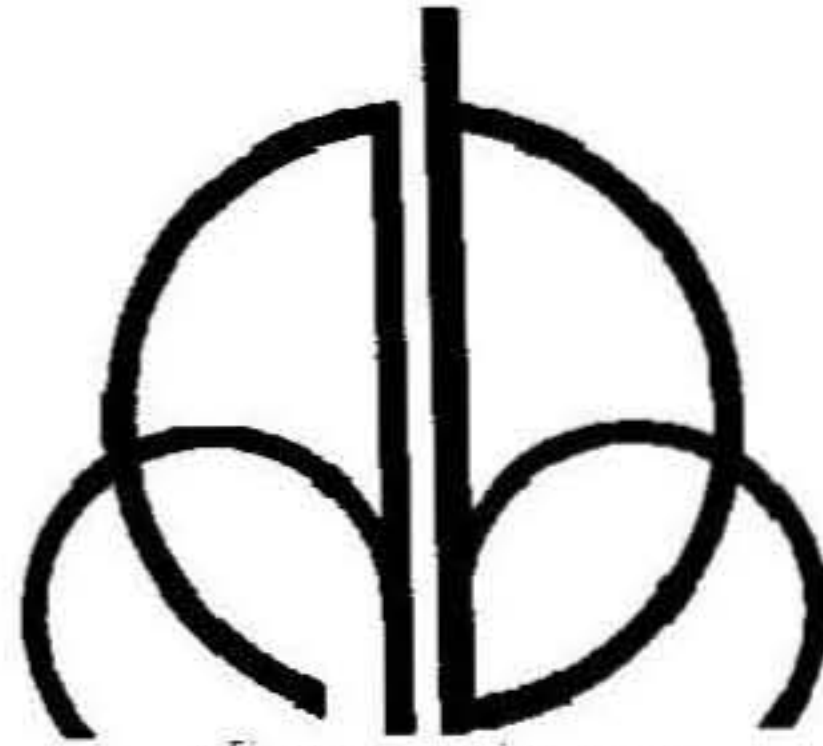


**MARKETING EFFECTIVENESS AND COMPETITOR ANALYSIS
OF ASPEE SPRAYER AND DUSTERS IN UTTAR PRADESH**

**PROJECT SUBMITTED TO THE
NAVSARI AGRICULTURAL UNIVERSITY
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
(AGRIBUSINESS MANAGEMENT)**

2009-10



સામ્યના વચ્ચાનમ

BY:

MADAN MOHAN SHARAN SINGH

(04-0412-2008)

**INSTITUTE OF AGRIBUSINESS MANAGEMENT
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Declaration by Student

I hereby declare that I am **Madan Mohan Sharan Singh (04-0412-2008)** the student of post graduate programme in MBA (Agribusiness) Institute of Agribusiness Management, Navsari Agriculture University, Navsari, Gujarat the project entitled **“MARKETING EFFECTIVENESS AND COMPETITOR ANALYSIS OF ASPEE SPRAYER AND DUSTERS IN UTTAR PRADESH”** submitted for the M.B.A. (Agribusiness) Degree is my original work and the dissertation has not formed the basis for the award of any degree, associate ship, fellowship or any other similar titles.

Place: IABM, Navsari

Date: 01/07/2010


Madan Mohan Sharan Singh

(04-0412-2008)

INSTITUTE OF AGRIBUSINESS MANAGEMENT

NAVSARI AGRICULTURAL UNIVERSITY

NAVSARI-396 450



CERTIFICATE

This is to certify that the project entitled “**MARKETING EFFECTIVENESS AND COMPETITOR ANALYSIS OF ASPEE SPRAYER AND DUSTERS IN UTTAR PRADESH**” is the bonafide research work carried out by Madan Mohan Sharan Singh student of M.B.A.(Agribusiness) during the year 2009 - 2010, in partial fulfillment of the requirements for the award of the Degree of Master of Business Administration (Agribusiness Management) under my guidance and supervision and that the project has not formed the basis for the award previously of any degree, diploma, associateship, fellowship or any other similar title.

Place: IABM, Navsari


Dr. R.R.Shah

Date: 01/07/2010

Dean

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CERTIFICATE

TO WHOM IT MAY CONCERN

THIS IS TO CERTIFY THAT

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STUDENT OF MBA (AGRI BUSINESS MANAGEMENT) STUDY IN 4TH
SEMESTER IN THE INSTITUTE OF AGRIBUSINESS MANAGEMENT, NAU,
NAVASARI HAS SUCCESSFULLY COMPLETED 11 WEEKS

MANAGEMENT INTERNSHIP PROJECT
IN
ASPEE AGRICULTURAL RESEARCH AND DEVELOPMENT FOUNDATION
ASPEE GROUP OF COMPANIES

I wish him best wishes in his future endeavors

Date: 14-05-2010

Place : Malad, Mumbai

Mr. Sharad L. Patel

Director

Please contact us for :

- Jr. & Sr. Fellowships for M.Sc. (Agri), M.Tech. (Agril. Engg.) and Ph.D. studies in Agriculture
- Aspee L. M. Patel Farmer of the Year Awards - One each for Horticulture, Rainfed and Woman Farmer Categories

ACKNOWLEDGEMENT

“No good work flows without the help from Faculty Members, Industrial Professionals, Colleagues, Organization and Friends”

I would like to extend my deepest gratitude to **ASPPE Group of Companies, Mumbai** for giving me the opportunity to work as a summer project in their organization. I got the opportunity to understand their business and have an enriching experience and learning.

I would like to express my sincere gratitude to **Mr. Sharad Patel**, Managing Director and **Mr. Kiran Patel**, Directors, Aspee Group of Companies, Mumbai, **Mr. Arvind Mavani**, National Sales Manager, Aspee Group of Companies, Mumbai, **Mr. Mukund Shah**, Factory Manager (Production Department of ASPEE, Billimora).

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I bow down my heads with deep devotion to the supreme Load, my parents and my family members and my friends who have given us this spiritual inspiration for completing this project work successful. Last but not the least I owe my project to the farmers and Dealers, without whose co-operation and help, I would not have completed this project.


Madan Mohan Sharan Singh
(04-0412-2008)

PREFACE

MBA (Agribusiness) is the stepping stone to management career. Management concepts in agriculture have far reaching effects on reorganization of agriculture as industry. In order to achieve practical, positive and concrete result, the classroom learning has to be effectively supplemented to outside the classroom for developing healthy managerial skills as a potential manager. It is necessary that the theoretical knowledge must be supplemented with exposure to the real environment. For fulfilment of that summer internship training programme is very important.

The report comprises all the important aspects of my training and all the aspects have been presented under different headings in the forthcoming pages. An attempt had been made to present a report covering different aspects of my project.

This report would not have been possible in present form without the support and guidance that I received from various people at different stages of the project.

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EXECUTIVE SUMMARY

My project namely, "**MARKETING EFFECTIVENESS AND COMPETITOR ANALYSIS OF ASPEE SPRAYER AND DUSTERS IN UTTAR PRADESH**" was carried out in **BASTI, GORAKHPUR, and DEORIA** districts of **UTTAR PRADESH** state. I had a very nice experience while interacting with the farmers of this region. My main objective was to reach the target farmers and dealers and to investigate the depth of knowledge about sprayers and dusters.

At the initial stages I faced many difficulties while collecting desired data from the farmers and dealers. Farmers and dealers both interrogated us about various things regarding my purpose of visit, my identity, which company I am from, and the benefit they will get from the survey. I assured them that I am the student of **M.B.A** and doing this as a part of my course.

I interviewed 100 **farmers**, 35 from **BASTI**, 30 from **GORAKHPUR**, 35 from **DEORIA** and 38 **dealers**, 9 from **BASTI**, 16 from **GORAKHPUR**, 13 from **DEORIA**.

In this report I have also tried to study on consumer buying behavior, factors affecting of purchase and also observe competitor market share.

At present, **ASPEE** providing best quality of product on higher price, which is directly affected overall market share. In **UP** state majority of farmer give prior importance to price factor. Company should decrease their product price up to some extent with considering demand of small and marginal farmer.

I prepared a report using simple and easily understandable words which are beneficial for reader. I hope the study will be useful for the company.

Chapter - 1

THE COMPANY AND ORGANIZATION PROFILE



ASPEE®
Sprayers & Dusters

1.1 The Company And Organization Profile

The ASPEE Agricultural Research and Development Foundation have as its prime objective "to try every bit" to "lend" a "helping hand" to the farmers who till the "land" to increase agricultural production".

The aim of ASPEE is to conduct scientific research for the extension of knowledge in the field of Plant Protection and encourage excellence in Plant Protection by offering Prizes and Awards to Agriculture Graduates and Progressive Farmers.

“Let’s weed out dependency from a farmer’s life and plant independence”. - Shri L. M. Patel

ASPEE: Pioneers in plant protection equipment

American Spring and Pressing Works Pvt. Ltd popularly known as ASPEE, pioneers in the field of crop protection, was established in 1946. The Company started production of plant protection appliances in August, 1947 with the Hand Rotary Duster and went on to develop more and more sophisticated equipment needed with the development of better and effective pesticides. The Company being the pioneer in agricultural spraying and dusting equipment is the largest of its kind in India. Having started with 7 persons it has today spread over an area of 13 acres of land in Bombay and has also established 3 associate companies - one in Thane District of Maharashtra State and two in Bilimora in Gujarat State employing more than 500 employees. ASPEE deals in plant protection equipment required for pest control, in the field of agriculture and public health. The Group clocks an annual business turnover of about Rs.80- 85 crores.

