

**STUDY ON COTTON AND MAIZE SEED REQUIREMENT,
UTILIZATION AND SUPPLY BY BOTH PUBLIC AND
PRIVATE SECTORS IN THE STATES OF
MAHARASHTRA AND GUJARAT**

ANGRAU Central
Hyderabad

D6982



By

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**MAJOR PROEJCT SUBMITTED TO THE
SCHOOL OF AGRI-BUSINESS MANAGEMENT
ACHARYA N.G.RANGA AGRICULTURAL UNIVERSITY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF
MASTER OF AGRI-BUSINESS MANAGEMENT**



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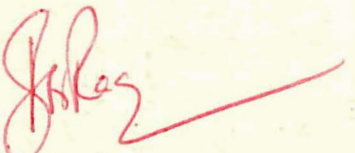
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CERTIFICATE

This is to certify that Mr. Kishore Joseph, student of Master of Agribusiness Management, School of Agribusiness Management, Acharya N.G.Ranga Agricultural University, Hyderabad has done a project work entitled "Study on Cotton and Maize seed requirement, utilization and supply by both Public and Private sectors in the states of Maharashtra and Gujarat" with us for Emergent Genetics.


Place: Bangalore
Date: 10 December 2003


Director

CERTIFICATE

This is to certify that the project entitled “**Study on Cotton and Maize seed requirement, utilization and supply by both public and private sectors in the states of Maharashtra and Gujarat**”, submitted in partial fulfillment of the requirements for the degree of Master in Agri-Business Management (M.A.B.M.) to the School of Agri-Business Management of the Acharya N.G.Ranga Agricultural University is record of the bonafide work carried out by **Mr. Kishore Joseph**, under our guidance and supervision.

No part of the Project report has been submitted for any other degree or diploma.
The guides approve this project report.



Dr. Seema

(Internal guide)

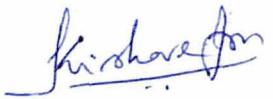
Mr. Kishore Rao

(External guide)

DECLARATION

I **Kishore Joseph** hereby declare that the Project report entitled “Study on Cotton and Maize seed requirement, utilization and supply by both public and private sectors in the states of Maharashtra and Gujarat”, submitted to the School of Agribusiness Management, Acharya N. G. Ranga Agricultural University in partial fulfillment of the requirements for the degree of Master of Agri Business Management (MABM) is the result of original work done by me.

Date: 22/12/2003
Place: Rajendranagar.


(Kishore Joseph)

ACKNOWLEDGEMENTS

I am greatly thankful to **Mr.Kishore Rao**, Director (genus a.b), for providing me an opportunity to carry out the project study and for his acceptance to be the guide for the same. His valuable guidance and suggestions have helped me a lot in conducting the study and preparing this report.

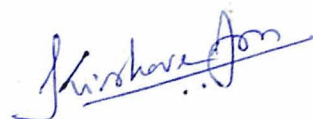
I am indeed thankful to **Mr. Samba Murthy** and **Mr. Subramanyam**, National Product Managers (Emergent Genetics) for Cotton, Maize, Bajra and Jowar, for providing me an opportunity to carry out the project study in their organization.

I wish to extend my deepest gratitude towards **Dr.P.Maruthi Ram**, Professor and special officer, School of Agri-Business Management, ANGRAU, who has always been a source of inspiration and pride.

My special thanks to **Dr. (Mrs.) Seema**, Associate professor, School of Agri-Business Management, ANGRAU, for helping me a lot in preparing this report.

I would like to express my gratitude to all the respondents who have cooperated with me during the study.

I thank all those who have directly or indirectly helped me during the course of this project work.



(KISHORE JOSEPH)

EXECUTIVE SUMMARY

Seed Industry in India: Poised for a leap

Seeds form the fundamental and crucial input for sustained growth in farm production, often stimulating the use of new methods, machinery and yield-enhancing agro-inputs. The role of the seed sector is not only to ensure adequacy in seed quality but also to ensure varietal diversity. Today, India is one of the biggest seed markets in the world, with annual sales at around US \$920 million. Of this, domestic off take accounts for US \$900 million and sales in the global market account for the remaining US \$20 million.

Although private seed companies such as Poacha and Sutton have been established since the pre-independence era, accelerated growth of the private sector began only after the introduction of the new seed policy in 1988, which ushered a liberal business climate. Currently there are over 200 private seed companies, together with a few multinational companies, and they tend to focus on low volume, high value crops with the principal effort being placed on creating hybrids for oilseeds, maize, cotton and vegetable crops. The private sector accounts for 70% of the market in terms of market turnover whereas the public sector has the greater share in terms of volume sales. India today has a critical mass and level of growth that it could use not only to cater to the growing domestic requirement but also to make a concerted effort for global trade under provisions of GATT and WTO. Furthermore, India is endowed with second largest area of farmland, and the largest area of irrigated land, in the world and, with its huge germplasm diversity, its seed industry is well placed to serve both domestic and international markets.

The present study was aimed at the Regional Managers of Various established private seed companies. Their cooperation was crucial in forming an information base of the seed scenario in Maize and Cotton crops in the states of Maharashtra and Gujarat. The study was conducted in Pune, Aurangabad and Akola in Maharashtra and Ahmedabad in Gujarat. Apart from the primary data collected from the respondents, secondary data collected from the Directorate's of Agriculture has helped me to arrive at the market size and area trends of these crops in the two states.

This present investigation into the core markets of the major field crops like Cotton and Maize in Maharashtra and Gujarat will shed light into the various aspects of Seed business and help Private companies and marketing agents formulate strategies and policies for growth and excellence.

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CHAPTER I

INTRODUCTION

00

THE SEED INDUSTRY

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INTRODUCTION

The importance of seed, the living capsule, carrying the genetic potential and biochemical makeup of the plant is known to the farmer, simply as 'seed', which is required to propagate. Seed is the major component of the technology package in agriculture, which has attracted the attention of the farmers, particularly with the introduction of High Yielding Varieties, since mid sixties. With growing conscience for yield potential, quality and purity of seed, farmers interest started shifting in favour of commercially produced, labeled seed, particularly with respect to Hybrids.

Seed is the basic and vital input in crop production. In the absence of good quality seed, the effect of other agricultural inputs such as fertilizers, pesticides etc., in increasing crop yields will be limited to a great extent. Thus, for raising the productivity levels in crops, "good quality seed is a must". It is necessary to provide the seed on time, in adequate quantities near the doorsteps of the farmers at affordable price.

DEVELOPMENT OF THE INDIAN SEED INDUSTRY

Efforts were made in India since 1928 for production and distribution of good quality seed for increasing crop production. The Famine Enquiry Commission (1945) and Grow More Food Programme Committee (1952) emphasized the need for multiplication and distribution of quality seed of improved varieties. During fifties seed farms in Community Development and National Extension Service Blocks were started by Department of Agriculture to multiply foundation seed of improved varieties of various crops particularly food grains.

A national level organization for seeds i.e. National Seeds Corporation Limited, was established in 1963 with the basic objective of development of a sound seed industry in the country. Initially, it started production of foundation seed, hybrid seeds of Maize, Sorghum, Bajra and varietal seeds of Vegetables. It also undertook certification of seed in the country.

The Tarai Development Corporation (TDC) and State Farms Corporation of India (SFCI) were started in the year 1969 with the subject of producing seed on their own farms. The National Commission on Agriculture (NCA) 1976, stressed the need for maintaining purity of seed. Even though steps were taken since 1928 for providing good quality seeds, systematic efforts were made only from mid-sixties for developing the seed industry, with the introduction of High Yielding Varieties program. The first hybrid (maize) was released in 1961. In 1967, the Government of India has constituted a Seed Review Team (SRT) to examine different aspects connected with production and marketing of seeds in the country. National Commission on Agriculture 1976 adopted the recommendations of Seed Review Team. After 20 years, the Government of India has constituted an Expert Group on Seeds in October 1987 under the Chairmanship of Shri.K.Rama Murthy to examine the whole gamut of the seed sector i.e., production, processing, storage, quarantine, marketing, quality control and related aspects, which submitted its report in 1989. A liberalized seed policy i.e. New Policy on Seed Development was announced by Government of India in 1988. Another Seed Policy Review Group was constituted in October 1995 under the Chairmanship of Padmasri Dr. M. V. Rao, the Vice-Chancellor A.N.G.R.A.U. and formerly Special DG, ICAR to

examine the changes required in the Seed Policy in the context of the changing environment.

- The important **recommendations** made by the Group are:
- Compulsory registration of varieties
- Amalgamation of Seeds (Control) Order with the provisions of Seed Act.
- Self-Certification by Seed Producing Agencies.
- Notification of Seed Testing Laboratories and accreditation of Private Seed Testing Laboratories.
- Establishment of National Seed Board in Place of Central Seed Committee and Central Seed Certification Board.
- Increase in penalties for offences
- Review of certification standards.

Based on these recommendations, the Government of India had formulated the National Seeds Policy 2002.

To regulate the quality of the seed, Seeds Act was passed by Parliament in 1966 and subsequently Seeds Rules were framed in 1968 and amendments were carried out in 1972, 1973, 1974 and 1981. The Seeds (Control) Order 1983 was issued in December 1983, to regulate the seed trade but Supreme Court stayed the operation its operation and subsequently it was implemented form July 1994. A new Seeds Act, "Seed Act 2000-2001" was proposed by Government of India by amalgamating the provisions of Seeds (Control) Order 1983, with the provisions of Seed Act 1966, to give effect to the recommendation of Padmasri Dr. M. V. Rao Committee.

One hundred and one (101) Notified Seed Testing Laboratories (STL's) and 20 State Seed Certification Agencies were established in the country for maintaining the quality of the seed, upto 1999-2000.

A National Seed Project (NSP) was started to develop a broad based network of seed production agencies throughout the country, to meet the certified seed requirements of different crops. The NSP-1 was started in 1976 while NSP – II was started in 1978. NSP-III was started in 1990 and was completed in 1996. The major objective of the earlier two projects was, the establishment of State Seed Corporations to produce, process and distribute certified/quality seeds to farmers, strengthening the infrastructure of the State Agricultural Universities and ICAR Institutions for the production of Breeder seed, establishment of State Seed Certification Agencies and Strengthening of State Seed Testing Laboratories to ensure the quality of seeds put on the markets. Emphasis was laid on creation of necessary infrastructure in NSP-III also, besides assistance to private seed sector as well.

The seed sector had made impressive gains over the last three decades. The area under certified seed production has increased from less than 500 ha in 1962-63 to over 5.0 lakh ha in 1999-2000 and the quantity of seed distribution has increased from 5.16 lakh qtls in 1970-71 to about 100.0 lakh qtls in 1999-2000.

The growth achieved in seed distribution in the country is given below.

<u>Year</u>	<u>Seed Distribution in India</u>
	Quantity of Seed (certified/labeled)
	Distributed. (Lakh Qtls)
1953-54	1.83
1970-71	5.16
1981-82	29.80
1990-91	57.10
1999-2000	100.00 (Approximate)

PUBLIC AND PRIVATE SECTOR SEED COMPANIES

At present two Government of India organizations i.e. National Seeds Corporation Limited (NSC) and State Farms Corporation of India (SFCI) and 13 State Seed Corporation's (SSC's) are producing and marketing seeds in the public sector. In the private sector there are about 500 companies having intra-state and inter-state marketing, among which more than 35 companies are having collaboration with multinational companies. However the entire growth in Indian seed industry has resulted from indigenous R & D efforts.

