Reference To Dhanuka Agritech Ltd. Madhya Pradesh

PROJECT REPORT

Submitted to the

Jawaharlal Nehru Krishi Vishwa Vidyalaya

In partial fulfillment of the requirements for

The Degree of

MASTER OF BUSINESS ADMINISTRATION

In

AGRICULTURE

By

PREMSINGH CHOUDHARY

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Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP

2014

Declaration and Undertaking by the Candidate

I **PremSingh Choudhary**, S/o **Mr. Dayaram Choudhary** certify the work embodied in project report entitled **"Market Share ,Market Potential and Farmer's Perception of Fungicide on Chilies "Market Crop In Khargone District With Reference To Dhanuka Agritech Ltd. Madhya Pradesh"** is my own first hand bonafide work carried out by me under the guidance of **Dr.N.K.Raghuwanshi,** at Department of Agricultural Economics and Farm Management, College of Agriculture during session 2013 – 2014.

The matter embodied in the thesis has not been submitted for the award of any other degree/ diploma. Due credit has made to all the assistance and help.

I undertake the complete responsibility that any act of misinterpretation, mistakes, and errors of fact are entirely of my own.

I, also abide myself with the decision taken by my advisor for the publication of material extracted from the report and subsequent improvement, on mutually beneficial basis, provided the due credit is given, thereof.

Place: Jabalpur

Date: **PREMSINGH CHOUDHARY**

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Name of the candidate	:	Premsingh choudhary
Subject	:	M.B.A. (Agri. Business Management)
Department	:	Department of Agricultural Economics & Farm Management
College	:	College of Agriculture
Year of Report Submission	:	2014

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Date:

Place: Jabalpur

Dr. N.K. Raghuwanshi — **Major Adviser**

Premsingh Choudhary — **(Student)**

CERTIFICATE - I

This is to certify that the project entitled **"Market Share , Market Potential and Farmer's Perception of Fungicide on Chillies Crop In Khargone District With Reference To Dhanuka Agritech Ltd. Madhya Pradesh"** submitted in partial fulfillment of the requirement for the degree of **MASTER OF BUSINESS ADMINISTRATION in AGRICULTURE,** Department of Agricultural Economics and Farm Management, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur is a record of the bonafide research work carried out by **Mr. Premsingh Choudhary** Under my guidance and supervision. The student's Advisory Committee and the Director of Instruction have approved the subject of the project.

All the assistance and help received during the course of the investigation has been acknowledged by him.

Date:

Place: Jabalpur **Dr. N.K.Raghuwanshi**
(Chairman)

PROJECT REPORT APPROVED BY THE STUDENTS'S ADVISORY COMMITTEE

Committee	**Name**	**Signature**
Chairman	Dr. N. K. Raghuvanshi	……...
Member	Dr. D.N.Tiwari	……...
Member	Dr. B. Das	……...

CERTIFICATE II

This is to certify that the project report entitled "Market Share, Market Potential and Farmer's Perception of Fungicide on Chilies Crop In Khargone District With Reference To Dhanuka Agritech Ltd. Madhya Pradesh" submitted by Mr. Premsingh Choudhary to the Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur in partial fulfillment of the requirement for the degree Master of Business Administration in Agriculture in the department of Agricultural Economics and Farm Management, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur has been after evaluation, approved by the External Examiner and by the Student's Advisory Committee after an oral examination on the same.

Date:

Pace: Jabalpur **Dr. N.K. Raghuwanshl**

(Chairman)

MEMBERS OF THE ADVISORY COMMITTEE

Committee	Name	Signature
Chairman	Dr. N. K. Raghuwanshi	…….....
Member	Dr. D.N. Tiwari	…….....
Member	Dr. B. Das	…….....
Head of the Department	Dr.N.K.Raghuwanshi	……
Director of Instruction	Dr. S.K. Srivastava	…….....

ACKNOWLEDGEMENT

I would like to express my deepest sense of gratitude and reverence to my major guide and chairman of my advisory committee: Dr. N.K. Raghuwanshi, H.O.D, Department of Economics and Farm Management, College of Agriculture, J.N.K.V.V., Jabalpur, for his able guidance, keen interest, critical analysis and valuable suggestions during the course of investigation and preparation of the manuscript. I extend my heartiest thanks to Professor and worthy members of my advisory committee Dr. D.N.Tiwari and Dr.B.Das for their suggestions to carry out the research successfully.

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I find no rhetorical gems from the ocean of words to express my profound feeling to my most venerable parents Shri Dayaram Choudhary and Smt. Tejubai Choudhary, Brother Mr. Kamal Choudhary, Sister Ms. Sunita and my relatives whose love, sincere prayers, expectations and blessings have always been the most vital source of inspiration in my life.

I am thankful to my friends Chandan Kumar,Arun Kumar, Rakesh Kevat, Neelesh Parashar, Rajesh Pawar, Shirish Patidar, Akhlesh Kr.Verma, Roshan, Uttam, Mukund for their appreciable help, supporting me in the research work and making the two year study very much enjoyable and memorable.

I also convey my sincere thanks to Mr. Jitendra Gaur(Senior Manager), Mr. Mayank Goel (Regional Manager), Mr. Mukesh Madhukar (Sales and Marketing Manager), Mr.Shekhar Kishor (Marketing Officer) of Dhanuka Agritech Pvt. Ltd. I also convey my sincere thanks to all who helped me directly or indirectly during the course of my investigation.

Finally I am thankful to Almighty God for his heavenly blessing which has enabled me to achieve this seemingly invincible.

Place: Jabalpur

Date: **PREMSINGH CHOUDHARY**

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CURRICULUM VITAE

He had completed his primary education and higher secondary education with Agriculture group both from Shri Ambika Adarsh Vidyalaya, Badnawar, Dhar from M.P. Board,Bhopal respectively.

After this he joined Dr. B.R.Ambedakar University, Agra in 2008 & passed the B.Sc. (Agriculture) with 64% in the year 2012. Subsequently he joined MBA (Agriculture), Department of Agricultural Economics and Farm Management, in the Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur(MP) for the session 2012-14 & for the completion of his Degree Program, this project report has been submitted as partial fulfillment of MBA (Agriculture) degree.

Abstract

Dhauka Agritech Pvt. Ltd. is a leading company in pesticides market of Madhya Pradesh. The present study had been assigned by the organization for the period of 8 week in-plant training programme in the Khargon district of Madhya Pradesh.with a view to estimate market share and market potential of fungicide and farmers preference towards specific brand of fungicide and factors influencing farmer's decision while making purchase of fungficide of specific company. The present study entitled "Strategies to Improve Market Share of Dhanuka Limited in Khargone District of Madhya Pradesh" was undertaken with the following objectives as stated below

- To assess the market share of fungicide in the study area.
- To assess the market potential of fungicide in the study area.
- To study the farmers preference for fungicide in the study area.
- SWOT analysis of Dhanuka Chemicals Company of India.

The important findings are summarized below:

1. The Bayer Crop Science had lion's share in total fungicide in Khargone alone accounting about 25.52 percent of the total quantity sold in the study area followed by Syngenta accounting 18.02 percent of the total fungicide sold. Closer competitor was Dupont (12.22%) and Dhanuka (9.67%) in the district shared.
2. Among the sale quantum of all the products of different companies in the study area, the leading company was Bayer who alone sold over RS.5.77 crore per annum followed by Syngenta company accounting 2.04 crore Dupont Rs1.40 crore and Dhanuka have ternover of Rs 0.9 crore per annum respectively in the study area.
3. The micro-level analysis of the data collected randomly holding indicated that average size of the sample responents holding was 1.30 hectare in small, 3.36 hectare in medium and 7.03 hectare in large farm with an average of 3.90 hectare in all size grouped together. The net irrigated area in absulate term has 49.48, 94.10, and 134 hectare in different size groups respectively.
4. Bayer and Syngenta products of fungicides were preferred by the sample farmers over Dupont due to good response, easy accessibility and relatively low price.
5. The sample farmers considered price of different companies' products and respose on increasing of fungicide on sample farmers followed by timely availability etc during purchase of products of various brand of fungicide. The company's establishment in the study area as a brand has become possible due to its better quality and performance 'In addition to this, the company's display and advertisements drives it in

the second position due to activities like dealer point display, bulk discount policy, diary, posters and through farmer meetings.

ABSTRACT

Title of project: "Share, Market Potential and Farmer's Perception of Fungicide on Chilies crop in Khargone District with Reference to Dhanuka Agritech Ltd.Madhya Pradesh"

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Degree Awarded	**:**	MBA in (Agriculture)
Year of Degree awarded	**:**	2014
Major subject	**:**	MBA (Agriculture)

Total no of pages in the project report: 52

Total no. of words in the abstract: 535

Signature	**Signature**	**Signature**
Dr. N.K. Raghuwanshi	Dr. N. K. Raghuwanshi	Premsingh Choudhary
(Guide)	(Professor & Head)	(Student)

INTRODUCTION

India is one of the most dynamic generic pesticide manufactures in the world with approximately 60 technical grade pesticides being manufactured indigenously by around 125 producers consisting of large and medium scale enterprises (including 10 MNCs) and more than 500 pesticide formulators spread over the country.

Foreign investment

India is the 4th largest producer of the agrochemical after USA, Japan and China. The agrochemicals market in India is Rs 4500 crores. The percentage share of the pesticides in the growth of exports is around 20.48 percent per annum and contributes a major chunk to the exports and the favoured destinations are USA, UK, France, etc. Indian Government is promoting research on the use of alternatives and safe pesticides. It is also providing incentives to encourage investments.

Legal scenario: (The Insecticides Act, 1968)

The Insecticides Act, 1968 and Insecticides Rules, 1971 regulate the import, registration process, manufacture, sale, transport, distribution and use of insecticides (pesticides) with a view to prevent risk to human beings or animals and for all connected matters, throughout India. All insecticides (pesticides) have to necessarily undergo the registration process with the Central Insecticides Board & Registration Committee (CIB & RC) before they can be made available for use or sale.

According to Section 3 (e) of Insecticides Act, 1968, the word "insecticides" means (i) any substance specified in the Schedule; or (ii) such other substances (including fungicides and weedicides) as the Central Government may, after consultation with the Board, by notification in the Official Gazette, include in the schedule from time to time; or (iii) any preparation containing any one or more of such substances. Thus, technically all insecticides (pesticides) in India are those substances that are listed on the "Schedule" of the Insecticides Act, 1968. The Schedule to the Act enumerates an exhaustive list of Insecticides which are legally covered under the Act.

The Registration Certificate mandates that a label be put on the packaging, which clearly indicates the nature of the insecticide (Agricultural or Household use), composition, active ingredient, target pest(s), recommended dosage, caution sign and safety precautions. Therefore, a pesticide labelled for agriculture should not be used in a household.

Fungicide

Fungicides are either chemicals or biological agents that inhibit the growth of fungi or fungal spores. Modern fungicides do not kill fungi, they simply inhibit growth for a period of days or weeks. Fungi can cause serious damage in agriculture, resulting in critical losses of yield, quality and profit. Fungicides are used both in agriculture and to fight fungal infections in animals. Chemicals used to control oomycetes, which are not fungi, are also referred to as fungicides as oomycetes use the same mechanisms as fungi to infect plants. Fungicides can either be contact, translaminar or systemic. Contact fungicides are not taken up into the plant tissue, & only protect the plant where the spray is deposited; translaminar fungicides redistribute the fungicide from the upper, sprayed leaf surface to the lower, unsprayed surface; systemic fungicides are taken up & redistributed through the xylem vessels to the upper parts of the plant. New leaf growth is protected for a short period. Most fungicides that can be bought retail are sold in a liquid form. The most common active ingredient is sulfur, present at 0.08% in weaker concentrates, and as high as 0.5% for more potent fungicides. Fungicides in powdered form are usually around 90% sulfur and are very toxic. Other active ingredients in fungicides include neem oil, rosemary oil, jojoba oil, and the bacterium Bacillus subtilis. Fungicide residues have been found on food for human consumption, mostly from postharvest treatments. Some fungicides are dangerous to human health, such as vinclozolin, which has now been removed from use, FCX and DFB that are used as pesticides to control pests and they have many side effects on natural non-target organisms.

Classification of Fungicides based on Method of Application.

The fungicides can also be classified based on the nature of their use in managing the diseases.