The growth of this organization has synchronized with efforts the country has put in towards agricultural development by introducing scientific methods and farm mechanization. This organization, like any other organization, which began from scratch, too, had its trials and tribulations. Shri. Lallubhai Makanji Patel played a pivotal role in the making of American Spring and Pressing Works Pvt. Ltd. Shri. Lallubhai Makanji Patel's activities over the past 41 years have been inextricably interwoven with plant protection in India. Plant protection has been a part of his life, since the late forties, beginning his career as a School Teacher in East Africa in 1925, before launching the plant protection venture; he took part in the freedom struggle and later joined an engineering concern in Bombay.

The ASPEE Foundation was registered as a company on 17.10.1973. It was recognized as a Research Institute by the Council of Scientific and Industrial Research in the year 1974. The Foundation renews its recognition from time to time from Department of Scientific and Industrial Research, New Delhi. The current recognition is valid upto 31-3-2011. Its activities were formally inaugurated on 10-10-1974 by Dr. J. S. Patel Retd. Agril. Commissioner and former Vice chancellor of J. N. Krishi Vishwa Vidyalaya, Jabalpur. Making a beginning with a modest contribution of Rs.34 lakhs in 1974 and has now grown up to its height.

A small workshop under the style of "American Spring and Pressing Works" owned by a Sindhi and a Punjabi Gentleman, manufacturing spring and sundry items, situated near the Company where Patel was employed, was for sale. Patel took it over. The landlord of the premises did not agree to the transfer of tenancy-rights to Patel and hence the factory was continued in the old name and style. It would thus be clear that the name is a misnomer. It is neither "American" nor does it manufacture any "Springs."

It is a concern owned and managed by Indians. In short, it is a hundred percent Indian concern.

Economizing pesticide dose for environmental consideration, reducing drudgery in operation and increasing the efficacy of spray suspensions received uppermost considerations in design and development of spraying appliances. The large array of such appliances developed by M/s American Spring and Pressing Works Pvt. Ltd. Earned immense popularity among farmers of India throughout the length and breadth of our country with the result that a sapling planted by Shri. Lallubhai Makanji Patel became a full-grown tree in about half a century in his own lifetime.

Shri. Lallubhai Makanji Patel himself being a son of a farmer leading a simple life, always considered his obligation to work for the welfare of farmers from whom he earned. He therefore established the ASPEE Agriculture Research and Development Foundation and ASPEE Research Institute with the funds of Rs.7.90 crores to conduct research in agriculture and agro equipment and extended the technologies to the farming community.

The origin, developed and revolutionization of crop protection appliances in India have become synonymous with Shri. Lallubhai Makanji Patel and M/s American Spring and Pressing Works Pvt. Ltd. So pioneering and rich are the contributions of Late Shri. Lallubhai Makanji Patel to this field that the Annals of Crop Protection Appliances in India would be incomplete without the name Shri. Lallubhai Makanji Patel in red letters.

Infrastructure

ASPEE has 4 production units located at Tansa (near Bhivandi) in Maharashtra, Bilimora in Gujarat and Mumbai in Maharashtra, they have been able to increase production rate by many folds. Spread in an area of 124000

square feet with an installation capacity of 1200 units, manufacturing unit is loaded with all the machines and equipment that are required to meet the bulk requirements of his clients across the globe. This unit is divided into different departments and shops such as:

- Injection molding machine shop having various capacities of injection molding up to 325 gms.
- Blow molding shop having capacities to mould up to 50 lts. Tank.
- Machine shop having single spindle Automats, SPMS, Turret lathes and Sheet metal fabrication facilities.
- Inspection and QC Department With necessary equipment for quality testing and assurance.
- Full fledge toolroom with CAD/CAM Wirecut m/c, Milling m/c, EDMS, supported by general workshop and Softwares DELCAM, MASTERCAM, IDEAS-8, EL3V.

ASPEE Group comprises of the following companies:

- American Spring and Pressing Works Pvt. Ltd., at Mumbai.
- ASPEE Agro Equipment Pvt. Ltd, at Bilimora.
- ASPEE Plant Protection Appliances Pvt. Ltd, at Tansa.
- Navyug Krishi Sandhan Pvt. Ltd, at Tansa.

ASPEE has several “firsts” to its credit:

- The first sprayer company to obtain ISI mark.
- The first to make sprayers in India as per specifications of World Health Organization (WHO).
- The first sprayer company to receive ISO 9001-2000 Certification from Det Norske Veritas, The Netherlands.

ASPEE has a widespread marketing network of over 1400 dealers and 60 distributors in India to make equipment and parts available within easy reach of the end-user.

Product Range

ASPEE is a manufacturer and exporter of manually and power operated agricultural sprayers, battery operated sprayers, compression sprayers, agricultural foot sprayers, industrial boom sprayer, industrial sprayers, tractamount sprayer, sprayer pumps, knapsack sprayer, hand compression sprayers, agricultural sprayers, high pressure cleaner, turbo mist blower and power cutter, Dusters, Threshers, Seed Drills, Paddy Weeders and Wheel Hoes for crop protection and for facilitating agricultural operation, Compression Sprayers and Hand- Bucket Sprayers based on World Health Organization specification of Malaria Eradication Programmes and Flame Guns for Agriculture and Foundries.

Research and Development

With the years of experience in the manufacture of Sprayers, Dusters and other Equipment, they have establish his own Research and Development Department, where all equipment are under constant trial and development. **ASPEE Agriculture Research and Development Foundation and ASPEE Research Institute** with the funds of Rs.7.90 crores was started by Mr. Patel. This unit was laid for conducting research in agriculture and agro equipment for extending the technology and its application in agriculture field. The R and D constantly tries various components and tests them in laboratory and then in the field before they are standardized in equipment. Similarly, suggestions received from actual users are also tried and are put to the test for improving products. The Company has also set-up ASPEE Research Institute at Bhiwadi,

near Bombay to carryout intensive research in Agricultural Engineering and particularly Agro Chemical Application Technology.

The Foundation is also engaged in the following activities:

- Encouraging research by providing Research Scholarships to Researchers.
- Organizing Farmers' Day and Training Programs on R and D Farm.
- Honoring outstanding farmers with ASPEE L.M. Patel Farmer of the Year Award.
- Encouraging studies in Rural Institutions and Organizations by providing financial assistance.
- Organizing Crop Competitions for Scientists from Agricultural Universities and Agricultural Departments for crops like paddy, jowar and groundnuts.
- Organizing Field projects on farmers fields on crops like paddy, water melon and tomato under the technical guidance of Foundation staff.
- Adopting villages for all round development.

R and D foundation is also engaged in executing following other activities in the sphere of agriculture:

- Research Projects envisaged and funded.
- Agricultural Extension.
- Agricultural Engineering.
- International Workshop.
- Memorandum of Understanding.

Marketing



The Company's marketing network includes 120 state and district level distributors and under them about 600 dealers and stockists to represent the company at all important district and taluka levels spread over every nook and corner of the country. This has helped the company to find its way to every nook and corner of the country and to render prompt and efficient after sales service at the doorsteps of the farmers and also through the maintaining of sufficient stock of equipment and parts. For boosting the equipment offered by ASPEE, they regularly plan All-India Advertisement Campaign. They decide the media of campaign in consultation with the distributors at the annual conference.

In addition to this, dealers may also advertise the products own themselves. ASPEE share in such expenses provided the dealers submit the budgets and get a written confirmation from us. The dealers can avail the following promotional activities:

- Advertisement in local newspapers/ magazines.
- Advertisement in Cinema Theaters.
- Wall Paintings.
- Participation in Kisan Melas/Exhibitions.
- Conducting Service Camps.
- Demonstration of old and new products.
- Publicity Material- Leaflets, Catalogs, Posters, Dangers, Price Lists and other promotional materials.
- Calendars and Diaries.
- Complimentary Items.
- B I-monthly Newsletter.
- Sales Conference.

Export

Apart from catering to the local needs of this country, ASPEE also exports a wide range of agro equipment like hand sprayers, high power sprayer, industrial sprayers, tractamount sprayer, sprayer pumps, knapsack sprayer, hand compression sprayers, agricultural sprayers, high pressure cleaner, turbo mist blower, power cutter etc. to Nepal, Bangladesh, Sri Lanka, Iran, Iraq, and other Middle Eastern countries, Kenya, Uganda, Tanzania, Malawi, Zambia, Zimbabwe, South Africa, Nigeria, Ghana, Sudan, and other African Countries, Singapore, Vietnam, Thailand and other Far Eastern Countries and also to Nicaragua in South America. The company has also full-fledged agents in some of these countries.

Cordial Business Relations

Attending dealers' Meetings which are organized at regional levels so that members of the ASPEE Family can meet at least once in a year. Attending weddings or other happy occasions in the ASPEE Family. Maintaining healthy relations through high ethical standards - charging most reasonable prices and rendering quick and efficient after-sales-service to customers so as to avoid incurring the displeasure amidst fellow dealers and function smoothly. Forwarding inquiries to concerned Dealer whenever any inquiries are received by pertaining to any other area. This will not only build goodwill but will also make everyone feel that they are members of one united family.

Distributors' Association

In order to make one large homogenous ASPEE Family the company has formed an Association of their distributors and dealers under the banner of ASPEE Distributors' Association. This organization has helped to maintain a close relation between the principals and their distributors and dealers. The

membership is open to all distributors and also to dealers who have completed five years of association with the company. This Association performs following activities for the members' interest:

- Organizing of study tours.
- Arranging tours in India and abroad.
- Arranging of programs to encourage fellowship.
- Helping fellow members in times of calamities.