Role of public sector and private sector seed companies

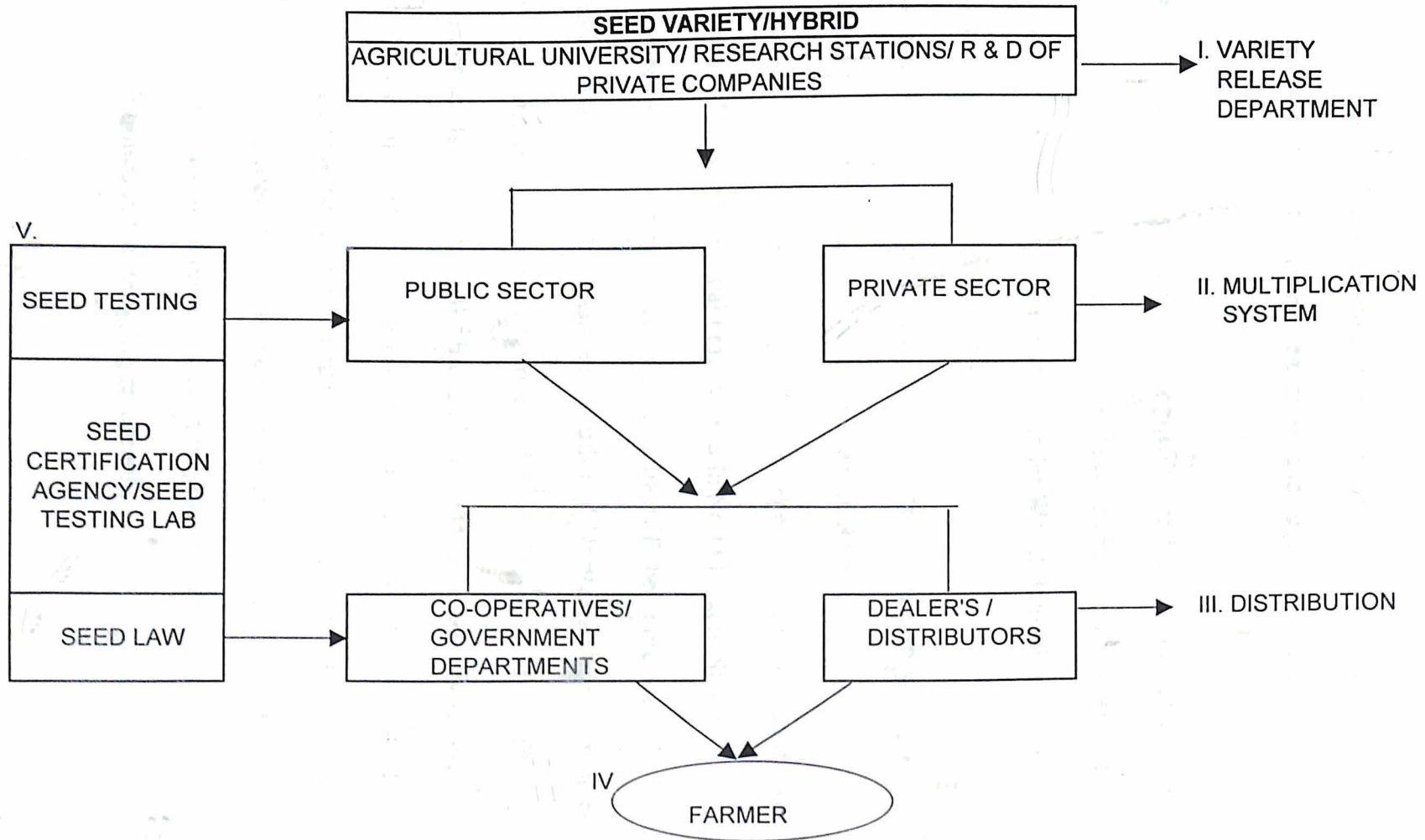
1. Public Sector

- The role of public sector is more of a service oriented one rather than making high profits.
- They produce high volume and low value crop seeds like paddy, wheat, soybean, pulses etc.
- The public sector organizations have been started with the objective of market intervention and to meet the seed requirements of the respective states.
- Very few public sector corporations like Maharashtra State Seed Corporation (MSSC) are having R & D activity and developing the own hybrids in crops like Cotton, Sorghum etc and they also market the hybrids developed by the State Agricultural Universities (SAU'S).
- Some of the Public sector organizations will be organizing seed production of different crops in their states for other State Seed Corporations, which cannot produce seed of those crops in their states.
- Under National Seeds Project phase I to III from 1975-1983 at various seed corporations in the public sector have adopted the required infrastructure for processing and storage and laboratories for quality control.
- Some of the well established cooperative societies are also having required infrastructure facilities for seed processing and storage.

2. Private Sector

- Most of the Private Companies are producing the hybrid seeds of Cotton, Pearl millet, Maize, Sorghum, Forage Sorghum, Rice, and Sunflower.
- These companies organize seed production programs as per the market demand assessed through the distribution channels in different states.
- Some of the companies also produce the hybrid seeds on contract for medium and big companies.
- More than 50-60% in general and in some cases about 90% of the hybrid seeds in crops like Maize, Sunflower, Pearl millet, Sorghum, Forage Sorghum sold in the country are produced by Private companies.
- Private Companies mostly concentrates on seed production of high value seeds of field and vegetables crops.
- The Private sector companies mainly meet the hybrid seed requirements of the farmers in the country in crops like Cotton, Maize, Sorghum, Pearl millet, Sunflower and Rice.
- The private seed companies conduct demonstrations on their products rigorously. They also supply seeds during natural calamities as per the suggestions of the Department of Agriculture

COMPONENTS OF SEED BUSINESS



STRENGTHS AND WEAKNESSES OF INDIAN SEED INDUSTRY

Strengths

- ✓ The Indian subcontinent is having ample opportunities for production of seeds of hybrids/varieties of different field crops and vegetables including Cole crops.
- ✓ The public sector and private sector companies and few co-operative societies are having required infrastructure for processing and storage of seeds. Most of those organizations obtained assistance under World Bank aided project i.e. National Seeds Project (Phase I to III).
- ✓ In the state of A.P., Karnataka etc. Hybrid seeds of maize, sorghum, paddy and sunflower are produced in semiarid areas in Rabi season under irrigation. Due to this the quality of seed is good. The vegetables seeds of cauliflower etc. are produced in Himachal Pradesh and in North Eastern States.
- ✓ The hybrids and varieties produce in India will be more suitable for the countries lying between 30 degrees South and North Latitudes compared to the crop varieties produced in Europe. This provides a good opportunity for export of seeds to countries like Bangladesh, Indonesia, and Philippines.
- ✓ There is wide market for the seeds of hybrids/varieties in the country. To meet 15.0% of the total seed requirements of the country, about 130.0 lakh quintals of seed is required which is being produced at present. The required quantities of seeds of different crops can be produced in the country due to the reasons mentioned in the foregoing paragraphs.

- ✓ The farmers are well experienced in seed production and due to suitable Agro-climate; the country is able to get required quantities of quality seeds.
- ✓ The seed production is more economical in India compared to European countries.

Weaknesses

- ✗ Too much legislations are in operation on seed industry in the country. These legislations are restricting the growth of the seed industry. The seed control order 1983 and Preventive Detection (PD) acts etc. are working as determinants for the growth of the seed industry.
- ✗ Restricted flow of germplasm from the Agricultural University and ICAR institutions is coming in the way of development of potential hybrids by the private sector. There must be free flow of germplasm on MTA (Material Transfer Agreement) as followed by International institutes like ICRISAT, IRRI, CIMMYT, AVRDC etc.
- ✗ The insufficient allocation of budget by the Governments for Agricultural Research is also coming in the way for development of transgenic crops.
- ✗ Inadequate cold storage facilities for preserving valuable foundation seed. The cold storages are to be subsidized to encourage storage of valuable hybrid seed and to reduce condemnation losses.
- ✗ Subsidies are to be provided for export of seeds, to make price competitive in the international market.

- × Lack of proper representation of personnel from seed industry on policy making committees and not giving due importance to the suggestions made by the industry.

SCOPE OF THE STUDY

Cotton and Maize are two major field crops cultivated by farmers in the states of Maharashtra and Gujarat. These crops cover vast agricultural lands in these states. They are highly remunerative crops of the present day.

However there is scanty and blurred information regarding area, sales and trends in the highly volatile seed market. Even the smallest information can help seed companies, marketing agents and policy makers to have an information base in order to plan and draw appropriate strategies and in making decisions. Therefore the present study was taken up with the following objectives.

OBJECTIVES

General objective:

Estimation of the market size of Cotton and Maize seeds in the states of Maharashtra and Gujarat.

Specific objectives:

- a) To study the market trends for Proprietary research/Public hybrids/Public varieties in the states of Maharashtra and Gujarat for Cotton and Maize crops. *

- b) To examine the area trends of Cotton and Maize crops in states of Maharashtra and Gujarat, and to estimate the major crop replacements.
- c) To know the general perception /overview on Proprietary research company sales trends in Cotton and Maize crops in the states of Maharashtra and Gujarat.
- d) To find out the major Public Hybrids sold by seed companies in Cotton and Maize in the states of Maharashtra and Gujarat.
- e) To study the top products in Cotton and Maize in the states of Maharashtra and Gujarat and reasons for their popularity.
- f) To study the top new products in Cotton and Maize in Maharashtra and Gujarat and estimate the special attributes which make them popular.
- g) To find out the Gap between Market Potential and estimated market sales for Cotton and Maize, Proprietary research seeds in the states of Maharashtra and Gujarat.

Note: *

Proprietary research: Brands that are produced and marketed by private and public seed companies on which they have exclusive proprietary rights.

Public hybrids: Public bred hybrids that are produced and marketed by both public and private seed companies.

Public varieties: Public bred varieties that are produced and marketed by both public and private seed companies.

LIMITATIONS OF THE STUDY

Any work is always confronted with various bottlenecks and hence the present study is not an exception to these limitations.

- 1.This survey had the limitation of time
- 2 Financial constraints were always there
- 3.All in formation obtained from the respondents was based on their recall memory
- 4.Sweeping generalization cannot be made based on this study
- 5.The statistical tools used are elementary in nature

PLAN OF THE PROJECT

The report is presented under the following chapters

- 1) Introduction
- 2) Methodology
- 3) Findings and analysis
- 4) Conclusions and suggestions

CHAPTER II

METHODOLOGY

METHODOLOGY

The methodology followed for conducting any study plays an important role in obtaining reliable results. The chapter deals with the selection of study area, selection of sample, collection of data, evaluation techniques and overview of area, production and productivity of Cotton and Maize in Maharashtra and Gujarat states.

- | | |
|-----------------------------|-------------------------|
| i) <u>Study crops</u> | 1.Cotton
2.Maize |
| ii) <u>States of Survey</u> | <u>Study centers</u> |
| 1.Maharashtra: | Pune, Aurangabad, Akola |
| 2.Gujarat: | Ahmedabad |
- a) Selection of study area:**

The areas selected for the study were Pune, Aurangabad and Akola in Maharashtra and Ahmedabad in Gujarat. Cotton and Maize are the major crops cultivated in these two states and they offer huge potential for seed sales. The study centers were chosen based on availability of respondents, mainly Regional managers of various established private seed companies and availability of Secondary data regarding crop acreages. Both primary as well as secondary data has been collected and made use of in this study.

b) Selection of the sample:

Total 13 samples were collected in Maharashtra i.e. (3) in Aurangabad & (2) in Akola for Cotton. In Maharashtra, for Maize (3) samples were collected in Aurangabad &

(5) samples in Akola. In Gujarat total 7 samples were collected ie. (4) for Cotton in Ahmedabad and (3) for Maize in Ahmedabad.

c) Collection of data:

The primary data required for the study was collected with the help of a well-designed pretested schedule. The schedule used was an open-end type. (Annexure-I). The data was collected keeping 2003 as the base year. Secondary data was collected from the "Directorate of Agriculture" of both Maharashtra and Gujarat (Annexure-II & Annexure-III).

d) Evaluation technique:

✓ Sales for Cotton in states of Maharashtra and Gujarat are measured in Packets. Each packet of proprietary research brand weights 450 gm.

✓ Sales for Maize in states of Maharashtra and Gujarat are measured in Metric tons.

✓ The tools used for analysis are mainly averages and percentages.

✓ The trends have been estimated based on data from base year (2003) and previous year (2002).

✓ Area data from the "Directorate of Agriculture" of Maharashtra and Gujarat have been used in calculating the Market Potential.

✓ The Market Gap in sales is found by subtracting the estimated sales in proprietary Research brands from the Market Potential.

e) General overview of Area, Production and Productivity of Cotton and Maize crops in the states of Maharashtra and Gujarat (2002-2003):

Cotton:

	Maharashtra (Kharif)	Gujarat (Kharif)
Area (Lakh ha)	28.00	16.348
Production *	25.96	16.845
Productivity (Kg/ha)	158	175

*Note: Production of Cotton in lakh bales of 170 Kg each

Maize:

	Maharashtra		Gujarat (Kharif)
	(Kharif)	(Rabi)	
Area (Lakh ha)	3.01	0.62	4.645
Production (Lakh tons)	6.30	1.00	7.926
Productivity (Kg/ha)	2090	1622	1706

CHAPTER III

FINDINGS

&

ANALYSIS

FINDINGS AND ANALYSIS

CROP-COTTON

Q1.