1. Seed protectants: Ex. Captan, thiram, carbendazim, carboxin etc.
2. Soil fungicides (preplant): Ex. Bordeaux mixture, copper oxy chloride, Chloropicrin, Formaldehyde, Vapam, etc.
3. Soil fungicides: Ex. Bordeaux mixture, copper oxy chloride, Captan, PCNB, thiram etc.
4. Foliage and blossom: Ex. Capton, ferbam, zineb, mancozeb, chlorothalonil etc.
5. Fruit protectants: Eg. Captan, maneb, carbendazim, mancozeb etc.
6. Eradicants: EX. Lime sulphur
7. Tree wound dressers: Ex. Boreaux paste, chaubattia paste, etc.
8. General purpose sprays and dust formulations.

Significance of project work

The state of Madhya Pradesh substantially having a major share of Dhanuka pesticides Ltd. these fungicides is mostly used in Chillies crop.The cropping pattern of Khargone district exhibit a substantial share of Chilies area. The area under Chilies shows increasing in the subsequent years. Mostly Chilies is grown with high yielding variety seeds and these varieties are vulnerable for pests and diseases. The products of Dhanuka as Fungicide are most popular among Chilies growers in Khargone district. Dhanuka organization has also established its zonal office in Indore district. With the consideration the importance of Dhanuka organization have assigned the project for knowing market status of Fungicide product in Khargone district of Madhya Pradesh.

Specific objectives

- To analyse the Fungicide preference based on age, land holding and diseases control practices by the farmer.
- To examine buying practices based on chemical and cause of preference related to farmer.

- To know the market share and market potential of Dhanuka Agritech Ltd.
- To analyse buyer preference of Fungicide on the basis of most panic Fungal and Virus.
- Likes and dislikes of Dealer and Retailer along with the present marketing condition of competitive companies.
- To estimate the market share of major player for the Fungicide products.
- To know to major Fungicide product used in Pests and Diseases control and their consumption pattern in Chilies crop in the study area.
- SWOT analysis of Dhanuka group.

Major Befits obtained by Indian farmer Using MIS

- Increase in yield and production
- Reduction in fertilizer usage and also saving in labour, pesticide, energy and other 0perational Costs.
- MIS maintains optimum condition for plant growth and this resulted in improved quality 0f fruits and vegetables.
- Efficient use of pesticides.
- Reduces the wastage water.

Limitations

The time frame work for the project was only 8 weeks, which was not sufficient time for the study having so many aspects. The reliability and relevance of the study may be affected for the following reasons:-

1. Time paucity.
2. Time constraint of the respondents, both retailers and consumers to give in brief information as needed for the study.
3. In absence of prior briefing and motivation, few replies were a little different from the scope of the study.
4. Prior arrangement/advance communication would have helped in pursuing the study smoothly.

PROFILE OF THE ORGANIZATION

(A). Background and History of Organization.

1. Dhanuka Pesticides Limited (DPL):

Was incorporated as a public limited company under Indian companies act 1956 in the year of 1985, primarily for manufacture of technical grade pesticides namely Fenvalerate and cypermethrin. DPL entered into technical tie–up with E.I.Du Pont De Nemours & Co. In, USA in the year 1992 to formulate, brand and market on exclusive and all India basis, Methomyl Brand name Dunet 12.5 L.A 28 year old on, nearly dead molecule Methomyl, which came to India third time, and it was finally recognized through this group in the India market. In the first six-month, Dunet sales was 232 KL and in the fourth year itself the sales of Dunet touched all time of 977 KL.

The man Mr. R.G.Agrarwal today its the chairman of Dhanuka group of companies, who caved niche for Dhanuka Group of companies, a leading name in the field of Agro-chemicals formulators in India. Over a span of 20 year, it has emerged as one of the top pesticides formulators and marketing organization in India. The Group is active on the forefront with industry association, University, Ministry level representations for the cause of India growers, Indian Agriculture and pesticides industry. Cognizant of the concerns of safety to ecology and human society, the group had since adopted the strategy to phase out toxic molecule and develop IPM, Eco- friendly, safer molecules. Simultaneously, the group is poised for accelerated growth of its pharmaceutical unit DLPL, as also for further diversification in allied lines. The forthcoming thrust of the group is to strengthen in house R&D, get safer and eco-friendly products through tie-ups. Extend and implement the cause of right and judicious use of pesticides and consequently sustained growth of the group.

2. Northern Minerals Limited (NML):

A flagship company of Dhanuka Group, was acquired as sick unit in 1980 with a meager sales turnover of 17 million INR, is today a unit of over 900 million INR. Northern Mineral limited (NML) joined hands technically with Uniroyal Company Inc. U.S.A. in the year 1999 to formulate and marketed

Carboxin (Viatvax 75WP), Oxycarboxin (Plantavax 20EC) and Diflubenzuron (Dimilin 25WP) .so is in advance negotiation stage for further MOUs with few other MNCs.

3. Rajasthan Insecticides and Fertilizers Co. Pvt. Ltd. (RIFCO):

In the year of 1992 group acquired another sick unit namely Rajasthan insecticides and fertilizers Co. Pvt. Ltd. (RIFCO), mainly to make dust formulations. This unit has crossed 10,000 MTs production in the third year itself.

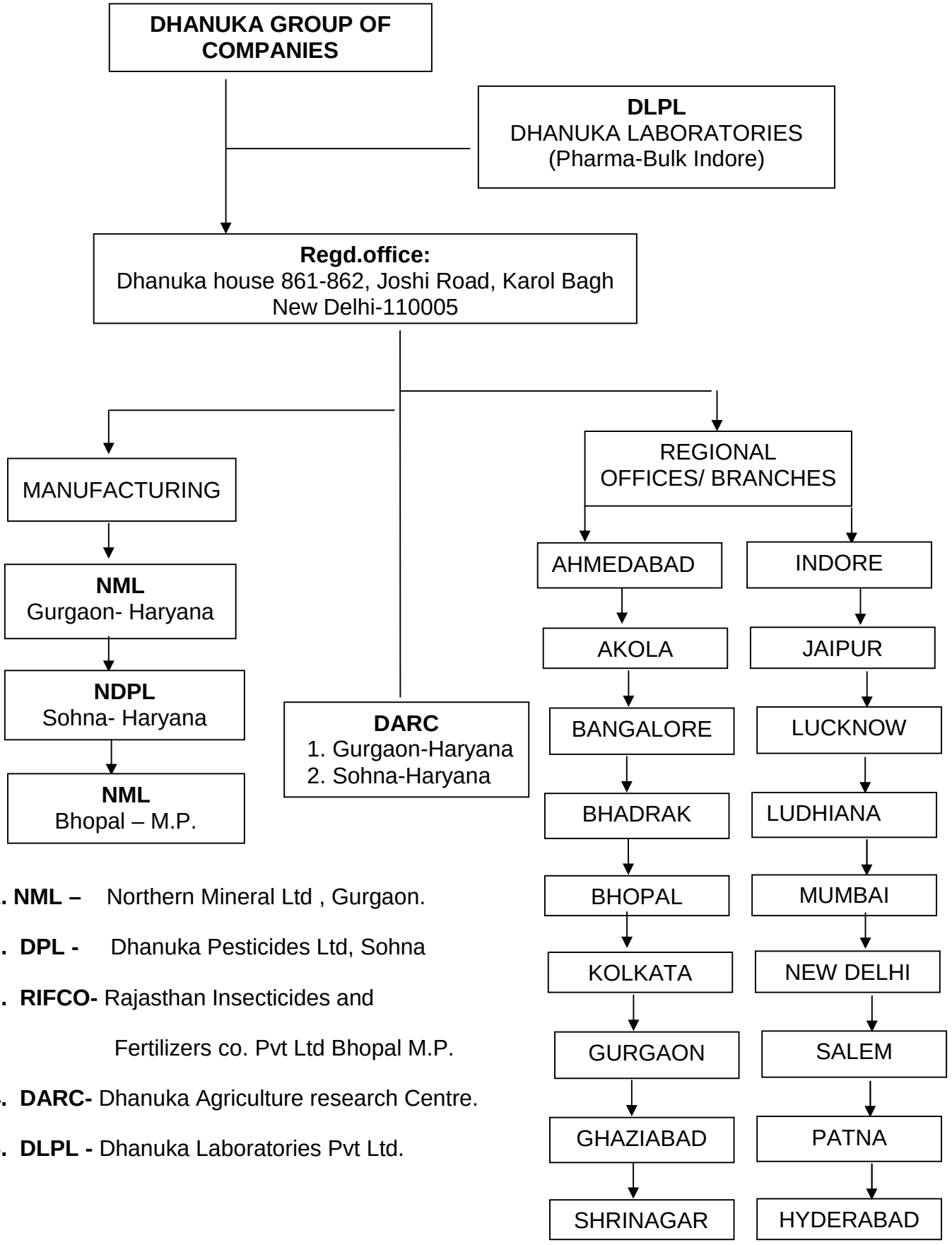
4. Dhanuka Laboratories Pvt Ltd (DLPL):

Within 17 year of the its existence the group has diversified in pharmaceuticals bulk drugs manufacture activity, Dhanuka Laboratories Pvt Ltd (DLPL) is established in 1997 to years manufacture Cephalexin, Cefadroxil, 7-A.D.C.A and Simvatatin. Within two DLPL's turnover is Rs.1500 million and is all for exports. In just two decades the group has touched a mark of Rs.1500 million as group's turnover.

(B). Organization profile of Dhanuka Group:

The Dhanuka Group is a well established manufacturer / formulator of a wide range of popular pesticides; in ECs, Granules, Wettables & Dust Formulations of Insecticides, Fungicides, Weedicides, PGR, Growth Stimulant and Wetting Agents. We are a quality conscious; customer friendly and eco-friendly group conscious for new, safe pesticide molecules. The group is committed to provide Customer Support Services in the area of product usage, health, safety and disposals. Over a span of 20 years, the group has emerged as a leading and growing Indian Group in pesticides business with conventional as well as diversified interests. The group is professionally managed by a management group at the top with well-defined and planned Programme with willingness to achieve a targeted goal.

ORGANIZATIONAL PROFILE OF DHANUKA GROUP



1. NML – Northern Mineral Ltd , Gurgaon.

2. DPL - Dhanuka Pesticides Ltd, Sohna

3. RIFCO- Rajasthan Insecticides and Fertilizers co. Pvt Ltd Bhopal M.P.

4. DARC- Dhanuka Agriculture research Centre.

5. DLPL - Dhanuka Laboratories Pvt Ltd.

(C). Organization's Mission and Objectives.

Dhanuka vision is farmer's prosperity through Dhanuka excellence as corporate Mission is Life Enrichment through Science, objectives of Dhanuka are:

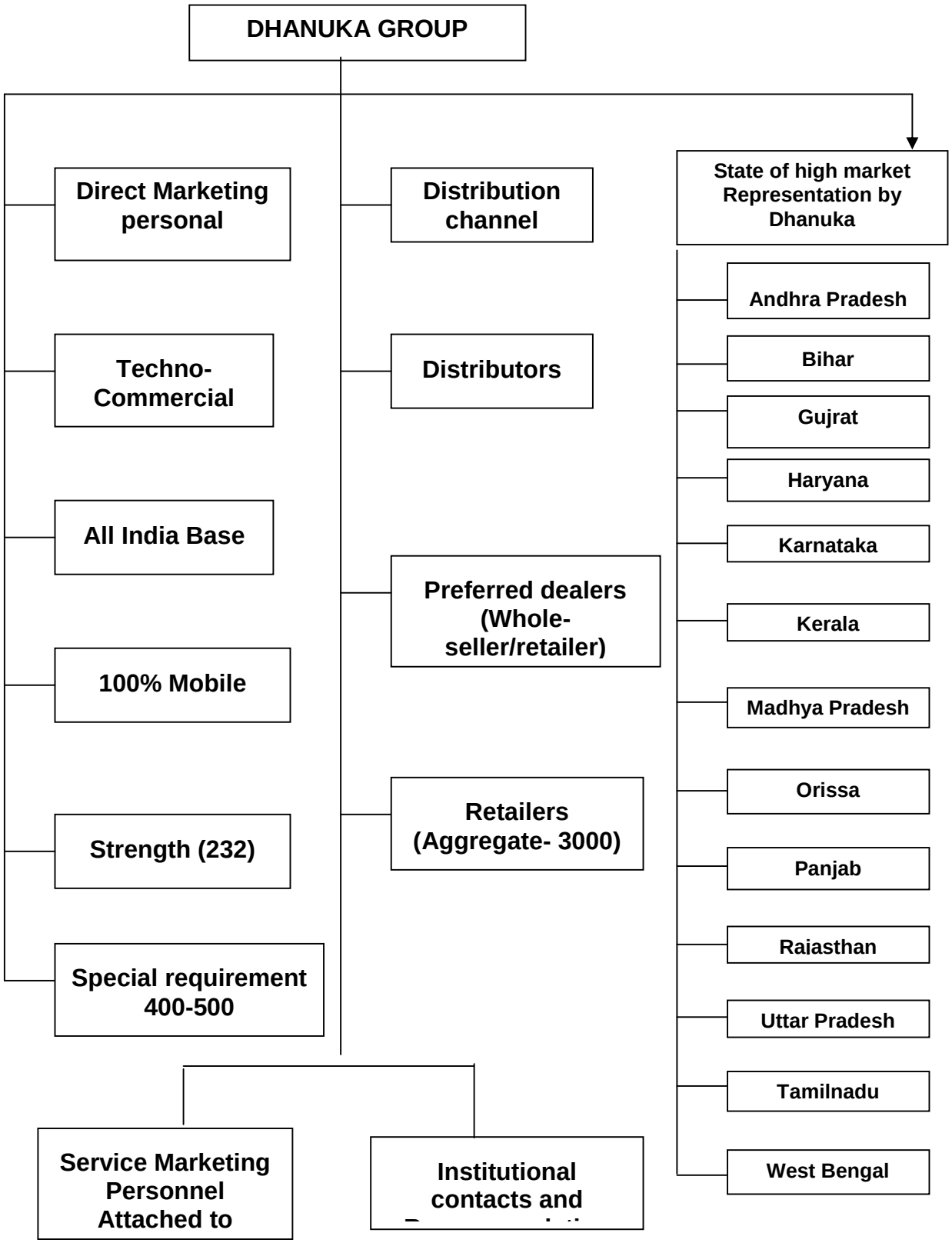
- Serve the Indian farming community with safer, eco-friendly and quality agrochemicals.
- Support the grower on judicious and right use technology.
- Provide customer support services on usage and environment safety.
- Pursue R & D oriented growth in bulk drugs.
- Committed to meet the requirement of the farmers throughout the country for the various crop and climatic condition.
- Quality conscious, customer-friendly company manages by experienced professional.