Under One Roof

ASPEE is probably the only manufacturer of crop protection having facility to manufacture each and every part that goes into the making of complete equipment – whether it is a Nozzle, Washer, an extension rod or fabrication of a blow-moulded tank. Thus, when the Company claims that their equipments are quality products, they know what they talking about since they can vouch for each part. While designing and developing spraying appliances, following considerations were kept in mind:

- Economizing pesticide dose for environmental consideration.
- Reducing drudgery in operation.
- Increasing the efficacy of spray suspensions.

Standard

Initially the company started manufacturing equipment as per British Standards and thereafter with the formation of the Bureau of Indian Standards, the Company is manufacturing most of its equipment based on the specification and standards laid down by this Institute. Thus, majority of equipment manufactured by the company are ISI Quality marked. The spraying equipments used for Malaria Control are manufactured as per the

specification of World Health Organization and these equipments have earned a good name in the International market.

Memberships

Working on the lines of the business leading policies, ASPEE have been able to associate us with some recognized organizations at global level. Some of the memberships that ASPEE have gained are:

- Engineering Export Promotion Council (EEPC)
- Indian Merchant Chamber (IMC)
- Bombay Metal Exchange
- Indo German Chamber Of Commerce
- American Society of Agricultural and Biological Engineers (ASABE)
- Bombay Productivity Council (BPC)
- National Council of Quality Management. (NCQM)
- Indian Society of Agricultural Engineers

ASPEE Sales Outlets

With the intent to efficiently manage the product outflow, ASPEE have established sales outlets in the major cities of nation. The addresses of these ASPEE Sales Depots are enlisted below:

- 308, "Shubham" I, Sarojini Naidu Sarani Calcutta, West Bengal.
- B-2/2, Sasco Bhavan, Naniwala Bagh near Akash Cinema, Azadpur Delhi.
- C/o. M/s. Bharat Agro Sales Opp. Municipal Corpn, G.T. Road Ludhiana, Punjab.
- C/o M/s. Prakash Electricals, 330, Main Road, Ojhar (Mig), Dist. Nasik, Maharashtra.

- C/o. M/s. Balkrishna Shah and Co. 7, Jaora Compound, M.Y.H. Road, Indore, Madhya Pradesh.
- M/s. Jayalaxmi Agro Service Shop No 3, 'A' Block, Ground Floor, Buddha Bhavan, Boats Club, M.G. Road Secunderabad Andhra Pradesh.

The distributors and dealers are free to purchase their requirements directly from these depots at the depot prices.

Other Activities

This organization has not failed in its duty to humanity. With a view to help the needy persons in the field of Education, Medicine and Social Welfare, the Company has established a Public Charitable Trust, "ASPEE Charitable Trust" with sufficient funds at its disposal to carry out the objectives. The Trust has extended a helping hand to a number of Institutions and individuals.

Since its inception the company has always kept before it the motto of "Service to Agriculture". Therefore, the Company and their Distributors established an Organization called "ASPEE Agricultural Research and Development Foundation" (ARDF) with the object of undertaking scientific research in the field of Agriculture, of extending the development technology from research laboratory to the farmers and providing Fellowships etc. to agricultural students for further studies in the field of Agriculture. Besides, the Company has also taken up Rural Development Programmes for the upliftment of the village's viz. Agricultural Development, Cattle and Dairy Production, Vocational Training, Public Health, Irrigation, Crop Competition, establishment of a College of Nutrition and other activities.

1.1.1 ASPEE L. M. Patel Farmer of The Year Award

Late Shri. L. M. Patel, Founder and Director of the American Spring and Pressing Works Pvt. Ltd. (ASPEE) revolutionized pesticide application

technology through his pioneering work in development of sprayers and dusters.

With his passing away on 12th March 1996, his life and deeds are commemorated by instituting the ASPEE L. M. Patel Farmer of the Year Award. ASPEE Awards was instituted in 1997 by the American Spring and Pressing Works Pvt. Ltd. with the objective of raising the status of farmers and improving agriculture production. It is sponsored jointly by ASPEE Group of companies, ASPEE Distributors Association, ASPEE Agriculture Research and Development Foundation, ASPEE Research Institute, ASPEE Staff Recreation Club, ASPEE Charitable Trust and Shakilam Foundation. From the year of institution of these Awards in 1997 till 2007, 32 farmers have been the recipients of this coveted award.

Nature of the Award:

Every year three awards each carrying cash prize of Rs. 1 lakh, a trophy and a citation are presented in three different categories:

- One in Horticulture Category
- One in Rainfed Farming Category
- One in Woman Farmer Category

The Award for the woman Farmer Category is in honour of Smt. Maniben Patel, wife of late Shri L. M. Patel.

1.1.2 Free of Cost Training

ASPEE Group of Companies have professional engineers, production managers, quality analysts, supervisors, packaging personnel, sales and marketing representatives and other skilled workers. Conducting the business with complete fairness, honesty and transparency, they make sure that at any

point of time they can stand public scrutiny. Firmly believing in giving mutual respect to all of their team members, they inculcate motivation in all employees to boost their morale.

Apart from this, his full-fledged training section periodically holds refresher training programs for Technicians of distributors and dealers, which assist them to keep abreast with developments and product modifications.

Technicians of foreign governments and buyers are also trained free of cost in the repairs and maintenance of plant protection equipment at the works. During the training, free lodging and boarding facilities are provided to the representative at his training center.

1.1.3 ASPEE Gold Medal

It is awarded to a student from State Agriculture Universities in India scoring at the B.Sc. (Agriculture) level, the highest marks in the combine subjects of Agriculture Entomology and Plant Pathology.

Students from 21 Universities are the recipients of the ASPEE Gold Medal each year from the interest accrued on funds placed at the disposal of the Universities.

1.1.4 ASPEE Alumni Association

The foundation also encourages students to involve themselves in areas of research, development and extension pertaining to agriculture. It also provides the students Gold Medals and Fellowship Awards to encourage higher studies. The foundation has also formed an Alumni Association for such students which one hopes will be the starting point for many other inter-related activities.

1.1.5 Corporate Social Responsibility

ASPEE Group of Companies has been engaged in promoting various social and educational activities. ASPEE Group and the ASPEE Charitable Trust keeps on contributing a considerable amount of monetary funds for various rural based programs through Ram Krishna Mission. Certain activities that ASPEE have accomplished comprise:

- Constructed 34 schools after earthquake disaster in Kutch, Gujarat.
- Financial help to Latur earthquake victims.
- Helping hand to those who faced fatalities in the hurricanes at Orissa and Andhra Pradesh.
- Presence felt in Tsunami affected parts of Kerala by constructing school.

ASPEE have never miss on any opportunity for serving rural farming community and have established:

- ASPEE College of Horticulture and Forestry, Navsari (Gujarat).
- The ASPEE College of Nutritional Science and College of Home Science and Food Technology at Sardar Krushinagar (Dantiwada), Gujarat.
- Yeoman's Services.

1.1.6 Published Books

ASPEE is managing the books, published by the family trust "Shakilam Foundation".

<u>Sl. No.</u>	<u>Books</u>	<u>Language</u>
01	Heart to Heart	English
02	In Communication with Conscious	English and Gujarati
03	Pass the Bypass	English
04	In Quest of Happiness	English
05	Gita Sikh Ane Mahabharat No Marm	Gujarati
06	Maro Sakshatkari Hradayrog	Gujarati
07	Geeta Aachman	Gujarati

1.2 Board Of Directors

ASPEE Group of Companies

1.2.1 AMERICAN SPIRING AND PRESSING WORKS PRIVATE LIMITED.

Sr. No.	Name Of Director	Designation
01	Mr. Sharad L. Patel	Chairman and Managing Director
02	Mr. Kiran L. Patel	Joint Managing Director
03	Mr. Pradip J. Desai	Director
04	Mr. Anil B. Patel	Director
05	Mr. Pravinchandra I. Patel	Director
06	Mr. Jatin S. Patel	Director
07	Mr. Rajeev K. Patel	Director
08	Mr. Anil M. Shah	Director

1.2.2 ASPEE AGRO EQUIPMENT PRIVATE LIMITED

Sr. No.	Name of Director	Designation
01	Mr. Sharad L. Patel	Managing Director
02	Mr. Kiran L. Patel	Joint Managing Director
03	Mr. Jayantikumar I. Patel	Director
04	Mr. Hiten C. Patel	Director
05	Mr. Pradip J. Desai	Director
06	Mr. Jatin S. Patel	Director
07	Mr. Rajeev K. Patel	Director

1.2.3 ASPEE PLANT PROTECTION APPLIANCES PRIVATE LIMITED

Sr. No.	Name of Director	Designation
01	Mr. Kiran L. Patel	Managing Director
02	Mrs. Lalita K. Patlel	Director
03	Mrs. Indu C. Patel	Director
04	Mr. Mahendrakumar I. Patel	Director
05	Mr. Girish B. Patel	Director
06	Mr. Jatin S. Patel	Director
07	Mr. Rajeev K. Patel	Director
08	Mr. Sharad L. Patel	Director

1.2.4 NAVYUG KRISHI SANDHAN PRIVATE LIMITED

Sr. No.	Name of Director	Designation
01	Mrs. Shantaben S. Patel	Director
02	Mrs. Varshaben B. Patel	Director
03	Mr. Jatin S. Patel	Director
04	Mr. Kiran L. Patel	Director
05	Mr. Sharad L. Patel	Director
06	Mr. Rajeev K. Patel	Director

1.3 ASPEE Products Profile

ASPEE has the wide range of product. The reason for having wide range is to satisfy the entire farming fraternity and therefore the range includes equipment from Rs. 35/- to more than Rs. 90,000/-.