Market trend for sales of Proprietary research / Public hybrids/ Public variety

i) State: Maharastra Crop: Cotton

a. Proprietary research hybrids: 7% increase

Reasons:

Better yields, better resistance to adverse climate/pests, high purity levels, good staple length, big boll size and overall high demand for Cotton seeds resulted in better sales. Good fieldwork by the company people has pushed up the sales of proprietary brands in this state. High market price for Cotton has influenced the farmers to opt for Cotton crop, which resulted in an increase in area under Cotton.

b. Public hybrid: Decrease

Reasons:

There is a general shift towards proprietary research types owing to their better performance. Public hybrids are sold in 750 g packets. They have a problem of purity, as they have been there for around 10 years and the purity levels have come down. As a result, yields are low, and quality is also poor, they fetch lower price in the market and do not stand in the competition against proprietary research types.

c. Public variety: Decrease

Reasons:

Less yields are obtained from public varieties so, large number of farmers are shifting to proprietary research brands. It is sold loose as well as in 1 Kg and 2Kg packets; they are sown only in certain talukas especially in traditionally cultivated pockets. It covers very less area and the cultivation is mainly concentrated in Jalgaon, Akola, Buldan, Dhulia areas of the state.

ii) State: Gujarat Crop: Cotton

a. Proprietary Research: 15-20% Decrease

Reasons:

Though the proprietary research brands are performing well and have more number of bolls, good boll weight and (they tolerate stress better than other types), the illegal Bt or (No 2 seeds) proliferation has surely slowed down the sale of proprietary research brands. There are brands suitable for both irrigated and rain fed segments.

b) Public hybrid: Decrease

Reasons:

Public hybrids could not withstand the competition with proprietary research brands. Illegal Bt Sales has affected the sales of public hybrids also. There are exclusive belts where these types of seeds are sown because they are much cheaper. One respondent stated that overall demand for public hybrids in Gujarat remains constant (i.e. due to increase in one belt and decrease in another). Numbers of local players are into the business in this type along with Gujarat State Seed Corporation (G.S.S.C).

c) Public variety: Constant

Reasons:

This segment is a highly fluctuating one. Most of the companies do not deal in this sector, and the cultivation is limited to exclusive pockets. Considerable quantity of public variety seeds are used in Gujarat state, basically in traditional cultivation areas, where farmers use own seeds for sowing

Q2.

Trends in Cotton area

i) Area Trend of cotton in Maharashtra

Area Trend: Increase 10-15%

Reasons:

Good remuneration/market price for Cotton crop, low competing crop prices, good demand for the final product, assured average / good yield as well as returns even under moisture stress situation and huge demand from spinning mills, were the major reasons stated for the increase in area. The area is expected to increase next year also.

One of the respondents stated that the high cost of cultivation due to high spraying cost in Cotton has forced some farmers to shift to other alternative crops, which need lesser investment. It should be noted that region wise variations are found in this aspect. (There is an increase in area in Khandesh region where as in Vidharbha region the area either decreases or remains constant).

Crops that are replaced:

Bajra, Sugarcane, Maize, Jowar, Soyabean, Moong, and Udid are the major crops, which are replaced by Cotton. In certain areas Cotton is replaced by soyabean, which is a low investment crop.

ii) Area Trend of Cotton in Gujarat

Area Trend: Increase 10-15%

Reasons: -

Commercial rate for Cotton is high and there is high demand for Cottonseeds in the market. The entry of Bt in the market has increased both the area and the sales in Cotton, owing to its better performance with respect to better pest resistance and reduced cost of cultivation. Moreover the educational level and knowledge of the farmers has also increased and they cultivate more of proprietary research types, which assure more returns. A proliferation of illegal Bt companies has occurred here and it has resulted in the destruction of the market structure in the state.

Crops that are replaced

Pulses and Millets are the major crops that are replaced by Cotton in Gujarat. Crops like Bajra, Jowar, Maize and Sesamum are being replaced at an alarming rate.

Q3.**Perception on Proprietary research company sales trends****i) State: Maharashtra****Crop: Cotton**

Company	Response	%	Reasons
Nuziveedu seeds	Increase	25	The company has got good brand image in Cotton. Bunny brand has performed excellently in the previous years. It is a tough hybrid and it can tolerate any stress condition. It performs well even in drought condition. It has captured market share from Ankur seeds. Higher yields, better rejuvenation and big boll size are some of the performance parameters of Bunny that are preferred. The word of mouth communication has been there for bunny brand and new cultivators are seen to buy bunny.
Ankur seeds	Decrease	33	Cutthroat competition from Bunny. Nuziveedu has captured the share in cotton from them as a result of effective fieldwork and better performance of Bunny brand. Ankur brand has low staple length, which is perceived to be a major draw back in the brand.
HLL (Paras seeds)	Constant	-	Constant for main brands (Brahma and Krishna), Krishna is performing better in Beed District. One respondent has reported a decrease in sales by nearly 5-6 %.
J.K. seeds	Mixed response	-	More or less seems to be constant but one respondent observed a decrease in sales by 25%

Tulasi seeds	Increase	10	Good performance and has a good brand name in Cotton. It is rated at the 3 rd position following Nuziveedu and HLL. The overall image for Tulasi cotton is good.
Mahyco	Increase	12	Good brand name. Established player in the market. Some of the brands are performing very well. Especially Mahyco- chatmatkar in certain pockets, it is <i>Gossipium arboreum</i> and this is an upcoming field.
Prabhat seeds	Increase	-	Though it is a new introduction, it is successful because it is similar to Bunny in performance. It is suitable for both segments (Irrigated and rain fed). The sales are picking up mainly in Aurangabad region.
Ajeeth seeds	Constant	-	It is a local player having its own share in the market.
Pravardhan	-	-	-do-
Mahabeeg	Constant	-	-do-
Raasi seeds	Constant	-	Raasi has good brands in the market and the products are also performing well. Raasi bt if introduced is expected to have many takers.
Krushidhan	Increase	60	The field staff has done excellent fieldwork this year, which resulted in increase in sales.
Syngenta	Constant	-	A new player in Maharashtra. Minimal sales and the company covers very limited area.
Ganga Kaveri	Constant	-	It has good brand name and the products are performing reasonably well in certain pockets.

ii) State: Gujarat

Crop: Cotton

Company	Responses	%	Reasons
Indoamerican	Decrease	50	Illegal Bt sales have destroyed the market structure in this state. A number of illegal Bt companies are operating in this state. Farmers prefer illegal Bt seeds, owing to their lower rates (Price) and their resistance to bollworm, which is a major concern to Cotton farmers in this region. This factor alone has decreased the sales of all the Proprietary research brands, at an alarming rate.
Vikram seeds	Decrease	60	-do-
Ankur	Decrease	25	
Nuzhivedu	Decrease	16	
H.L.L	Decrease	40	
J K Seeds	Decrease	50	
Proagro	Decrease	12.5	
Krushidhan	Decrease	12.5	
Mahyco	Decrease	10	
Raasi	Decrease	14.3	

Q4.

Major Public hybrids sold by seed companies**i) State: Maharashtra****Crop: Cotton**

Public hybrids	Seed companies	% Share	Trends and notes
NHH-44	Major: Mahabeej, Mahyco, Mahendra, Syngenta	70	A decreasing trend due to shift to proprietary research types. These are old hybrids and there has been no replacement. The life cycle is short and quality does not stand against competition with proprietary research types. The purity levels have come down, as they have been cultivated for last 10 years. It is sold in 750 gm packets. Substantial quantities of public hybrids are sold here.
	Minor: Ankur, Ajeet, Krushidhan,	30	
PKV-2	Major: Mahabeej, Mahyco, Mahendra	90	-do-
	Minor: Local players	10	
H-8	Major: Mahyco, Mahabeej, Minor: Gujarat brands and other local players	80 20	

ii) State: Gujarat

Crop: Cotton

Public hybrid	Seed companies	% Share	Trends and notes
NHH - 44	Major: G. S. S. C Minor: Avaneet Narmada Sagarlaxmi and other local players	50 50	A Popular hybrid in this region, sold in certain pockets, sales from other states like Maharashtra is also noted here. It is mainly used due to its low price.
H-8	Major: G.S.S.C. Minor: Local players	50 50	This is also a popular hybrid in the state. Its sales are constant in certain belts. It is mainly used due to its low cost. A plethora of local companies are playing in this sector.
H-6	Major: G.S.S.C. Minor: Avaneet, Narmada, Sagarlaxmi and other local players	50 50	The sales are coming down drastically for all public hybrids due to sale of illegal Bt Cottonseeds.
H-10	Major: G.S.S.C. Minor: Local players	50 50	-do-
DCH - 32	Major: G.S.S.C Minor: Local players	50 50	An old hybrid, it has very less staple length, but it is still cultivated in certain pockets.

Q5.**i.a) Top products and notes****State: Maharashtra****Crop: Cotton**

Top products	Notes
Nuziveedu Bunny (NCH -145)	Good brand image, big boll size, good boll weight, high yield, long staple length, good rejuvenation, tolerance to pests and diseases are some of the qualities of this brand. It performs well even under stress condition. High promotion and advertisement, good schemes for farmers, dealers, distributors, cotton millers and cotton trader's upto village level have pushed up the sales. It is suitable for both rain fed as well as irrigated segment. It is perceived to have replaced Ankur-651 and Ajeet-11.
Mahyco-Bt MECH-12 & MECH-162	Performing well in cotton, owing to their Pest resistant character.
Raasi RCH-2	Good perception about Raasi Cottonseeds .The company has good brand image in the state.
Krushidhan Maruthi	The yield is good and it is suits both irrigated and rain fed segments.

i.b) Top new products and notes**State: Maharashtra****Crop: Cotton**

Top New products	Notes
Prabhat Hima	It has got good purity. It resembles bunny in its characteristics. It suits for both the segments (irrigated and rain fed). It is a new introduction; and it might replace Krishna and Bunny.
Bioseed Gabbar	85% yield in the first three pickings and chain bearing property are the main performance attributes of this brand. It is a medium maturity brand with long staple length.
Nuziveedu Mallika	It has big boll size and long staple length. It is a high yielder, which is suited for the irrigated segment. It might replace Brahma.
HLL Atal	The performance of the brand is good. It is suitable for both irrigated and rain fed segments. It is perceived to replace Zigma brand of Nusun seeds, TCH-4 and T-4.
J.K Durga 666	The brand has got good boll weight, reasonably good performance and it is suitable for both rain fed and irrigated segments.
Sando Cot-35	The staple length of this particular brand is very good. It is suited for both rain fed and irrigated segment.
Mahyco Bollguard	It is a Bt brand, which is suitable to both irrigated and rain fed segment.

Mahyco-chamatkar 222 & 223	It is a desi hybrid, it is <i>Gossipium arboreum</i> and it is an upcoming sector, it is taken up mainly in Dhulia, Akola, Jalgon and Buldana areas.
Tulasi TCH-4	Similar to Bunny, same cost and big boll size, it is a medium maturity brand.
Nath Baba	Local player, reasonably good performance
Goldmine	-do-

ii.a) Top products and notes**State: Gujarat****Crop: Cotton**

Top products	Trends and notes
Nuziveedu Bunny	Good brand image, big boll size, good boll weight, high yield, long staple length, good rejuvenation, tolerance to pests and diseases are some of the qualities of this brand. The performance is good even under stress situation. It gives average yield even under conditions of water stress. It is suitable for both irrigated and rain fed segment
Indoamerican Sanju	Big boll size, tall plant and high yielding brand.
Vikram VICH-5 & VICH-9	If Bt is introduced the company has future, otherwise there is no future for any Cotton brand. Vicki seeds have entered into contract with Monsanto – for Bt technology in this state.
J.K. – 99	It is a tall plant having medium boll size. It is a high yielding brand.
Ankur -2534	It has big boll size, it is a medium size plant, it is an Akka variety, which is a special type of cotton preferred locally.
HLL Krishna	It is a medium height plant with good boll size
Krushidhan Maruthi	The yield is good and it is suitable for both irrigated and rain fed segments.
Raasi- Shakti-9 & RCH-2	They give medium size bolls and are high yielders.
Mahyco-Bt MECH-12 & MECH-162	MECH-12 is having bill boll size; MECH-162 is a medium boll size brand. Both are dwarf types.
Mahyco MECH-184	It is having big boll size and it is a tall plant. It is in the irrigated segment.
Pro-Agro -1001	It is having medium boll size and it is a tall plant.

ii.b) Top new products and notes**State: Gujarat****Crop: Cotton**

Top New products	Notes
Mahyco chamatkar	The performance is very good with respect to yield and stress tolerance. The final product is having very good demand in the market. It is a desi hybrid ie. <i>Gossipium arboreum</i> and the sales are expected to grow in this sector.
JK Durga	It is a high yielder, boll number is more and it shows reasonably good performance.
Raasi-45 & Raasi-42	Good yield and good performance by both the brands.