(D). Marketing Structure

Dhanuka group has setup of its branches in every state of the country. It has the world wide distribution network of distributors, preferred the dealers and retailers (over 8000) supported by their own branch offices in all major states and by their own marketing /development staff, techno-commercially qualified and trained and based on all India network.

The group has 23 branches, nearly 750 permanent employees, of which 235 in marketing organization. In addition to that, approximately 450 to 500 technical trainees is also supporting marketing & customer service areas, especially right use of technology to the grower and vendors. All marketing staff is mobile. The group is effectively working in all the Indian state, almost on all important crops and pest.

MARKETING ORGANIZATION:

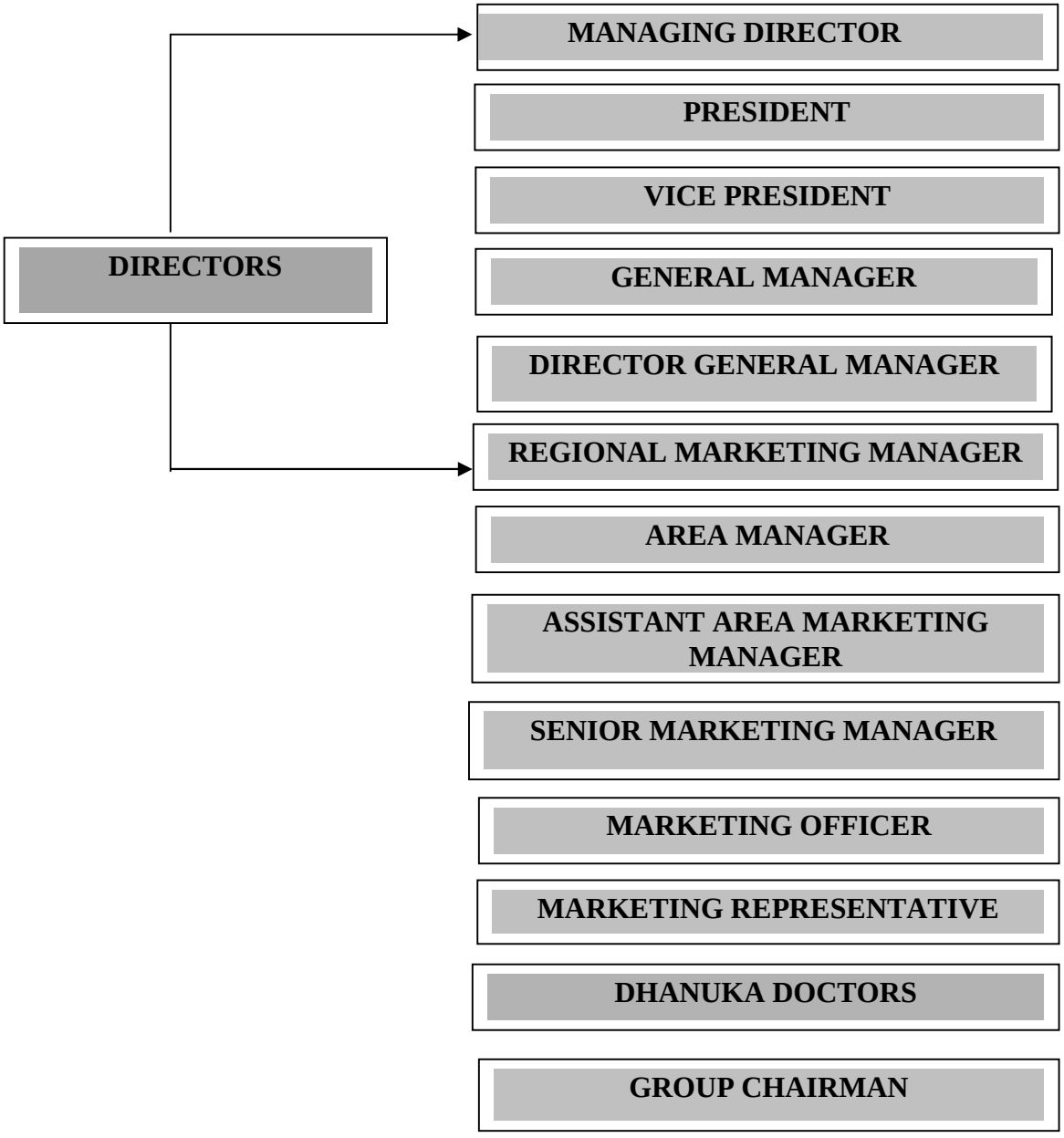


(E). Collaboration with other Organization /Company.

Dhanuka Group has technical association with the following organization.

- Takeda Chemicals industries Ltd. Japan.
- Mitsui Chemicals in Inc Ltd. Japan
- Hokko chemicals Ind. company Ltd. Japan.
- Crompton Corporation of U.S.A.
- E.I DuPont De Nemours and Co.Inc.U.S.A.

ORGANIZATIONAL STRUCTURE



(F). Achievement and Awards.

- All India Youth Congress presented Yuva Rattan Award - 1992, to Mr. M. K. Dhanuka, Managing Director, Dhanuka Pesticides Limited on 6*th* October 1992 at New Delhi.
- Indira Gandhi Priyadarshani Award - 1992, was presented to Mr. M. K. Dhanuka, Managing Director, Dhanuka Pesticides Limited for outstanding achievements and contributions on 76*th* Birth Anniversary of Smt. Indira Gandhi by Shri K. C. Pant, Chairman, and Planning Commission on 18*th* November, 1992 at New Delhi.
- Institute of Trade & Industrial Development Award for Quality Excellence in 1992. The prestigious award was presented to Mr. R. G. Agarwal, the Managing Director of N.M.L. by Pranab Mukherjee, Hon'ble Minister of Commerce, Government of India, on the occasion of the National Seminar on Quality Consciousness, organized by the Institute on 18*th* December, 1993.
- Institute of Trade and Industrial Development Swatantrata Swarn Jayanti Udyog Vibhushan Award for Excellence in Industrial Performance was conferred on Shri R. G. Agarwal on 27th January 1999.
- Udyog Rattan Award was conferred upon Mr. M. K. Dhanuka, Managing Director, Dhanuka Pesticides Limited at the time of the conference on Economic Development by Institute of Economic Studies.
- Mr. R. G. Agarwal has been nominated for ITID Rajat Jayanti Udyog Award 2000.
- "INC.INDIA Innovative 100 Award:2013 presented to Dhanuka Agritech Limited for its smart,innovative product- LUSTRE"

PRODUCT RANGE

Insecticides

Alphadhan (Alphamethrin)
Aaatank (Carbosulfan)
Caldad G & SP (cartap hydrochloride)
Danfuran (Carbafuran)
Deva Lambda (cyhalothrin)
Dhan-G (Phorate)
Dhanraj (Acephate)
Dhanulux (Quinalphos)
Dhanumar (Methyl Parathion)
Dhanudol (Methyl Parathion)
Dhanumit (Ethion)
Dhanpreet (Acetamiprid)
Dhanusan (Phenthoate)
Dhanusystox (Oxydemeton methyl)
Dhanvan (Chlorpyriphos)
Dhawa (Indoxacarb)
Dimilin (Diflubenzuron)
Dunet (Methomyl)
Endodhan (Endosulfan)
Emamectin (benzoate)
Ghatak (Triazophos)
Markar (Bifenthrin)
Malathion (Malathion)
Media (Imidacloprid)
Monodhan (Monocrotophos)
Nukil (Ethofenprox)
Omite (propergite)
Super killer (Cypermethrin)
Trimphcard (Fenvalerate)

Weedicide

Aniloddhan (Anilphos)
Barrier (metribuzin)
Craze (Pertilachlor)
Dhanuzine (Atrazine)
Dhanuchlor (Butachlor)
Dhanulon (Isoproturon)
Dhanutop (Pendimethalin)
Dynofop (Clodinafop-propargyl) 15per cent
Fenox 1000 (Fenoxaprop-p-ethyl)
Hook (Metsulfuron methyl)
Noweed (Glyphosate)
Qurin (Chlorimuron ethyl)
Sultop (Sulfosulfuron)
Targa Super (Quizalofop ethyl)
Weedmar (2, 4-D Ethylester)
Weedmar (2, 4-D Sodium salt)
Weedmar Super (2, 4-D Amine salt)

Fungicides

Dhanucop (copper oxychloride)
Dhanukam-45(mencozeb)
Dhanustin (carbendazim)
Dhanisul (sulphur)
Dhanutan (captan)
Dhanuka z-27(ziram)
Dhanteam (tricylazole)
Hexadhan (hexaconazole)
Kasu-b (kasugamycin)
Metal-d (metalaxyl)
Shethmar (validamycin)
Vitavex power (carboxin)
Vitavex power (carboxin+thiram)
Sixer (mencozeb 63per cent)

PLANT GROWTH STIMULANT		PLANT GROWTH REGULATOR
Dhanzyme liquid & granules		Dhanumon (ANA)

Product performance enhances

Dhanuvit : A highly effective universal surfactant for use with insecticides, Fungicides and weedicide

Procombo: Surfactant for use with qurin.

Activa : Surfactant for use with fenox.

November 2005-06.

A historic day in Indian agriculture, dhanuka group

Dhanuka group join hands with Madhya Pradesh government and MANAGE, Hyderabad in first ever-public private partnership to strengthen the extension activities. This novel joint Agri-extension project was launched from the wheat bowl of Madhya Pradesh, Majhgawan, district Khargone, and was inaugurated by then chief minister of Madhya Pradesh, Shri Digvjay singh with the sole objective to disseminate modern technologies to farming community for increasing their productivity and improving their standard of living. Monitoring is jointly done by MP government and Dhanuka group.

Major activities being undertaken under this public private partnership project are:

- Quick soil testing and farmer technology Advisory services
- Farmers training Programmes
- Establishment of cyber Dhaba
- Film on success stories
- Availability of quality seeds
- Organization of krishi mela
- Amongst farmers
- Support in produce marketing
- Promotion of organic farming

> Farmer exposure visit to new
> Farmers fields demonstrations
> Distribution of literature
> Training to the extension officers
> Awards to outstanding performer
> Promoting community approach
> Crop diversification

International Collaborations

In pursuit of making, Indian Agriculture more profitable and rewarding for the farmers, Dhanuka group has been consistently introducing new, highly crop/ pest specific, eco-friendly molecules in India in technical support of following international giants:

M/s E/Du Pont De-Nemours, U.S.A.

Dunet:

An insecticide based on methomyl.