ASPEE Sprayer India has more than 80 types of sprayers and dusters. Majority of the products are manufactured in the factories at Mumbai and Tansa in Maharashtra and Bilimora in Gujarat. Any sprayer made by ASPEE is thoroughly tried and tested before introducing into the market.

The product range of sprayers and dusters include:

New Sprayers

ASPEE frequently introduces new sprayers and dusters considering the needs of the farmer community. A lot of R and D are done before new sprayers are introduced in the market.

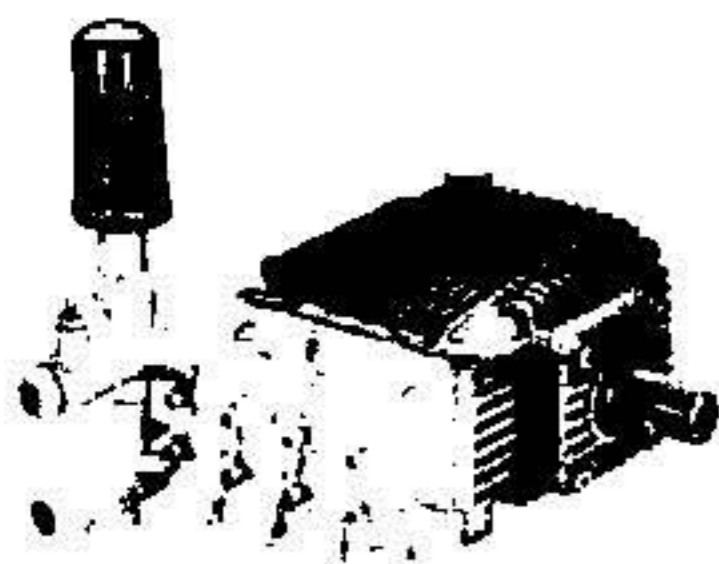
Types of New Sprayer

- a) **Power High Pressure (PHP/1810B)** - Suitable for large spraying operations in orchards, coffee and rubber plantations.

Special Features:

GENERAL DESCRIPTION

ASPEE Power High Pressure PHP/1810B horizontal triplex power sprayer unit with ceramic piston, developing 3800-PSI (270 BAR) pressure. Discharge is 10.8 to 20.9 lit/min.

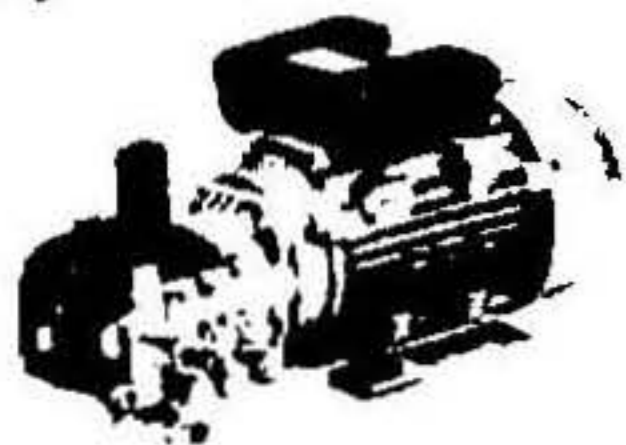


TECHNICAL DESCRIPTION

- Suction capacity: 10.8 LPM / 20.9 LPM
- Maximum pressure psi: 3800 / 3800
- Maximum pressure bar: 270 / 270
- Rpm: 1450 / 2800
- Power (hp): 10 / 10

b) **Power High Pressure (PHP/1508B/M)** - Suitable for large spraying operations in orchards, coffee and rubber plantations.

Special Features:



GENERAL DESCRIPTION

ASPEE Power High Pressure PHP/1508B/M horizontal triplex power sprayer unit with ceramic piston, developing 2800-PSI (200 BAR) pressure. Discharge is 10.3 lit/min. Coupled with motor.

TECHNICAL DESCRIPTION

- Suction capacity: 10.3 LPM
- Maximum pressure psi: 2800
- Maximum pressure bar: 200
- Rpm: 2800
- Power (hp): 5
- Weight: 37.5 KG

c) **Power High Pressure (PHP/1508B/MT)** - Suitable for large spraying operations in orchards, coffee and rubber plantations.

Special Features:



GENERAL DESCRIPTION

ASPEE Power High Pressure PHP/1508B/MT horizontal triplex power sprayer unit with ceramic piston, 5-meter hose and high pressure gun developing 2800-PSI (200 BAR) pressure. Discharge is 10.3 lit/min. coupled with motor and mounted on trolley.

TECHNICAL DESCRIPTION

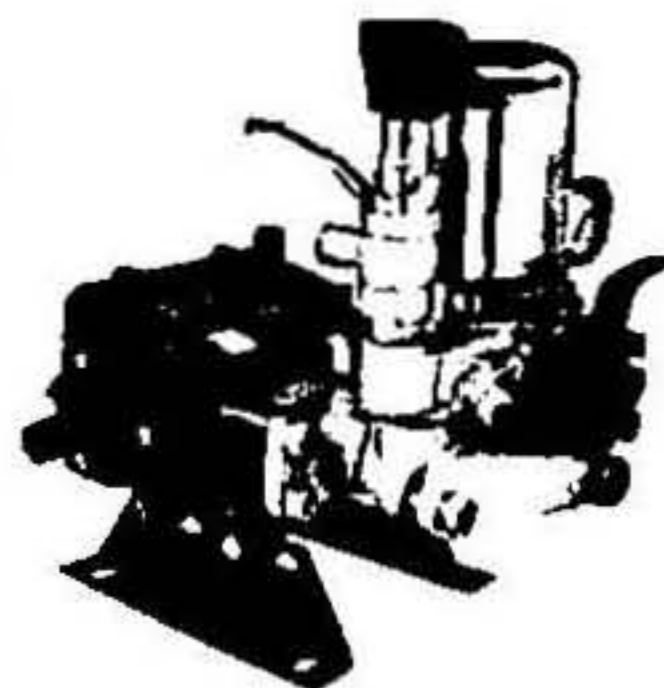
- Suction capacity: 10.3 LPM
- Maximum pressure psi: 2800
- Maximum pressure bar: 200
- Rpm: 2800
- Power (hp): 5
- Total weight: 42 KG

d) **Bili HTP PS/36-** Suitable for large spraying operations in orchards, coffee.

Special Features:

GENERAL DESCRIPTION

ASPEE BILI HTP horizontal triplex power sprayer unit, developing 400 psi (28 bars) pressure and giving free discharge of 36 lit/min. With pulley, pressure vessel, pressure indicator, by pass



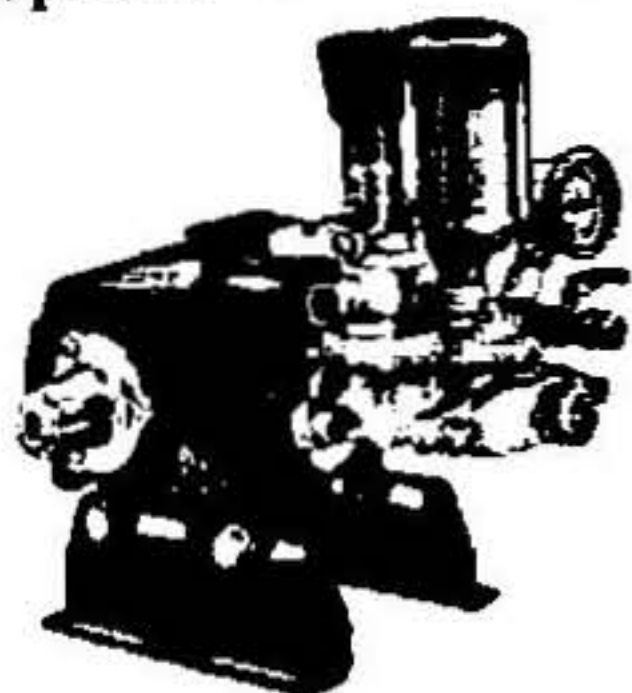
cum pressure regulator valve, 3 meter long by-pass and suction hose with strainer, couplings for delivery hose.

TECHNICAL DESCRIPTION

- Suction Capacity (Lpm): 36
- Pump Revolution: 950
- Max. Pressure: 400 PSI (28 BAR)
- Power: 3 HP
- Weight (Without Oil): 12 KG

e) **Bili HTP (PSB/12BN and PSB/16BN)** - Suitable for large spraying operations in hilly areas, orchards, coffee.

Special Features:



GENERAL DESCRIPTION

ASPEE-PSB/12BN
ASPEE-PSB/16BN

HTP horizontal triplex power sprayer unit, developing 400 psi (28 bar) pressure, supplied with pulley, glycerin filled pressure gauge, by pass cum pressure regulator

valve, by-pass hose and suction hose with strainer (without delivery hose, engine or electric motor).