Q6.**Estimation of Market Potential & Market Gap (Proprietary research brands)****Crop: Cotton**

Market Potential for Cotton (M.P_C) = Total area under Cotton in (ha) * Seed Rate (Packets /ha)

Seed Rate for Cotton Crop = 1 Packet/acre i.e. 2.5 Packets /ha (Note: 1ha = 2.5 acres)

i) M.P_C: Maharashtra state = 28,00,000*2.5 = 70,00,000 Packets of 450 gram each.

ii) M.P_C: Gujarat State = 16,34,800 *2.5 = 40,87,000 Packets of 450 gram each

Market Gap = Market Potential - Actual estimated Supply (Proprietary Research)

i) Maharashtra State: 70,00,000 - 45,00,000 =35,00,000 Packets of 450 gram each

ii) Gujarat State: 40,87,000 - 3,50,000 = 37,37,000 Packets of 450 gram each

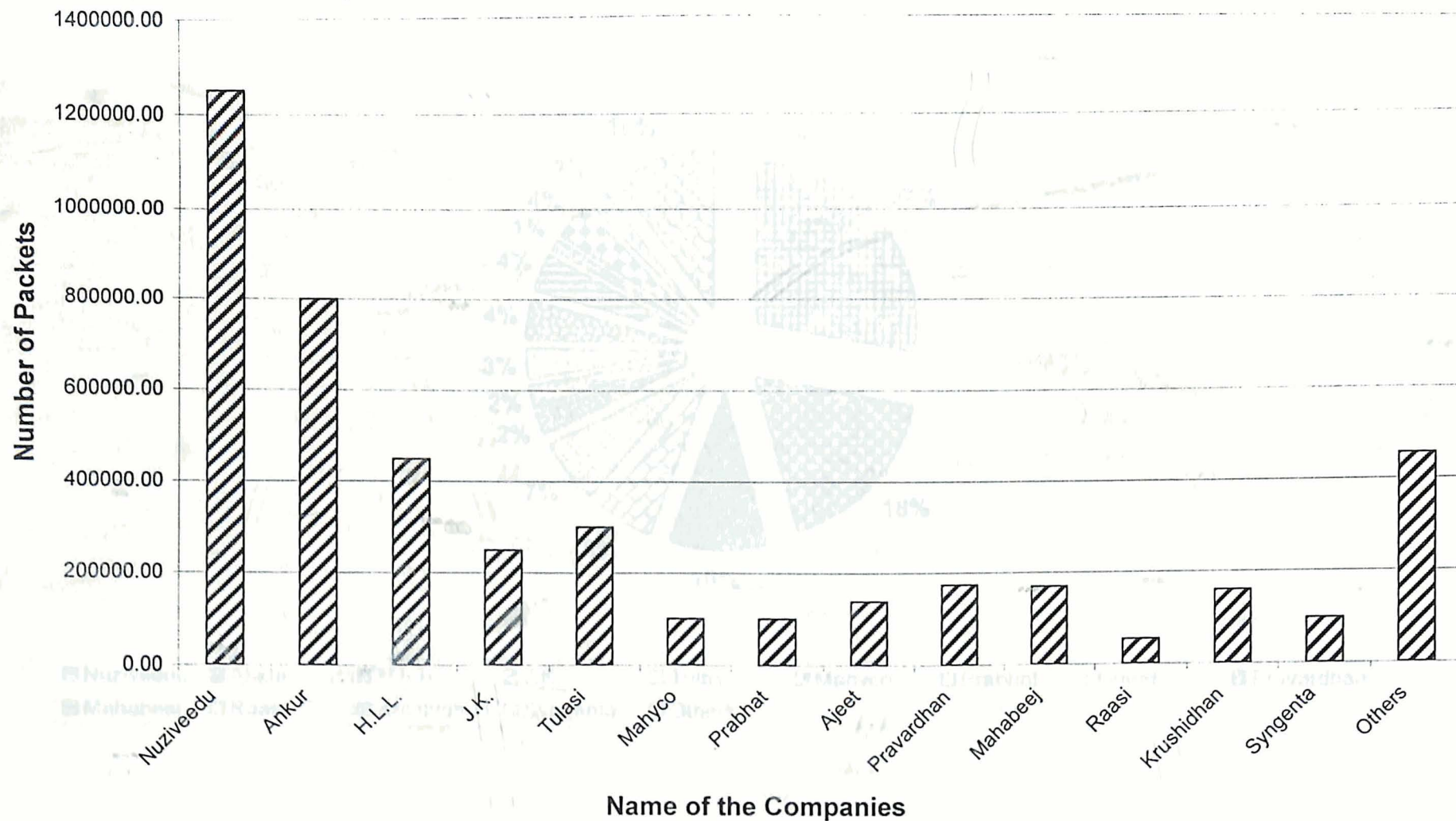
Table Q7.1: PROPRIETARY SEED SALES

State : Maharashtra Crop: Cotton

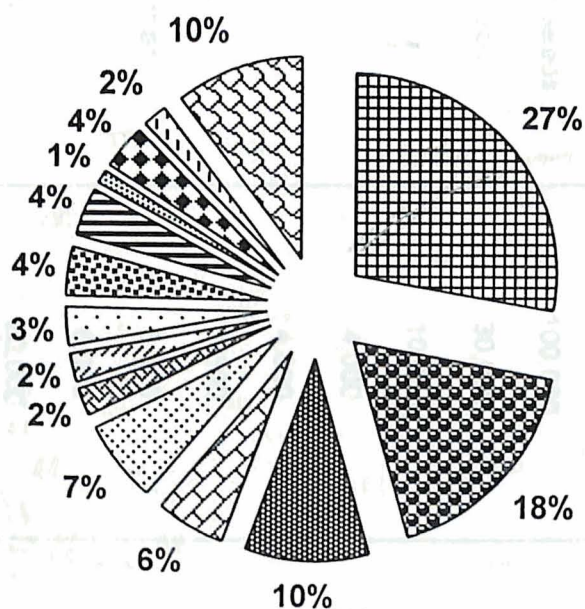
Season: Kharif

S. No.	Name of the Company	Sales (packets)	% share
1	Nuziveedu	12,50,000	27
2	Ankur	800,000	18
3	H.L.L.	450,000	10
4	J.K.	250,000	6
5	Tulasi	300,000	7
6	Mahyco	100,000	2
7	Prabhat	100,000	2
8	Ajeet	138,000	3
9	Pravardhan	174,000	4
10	Mahabeej	170,000	4
11	Raasi	54,000	1
12	Krushidhan	160,000	4
13	Syngenta	97,000	2
14	Others	457,000	10
Total		45,00,000	100

Bar-chart Q7.1a: Sale of proprietary seeds by various private companies
State: Maharashtra, Crop: Cotton, Season: Kharif



Pie-chart Q7.1b: Share of private companies in Proprietary seed sales
State: Maharashtra, Crop: Cotton, Season: Kharif



Nuziveedu	Ankur	H.L.L.	J.K.	Tulasi	Mahyco	Prabhat	Ajeet	Pravardhan
Mahabeej	Raasi	Krushidhan	Syngenta	Others				

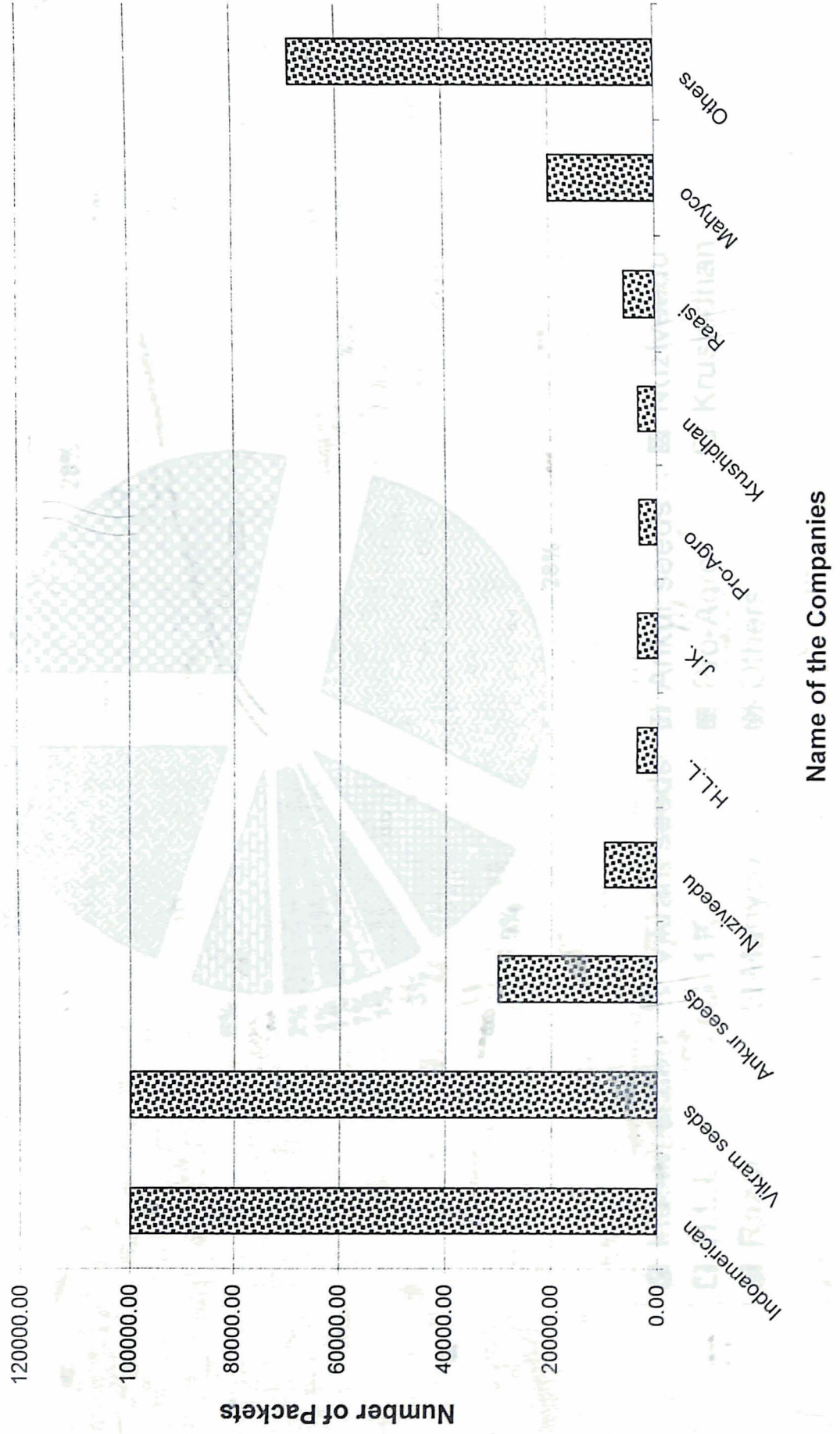
Table Q7.2: PROPRIETARY SEED SALES

State : Gujarat Crop: Cotton

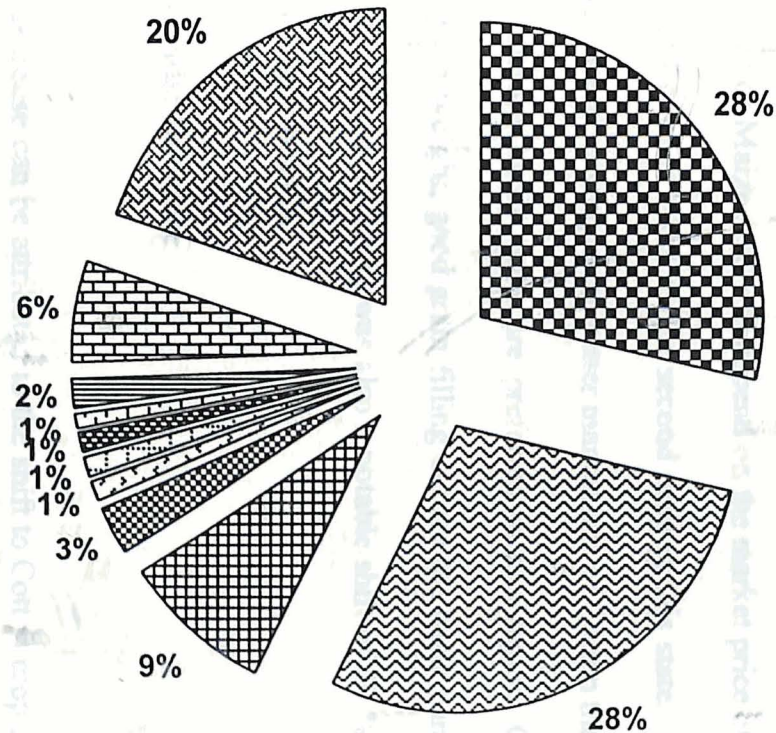
Season: Kharif

S. No.	Name of the Company	Sales (packets)	% share
1	Indoamerican	100,000	28
2	Vikram seeds	100,000	28
3	Ankur seeds	30,000	9
4	Nuziveedu	10,000	3
5	H.L.L.	4,000	1
6	J.K.	4,000	1
7	Pro-Agro	3,500	1
8	Krushidhan	3,500	1
9	Raasi	6,000	2
10	Mahyco	20,000	6
11	Others	69,000	20
Total		3,50,000	100