Hook:

A post emergence, selective and systematic weedicides for the effective control of broad leaf weed in wheat based on metsulfuron methyl.

Quirin:

A post emergence, selective and systemic weedicides/ fungicides for use in Chilies for the control of broad leaf weeds, based on chlorimuron ethyl.

Dhawa:

An internationally acclaimed triple action insecticide for effective management of American bollworm, based on indoxacarb.

M/s Crompton Corporation, U.S.A.

Dimilin:

A chitin inhibitor, with iarvicidal and ovicidal properties, based on diflubenzuron.

Omite:

A world proven powerful miticide, based on propagite.

Vitavex:

A systematic seeds treatment fungicide for the control of seed born disease, with germination stimulation properties, based on carboxin.

Vitavex power:

An ideal combination of systemic ant contact fungicide, for the control of seed, soil and internally seed borne diseases, with germination stimulation characteristic, based on carboxin and thiram.

M/s Sumitomo chemical Takeda Company Limited, Japan.

Caldan:

Derived from the marine segment worm, a triple action insecticide, with ovicidal and adulticidal activities, based on cartap hydrochloride. Available as granules and wettable powder.

Sheathmar:

Highly specific, effective and safe fungicide for the control of diseases caused by fungi Rhizoctonia solanai later blast. In Rice and other crops, based on validamycin.

M/s Hokko Chemical Inc, Japan:

Kasu B:

A systemic antibiotic effective against fungal and bacterial diseases of Rice vegetables and horticultural crops, based on kasugamycin.

M/s Mitsui Chemical, Inc, Japan:

Nukil:

A CHO compound with very low mammalian toxicity, broad spectrum, contact and stomach insecticide, highly effective for the control of brown plant hopper, leaf folder in rice and other insect pest on several crops, based on ethofenprox.

M/s Nissan Chemical industries Ltd, Japan:

Targa Super:

Excellent post emergence systemic and selective weedicides/ fungicides, for effective control of grassy weeds in Chilies dicoat crops and vegetables, based on quizalofopethyl.

M/s FMC Corporation, U.S.A.

Aatank:

A double action insecticide for effective management of sucking pest, brinjal shoot& borer and other insect pest in number of crops, based on carbosulfan.

Product promotion policy

The group is conducting dealers and farmer training Programmes. Coordination whenever possible, with the state agriculture universities and state Department of Agriculture, group is promoting the concept of integrated crop management under the title of DICM using right and need- based use of pesticides, weedicide besides use of sowing to harvesting production technology. The result has been encouraging and exciting. The group envisages opening Dhanuka integrated crop management centre for the benefit of growers in leading Indian states, the first of its kind to start at Jalandhar In next couple of month.

1) Distribution system
2) Field days
3) Free sample
4) Poster and wall painting
5) Advertisement
6) Sales force

Distribution System:

The Dhanuka group of companies distribution their product through the distribution who pass it on the dealers who in turn the produce to the consumers. The company appoints one or two authorized dealers in a district for the marketing /distribution of the company products.

Field days:

Field days are the farmer meets Programme conducted by the company on selected farmer's fields. Company arranges small and big field day every year.

Field Visit:

Company personnel visits to the farmer's field regularly and if any problem occurs that is should on the spot by giving technical advice.

Free sample:

Company distributes free samples of deferent products to The farmers for their Products promotion company distributes the small size free sample of new varieties and it has been found that it is most popular activity for the launching the variety at introducing stage.

Poster and wall painting:

The product describing posters and wall Paintings throughout the area of Khargone district are carried out.

Advertisement:

Company USCS mass communication media like newspaper and videos for the advertisement for the sale promotion and new product launching.

Sales forces:

The company appoints technical assistant (T.A) at block level to establish and maintain good relations and communication between the company and the farmers.

Sales promotion activities adopted by company

During the sales promotion, the company has provides incentives to the dealers and distributors by following various activities.

1) Profit margin.
2) Advance booking system.
3) Cash discount.
4) Sales revalidation.
5) Turn over discount.
6) Other incentives and gifts.

FUTURE PLAN

- Increased thrust on R& D for process improvement and new molecules.
- Provide Indian farmers with safer and eco-friendly products through international tie-up.

- Extend our formulation facilities to multinational companies for any pesticides per international specification and standard and supply per order.
- Technical /techno-commercial with /without equity foreign collaborations for new eco-friendly pesticide molecules /intermediates for indigenous /international market.
- We are interested in representing various Agri-input lines, including diversifications from overseas companies /firm / associates on technical or techno-commercial agreements basis. We have the capability to do it successfully for our foreign collaborators.
- The group envisages opening Dhanuka integrated crop management center for the benefit of growers in leading Indian states, the first of its kind to start at Jallandhar next couple of month.

PROFILE OF THE STUDY AREA

The District of Khargone is situated in the state of Madhya Pradesh in the central region of India. Khargone was formerly known as West Nimar. A part of the Indore Division lying on the region of Nimar, The District headquarters is located in the town of Khargone along with other functional offices i.e., police station, the collectorate office, telecom and other governmental organizations. Khargone city famous for the production of cotton and chilly is built on the banks of River Kunda, surrounded by Dhar, Indore and Dewas as its northern frontier, the state of Maharashtra as the southern, Khandwa, Burhanpur as the eastern side and Barwani as the Western border. A beautiful temple Navgraha is erected in honor of the nav grahas. The people of Khargone speak Namadi its the primary language in west Nimar, Bareli and Palya, the language of Bhil is spoken in the central territory of Madhya Pradesh; Bareli Rathwi, Bhil is written in Bhilali and Devanagari script.

Location & Geographical Area:

Khargone is located in the south-west border of Madhya Pradesh 283 metres (928 ft) above sea level. It is spread over an area of 8,030 square kilometres (3,100 sq mi). Towards the north it borders Dhar, Indore and Dewas districts. Towards the south, it borders Maharashtra, in the east, Khandwa and Burhanpur and Barwani in the west. Khargone is 90 km (56 mi) away from Barwani, 80 km (50 mi) from Khandwa and 140 km (87 mi) from Indore. The district is connected to the cities of Indore, Khandwa, Barwani, Dhar, Jhabua, Jalgaon and Dhulia by road. The Agra-Mumbai National Highway (NH#3) passes through the district. In the eastern part, the district has a meter-gauge railway line connecting Delhi-Jaipur-Indore-Khandwa-Hyderabad. Important stations on this route include Barwah and Sanawad. The nearest broad gauge line railway station is Khandwa Junction. The nearest airport is located at Indore.

Figure3.1 Map of Khargaon District

Topography:

Khargone is in the middle of the Narmada River valley with the Vindhyachal mountain range situated in the north and Satpura in the south. The River Narmada flows along a path of 50 kilometres (31 mi) inside the district. Veda and Kunda are the other two main rivers in the district

Rainfall Pattern:-

Agriculture being a game between the nature and the farmers subjected to its move, which ultimately determine the pay of nature, operates through the varies of nature and other climatic factors such as insect, pest and diseases.Thus it is desirable to study the rainfall pattern in the study area which is shown in table

Table 3.1 Rainfall Pattern in Khargone district 2012 - 13

S. No.	Month	Rainfall (mm)
1	June	113.2
2	July	196.0
3	August	189.1
4	September	181.1
5	October	28.0
6	November	0.0
7	December	1.7
8	January	0.0
9	February	0.0
10	March	0.0
11	April	0.0
12	May	0.0
Total		824.14

Source: District Agricultural Department, 2012-13

Climate:

Khargone has a transitional climate between a tropical wet and dry climate and a humid subtropical climate. Three distinct seasons are observed: summer, monsoon and winter. Summers are extremely hot and dry in this region, lasting from mid-march to mid-June followed by the monsoon season. The temperatures in summer are usually above 40 °C (104 °F) during April–May. During these months when temperatures become very high,the dry and hot wind (locally known as "loo") blows in this area, widely affecting the local ecology.

Table 3.2: Average temperature of Khargone District (2012 - 13)

Month	Average temperature in centigrade (^{o}C)	
	Maximum	Minimum
January	29.2	4.0
February	33.1	6.6
March	38.6	11.4
April	42.6	16.9
May	45.0	22.3
June	41.8	23.1
July	37.0	22.8
August	33.5	22.4
September	33.8	21.6
October	33.7	14.1
November	31.8	8.0
December	29.5	5.0

Sources: Department of Statistics, Khargone (2012-13)

Administrative Set Up:

Table 3.3: Administrative unit of Khargone.

S. No.	Particular	Unit (In No.)
1	Tehsils	09
2	Blocks	09
3	Villages	2,746
4	Forest Villages	68
5	Gram Panchayat	596
6	Total Population	1872413

Sources: Department of Statistics, Khargone (2012-13)

Land use pattern

Table 3.4: Land use pattern of Khargone District

S. No	Particulars	Area (in ha.)	Percentage
1.	Geographical area	794365	-
2.	Area under forest	247100	21.33
3.	Land put to non agriculture uses	129900	12.37
4.	Land uses for pastures	21817	3.66
5.	Fallow land	33549	4.38
6.	Land not available for cultivation	69834	9.4
7.	Land under miscellaneous trees and grooves	3834	0.51
8.	Net cultivated area	399685	49.45

Sources: Department of Agricultural of statistics, Khargone (2012-13)

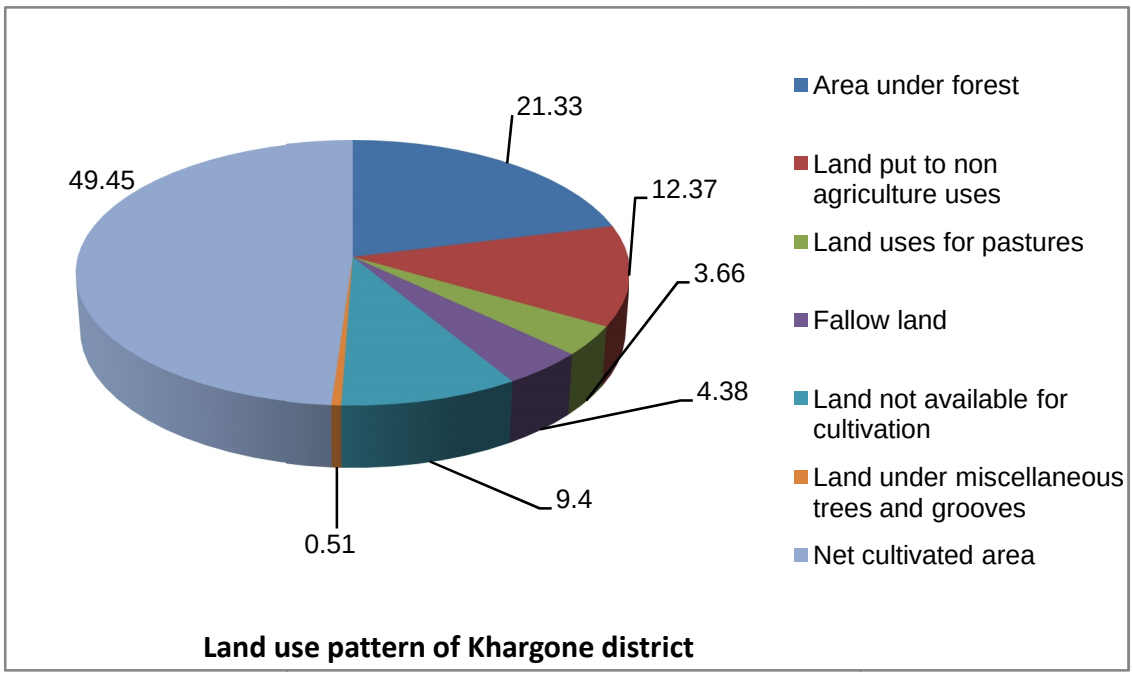


Figure 3.2: Showing Land use pattern of Khargone District

Major Chilies Producing States in India

The major chilies growing states are Andhra Pradesh ,Karnataka ,Maharashtra ,Orissa ,Tamil Nadu ,Madhya Pradesh ,West Bengal and Rajasthan in that order and account for more than 80% of the total area and production.