TECHNICAL DESCRIPTION:

PSB/12 BN

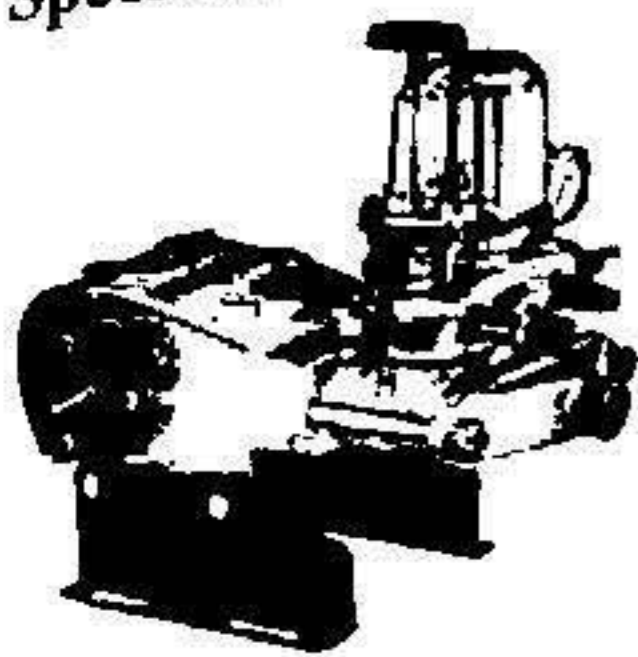
- Suction Capacity (Lpm): 12
- Working Pressure: 200 PSI (14 BAR)
- Maximum Pressure: 400 PSI (28 BAR)
- Pump Revolution: 1000
- Power (Hp): 1
- Weight (Without Oil): 4.1 KG

PSB/16 BN

- Suction Capacity (Lpm): 18
- Working Pressure: 200 PSI (14 BAR)
- Maximum Pressure: 400 PSI (28 BAR)
- Pump Revolution: 1000
- Power (Hp): 1
- Weight (Without Oil): 4.7 KG

- f) **Bili HTP (PSB/22BN, PSB/30BN, PSB/70B)** - Suitable for large spraying operations in orchards, coffee.

Special Features:



GENERAL DESCRIPTION

ASPEE-PSB/22BN
ASPEE-PSB/30BN
ASPEE-PSB/70B

HTP horizontal triplex power sprayer unit, developing 500 psi (35 bar) pressure, supplied with pulley, glycerin filled pressure gauge, by pass cum pressure regulator valve, by-pass hose and suction hose with strainer (without delivery hose, engine or electric motor).

TECHNICAL DESCRIPTION:

PSB/22 BN

- Suction Capacity (Lpm): 20
- Working Pressure Psi: 200 (14 BAR)
- Maximum Pressure Psi: 500 (35 BAR)
- Pump Revolution: 1000
- Power (Hp): 2
- Weight (Without Oil): 7 KG

PSB/30 BN

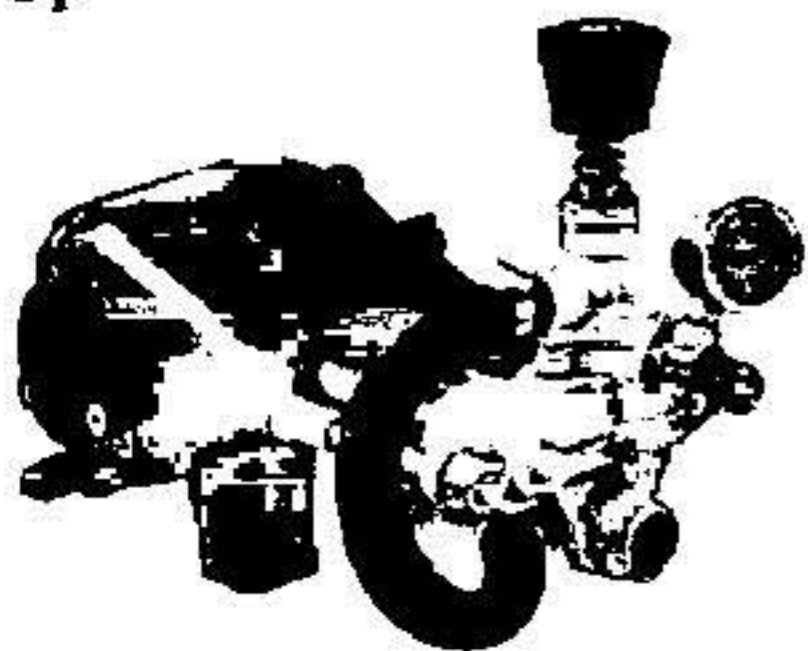
- Suction Capacity (Lpm): 30
- Working Pressure Psi: 200 (14 BAR)
- Maximum Pressure Psi: 500 (35 BAR)
- Pump Revolution: 950
- Power (Hp): 3
- Weight (Without Oil): 9.8 KG

PSB/70 B

- Suction Capacity (Lpm): 60
- Working Pressure Psi: 200 (14 BAR)
- Maximum Pressure Psi: 500 (35 BAR)
- Pump Revolution: 800
- Power (Hp): 5
- Weight (Without Oil): 16 KG

g) **Bili HTP (PSB/58PX)** - Suitable for large spraying operations in orchards, coffee.

Special Features:



GENERAL DESCRIPTION

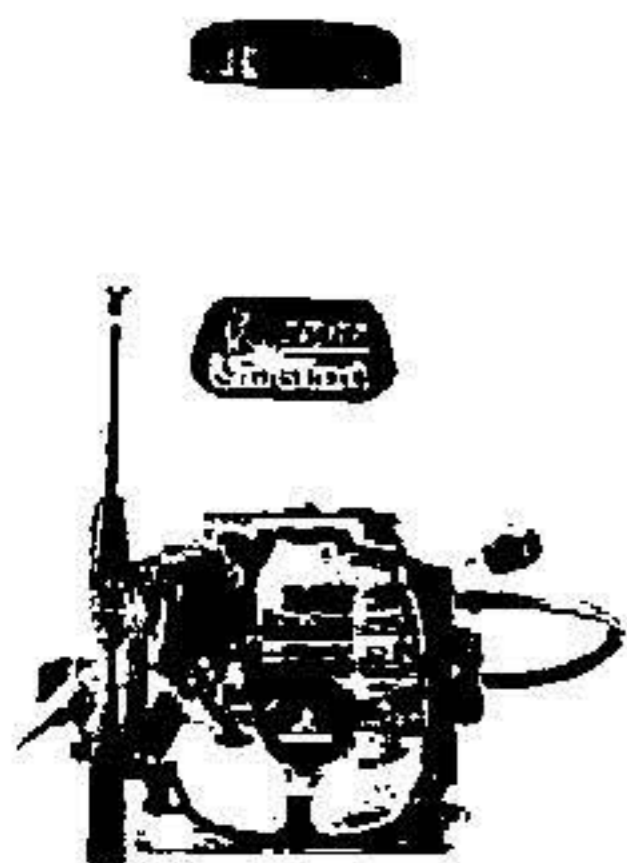
ASPEE-PSB/58PX HTP horizontal triplex power sprayer unit, developing 600 psi (42 bars) pressure and unloader valve is provided for automatic shut-off pressure and by pass connected to suction, discharge of 40 lit/min. With pulley, glycerin filled pressure gauge.

TECHNICAL DESCRIPTION

- Suction Capacity (Lpm): 40
- Working Pressure: 300 PSI (21 BAR)
- Maximum Pressure: 600 PSI (42 BAR)
- Rpm: 800
- Hp Required: 5
- Total Weight: 7.6 KG

h) **Uniblast** - Ideal for spraying on all types of field crops, grape, apple, orange, and coffee, tea etc.

Special Features:



- Suitable for row and ground crops like cotton, soyabean, all types of vegetables, tea and coffee plantations and Ideal for spraying in hilly terrain
- Spray quality is equivalent to spray quality of HTP power sprayer
- Economic for spraying costly pesticide
- Efficient in fuel consumption
- Chemical resistant 20 liters tank
- Develops upto 400 PSI
- Supplied with 26CC engine fitted with recoil starter for

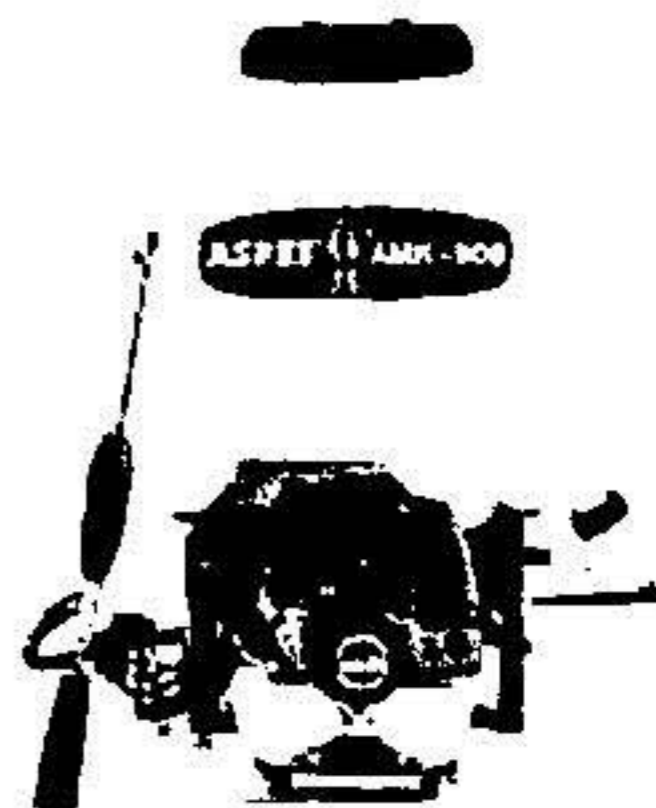
easy start

- Ignition system with intermediate shut off.

i) **AMK – 800** - Economical in fuel efficient in spraying for pest and disease control.