Bar-chart Q7.2a: Sale of proprietary seeds by various private companies
State: Gujarat,Crop: Cotton,Season: Kharif



Pie-chart Q7.2b: Share of private companies in Proprietary seed sales
State: Gujarat, Crop: Cotton, Season: Kharif



Indoamerican	Vikram seeds	Ankur seeds	Nuziveedu
H.L.L.	J.K.	Pro-Agro	Krushidhan
Raasi	Mahyco	Others	

CROP-MAIZE**Q1.****Market trends for Proprietary research / Public hybrids/ Public variety**

i) State: Maharastra Crop: Maize

a. Proprietary research hybrids: Fluctuating**Reasons:**

The sales of Maize seed will depend on the market price of Cotton. Maize is taken as first crop and corn is taken as the second crop in this state. Last year a decrease in corn sales was noted, owing to the better market rate of Cotton there was a shift to Cotton crop. Stress tolerant hardy types are preferred in this region. Good yield, good grain color, good grain weight, good grain filling etc are the basic parameters of performance preferred by the farmers. There was also a notable shift of 20 % from public hybrids to proprietary research brands.

b. Public hybrids: Decrease**Reasons:**

The decrease can be attributed to the shift to Cotton crop as well as to Proprietary research Maize brands. One respondent reported that the sale for public hybrids in Maize is constant because it is mainly cultivated for fodder and farmers do not shift to other crops.

c. Public variety: Constant

Reasons:

Very nominal area is covered by public varieties. Farmers use own seeds in this segment.

ii) State: Gujarat Crop: Maize

a. Proprietary Research: 10% Decrease

Reasons:

The decrease was mainly due to better market rate of Cotton i.e. farmers shifted to Cotton. There was also considerable shift to groundnut crop. The market rate for Maize was low last year. There was also a general decrease due to overall decrease in Maize area in the state. Considerable quantities of proprietary research brands are sold in the state.

b. Public hybrids: Decrease

Reasons:

There was considerable sale in this sector. The decrease can be mainly attributed to the overall decrease in Maize area, shift to Cotton and groundnut crops and a 5 to 6% shift to Proprietary research types.

c. Public variety: Decrease

Reasons:

The decrease was due to overall decrease in area under maize in the state.

Q2.**Trends in Maize area****i) Area Trends of Maize in Maharashtra****Area Trend: Decrease 10 %****Reasons:**

There was a shift towards Cotton crop owing to the good market rate for Cotton. Earning is very less in corn; there are other more remunerative crop options available. One respondent stated a fluctuation in Maize area by about 30%. (Due to pest attack the farmers did not go for Cotton, they went for Maize). Last year was a drought year and it has caused a reduction in the Cotton area. The market price for Cotton causes fluctuation in this state.

Crops that are replaced/replace it

The main crops, which replace Maize in this state, are Cotton, Soybean, Black gram and Greengram.

ii) Area Trend of Maize in Gujarat**Area Trend: Decrease 15%****Reasons:**

Shift towards Cotton crop owing to better remuneration from Cotton cultivation and lesser market rate for Maize. Other competitive crop option like groundnut is also available.

Crops that are replaced/replace it

The major crops, which replace corn in this state, are Cotton and Groundnut.

Q3.**Perceptions on research company sales trends****i) State: Maharashtra****Crop: Maize****Season: Kharif**

Company	Responses	%	Reasons
Monsanto	Decrease	10	The rates are high (price); hence there was a shift towards other cheaper brands. The quality of the product was rated very good. The average rate of seed per kg is about Rs.82/-
Pioneer	Increase	5	Rates were high but still the company managed to increase sales due to good quality of brands. The company has good image in Maize. The increase in sales can be attributed higher rainfall and increased demand for corn seeds
Bioseed	Increase	25	Relatively new operation in the area. The prices are reasonable and the brands give good yield. The price was nearly Rs. 40-45 per kg.
Pro-Agro	Constant	-	The performance of the brands was good. The price was nearly kept at Rs.60/ kg. The quality was also good. One respondent expressed a decrease in sales due to higher price of the brand.

Zuari	Increase	60	It has increased its share mainly because of good performance of its brands and extensive fieldwork.
Parry-Monsanto	Increase	-	It is a less priced brand and they have captured sales from the high priced segment.
Ankur	Increase	-	-do-
Nuziveedu	Mixed	-	The prices were kept low. Nuziveedu brands had a fluctuating sales i.e. increase in one area and decrease in another.
Ajeet	Constant	-	A small player in the low priced segment.
HLL	Constant	-	Some of the respondents stated a set back of 50% in sales due to shift to better quality brands.

ii) State: Gujarat

Crop: Maize

Company	Responses	%	Reasons
Pro-Agro	Decrease	4	There is a general decrease in sales due to lower market rate for corn. Other competitive crop options are available in this state like highly remunerative Cotton and Groundnut. There is a general shift to these crops.
Monsanto	Decrease	9	-do-
Pioneer	Decrease	9	
I.T.C	Constant	-	
Bio-seed	Decrease	7.6	
Mahyco	Constant	-	
Mahendra	Constant	-	
BISCO	Constant	-	
Paras	Constant		

Q4.**Major public hybrids sold by seed companies****i) State: Maharashtra****Crop: Maize**

Public hybrids	Seed companies	% Share	Trends and notes
G 2	Major: M.S.S.C	50	The sale of public hybrids in Maize is coming down owing to the shift towards Proprietary brands as well as due to the general reduction in Maize area
	Minor: Local players	50	
G5	Major: M.S.S.C	50	-do-
	Minor: Local players	50	
GS 2	Major: M.S.S.C	50	
	Minor: Local players	50	

ii) State: Gujarat**Crop: Maize**

Public hybrid	Seed companies	% Share	Notes
G 2	Major: Gangakaveri	50	The sale of public hybrids in Maize is coming down owing to the shift towards Proprietary brands as well as due to the general reduction in Maize area. Proliferation of illegal Bt companies selling Cottonseeds was considered a major factor resulting in decline in the area under Maize.
	Minor Mahyco Mayura and other local players	50	

G 5	Major: Ganga Kaveri Minor Mahyco Mayura and other local players	50 50	-do-
Deccan	Major: G.S.S.C Minor: Mahyco and other local players	65 35	

Q.5.**Top products and notes****i.a) State: Maharashtra****crop: Maize**

Top products	Notes
900 M (Monsanto)	The key attribute for this brand is plasticity; it will replace all the brands in its segment. It is for the irrigated segment. This brand contributes to 90% of Monsanto's total Maize sales in Maharashtra. It is a market leader in Maize in the state.
Pro-Agro 4640 & 4643	Farmers preferring dented type choose this brand. It is in the rain fed segment. These brands contribute to 85% of Bio-seeds total sales. Both are short duration & high yielding brands.
Pioneer-3425	Good brand name, Considered to have very good quality, and high yielding brand.

i.b) Top new products and notes**i) State: Maharashtra****Crop: Maize**

Top New products	Notes
Monsanto Prabhat	It is a high yielder; it has got good grain color. The cobs are straight with good grain filling, Good grain weight and it is in the rain fed segment, it occupies 2% share of Monsanto total Maize sales.
Monsanto Allrounder	It occupies 8% of Monsanto's total Maize sales in the state
HLL Sardar	Good quality brand, High yielding and good performer
Parry- -Monsanto DK-984	Good performance in Aurangabad region. Product quality is good and it gives good yield.
Nuziveedu Ajay	A reasonably good brand, performing well in certain pockets

ii.a) Top products and notes

State: Gujarat

Crop: Maize

Top products	Notes
Monsanto-900-M	High yielding brand, used in the irrigated segment, orange-yellow grain color, used in poultry feed industry, single cross hybrid. Good performance and very good product quality.
Pro-Agro - 4640	Wider adaptability, good grain color, uniform maturity, tolerant to drought.
Bioseed-9680	High yielding hybrid, wider adaptability, tolerant to drought, uniform maturity. Irregular grain filling. Preferred for the rain fed segment.
ITC brand	Good yielder and good network by the company. New introduction in the area.
Ankur Bhanu	The height of the crop is very good. It has got good standability and it is a high yielder.

ii.b) Top new products and notes

State: Gujarat

Crop: Maize

Top New products	Notes
There are no introductions of any new brand in Maize in Gujarat	

Q6.

Estimation of Market Potential & Market Gap (Proprietary Research Brands)**Crop: Maize**Market Potential for Maize ($M.P_m$) = Total area under Maize in (ha) * Seed Rate (Kg /ha)

Seed Rate for Maize Crop = 7 Kg/acre i.e. 17.5 Kg/ha (Note: 1ha = 2.5 acre)

i.) Maharashtra state:

a) $M.P_m$: (Kharif) = $3,01,000 * 17.5 = 5267.50$ tons

b) $M.P_m$: (Rabi) = $62,000 * 17.5 = 1085$ tons

ii.) $M.P_m$: Gujarat State (kharif) = $4,64,500 * 17.5 = 8128.75$ tonsMarket Gap = Market Potential - Actual Estimated Supply (Proprietary Research)

i.) Maharashtra State:

a) Kharif = $5267.50 - 3500 = 1767.50$ tons

b) Rabi = $1085 - 350 = 735$ tons

ii.) Gujarat State (Kharif): $8128.75 - 1500 = 6628.75$ tons

Table Q7.3: PROPRIETARY SEED SALES

State : Maharashtra Crop: Maize
Season: Kharif

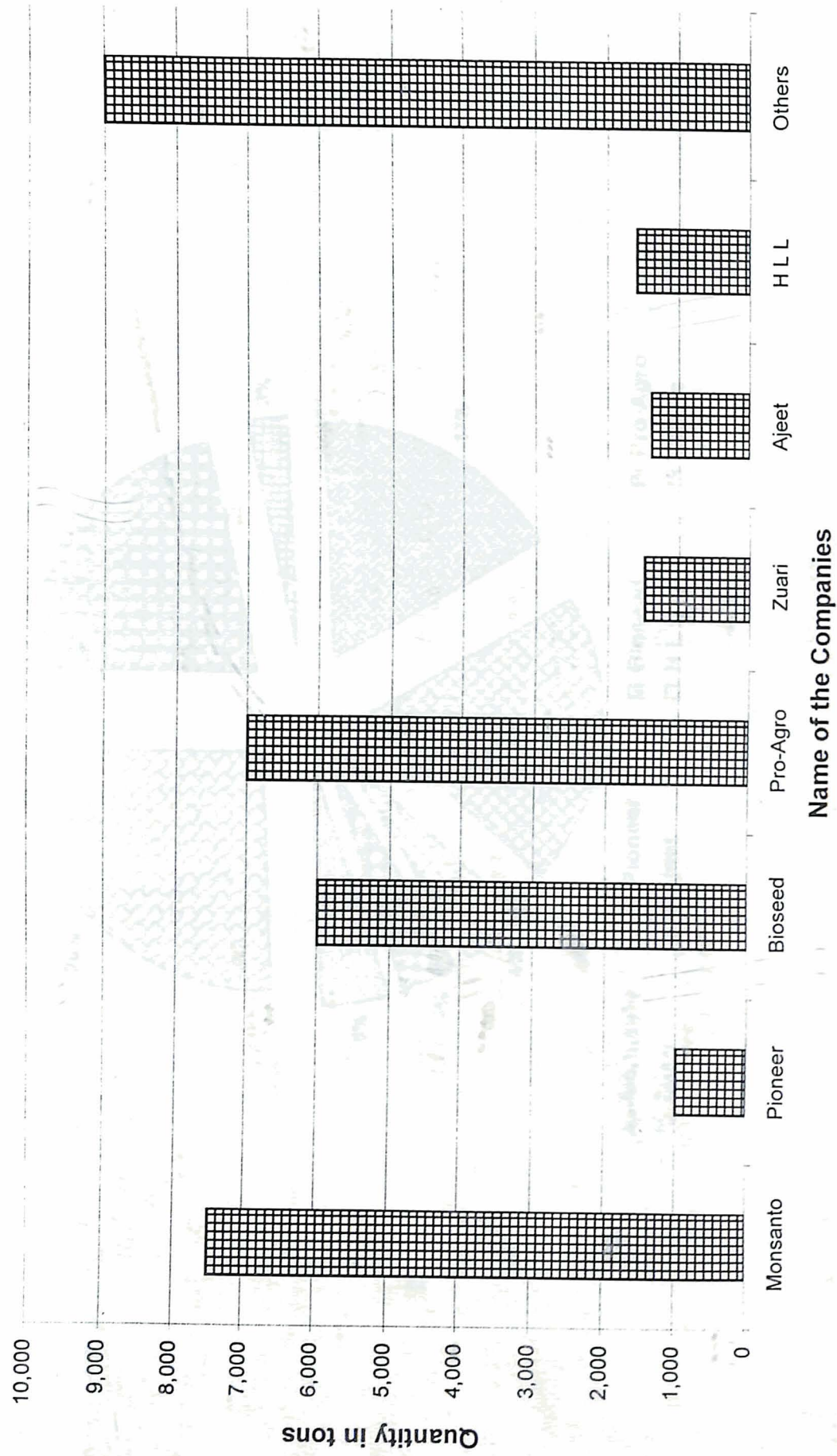
S. No.	Name of the Company	Sales (packets)	% share
1	Monsanto	7,500	21
2	Pioneer	1,000	3
3	Bioseed	6,000	17
4	Pro-Agro	7,000	20
5	Zuari	1,500	4
6	Ajeet	1,400	4
7	H L L	1,600	5
8	Others	9,000	26
Total		35,000	100

Table Q7.4: PROPRIETARY SEED SALES

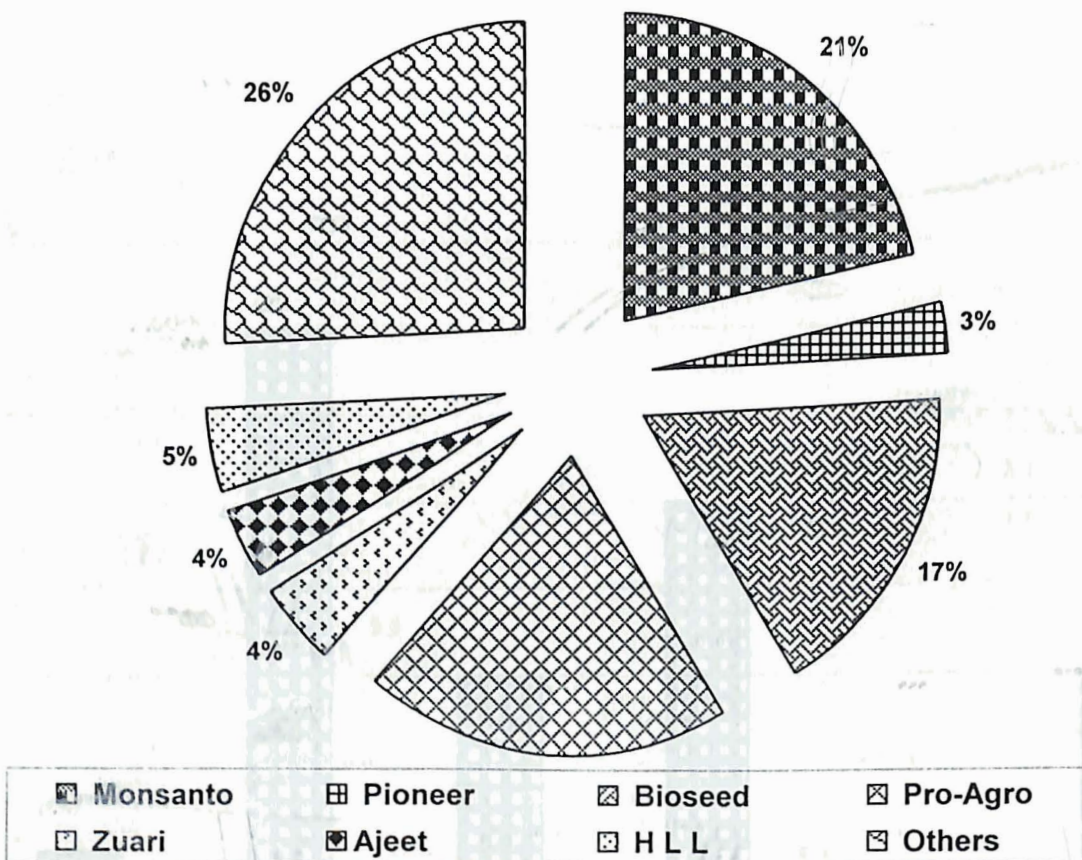
State : Maharashtra Crop: Maize
Season: Rabi

S. No.	Name of the Company	Sales (packets)	% share
1	Monsanto	700	20
2	Pioneer	100	3
3	Bioseed	700	20
4	Pro-Agro	300	9
5	Zuari	500	14
6	Ajeet	17	0.5
7	H L L	300	9
8	Others	883	25
Total		3,500	100

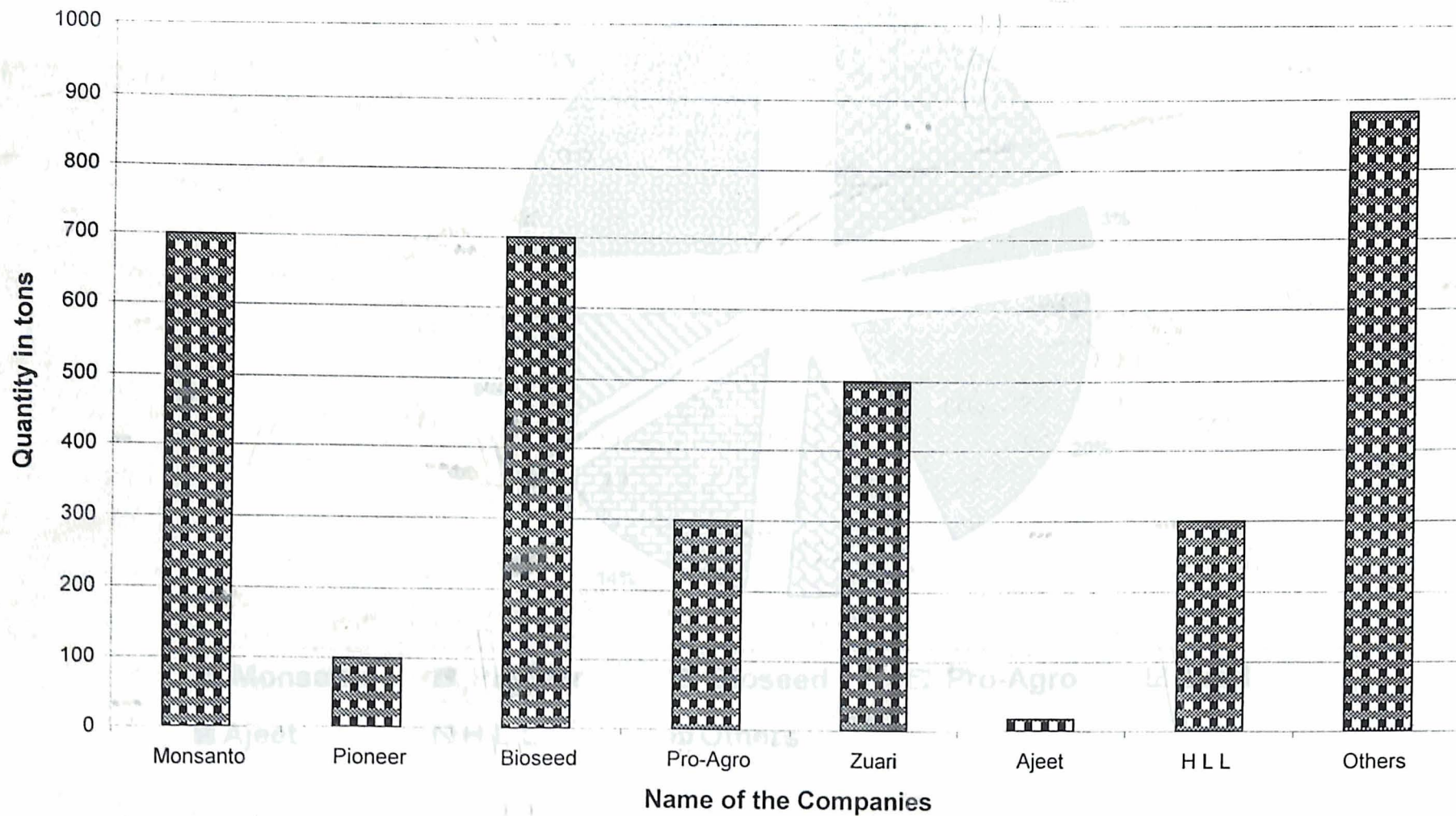
Bar-chart Q7.3a: Sale of proprietary seeds by various private companies
 State: Maharashtra,Crop: Maize,Season: Kharif



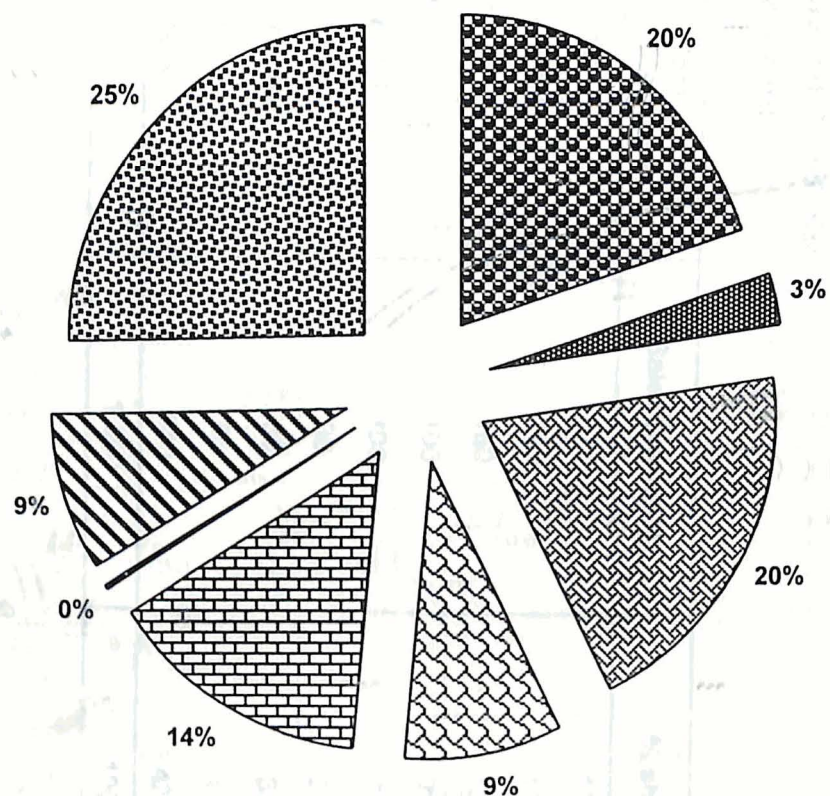
Pie-chart Q7.3b: Share of private companies in Proprietary seed sales
State: Maharashtra,Crop: Maize,Season: Kharif



Bar-chartQ7.4a: Sale of proprietary seeds by various private companies
State: Maharashtra,Crop: Maize,Season: Rabi