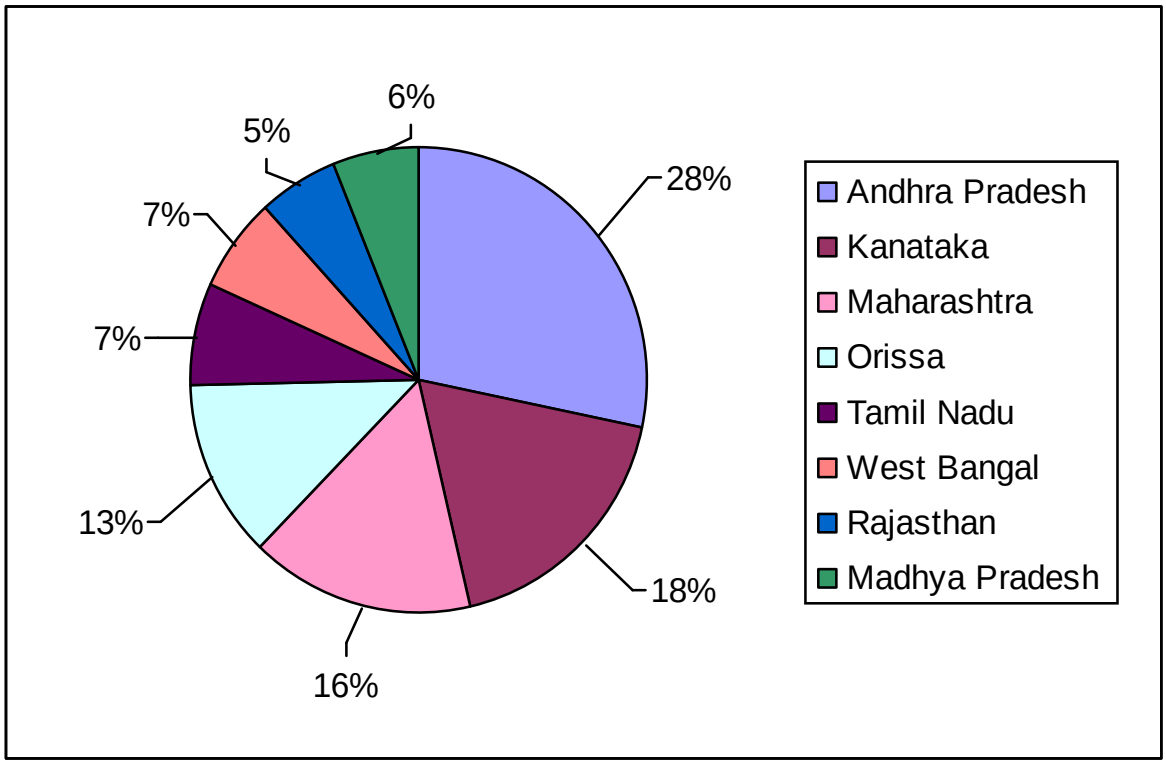


Figure 3.3: Showing different chilies production state area wish

Table-3.5: Showing Chilies Area, production and yield of different Districts of Madhya Pradesh.

District	2012-2013		
	Area in hectare	Production in tones	Yield in tones /hectare
KHARGONE	14603	25403	1.74
DHAR	9320	16446	1.76
BARWANI	6332	9242	1.46
KHANWDA	6120	12632	2.06
RATLAM	3290	9312	2.83
JHABUA	2026	3308	1.63
BHURANPUR	131	261	1.99
MANDSAUR	677	1212	1.79
NEEMUCH	97	173	1.78
SHAJAPUR	655	307	0.47
INDORE	140	163	1.16
MORENA	137	194	1.42
SHEOPUR KALAN	56	86	1.54
BHIND	30	29	0.97
JABALPUR	290	662	2.28
KATNI	162	173	1.07
BALAGHAT	242	104	0.43
CHHINDWARA	2154	2134	0.99
SEONI	263	189	0.72
MANDLA	155	109	0.70
NARSINGPUR	150	354	2.36
SAGAR	423	485	1.15
PANNA	777	783	1.01
TIKAMGARH	910	888	0.98
CHHATARPUR	1106	418	0.38
REWA	277	256	0.92
SIDHI	116	52	0.45
DINDORI	9	10	1.11

SATNA	726	481	0.66
District	2012-2013		
	Area in hectare	**Production in tones**	**Yield in tonnes /hectare**
SHAHDOL	54	33	0.61
UMARIA	63	42	0.67
SHIVPURI	475	586	1.23
GUNA	30	26	0.87
GWALIOR	23	36	1.23
ASHOKNAGAR	106	100	0.94
DATIA	63	47	0.75
BHOPAL	197	321	1.63
SEHORE	338	514	1.52
RAISEN	255	349	1.37
RAJGARH	618	891	1.44
HOSHANGABAD	580	1232	2.12
HARDA	104	197	1.89
BETUL	2174	2831	1.30
VIDISHA	82	88	1.07
M.P.STATE	56861	93995	59.79

Sources: Department of Agricultural of statistics, Khargone (2012 – 13)

Table3.6: Sanawad block territory an over view

Kharif Acreages -					**(in acres)**
Crops	**Kheri**	**Barwaha**	**sanawad**	**Rodiya**	**Total**
Cotton	27000	26000	27000	18000	98000
Chilies	2500	5000	15000	13000	35500
Soyaben	10000	15000	10000	5000	40000
Rabi Acreages -					**(in acres)**
Crops	**Kheri**	**Barwaha**	**Sanawad**	**Rodiya**	**Total**
Wheat	10000	15000	25000	16000	66000
Gram	2500	4000	7000	3500	17000
Vegetable	500	500	0	0	1000

Under Khargone District the Sanawad Block is the more produced of Chilies.

Kharif Acreages

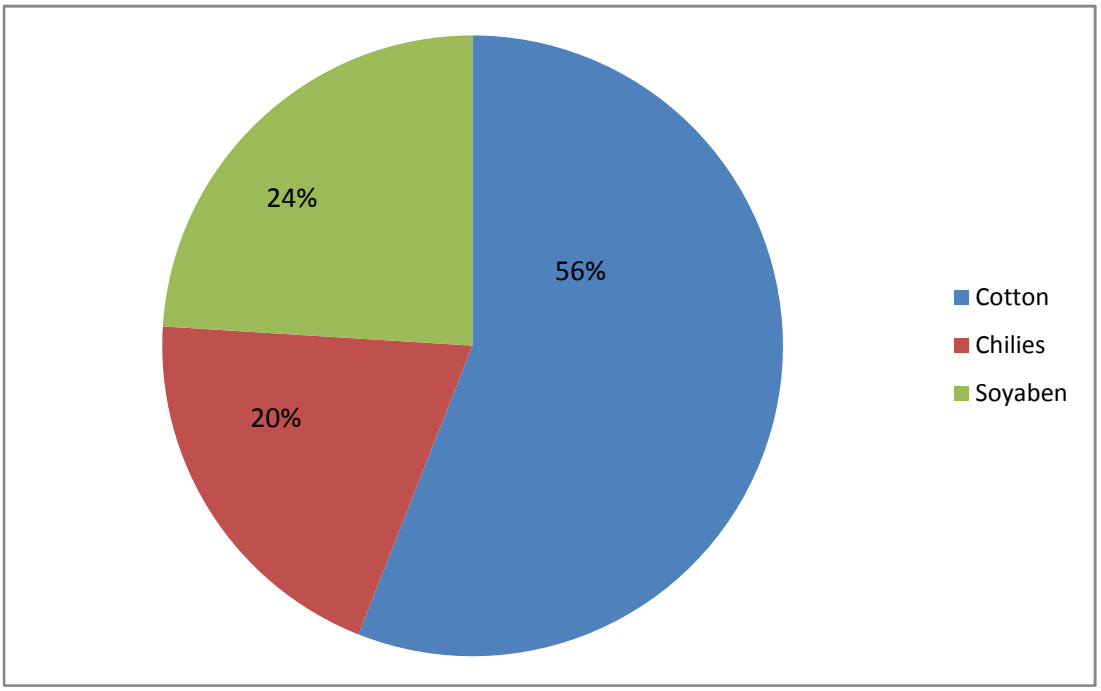


Figure 3.4: Showing Kharif Acreages in Sanawad block

Rabi Acreages

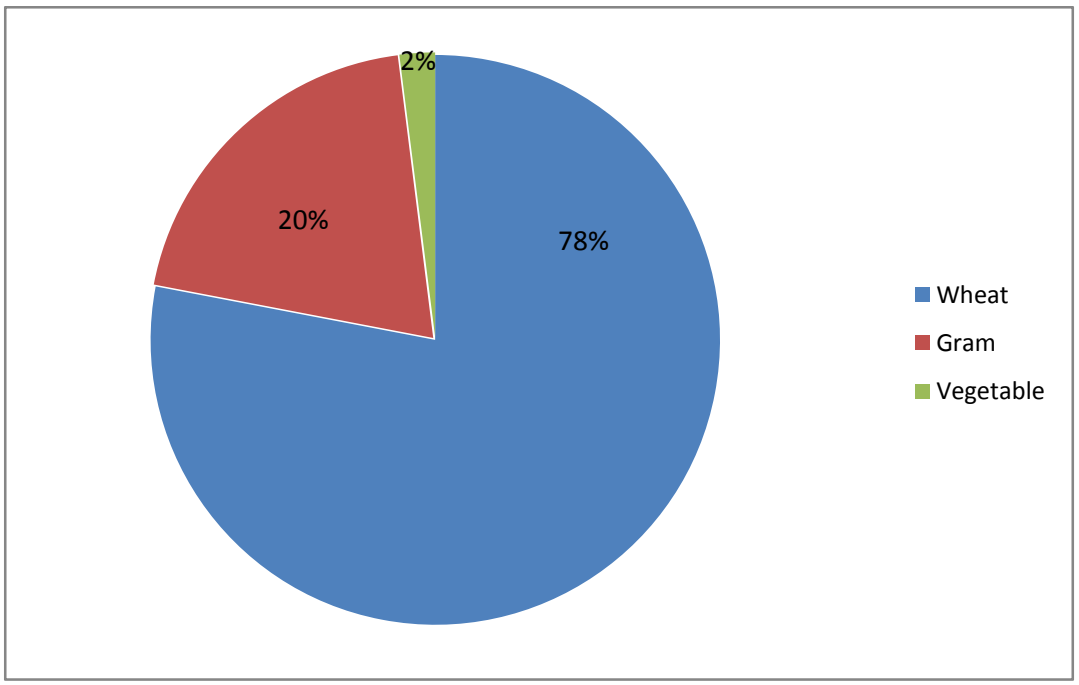


Figure 3.5: Showing Rabi Acreages in Sanawad block

Irrigated area

Table3.7: Areas under Irrigation of Khargone District

Types	Area	Percent %
Net Irrigation Area	166.939	36.65
Gross Irrigation Area	166.939	---
Rainfed Area	---	63.35

Source: District Agricultural statistics, Khargone (2012-13)

Source of irrigation

Table3.8. Source wise irrigated area in Khargone district

Sources of Irrigation	Number	Area ('000 ha)	Area%
Canals	108	26.555	15.93
Tanks	144	24.396	17.87
Open Wells	62611	93.662	45.57
Bore Wells	8885	30.926	20.63
Gross irrigated area		175.539	100

Source: District Agricultural statistics, Khargone (2012 - 13)

Table 3.8 shows that Open Wells was the main source of irrigation which contributed 45.57 percent followed by bore well (20.63) and open wells 45.57 percent respectively. The other sources have contributed the minor percentage to the total irrigated area of the district.

Cropping pattern

Cropping pattern refers to the sequence of crops grown in a year to maintain the fertility of the soils. In other words it indicates the allocation of cultivated land to different crop in various crops during the year.

Table3.9: Cropping pattern in the study (in hac.) Khargone(2012-13)

S. No.	Particulars	Sanawad (Area %)	Barwaha (Area %)	Rodiya (Area %)	Kheri (Area %)	Others (Area %)	Total
1.	Chilli	3356 (40.24)	1764 (21.15)	1275 (15.29)	689 (8.26)	1255 (15.05)	8339 (100%)
2.	Potato	176	290	287	138	1009	1900
3.	Tomato	170	240	285	110	714	1519
4.	Onion	64	176	152	144	796	1332
5.	Ginger	19	14	17	15	86	151
6.	Coriander	18	29	11	13	91	162
7.	Garlic	290	195	147	246	2093	2971

Source: District Department of Agriculture

Table3.10: Cropping intensity in Khargone district (Area in ha)

S. No.	Agricultural land use	Area (000 ha)	Cropping Intensity (%)
1	Net sown area	405.668	131%
2	Area sown more than once	51.760	
3	Gross cropped area	534.706	

Source: District Department of Agriculture

Land holding

Table 3.11: Operational land holding size of the farmer in the study area.