Special Features :

- Suitable for row and ground crops like cotton, soyabean, all types of vegetables, tea and coffee plantations





- Spray quality is equivalent to spray quality of HTP power sprayer
- Ideal for spraying in hilly terrain
- Tank capacity 20 lit, fuel tank 0.6 lit
- Three stage filtration
- Sturdy plastic back rest and frame,
- Back cushion and shoulder strap cushion Wider shoulder strap for operator's comfort
- Center of gravity is located near the lower back for better comfort of operator
- Aluminum reduction gearbox with gears are of harden steel.
- Recoil starter provided for ease of starting the engine
- Ignition system with intermediate shut off.

j) **Avvenger (AVG/001)** - It develops ultra volume droplets in the range of 5-50 microns to help farmers save time and cost of chemical. Ideal for green house crops and nurseries.

Special Features:



- Blow Moulded 4 Lit. Tank
- Light weight and portable
- Easy to handle trouble free
- Adjustable output from 0 to 13 Lit. per hour.
- Discharge setting metering valve allows for easy control of output and droplet size
- Ultra low volume spray droplets penetrate into cracks and crevices for controlling insects in their natural hiding

places.

- Effective coverage with less sprays solution.
- No visible trace of spray solution resulting in clean environment.
- Parts and service available through authorized dealers throughout the country.

k) **Eden Hand Poly Sprayer (ED/215)** - Ideal for spraying in house hold and in kitchen gardens.

Special Features:



- 1.5 liter tank capacity
- Small and easy to handle
- Best suited for domestic spraying purposes
- Easy in operation and maintenance
- No tools needed for repairs
- Fill the spray liquid to two-thirds of tank capacity i.e., to 1200 ml
- Pump 20 to 25 full strokes of plunger rod to get sufficient pressure

- Spray the liquid by pressing the trigger with thumb

l) **Eden Hand Sprayer (ED/015)** - Ideal for small nurseries, spraying insecticides and fungicides.

Special Features :



- 1.5 liter tank capacity
- Brass parts for longer life
- Ideal for small nurseries
- Easy in operation and maintenance
- Effective coverage
- Strainer, Goose neck lance with adjustable nozzle for jet and cone
- Fill the spray liquid upto 1.5 lts.

- Tighten the cap cum handle.

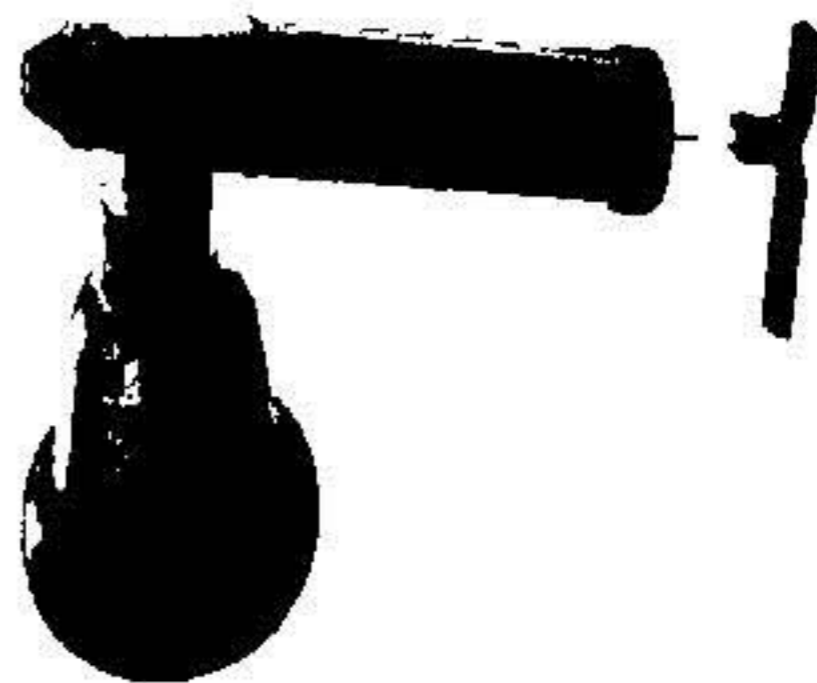
- To spray the liquid push the lance back and forth.

- Continuous reciprocation will give even spray.

m) **Parth Continuous Sprayer (PT/005)** - Ideal hand sprayer for small spraying operations.

Special Features:

- 500 cc tank capacity
- Ideal hand sprayer for small spraying operations
- Continuous and easy operation
- Effective coverage
- Continuous reciprocating of plunger rod gives effective spray.



n) **Brush Cutter CBC/026/040 3BA** - Suitable for cutting fresh or dry grass on ground, lawn, field etc. Equally suitable for cutting small bushes, bamboos, sugarcane etc.

Special Features:



- ASPEE brush cutter is portable and easily manuverable with 2 stroke 26 cc/40 cc petrol engine. With 3 different types of removable blades for efficient cutting operations.

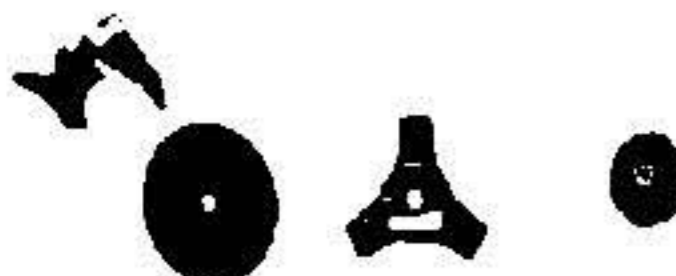
- Type: Forced air cooled 2-stroke petrol engine

- Capacity: 26 cc / 40 cc

- Fuel: Petrol oil mixture (2t oil: petrol = 1: 40)

- Ignition: Electronic ignition with intermediate shut off

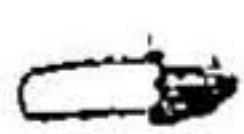
- Carburator: Diaphragm type



- Starting system: Recoil starter
- Fuel tank capacity: 640 ml / 750 ml
- Weight: 5 kg / 5.6 kg

o) **Branch Cutter CBC/026/CS** - Suitable for branch cutting.

Special Features:



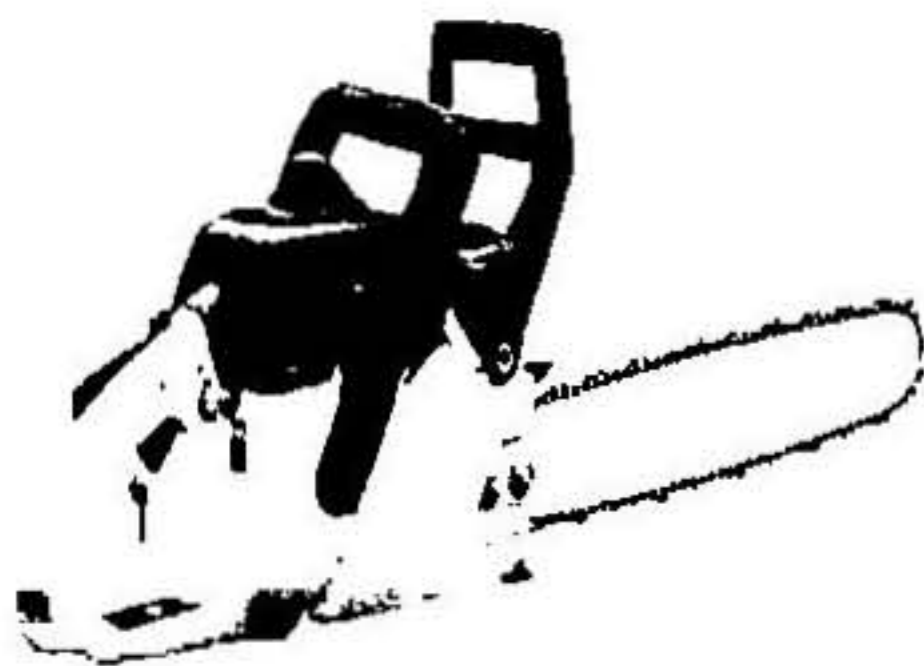
- ASPEE brush cutter with chain saw attachment is a portable and easily manuverable. It has 2 stroke 26

cc petrol engine. For efficient cutting operations.

- Type: Forced air cooled 2-stroke petrol engine
- Capacity: 26 cc
- Fuel: Petrol oil mixture (2t oil: petrol = 1: 40)
- Ignition: Electronic ignition with intermediate shut off
- Carburator: Diaphragm type
- Starting system: Recoil starter
- Fuel tank capacity: 640 ml
- Weight: 5.9 kg

p) **Brush Trimmer BT 36** - It is efficient equipment for sawing and cutting branches/ trees.