**Pie-chart Q7.4b: Share of private companies in Proprietary seed sales
State: Maharashtra, Crop: Maize, Season: Rabi**



Monsanto	Pioneer	Bioseed	Pro-Agro	Zuari
Ajeet	H L L	Others		

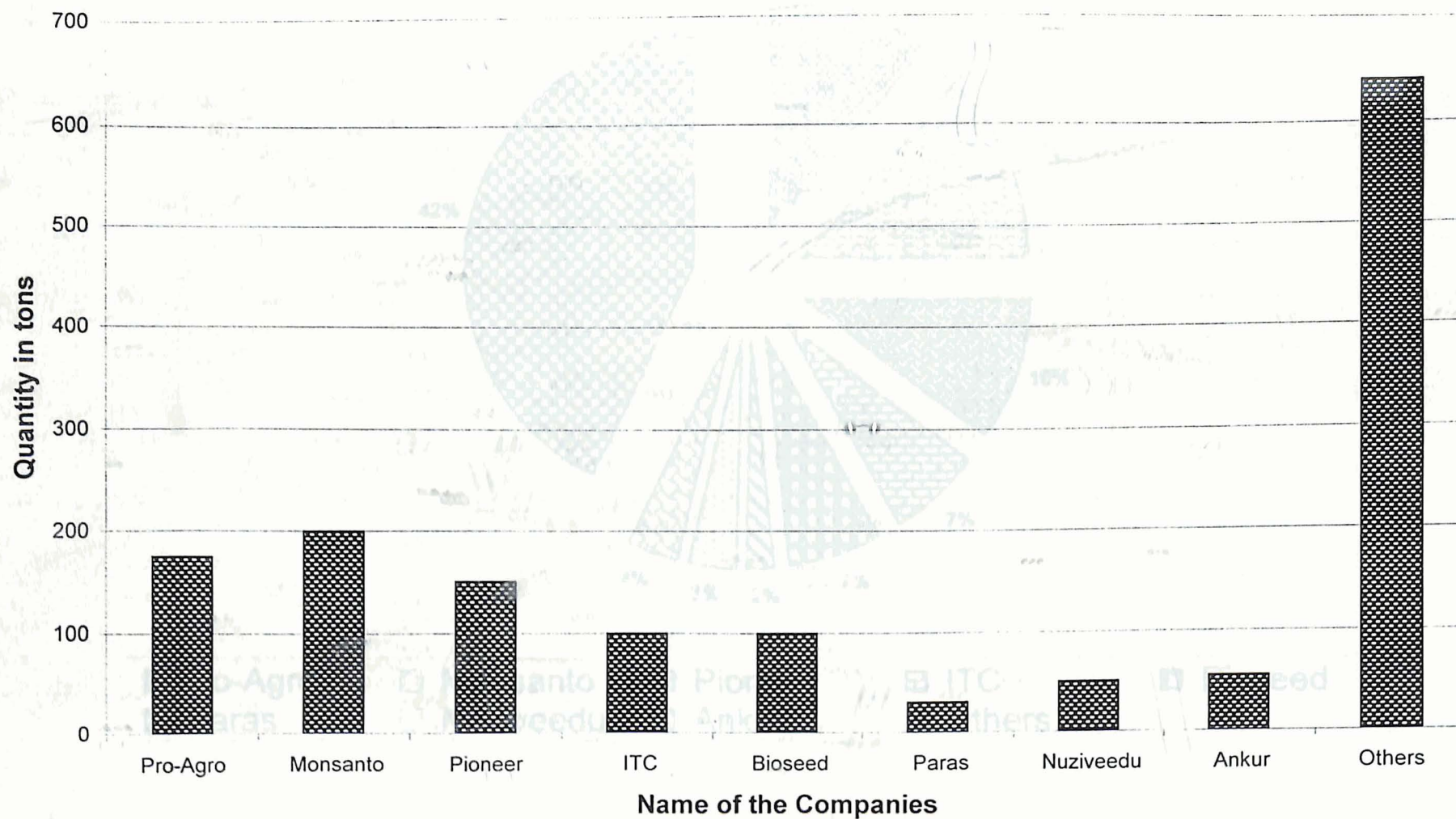
Table Q7.5: PROPRIETARY SEED SALES

State:Gujarat Crop:Maize

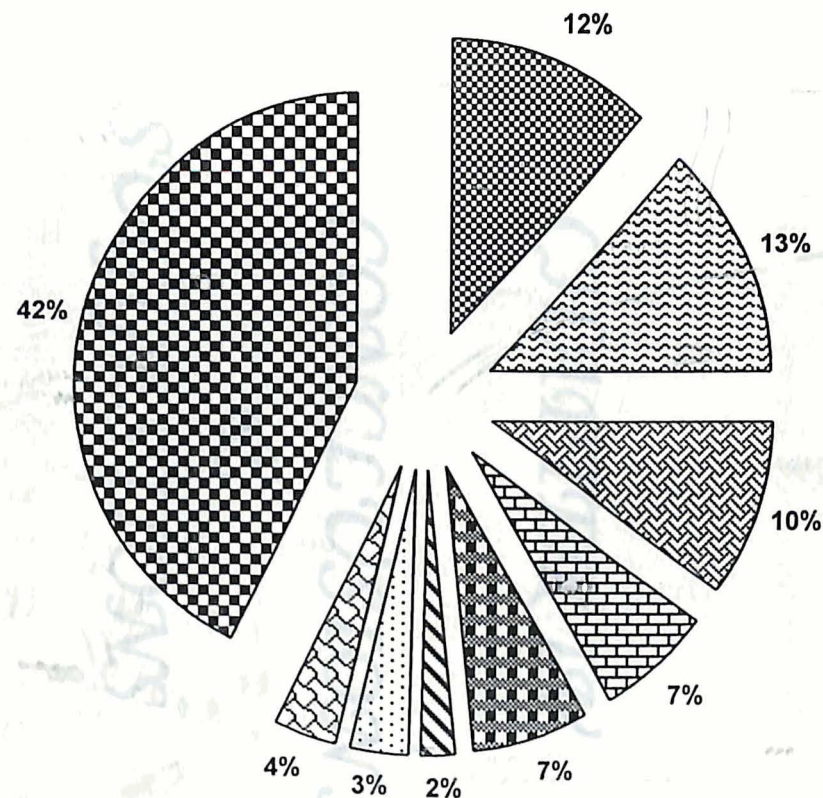
Season: Kharif

S. No.	Name of the Company	Sales (packets)	% share
1	Pro-Agro	175	12
2	Monsanto	200	13
3	Pioneer	150	10
4	ITC	100	7
5	Bioseed	100	7
6	Paras	30	2
7	Nuziveedu	50	3
8	Ankur	55	4
9	Others	640	42
Total		1,500	100

Bar-chart Q7.5a: Sale of proprietary seeds by various private companies
State: Gujarat, Crop: Maize, Season: Kharif



Pie-chart Q7.5b: Share of private companies in Proprietary seed sales
State: Gujarat, Crop: Maize, Season: Kharif



Pro-Agro	Monsanto	Pioneer	ITC	Bioseed
Paras	Nuziveedu	Ankur	Others	

CHAPTER IV

CONCLUSIONS & SUGGESTIONS

CONCLUSIONS – CROP COTTON

State Maharashtra: Kharif 2003-2004

- Area under cotton crop in Maharashtra has increased by 10-15 % owing to the better market rate of Cotton. Major crops that are replaced by cotton are Bajra, Jowar, Maize and Sesamum.
- The sale of Proprietary research brands of cotton in Kharif 2003-2004 showed an increase by 7%, whereas Public hybrid and Public variety sales has decreased.
- Cotton crop is not taken in Rabi in this state
- The total sales in Proprietary research brands by seed companies were approximately 45 lakh packets of 450gm in Kharif 2003-2004.
- Nuziveedu is the market leader with 27 %share, followed by Ankur seeds and H.L.L with 18% and 10% share of the total sales respectively. Nuziveedu sales have increased by 25%; whereas Ankur seeds sales has decreased by 30-33% from the previous year. Sales of HLL at the third position remained more or less constant.
- The major Public hybrids in Cotton sold in Maharashtra are NHH-44, PKV-2, and H-8. Mahabeej, Mahyco, Mahendra, Ankur seeds; Ajeet seeds etc are the major players in this segment.
- Nuziveedu Bunny, RCH-2 (Raasi), and Krushidhan Maruthi are the established brands for Cotton in Maharashtra.

Prabhat Hima, Nuziveedu Mallika, J.K Durga-666, Nath Baba, Bioseed Gabbar, Tulasi TCH-4, Sando Cot-35, Mahyco Chamatkar, HLL Atal and Mahyco Boll guard and are the new promising brands in cotton in the state.

State Gujarat: Kharif 2003-2004

- Area under Cotton crop in Gujarat has increased by 8-10 %. Major crops that are replaced by Cotton are Moong, Udid, Sugarcane, Bajra, Jowar, Maize and Soyabean.
- The sale of proprietary research brands of Cotton in Kharif 2003-2004 have decreased by 15-20%. Public hybrid sales also show a decreasing trend whereas Public variety sale remained more or less constant.
- Cotton crop is not taken in Rabi in this state
- The total sales in Proprietary research brands by seed companies were approximately 3.5 lakh packets of 450gm in Kharif 2003-2004.
- Indoamerican hybrid seeds and Vikram seeds are the market leaders for Cotton in the state with 28 % share each, followed by Ankur seeds with 9% share of the total sales. Indoamerican seed sales showed a decrease of 50%, Vikram seeds a decrease of 60%, and Ankur seeds sales a decrease of 25% from the previous year.
- The major Public hybrids in Cotton sold in Gujarat are NHH-44, H-6, H-8, H-10 and DCH-32. Mahabeej (M.S.S.C), Avaneet seeds; Sagarlakshmi seeds, Narmada seeds and Ajeet seeds are the major players in this segment.

- Nuziveedu Bunny, (Raasi) RCH-2, IndoAmerican Sanju, Vikram 5 (VICH-5), Vikram 9 (VICH-9), J.K 99, Ankur 2534, HLL Krishna, Krushidhan Maruthi, Raasi shakti-9, Mahyco MECH-12, Mahyco MECH-162 and Mahyco 184 are the established brands of Cotton in Gujarat.

Mahyco Chamatkar, J.K Durga, Raasi 45 & 42 were rated the top new products in Cotton in Gujarat state.

CONCLUSIONS – CROP MAIZE

State Maharashtra: Kharif 2003-2004 and Rabi 2003-2004

- Area under Maize crop in Maharashtra has decreased by 10 % owing to the lesser market rate for Maize and availability of other competitive crop options. Major crops that replace Maize are Cotton, Soya bean, Green gram and Black gram.
- The sale of Proprietary research brands of Maize in Kharif 2003-2004 and Rabi 2003-2004 are fluctuating, whereas Public hybrid and Public variety sales are on a decreasing trend
- The total sales in Proprietary research brands by seed companies in Kharif 2003-2004 were 3500 tons approximately.
- Monsanto Seed Company is the market leader with 21 %share, followed by Pro-agro seed and Bioseed with 20% and 17% share of the total sales respectively. Monsanto sales have decreased by 10% whereas Pioneer seed and Bioseed sales showed an increase of 5% and 20-30% respectively from the previous year for Kharif 2003-2004.
- The total sales in Proprietary research brands in Rabi 2003-2004 were 350 tons approximately. Monsanto and Bioseed were the market leaders with 20 % share each, of the total market sales followed by Zuari with a 14% share.

- The major Public hybrids in Maize sold in Maharashtra are G-2, G-5 and GS-2. Mahabeej is the major player in this segment along with other local companies.
- Monsanto 900-M, Pro-Agro 4640 and 4643, are the established brands for Maize in Maharashtra. Monsanto Prabhat, Pioneer 3425, Monsanto All rounder, Nuziveedu Ajay, Parry Monsanto DK-984, H.L.L Sardar etc are the new promising brands in Maize in the state.

State Gujarat: Kharif 2003-2004

- Area under Maize crop in Gujarat has decreased by 15 % owing to the lesser market rate for Maize and availability of other competitive crop options. Major crops that replace Maize in Gujarat state are Cotton and Soya bean.
- The sale of Proprietary research brands of Maize in Kharif 2003-2004 has decreased by 10% from last year. Public hybrid and Public variety sales also showed a decrease due to the reduction in Maize area.
- The total sales in Proprietary research brands by seed companies in Kharif 2003-2004 were 1500 tons.
- Monsanto Seed Company is the market leader with 13 %share, followed by Pro-Agro seeds and Pioneer seeds with 12% and 10% share of the total sales respectively.