Farmer	Land Holding (ha.)	No. of farmer	Percentage of the farmer
Small	0.0-2.00	49366	22.16
Medium	2.01-4.00	113200	50.82
Large	4.01-Above	60169	27.02
Total		222735	100

Source: District Agricultural statistics, Khargone (2012 - 13)

The table reveals that the majority of farmers in the Khargone district of M.P. belonged to medium farmers representing 2 to 4 ha. holding which contributes to about 50 percent of the total farmers followed by large and small farmers i.e. 27 percent and 22 percent respectively. Thus, distribution of farmers in the study area reveled that numerically farmers are strong but near from area point of view.

RESEARCH METHODOLOGY

An attempt was made to estimate the market share and market potential of fungicide, and to get an idea about farmer's preference regarding various brands and identifying the different factors which will influence the consuming behaviour. This chapter splited into following sub head.

- Selection of study area
- Selection of major players
- Selection of respondents
- Period of study
- Method of analysis

4.1 Selection of study area:

The study was confined to Khargone district of.Madhya Pradesh The district comprises 9 blocks, viz,.Bhagwanpura, Jirnya, Barwaha, Maheshwar, Biknganv, Kasrawad, Khargone, Sanawad. Kheri. All blocks of the district were considered for study. From each blocks three vegetable potential villages were selected in consultation with block agriculture official patwari thus 27 villeges were selected.

4.2 Selection of major players

In the study area numbers of companies were functioning in the market. Out of which only five top selling companies were selected viz., Dupont, Bayer, Dhanuka, and Syngenta to assess their share in total sales of fungicide in the district.

4.3 Selection of respondents:

For selection of respondents three categories were demarcated i.e. distributors, dealer and farmers.

Selected respondents No's

(i)	Dealer	1
(ii)	Sub distributers	4
(iii)	Farmers	84

One distributors / dealers were selected as per list provided by Dhanuka Company. A list of farmers grown chilies in the selected villages were prepared and 84 chilies grower farmers were selected by random sampling technique. Selected respondents were further categorised into three size groups viz. small (upto 2ha.) medium size (2-4 ha.) and large size (above 4ha.). The farmer's falls under small, medium and large size farm were 38, 28 and 18 respectively.

4.4 Need of study:

The study was carried out in Khargone of Madhya Pradesh. .In these districts there is large demand for agriculture inputs. Different companies are promoting their product by different ways. This study helped to know about different policies of Dhanuka and perception of people about Dhanuka company's products and promotion.

4.5 Period of study

The study was conducted for duration of 48 days from March 5th 2014 to April 21st 2014 collected data pertains to the agricultural year 2013 -14.

4.6 Sources of information:

Primary source:

- Personal interaction with - Farmers
  Retailers
  Dealers/Distributors
- From organization: Dhanuka Agritech Limited.

Secondary source:

- Research Papers
- Journal
- Magazines
- Agriculture University(JNKVV, Jabalpur)
- KVK/ARS
- Websites(mpkrishi.org, census, sopa etc)

4.7 Method of analysis:

Suitable statistical tools were used such as arithmetic mean and percentage for analysing data. Regarding farmers opinion, following attributes were considered viz., price, availability, and effectiveness, brand, packing size, incentives and others to know the farmers preference for selecting the plant protection chemicals.

4.8 Absolute and relative change

(i) Absolute change = Current year – base year

(ii) Relative change = $\frac{\text{Current year-base year}}{\text{Base year}}$ X 100

4.9 SWOT analysis:

With the help of this analysis we are able to find out different component; i.e. strength, weakness, opportunity and threats.

Analysis	
Strength	Dhanuka Agritech have good product in market. It has good market demand. It is an endemic company. Dhanuka doctor play critical role
Weakness	Work only in specific area in Indian continent hasn't too much monetary support. No control on price uniformity
Opportunity	Huge market for endemic people on which reliability is most
Threat	Big player of MNCs present in Market. If product advancement is not taken may dump in future dealer area not satisfied.

Limitations of the study:

- The survey was done in limited geographic area. Therefore the results cannot be considered as representative of position of whole district.
- The survey is further open for study.
- Another constraint is time, due to which it was not possible to cover whole area.

- Farmers, Retailers and the dealers who responded to the questions may not have been true in answering various questions and may be biased to certain other questions. Some dealers and retailers were not willing to share their views on some questions.
- Most questions in influencers' viewpoint questionnaire are qualitative in nature so proper analysis could not be done on those questions.
- Due to holiday and marriage season a few Dealers, Retailers and Farmers were not available so I had to take the data from the staff which may have some defects.

PRESENTATION OF DATA AND FINDINGS

This chapter deals with the analysis and interpretation of the collected data in terms of the market share and market potential of Fungicide in Khargone district of Madhya Pradesh and factors influencing farmers preference regarding purpose of fungicide.

5.1 Details of selected distributors

In the project following distributors were selected from the study area for detail study.

Table 5.1: Details of selected distributors

S. No.	Name of the dealer	Owners	Dealing company
1.	Jay Shri Ambai Enterprises- Khargone	Mr. Rajendra Patidar Mob.-9926496907	Dhanuka, Bayer, BASF, DuPont, UPL, Sygenta, P.I.
	Name of the sub-dealer	**Owners**	**Dealing company**
2.	Narmada Krashi Clinic – Maheshwar	Mr. Ashok Kumar Patidar Mob.-9407473927	Dhanuka, Bayer, Syngenta,Ex-cel, Coromandal,BASF
3.	Shree Ram Seeds - Sanawad	Mr.Lokendra Gurjar Mob.9926084586	Dhanuka, Bayer, BASF, TATA, UPL, Syngenta, Dupont Sulphur Mills,
4.	Kissan Krashi Upchar – Bediya	Mr.Bhagwan Patel Mob.9826832122	Dhanuka, Bayer, BASF, Syngenta
5.	Saha Agro Agencies- Badwaha	Mr. Jainlal Saha Mob.9826036482	Excel P.I. U.P.L. Bayer, BASF

In the project work five main distributors were selected who deals different Fungicide products of the four major companies in Khargone district of Madhya Pradesh.

5.2 Market share of Dhanuka in fungicide.

5.2.1 Total sales of Fungicide by the different companies

Revealed the quantity of the Fungicide and total sale value /receipt earned during the crop season in the study area it is clear that on the basis of quantity, Nativo of the Bayer company hold the first and leading position by selling 6050 liter of Funficide in the Khargone district but on the basis of total sale in monetory terms the Nativo stand first as it earned Rs.35090000 ternover in a year or almost 25.52 per-cent share of the area. The Amistar has got second position which sells Fungicide are rupees 24750000. The rest of other New Star and Kasu-B had very low sale volume on the basis of their total quantity sold in the area respectively. It concludes that the Nativo Bayer group and Amistar of Syngenta cover the major maximum crop areas in Khargone district.

Table 5.2 Sale quantity and sale value of different Fungicide (2012-13)

S. No.	Company name	Brand name	Quantity sale lit.	Value (lit.)	Total Value(Rs.)
1	Bayer	Nativo	6050	5800/lit.	3509000
2	Syngenta	Amistar	5500	4500/lit.	2475000.
3	Dupont	Nustar	4200	4000/lit.	1680000
4	Dhanuka	Kasu-B	3800	3500/lit.	1330000

The details about company wise market share of fungicide have been given in tabe interred that maximum (25.52%) market share of Nativo in Bayer company covered largest sale value and Syngenta company is the Amistar is (18.02%) second position was covered by Syngenta company.

Total 5.3 Sales of Fungicide by different companies (2012-13)

S. No.	Companies	Brand name	Total Quantity (lit.)	Total Sales (Rs.)	Share (%)
1.	Bayer	Nativo	6050	3509000	25.52
2.	Syngenta	Amistar	5500	2475000	18.02
3.	Dupont	New Star	4200	1680000	12.22
4.	Dhanuka	Kasu-B	3800	1330000	9.67
5.	Other			4753826	34.57
Total				13747826	100

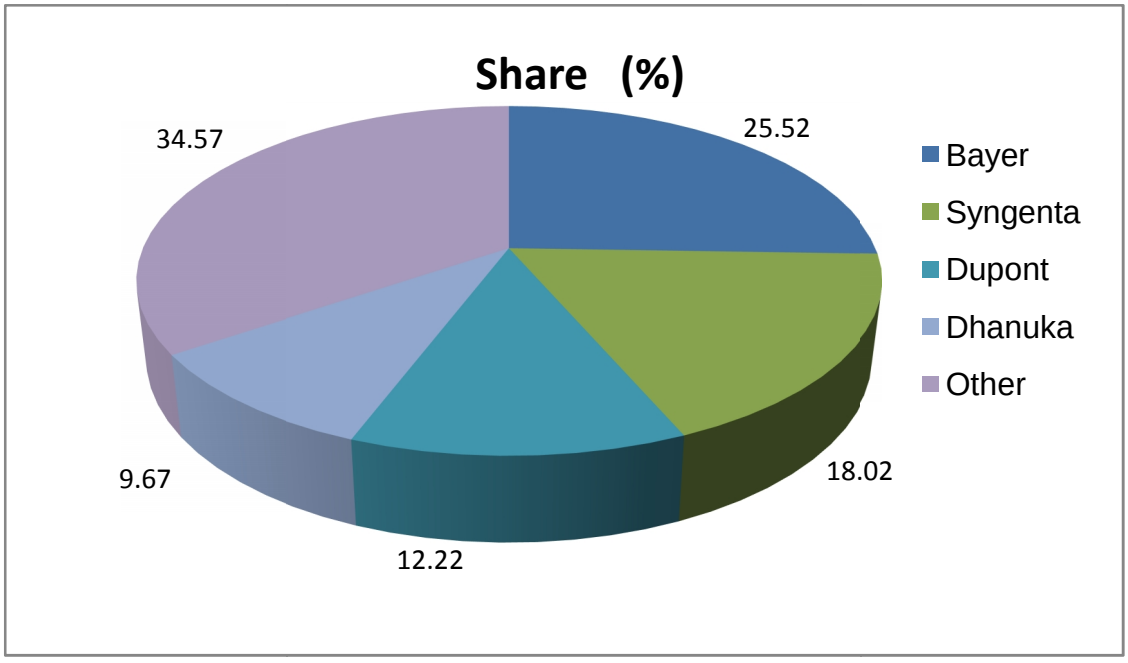


Fig. 5.1 Company wise market share of Fungicide

5.2.1 Market potential of Fungicide

Have been estimation in this section market potential of Fungicides based on recommended dose of Fungicide and coverage area under Chilies and Vegtable Crop in Khargone district of Madhya Pradesh during the year. The total market potential of the Fungicide in Chilies and vegetable crops in the Khargone district is presented There are many companies but four

companies sales more than other companies. Nativo Amistar New Star Kasu-B were supplying Fungicide in the district.

Table 5.4 Market potential of Fungicide (2012-13)

S. No	Fungicide brand name	Technical name	Company Name	Recommended dose /hac	Area under Chilies (hac.)	Total market potential (in lit)
1.	Nativo	Tebuconazole 50%	Bayer crop science Ltd	1000 ml.	**6327**	6327.00
2.	Amistar	Azoxystrobin 23% SC	Syngenta	1.75 ml.	**6327**	11072.25
3.	New Star	Flusilazole 40 %EC	Dupont	12.5 ml.	**6327**	7908.79
4.	Kasu-B	Kasugamacyin 3% SL	Dhanuka	750 ml	**6327**	4745.25

On the basis of area under important Chilies and vegetables and recommended doses market potential of Fungicide have been estimated. The market potential of Nativo, Amistar, New Star and Kasu-B was 6327, 11072.25, 79.08.79 and 4745.25 liter. The Fungicide market potential indicates huge market for different company functioning in the study area. Different companies could capture large segment of market by producing quality product sold relating at cheaper.

Table: 5.5 Quantity sold by company and Gap potential (2012-2013)

S. No	Company Name	Recommended dose /hac	Area under Chilies (hac.)	Total market potential (in lit)	Quantity Sold by company (in lit.)	Gap Potential (in lit.)
1	**Bayer**	**1000 ml.**	**6327**	**6327.00**	6050	**277**
2	**Syngenta**	**1.75 ml.**	**6327**	**11072.25**	5500	**827**
3	**Dupont**	**1.25 ml.**	**6327**	**7908.79**	4200	**2127**
4	**Dhanuka**	**750 ml.**	**6327**	**4745.25**	3800	**2527**

5.3.1 Turnover of major companies in the study area

Among the sale quantum of all the products of different companies in the study area. The leading company was Bayer who alone sold over Rs. 5.77 crore per annum followed by Syngenta, Dupont , and Dhanuka the Syngenta accounting turnover Rs. 2.04 crore . Bayer company received first rank with 5.77 crores turnover followed by Syngenta company accounting 2.04 crore. Dupont was on IIIrd position with 1.4 crore and Dhanuka is IVth rank, respectively 0.90 crore.