Special Features:



- ASPEE chain saw is compact equipment with 36 cc 2 stroke petrol engines. Having high speed steel chain type cutter, full warp comfortable handle

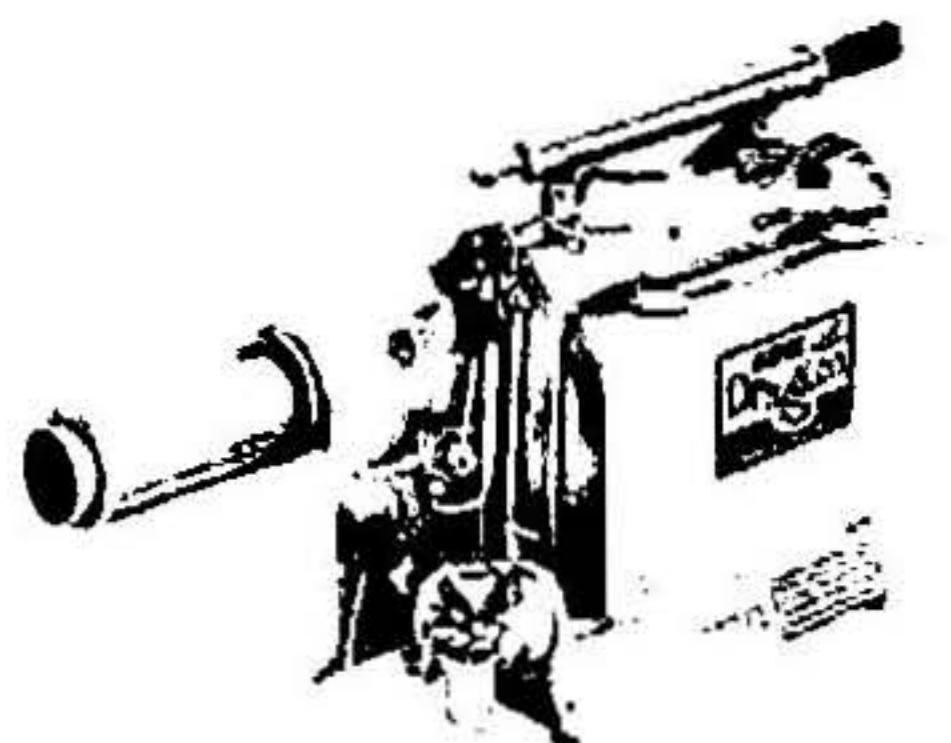
- Type: Forced air cooled 2-stroke petrol engine
- Capacity: 36 cc
- Fuel: Petrol oil mixture (2t oil: petrol - 1: 40)
- Ignition: Electronic ignition with intermediate

shut off

- Carburator: Diaphragm type
- Starting system: Recoil starter
- Fuel tank capacity: 400 ml.
- Oil chamber capacity: 200 ml.
- Empty weight: 4.75 kgs

q) **Fogging Machine (FOG/C/25A)** - Suitable for both professional and domestic use.

Special Features:



GENERAL DESCRIPTION

ASPEE S.S compact high capacity fogging

machine with pulse jet engine having electronic ignition system. The equipment is easy to operate having no moving parts and maintenance free working.

TECHNICAL DESCRIPTION

- Type: Thermal aerosol pulse jet fogging machine
- Starting mechanism: Electronic sparking mechanism (4.5 volt)
- Carburetor: Float type
- Fuel consumption petrol: 1.9 lit. /hour
- Diesel consumption: 25 – 40 lit. / hour
- Fogging area: 60000 cubic ft. /min
- Application rate: Rating 25 to 40 lit. / hour
- S.S chemical tank: 6 lit.
- S.S petrol tank: 1.4 lit
- Weight: 8 kg (empty)

USE

- Malaria eradication programs
- Epidemic prevention, disinfections and sterilization
- Mosquito control during outbreak of dengue / brain fever / chikungunya
- Ideal for Public Health Departments
- Ideal for Municipal Corporations

Fogging machine is ideal for

Professional use:

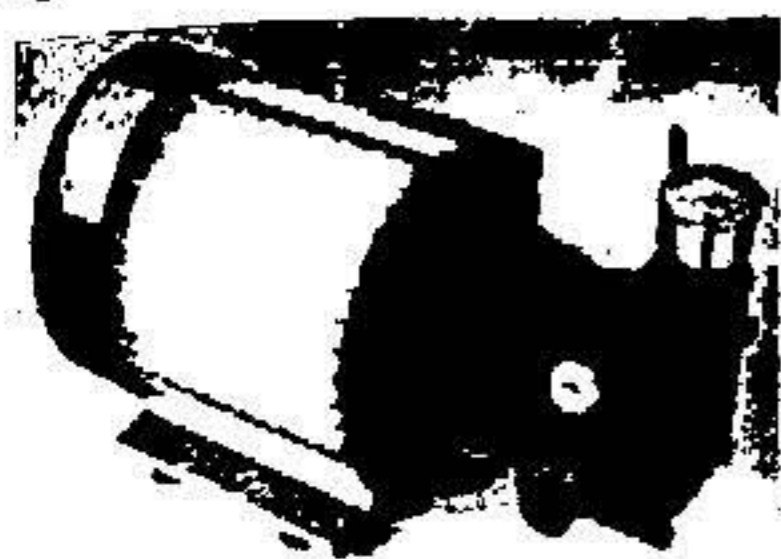
- Public health departments
- Municipal corporations
- Pest control operators
- Contractors catering to large institutions
- Food corporation of India
- Military training centers
- Ware houses of FCI / logistics operators
- Rubber plantations
- Hotels, resorts and party lawns
- Club houses, golf clubs and gymkhanas
- Hospitals and nursing homes
- Factory premises
- Sewage areas
- Godowns and ware houses
- Schools, hostels and aashrams
- Pharmaceutical factory / lab

Domestic use:

- Private bungalows
- Housing societies / Apartments
- Farm house / Beach house
- Poultry farms / Green house

r) **Power High Pressure Unit for Mist Fogging** - Suitable for Cotton jinning mill, Livestock and poultry, Agricultural storage godowns, Industrial usage, Hotels and resorts, Gardens and orchards, Sports.

Special Features:



GENERAL DESCRIPTION

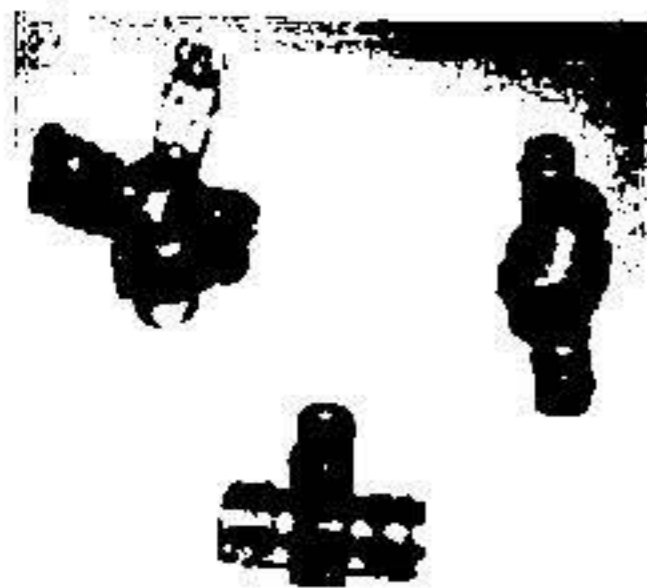
ASPEE php/fm/803 power high pressure sprayer unit, developing 1015 - 1160 psi (70 - 80 bars) pressure and giving free discharge of 3 lit/min with glycerin pressure gauge, and directly coupled with electric motor.

TECHNICAL DESCRIPTION

- Suction capacity: 3 lpm
- Working pressure: 1015 psi (70 bar)
- Maximum pressure: 1160 psi (80 bar)
- Rpm: 900
- Power (hp): 1
- Total weight: 15.50 kg

s) **Misting Fogging Nozzles** - Suitable for Cotton jinning mill, Livestock and poultry, Agricultural storage godowns, Industrial usage, Hotels and resorts, Gardens and orchards, Sports.

Special Features:



GENERAL DESCRIPTION

ASPEE misting fogging nozzles produces very fine water mist for cooling as well as humidification.

TECHNICAL DESCRIPTION

Code Fm 046

- Working Pressure: 70 BAR / 1015 PSI
- Flow Rate: 46 CC/MIN / 0.046 LPM / 2.76 LPH

Code Fm 084

- Working Pressure: 70 BAR / 1015 PSI
- Flow Rate: 84 CC/MIN / 0.084 LPM / 5.04 LPH

Knapsack Sprayers

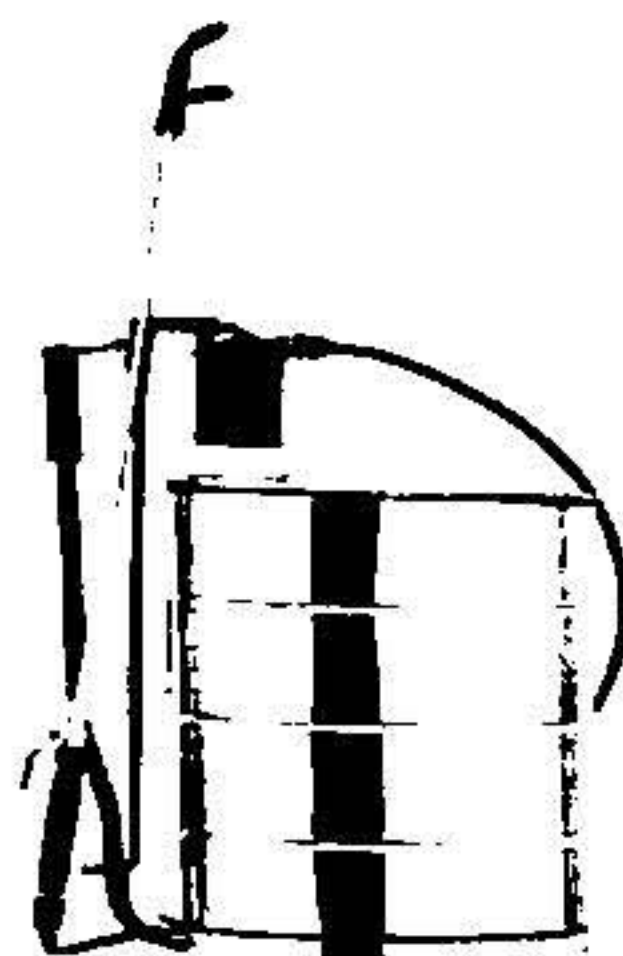
ASPEE has a wide variety of Knapsack Sprayers and are one of the most popular products of the farmers.