- The sales of most of the seed companies in maize in Gujarat showed a decreasing trend due to the general reduction in Maize area in the state. Monsanto sales decreased by 9%, Pro-Agro and Pioneer sales decreased by 4% and 9 % respectively from the previous year.
- Negligible sales are there in Maize proprietary research brands in Gujarat in Rabi 2003-2004.
- The major Public hybrids in Maize sold in Maharashtra are G-2, G-5 and Deccan. Mahabeej, Gangakaveri, Mayura seeds, and Mahyco are the notable players in this segment.
- Monsanto 900-M, Pro-Agro 4640, Bioseed 9680 and Ankur Bhanu are established brands of Maize in Gujarat.

There are no new promising brands introduced by any company in Maize in the state.

SUGGESTIONS

Product strategies:

- **Packaging:** Attractive packaging always creates value to the product. Hence it is described as “Silent salesman”. One acre and two acre packing of seeds (Cotton and maize) would be encouraging in appearance and look.
- **Improve product mix:** Having multi products will always be strength to the company in the coming future. Hence introduce other new high yielding hybrids such as Bt-cotton with Bunny characters and single cross high yielding hybrids like (900M) in Maize, They have good acceptance in the market. Gujarat Cotton market should be entered only with Bt technology, as farmers consider it as a necessary character.
- Develop strong brand image through
 - a) Product quality: Good germination should be there and the brands should be high yielding.
 - b) CRM (Customer Relation Management): This can be practiced through
 - ⇒ Village adoption programmes.
 - ⇒ Technical services through field staff on all aspects.
 - ⇒ In time soil testing.
 - ⇒ Best farmer awards (in public meetings such as kisa-melas, crop seminars etc).

- **Plan today for tomorrow:**

In the wake of WTO agreement, entire industrial sectors including seed industry are under transition. Restructuring of industry i.e., mergers, acquisitions and take over have been taking place on a large scale. Ultimately, few players will remain in the market, leading to face-to-face competition in the market. Cost and quality will become crucial in the market to survive and excel. Hence, planning today will become essential to face challenges tomorrow.

Pricing strategies:

Price

- Price is a sensitive issue in the market.
- Farmers consider lower price/acre important.
- Lower price for same seeds may lead to: brand shifting.

Credit

- Plays an important role in pushing a brand at dealer's level.
- Provide credit in concentrated crop segments where EG seeds are found weak.
- Credit provision may help to increase the sales volumes.
- Follow increasing rate of interest method to increase pressure on dealer for repayment.
- Cash discounts should be allowed only when large amounts are blocked.

Distribution strategies:

1) **Timely availability:** Availability of seeds has been problem in many areas. Hence “Increase availability” in these markets.

2) **Strengthen supply-chain:** Decrease distribution and transportation costs through proper planning of supply-chain and distribution net work. It helps in creating a competitive edge over competitors in the market.

3) **Find new sources of supply:** Approach farmer’s cooperatives, farmer association societies and cotton mills & traders and poultry feed factory managements in Cotton and Maize growing belts to increase availability and spread of EG seeds, in all districts. Approach sub-dealers at village level in Cotton and Maize belts of other districts to further increase demand/usage levels of EG products.

Promotional strategies:

- Creating Awareness:
 - **About the products:** Cotton and Maize.
 - Intensify advertising on “USP”* (or) product features of EG Products.
*USP (Unique Selling Proposition) of EG Seeds.
- “Positioning” of EG Seeds separately for each identified crop segments is desirable.
- “Positioning” of EG Products in comparison with competitor’s products is desirable to develop new customers.
- Position “EG Products” as ; suitable to all crop segments.

STATE:

(1) a) What is happening to the area under _____ crop? b) Increase / decrease, by what %, c) Why do you think this is happening? d) Which crop/crops are being replaced?

Type	Season	Qtls	Season	Qtls	Reasons for Inc/Dec
a. Proprietary/ Research	Kh2003		Kh2002		
	Rabi 2003		Rabi2002		
b. Public Hybrid	K 2003		K 2002		
	R 2003		R 2002		
c. Public variety	K 2003		K 2002		
	R 2003		R 2002		

Company	Kharif		Reasons for Inc/Dec	Rabi		Reasons for Inc/Dec
	2003	2002		2003	2002	
Others						

Date 06/01/03

[illegible]

a) Which are the top 5 products that sell the most?

Top products	Sale	Why product is Preferred/ Successful	Replaced/ Replacing By, reason	Segments that this product is in	Chief competitor for this product

b) Which new products are showing maximum promise?

Product	Specific reason for popularity (Attributes)	Which product Will it replace	Any Specific segment this will fit in

Interview Details:

Respondents name: _____

Designation: _____

Company: _____

Location: _____

Contact number: _____

ANNEXURE - II

Statement showing final estimates Area, Production & Productivity of Principal Kharif crops during 2002-2003 in Maharashtra state.

Crops	Area in Lakh ha. Production in Takh Tonnes, Productivity in Kg/ha.			Area in Lakh ha. Production in Takh Tonnes, Productivity in Kg/ha.		
	Target	Achievement	Productivity	Target	Achievement	Productivity
Paddy	15.18	14.97	28.32	17.93	18.65	1193
Jowar	17.97	17.18	34.7	24.28	1931	1413
Bajra	17.41	15.47	17.05	11.46	980	741
Ragi	1.53	1.46	1.65	1.24	1073	851
Maize	4.19	3.01	8.59	6.30	2051	2090
Other Kh. Cereals	0.56	0.70	0.53	0.36	805	519
Total Kh. Cereals	58.84	52.75	90.85	61.57	1596	1166
Tur	12.71	10.60	10.17	7.77	800	733
Mung	7.07	7.62	3.98	3.76	560	493
Urid	5.7	6.34	3.28	5.75	568	568
Other Kh. pulses	2.1	2.04	1.03	0.49	490	242
Total Kh. Pulses	27.58	26.60	18.46	15.62	669	587
Total Kh. Foodgrains	84.52	79.39	109.31	77.19	1293	972
Kh Groundnut	4.27	3.51	5.12	3.36	1200	958
Sesamum	1.5	1.11	0.64	0.35	425	312
Nigerseed	0.74	0.54	0.23	0.14	311	257
Sunflower	1.91	0.97	1.05	0.47	650	477
Soyabean	12.5	12.56	16.25	15.76	1300	1255
Other Oilseeds	0.12	0.30	0.03	0.07	250	228
Total Oilseeds	21.04	18.98	23.32	20.14	1108	1061
Cotton	30.00	28.00	34.59	25.96	196	158
Sugarcane	6.10	5.73	583.42	426.17	96	74
Total Kharif Crops	141.66	132.36				

Production of Cotton in lakh bales of 170 Kg each, Productivity of Sugarcane in Tonnes /ha.

Statement showing final estimates Area, Production & Productivity of Principal Rabi & Summer crops during 2002-2003 in Maharashtra state.

Crops	Area in Lakh ha. Production in Takh Tonnes, Productivity in Kg/ha.			Area in Lakh ha. Production in Takh Tonnes, Productivity in Kg/ha.		
	Target	Achievement	Productivity	Target	Achievement	Productivity
Rabi Jowar	34.12	30.86	22.86	14.54	670	471
Wheat	8.00	7.60	11.97	9.84	1495	1295
Rabi Maize	1.14	0.62	1.78	1.00	1560	1622
Other Rb Cereals	0.15	0.09	0.15	0.03	1000	347
Total Rb. cereals	43.41	39.17	36.76	25.41	847	649
Gram	8.62	7.56	5.82	4.49	675	563
Other Rb. Pulses	1.50	0.91	0.72	0.55	480	397
Total Rb. Pulses	10.12	8.87	6.54	4.85	646	547
Total Rb. Foodgrains	53.53	48.04	43.30	30.26	809	630
Rabi Sesamum	0.13	0.04	0.04	0.01	305	186
Rabi Sunflower	2.70	1.87	1.80	0.93	666	496
Safflower	4.25	2.63	2.94	1.15	692	443
Linseed	1.24	0.54	0.44	0.12	351	220
Rapeseed & Mustard	0.17	0.08	0.07	0.02	476	258
Total rabi Oilseeds	8.49	5.16	5.29	2.24	623	434
Total rabi Crops	62.02	53.20	48.59	32.50	783	611
Summer Rice	0.47	0.28	1.15	0.56	2456	2009
Summer maize	0.02	0.08	0.04	0.14	1651	1711
Summer Cereals	0.49	0.36	1.19	0.70	2429	1944
Summer Groundnut	1.53	0.70	3.40	1.02	1802	1463
Summer Sunflower	0.33	0.06	0.32	0.04	858	629
Total Su. Oilseeds	2.26	0.76	3.72	1.06	1646	1395
Total Cereals	100.24	92.32	128.80	87.68	1277	950
Total Pulses	37.70	35.47	25.00	20.47	663	577
Total Foodgrains	138.54	127.79	153.80	108.15	1110	846
Total Oilseeds	31.79	24.90	32.33	23.44	1017	941

Summer crops are Tantalive

TOTAL COTTON

Sr. No.	Name of District	2000--01			2001-2002			2002-2003			[25]
		Area	Prod.	Y/hect.	Area	Prod.	Y/hect.	Area	Prod.	Y/hect.	
1	Ahmedabad	1680	928	94	1826	1045	97	1643	1134	117	
2	Banaskantha	228	155	116	191	177	157	204	186	155	
3	Vadodara	1577	1735	187	1781	1584	151	1584	2438	262	
4	Broach	1574	1480	160	1546	1660	182	1611	2131	225	
5	Valsad	-	-	-	-	-	-	0	0	0	
6	Dang	-	-	-	-	-	-	0	0	0	
7	Gandhinagar	24	32	233	38	60	268	32	107	567	
8	Kheda	145	187	219	133	160	205	143	375	447	
9	Mehsana	1089	1044	163	1127	1466	221	1020	1225	204	
10	Panchmahals	56	38	115	76	74	165	69	80	196	
11	Sabarkantha	347	393	193	351	517	250	312	291	159	
12	Surat	44	44	170	31	32	175	66	57	144	
13	Amreli	731	587	137	843	830	167	888	1404	269	
14	Bhavnagar	1870	861	78	1987	1301	111	1884	2891	261	
15	Jamnagar	318	222	119	372	508	232	297	246	141	
16	Junagadh	448	693	263	358	583	277	204	389	325	
17	Kutchh	443	702	269	583	957	279	409	617	256	
18	Rajkot	1805	700	66	2023	2117	177	1781	734	70	
19	Surendranagar	3775	1813	82	4232	3061	159	4201	2540	103	
Gujarat State		16154	11614	122	17498	17027	165	✓ 16348	✓ 16845	✓ 175	

, each of 170 kgs in form of Lint

MAIZE

1	Ahmedabad	5	4	754	15	31	1994	27	46	1708
2	Banaskantha	62	94	1508	98	306	3111	78	65	834
3	Vadodara	502	467	929	546	1051	1926	538	899	1670
4	Broach	70	53	754	102	203	1944	41	68	1632
5	Valsad	-	-	-	-	-	-	0	0	0
6	Dang	4	3	754	4	8	1944	4	7	1708
7	Gandhinagar	2	1	754	1	2	1944	2	4	1707
8	Kheda	128	199	1560	205	411	2010	231	645	2789
9	Mehsana	3	2	754	4	9	1944	6	10	1708
10	Panchmahals	1843	1035	561	2043	3799	1859	2192	4221	1926
11	Sabarkantha	1088	936	860	1324	2841	2146	1437	1810	1259
12	Surat	8	6	754	15	30	1944	24	42	1708
13	Amreli	50	38	754	35	69	1944	18	30	1708
14	Bhavnagar	51	38	754	34	67	1944	15	26	1708
15	Jamnagar	8	6	754	6	12	1944	20	34	1708
16	Junagadh	2	1	754	*	*	1944	1	1	1706
17	Kutchh	-	-	-	-	-	-	0	0	0
18	Rajkot	3	2	754	3	7	1944	11	18	1708
19	Surendranagar	-	-	-	-	-	-	0	0	0
Gujarat State		3829	2885	754	4435	8846	1994.589	✓ 4645	✓ 7926	✓ 1706

N.B. 0* indicates less than 100 fig

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