Table 5.6 Turn over and ranking of major companies

S. No.	Company name	Turnover (Rs. in crore)	Rank
1.	Bayer	5.77	I
2.	Syngenta	2.04	II
3.	Dupont	1.40	III
4.	Dhanuka	0.9	IV

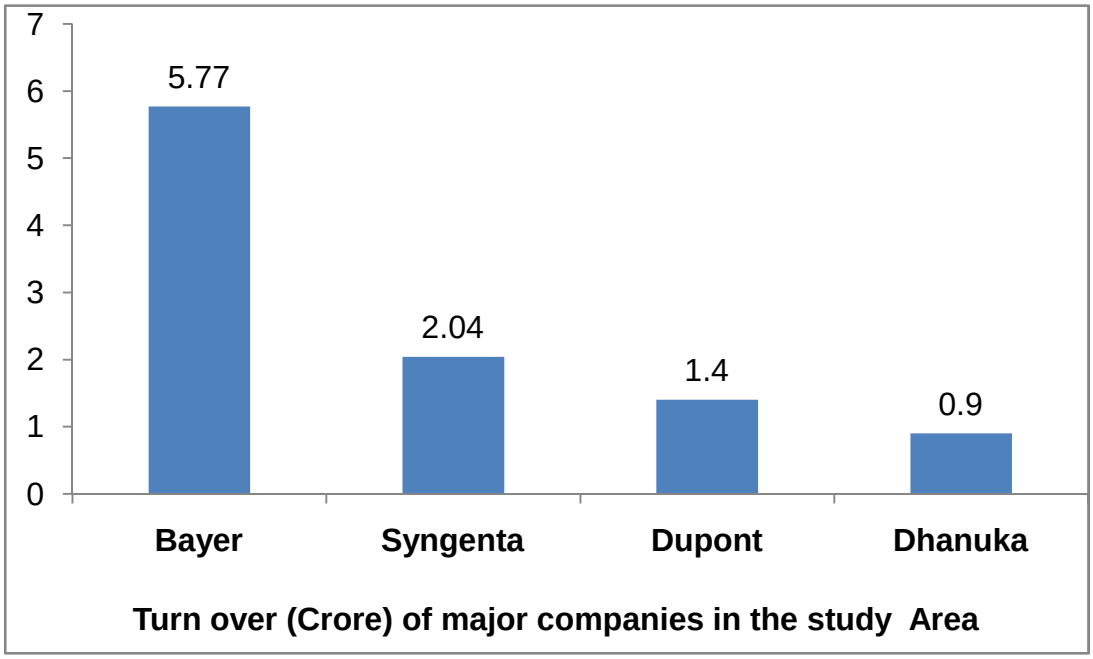


Fig.5.2 Turnover of major companies in the study area

5.4.1 Socio economic profile of the respondents

Total 84 farmers were selected for the present study. Here details of respondence are presented on the basis of their socio economic features viz. land holding pattern family size and education status of the respondent which is categorized in three size groups viz. small, medium and large.

Table 5.7 Socio economic profile of the respondents

Size of group	No. of farmers	Area (ha.)	Irrigated Area (ha.)	Unirrigated Area (ha)	Average size of holdings
Small (Up to – 2,0)	38	49.48 (17.78%)	44.00 (15.81%)	5.48 (1.97)	1.30 (0.46%)
Medium (2.0 – 4.0)	28	94.10 (33.8%)	76.75 (27.60%)	17.35 (6.24)	3.36 (1.20%)
Large (4.0 – Above)	18	134.58 (48.38%)	103 (37.05%)	23.54 (8.46%)	7.03 (2.52%)
Overall	**84**	**278.16**	**223**	**46.37**	**3.90**

As shown in the table 5.7 that a total of selected 84 respondents, the ultimate allocation of sample units was 38 small, 28 medium and 18 large holding . Average size of the holding was 1.30 hactare in small, 3.36 hectare in medium size farmers and 7.03 hactare in large farmers with an average of 3.90 hactare in all size grouped together. The net irrigated area was 44.00 hectare in small size, 76.75 hectare in medium and 103 hectare in large size of farm.

5.4.3 Cropping pattern

Under this heading, cropping pattern adopted by the farmers is given in the table 5.9 in this section season wise crops grown by different size groups of farmers are described.

Table 5.8 Cropping pattern on sample farm (Area in ha.)

Season/Crop	Size of groups			Overall average
	Small	Medium	Large	
Kharif season Vegetables & fruits	29	46	65	42.38
Chilies	10	22	37	19.79
Other	2	6	10	5.04
Sub total	**41**	**74**	**112**	**67.21**
Rabi season Vegetables& fruits	24	38	59	36.17
Wheat and Grams	8	17	20	13.57
Other	2	12	9	6.83
Sub total	**34**	**62**	**88**	**56.57**
Zayed season Vegetables& fruits	12	22	23	17.69
Chilies	6	15	14	10.71
Other	2	3	5	2.98
Sub total	**20**	**40**	**42**	**31.38**
Gross cropped area	**95**	**178**	**242**	**155.16**
Net cropped area	**49.48**	**94**	**134**	**82.46**
Cropping intensity (%)	**195**	**189**	**180**	**188**

Trough the study mainly concerned for Chilies and vegetables crops but to know the cropping pattern adopted by the farmers under study and to know the relative importance of the situation under which these crops were grown. Information was gathered for the crop grown by the farmers with particular reference to area under the crop and to know the cropping intensity etc. this is most importance factor in any management study. In general the area under kharif crop was higher than that under rabi crop, irrespective of the size of holding. The bird's eye view on the relative importance of different crops indicated that the maximum area was allocated to vegetable and fruit followed by the paddy. The cropping intensity revealed inverse relation with the farmer size ranged between 180 per cent on large farm to 195 percent in

small farm fallowed by 189 percent on medium farm with an average of 188 percent small farm. The point that emerged from the table 5.8.

- The farmers have performance for kharif crops over rabi crops
- crop production is land oriented on sample farm which established an extensive farming system based on low intensity of input used and low productivity level

Table 5.9 Funficide used by farmer (Year 2012-13)

Size group	Season and crop	Company	Fungicide	Area (ha.)	Performance
Small (38 Farmers)	Kharif Rabi and Zayed	Bayer Sygenta Dupont Dhanuka	Fungicide preferred	49.48	Good
Medium 28 farmers)	Kharif Rabi and Zayed	Bayer Sygenta Dhanuka Dupont	Fungicide preferred	94.10	Satisfacactory
Large (18 Farmers)	Kharif Rabi and Zayed	Bayer Sygenta Dhanuka Dupont	Fungicide preferred	134.58	Average

The Fungicide used by sample respondents in the crops grown during winter rabi and summer season have been presented in table 5.10 the Funficide used by the sample farmers are of Bayer, Syngent Dupont and Dhanuka irrespective of size group. The whole area was covered under Fungicide used by the sample farmers performance of the Fungicide on sample farmers was found good.

5.4 Farmer's preference

There are various parameters that are desired by the farmers for selecting weeds control chemicals and plant protection chemicals. Various attributes were considered to know the buying behavior of farmers (i.e. price,

availability, and effectiveness, brand, packing size, incentives and others). Small farmers affected more by the dealer's or sub dealer's advice and price of product while medium and large farmers mostly prefer brand than price and advice of dealers. This reflects the tendency and prosperity of farmers. It conclude that brand name of the product creates demand of any product in market.

Table 5.10 Preference of farmers while purchasing the Fungicide.2012-13

Farmer preference	Small	Medium	Large	Total
Name/brand of product	13 (34.21%)	7 (25%)	6 (33.3%)	26 (31%)
Price of product	15 (39.47%)	5 (17%)	4 (22.22%)	24 (29%)
Quality	3 (16.66%)	12 (28.57%)	7 (38.89%)	22 (26%)
Packaging	1 (2.63%)	3 (10.71%)	---	4 (5%)
Packed size	5 (13.16%)	1 (3.57%)	---	6 (7%)
Any other	2 (5.26%)	---	---	2 (2%)
Total	**38**	**28**	**18**	**84 (100%)**

SWOT ANALYSIS

In today's of cut throat competition and "Era of globalization "it is very difficult to acquire a position of market leader and more difficult to sustain the position in the, market. Thus capture maximum market share and sustain the position for long time it is essential to know the strength, weakness, opportunity and threats of a company. Therefore after viewing of sample farmers, distributors and dealers for company products following points were considered for SWOT analysis.

Strengths

A Dhanuka pesticide Limited (NML) has a very good reputation and performance in the market Strong wing of the research and development in the organization, the product of Dhanuka are sold by its brand excellent customer relationship with farmer /distributors and dealers.

- Well- knitted network of the distribution.
- Company brand image of the product in the market.
- The products have an ISO-9001-2000 mark.
- Company has very well qualified skilled personals.

Weakness

- There is lack of sale promotion activities particularly advertisement activities for the product at the farmer's level.
- Non-availability of the technical advice to the farmers in some places has been noticed which is indirectly effect the adoptability of the company products.
- Successful of company depends very much on field staff. There is Lack of adequate numbers of field staff to deal with farmers and to promote the products is the basic requirements.

Opportunities

High market potential, enough scope for expansion of market share by selling the more quantity of product and creating awareness among the farmers.

- Company can introduce new and improve brand of pesticides fungicides, weedicides, insecticides and fungicides as per requirement and demand of farmers and also consider the availability of other company product in the market.
- Company can promote the product with the consideration of eco-friendly integrated pest management.
- Company could be developed the bio-pesticides i.e. Neem based brand.

Threats

Many times crop failure due to poor climatic conditions that does reflect the sale of the product.

- Large numbers of competitors are present in the market and price war between them.
- Lack of awareness for the timely and rational use of fungicides.
- Seasonal and credit market.

Strategies based on 4p's of marketing

Marketing decision variables are those variables under the firm's control that can affect the level of demand for the firm's products. They are distinguished from environmental and competitive action variables that are not totally and directly under the firm's control. The four marketing decision variables may be considered for decision.

Price:

Price of the Dhanuka pesticides limited is little bit high as compare to other companies as per opinion of sample farmer so it is suggest that reduce the price with quality product.

Product:

One small size leaf let should be provided with pack of pesticides which providing complete information regarding fungicide recommended dose, and method of application etc.

Most of the farmers are literate. So packing material should contain figure of the target of the crop with exact size, colour and characteristics

Place:

Huge potential for the fungicides/weedicides which need high irrigation in much area. The company should target the untapped areas of coastal of Madhya Pradesh to increase the sales in these areas

Promotion:

Field demonstration and farmers meetings should be the major activities for the sales promotion

- Farmer should get considerable discount if they purchase in bulk.
- Conducted the field trial in the farmers field itself.
- Farmers meeting should be conducted, which must be include people of agriculture department.
- Proper literature should make available. Need aggressive campaigning and regular field visit of the technical field assistant for the various crops throughout the years.

SUMMARY, CONCLUSIONS AND SUGGESTIONS

SUMMARY

India has made lot of progress since independence, in the field of agriculture and its productions under many crops. In the green revolution by the adoption of modern agricultural techniques since last four decades has enabled the farmers to increase their production. These techniques consist the use of fertilizer, insecticides, fungicides, and weedicide chemicals etc. Among them the fungicide played an vital role in increasing crop productivity. Due to the importance of fungicide used in many crops, the demand of these products increase by the manifolds, many companies come forwards not only formulation, but also manufacturing of fungicide in the country.

Importance of the project works in Khargone district:

The state of M.P substantially having a major share of Dhanuka pesticides Ltd. These fungicides are mostly used in Chilies crop Khargone district of M.P lies in Chilies-Cotton zone of state.The cropping pattern of Khargone district exhibit a substantial share of Chilies. The area under Chilies is increasing in the subsequent years. Mostly Chilies is grown with high yielding variety seeds and these varieties are vulnerable for pests and diseases emergence. The products of Dhanuka as fungicides are popular among Chilies growers in khargone district. Dhanuka organization has established its zonal office also in Indore district. While considering the project by the Dhanuka organization they have assigned the project for knowing market share and consumption pattern of fungicide of Chilies crop in Khargone district. The specific objectives of the study are given bellow:

- To know to major fungicide product used in Pests and Diseases control in Chilies crop in the study area.
- To estimate the market share of major player for the fungicide products.
- To workout the consumption pattern of Systematic and Contact fungicide of the selected farmers.
- SWOT analysis of Dhanuka group.

To meet the specific objectives research methodology was developed accordingly the project assigned, Khargone covers nine blocks. Barwaha Kasrawad, Maheswar, Khargone, Sanawad, Jirnya, Bhagwanpura,Khari and Biknganv a nine blocks were considered for the detail investigating. The primary data were collected from the sample farmers and dealers of Dhanuka by the survey method. Secondary data were collected from the Agriculture statistics, internet, and Annual report of organization and official records of Dhanuka group. Khargone district was selected, as assigned by the Dhanuka organization, from each block; one village was selected as per the list provided by the dealers. From each selected villages, farmers were selected three from small group(38) medium group(28) and larger group(18) purposively having large area of Chilies crop and used fungicide thus 84 farmers were considered for investigation The list of users also supplied by the dealer in the study area. 1 distributor/dealer and 4 dealers/sub dealers were also considered from Khargone district for investigation. The information was collected with the help of questionnaire schedule. The study period pertains to agriculture year, 2012-13 and simple average and percentage statistical tool was used for analysis.

Conclusion

The important findings are summarized below:

1. The Bayer Crop Science had lion's share in total fungicide in Khargone alone accounting about 79.86 per cent of the total quantity sold in the study area followed by Syngenta accounting 12.80 per cent of the total fungicide sold. Closer competitor was Dupont (5.27%) and Dhanuka (2%) in the district shared. Thus the Bayer crop science and Syngenta together capture more than 90 percent area of the fungicide market in Khargone district of Madhya Pradesh.
2. Among the sale quantum of all the products of different companies in the study area, the leading company was Bayer who alone sold over RS.5.77 crore per annum followed by Syngenta company accounting 2.04 crore Dupont Rs1.40 crore and Dhanuka have turnover of Rs 0.9 crore per annum respectively in the study area.

3. The micro-level analysis of the data collected randomly holding indicated that average size of the sample responents holding was 1.30 hectare in small, 3.36 hectare in medium and 7.03 hectare in Iarge farm with an average of 3.90 hectare in all size grouped together. The net irrigated area has 49.48, 94.10, and 134 hectare in different size groups respectively.
4. The cropping intensity declined as the farm size increased which varied from 195 per cent in small farm to 189 per cent in medium farm and 180 per cent on large farm. Sample farmers have preference for kharif crop over rabi crops Crop production is land oriented on sample farm which established an extensive farming system based on low intensity of inputs used and low productivity level.
5. Bayer and Syngenta products of fungicide were preferred by the sample farmers over Dhanuka and Dupont due to good response, easy accessibility and relatively low price.
6. The sample farmers considered price of different companies' products and response on increasing of fungicide on sample farmers followed by timely availability etc during purchase of products of various brand of fungicide. The company's establishment in the study area as a brand has become possible due to its better quality and performance 'In addition to this, the company's display and advertisements drives it in the second position due to activities like dealer point display, bulk discount policy, diary, posters and through farmer meetings.

Suggestions

The following suggestions are made to improve the working of the Dhanuka Agritech Pvt.Ltd. and to achieve better results in term of sales, brand value in fungicide market.

1. The Dhanuka Company should increase the number of demonstrations laid, down on farmer's field. So that more farmers can be benefited and convinced to use plant protection chemical, fungicide and crop production technology.
2. Field employees of Dhanuka company should provides timely information regarding product range, product quality etc to the dealers and farmers.

3. Dhanuka company should popularized their products through using mass media like television, radio, and Newspaper etc to disseminated company products among farmers Literature and pamphlets should be published In local language and distributed timely in the interior area of the study area.
4. Dhanuka Company should organized Kisan Mela, Kisan Sanghosthi and exhibition in each crop season to provide information about their products and other activities to the farmers. In addition to these, company showed also organized soil testing camp at the village level.
5. Dhanuka Company should strengthen their marketing network, by supplying timely fungicide inputs to the dealers and framers.

Following are some suggestions that would help Dhanuka company to increase its market share and market potential of the study area.

Segmentation:

Market segmentation is the process of identifying and then separating the whole market into smaller parts so that each part can be dealt differently. This company should adopt segmentation on basis of location. The cropping pattern differs from place to place due to this reason company must concentrate only on the major crops grown in that area so that it can establish itself in the area.

Positioning:

Positioning is the act of designing the company's offering and image to occupy a distinctive place in target market's mind.

"We work for betterment of Agriculture and Farmers"

The reason for suggesting the above statement is that it indicates more closeness to the farmers. Suggestions for improving product:

Concentrate product strength:

It was observed from the survey that the product performance is a very important factor for market-share if the performance of product is exceptionally good and experienced by farmers. The farmers prefer to buy that product only even if less promotion of advertising is done. So product should be very much promising to requirement of farmers.

Suggestion for pricing strategy

Follow Market Price Strategy:

Generally there are three types of marketing strategy viz. high price strategy, market price strategy and low price strategy. It was observed that price was an important factor which plays an important role in farmers buying decision. Since new products are new in the market it cannot adopt high price strategy. It is also not economical to follow the low price strategy. Therefore it is advisable to follow the market price strategy.

Suggestions for place strategy:

Distribution is a key area of marketing and plays an important part in meeting the customer's needs and requirements.

Following are some suggestion for improving the distribution:

Assignment of Distributors:

The distributors assigned by the company are renowned in that area. But it was observed that the many distributors also had agency of other companies.

Increasing field staff:

It was observed that there were no sufficient field staffs of limited in the market while many of the Dhanuka products are new to the market. It is very essential to perform the field work when the products are new in the market. This will definitely improve the sales targets. For that the following points should be kept in mind:

Multilevel channel of distribution:

Presently Dhanuka group is employing the multilevel channel of distribution which has been explained earlier. Such system is satisfactory and should be continued further.

Suggestions for promotional strategy:

In the promotional activity there were lots of complaints for the dealers about Dhanuka Chemicals. The main complaint was that there was no field level activity in the market about their brand. This indicates that the company must improve its promotional front. Following are some suggestions regarding the promotional strategy.

Field Demonstration:

Since many of the Dhanuka products are new to the market field demonstrations are very necessary to bring awareness in the customers about the brand particularly. It is very important in case of all crops. Such demonstrations can be conducted in plots of well known farmer in the area.

Customer Service:

The duty of the company is not over after the sale of the product. It is very essential to maintain continuous contact with the farmers. A list of few farmers those who have purchased the company brand must be prepared. The field staff should visit and guide the farmers in the critical growth period of the crop. Such practice will be helpful to gain confidence of farmers.

Jeep Campaigning:

The jeep campaigning has become a tradition in seed market for making propaganda about the company products. It is useful in reminding the farmers about the company products.

Dealer incentive:

Schemes such as discounts, incentive for timely payments must be followed to motivate the dealers to sell products of the company. Adequate margin must be given to dealers. Dealer's seminars and meeting must be arranged time to time to make them aware about new products and schemes. Every year a "Dealer of the year "award must be given to a dealer who has attained maximum sales and his name must be published in press releases. Promotional gifts such as pens, calendars etc must be provided to the dealers, which will keep the company and its brand name in the dealers mind.

Credits:

A credit period of 30 to 45 days must be provided to the dealers. Discount should be given for timely payments. The discounts amount must be gradually reduced as the limit of credit progresses.

Free samples:

Free samples of products should be given along with the company's well known product. This will encourage the farmers to try the new seeds and once they are convinced about the product then in the next year they will definitely buy the seeds. Company should also provide free sample of seeds to progressive farmers by post.

Coupons:

Refundable discount coupons should be offered for next purchase to encourage for the new purchase of product. Lucky draw coupons in the product markets should be introduced to promote the sale of product.

ANNEXURE:-1

QUESTIONNAIRE FOR MARKET RESEARCH WITH FARMERS

FARMER NAME ..... MOB NO.....

1) Which Age group you belongs?
   a) Below 20 yrs b) 20-30yrs c) 30-40yrs d) 40-50yrs e)Above 50yrs
2) How much land holding you have?
   a) Below 10 acre b) 10-20 acre c) 20-40 acre d) 40-60 acre e) Above 60 acre
3) How much land holding you have for **Chilies**?
   b) Below 2 acre b) 2-5 acre c) 5-10 acre d) 10-20 acre e) Above 20 acre
4) Which diseases are more problematic for you in chilies?
   a) Insects attack b) fungal attack c) Others
5) Which practice you use to control fungal in your field?
   a) Cultural b) Chemical c) biological d) others e) all
6) From where you know about chemicals?
   a) Dealers/R b) Company's workers c) KVK/ARS d)media/posters e) Others farmers
7) Which company chemical normally you used for chilies in fungicide Segment?
   a) Dhanuka b) Bayer crop science c) BASF d) Syngenta e) others
8) Which thing you like most in fungicide product of Dhanuka?
   a) Product b) service c) brand name d) Attractive packing
9) How many spray of fungicide you do in chilies?
   a) Zero b) 1-2 c) 2-4 d) 4-5 e) Above 5
10) What is fungal treatment cost per acre?
   a) Below 1000 b) 1000-2000 c) 2000-3000 d) Above 3000
12) What you feel about fungicide products of Dhanuka?
   a) Very Good b) good c) Average d) poor
13) Which fungicide product you want to use in near future for chilies and why
   ……
   ……
   ……
   ……
   ……
   ……
14) Suggestion; you have any for fungicide product of the Dhanuka
   ……

QUESTIONNAIRE FOR MARKET RESEARCH WITH DISTRIBUTORS

NAME -..... MOB-.....

1) In which year your business established? ……
2) How many retailers you have?
   a) <5 b) 5-25 c)25-50 d)>50
3) How many companies fungicide you sale?
   a) below 4 b) 4-8 c) 8-12 d) 12-16
4) What is your total business (valueRs)……
   Total fungicide business ……
5) Which are the companies whose fungicide you sale?
   a) Rank 1 b) Rank 2 c) Rank 3 d) Rank 4
6) Which Product of Dhanuka Agri tech you sale most?
   a) Cursor b) vita wax c) Sexier d) M-45 e) others (Name)
7) Are customers very clear about use of fungicide?
   a) Below 25% b) 50% c) 75% d) 100%
8) What margin you get in fungicide product?
   a) below 1% b) 1-3% c)3-5% d)>5%
9) Why you prefer for Dhanuka products?
   a) Good quality b)High margin c)farmers demand d)gifts/tour e)others
10) How many retailers purchase products regularly?
   a) same as last b) decreases c) increases
11) Is there any shortage of the Dhanuka fungicide products?
   a) Yes b) No
12) Are customers very clear about use of fungicide?
   b) Below 25% b) 50% c) 75% d) 100%
13) Are you found any specific benefit i.e. USP of fungicide of Dhanuka than other companies?
   a) Performance b)farmer demand c)kill particular fungal d)others
14) What you feel about fungicide products of Dhanuka?
   a) Very Good b) good c) Average d) poor
15) Farmer's perception about Dhanuka product?
   a) Very good b) good c) moderate d) Not good
16) Why farmer uses other fungicide than Dhanuka's product
   ……
   ……
17) Suggestion for fungicide product of Dhanuka Agritech Ltd.
   ……
   ……
   ……

QUESTIONNAIRE FOR MARKET RESEARCH WITH RETAILERS

NAME..... MOB .....

1) How many company products you have?
   a) Below 5 b) 5-10 c) 10-15 d) 15-20 e)more than 20
2) How many permanent farmers you have?
   a) Below 10 b)10-30 c)30-50 d) 50-70 e)more than 70
3) What % of farmer follows your references?
   a) Below 10 b)10-25 c)25-40 d)40-55 e)more than 55
4) What is the % of farmers who uses chemical Fungicide?
   a) INCREASES b)DECREASES c)AS EXPECTED
   d) + & - OCCOUR
5) How many farmers get satisfied with in fungicide product of Dhanuka?
   a) Below 30% b) 30-50% c)50-70% d)more than 70%
6) Which type of offer you like most by companies?
   a) Margin b) Gifts c) Tour d) Surprise e) All
7) Which offer you got from Dhanuka Agritech?
   a) Margin b) Gift c) Tour d) Surprise e) All
8) Which offer you got from other chemical companies?
   b) Margin b) Gift c) Tour d) Surprise e) All
9) Which type of farmer use fungicide in their fields?
   a) Big farmers b) Moderate farmers c) Marginal farmer e) all
10) What are the USP of Dhanuka fungicides?
   a) Brand b) price c) promotion d) Result
11) Why farmer uses other fungicide than Dhanuka's product

……
……
……
……

12) Why farmers use other Fungicide than Dhanuka' fungicide

……
……
……