Types of Knapsack Sprayer

a) **Stainless Steel Sikar (NS-165)** Suitable for spraying on row crops and vegetables.

Special Features:

- 16 lit stainless steel tank
- Engineering plastic bottom well and stainless steel tank base
- Mechanical chemical agitator
- Plastic pressure chamber capacity 900 cc ensures pulsation free spray
- Double piston and double ball valve for quick building up and retaining pressure



b) **Arjun (ARJ/1)** - Ideal Sprayer for all field crops and Tea estates.

Special Features:

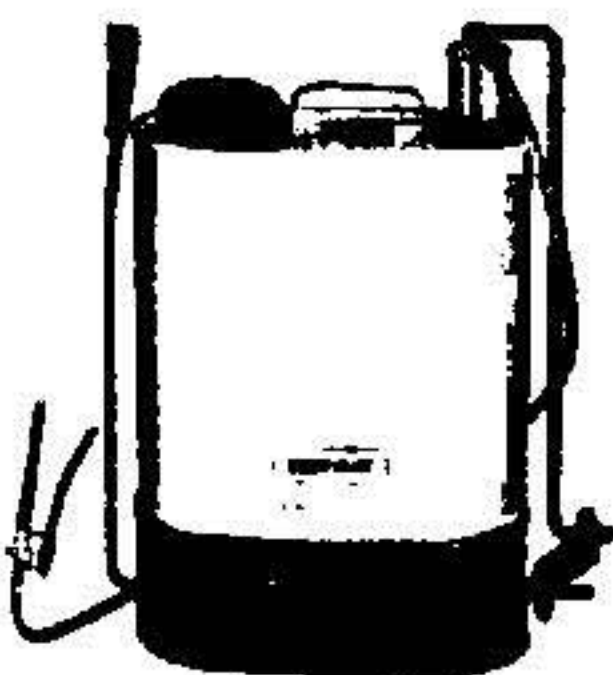
- ISI Mark 3906
- Corrosion Resistant Plastic Base
- Shoulder strap flaps directly moulded with the tank
- Heavy duty steel skirt available on request
- Brass pressure chamber and bottom well



c) **Sikar (SR/28)** - Suitable for spraying on row crops and vegetables.

Special Features:

- 16 liters capacity brass chemical tank
- Brass bottom well and pressure chamber, metal tank base
- Automation agitation
- Right or left hand operation
- Mechanical chemical agitator
- Sturdy and durable Sprayer



d) **Napsak (SRP/50)** - Ideal Sprayer for all field crops and Tea estates.



Special Features:

- 16 liters capacity tank moulded from virgin high density polyethylene
- Brass Pressure Chamber and Bottom Well
- Sturdy construction and easy operation
- Can be operated with left or right hand- Develops sufficient and continuous pressure
- Mechanical Chemical Agitator

e) **Bili Napsak (SR/100)** - Wide and quick coverage for effective pest control and diseases.

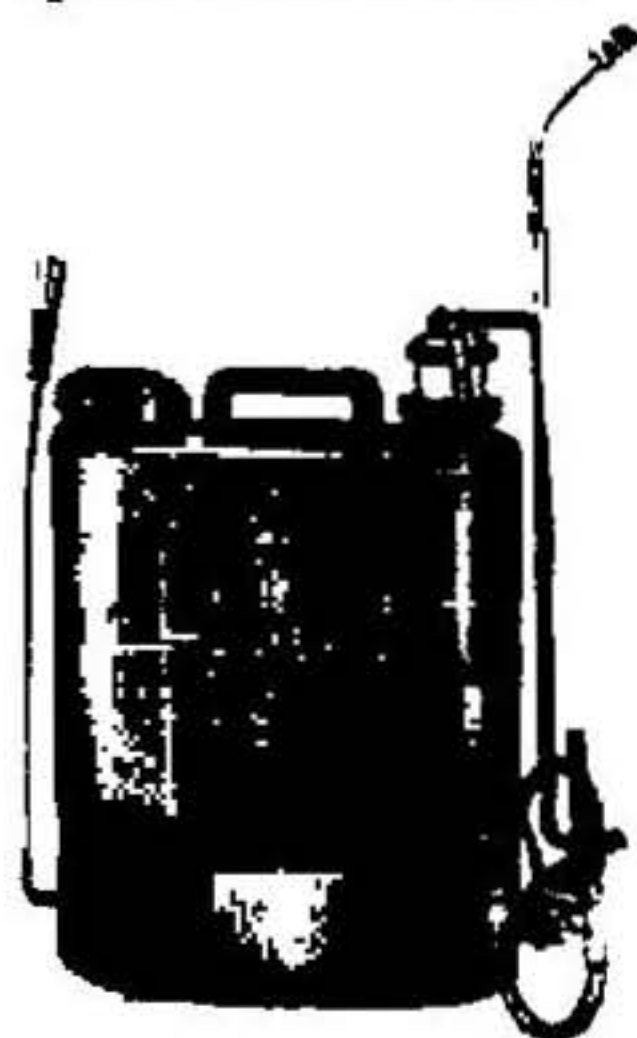
Special Features :

- 16 liters capacity plastic blow moulded tank from virgin raw material
- Corrosion resistant plastic tank base
- Replaceable plastic bottom well
- Automatic agitation system provided keeps the chemical well mixed
- Can be operated with left or right hand
- Simple design for easy repairs and operation
- Robust construction hence, longer life span
- Competitive price



f) **Parth Napsak (PAR-1)** Ideal for pest control in all crops develops sufficient and continuous pressure and rests comfortably on the operators back.

Special Features:



- 16 liters capacity tank moulded from virgin high density polyethylene
- Brass Pressure Chamber and Bottom Well
- Sturdy construction and easy operation
- Can be operated with left or right hand
- Mechanical Chemical Agitator and Long lasting PVC piston
- Corrosion resistant plastic tank base
- Left or right hand operation
- Competitive price.

g) **Bakpak Pesticide (SRP/23)** - Suitable for spraying on field crops and in plantations.

Special Features:

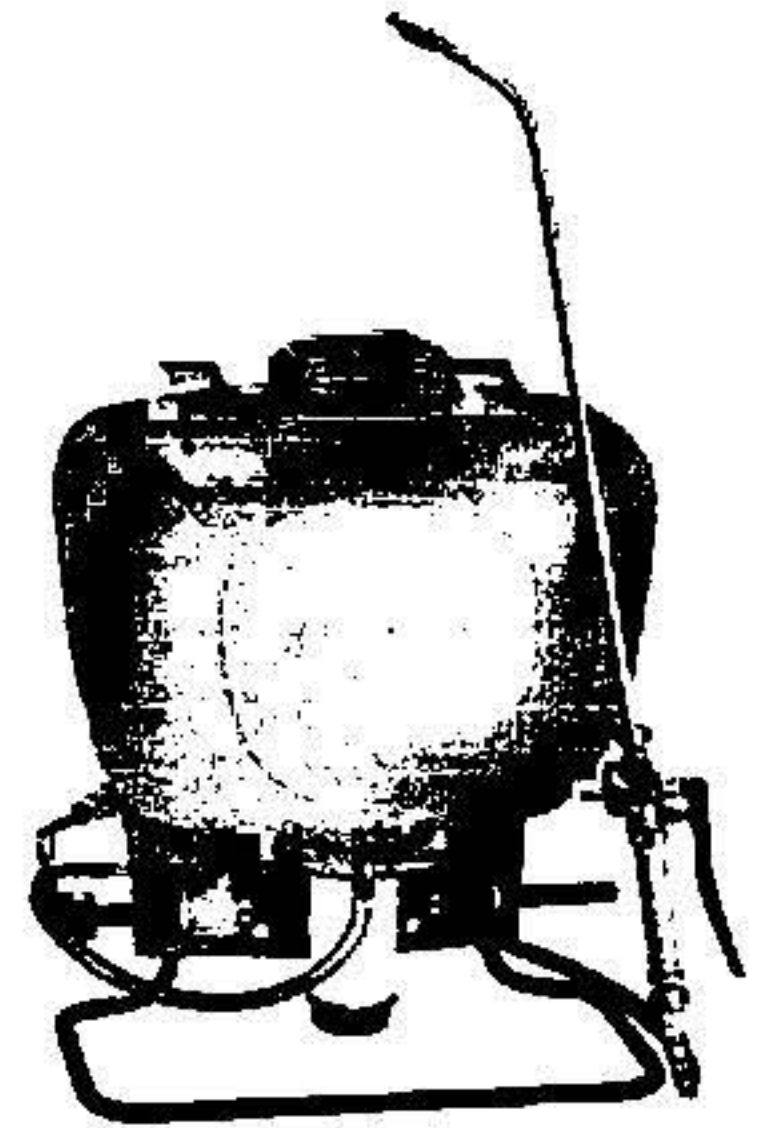
- 13 liters tank and plastic parts makes it light weight
- Plastic Pump Barrel with brass Sleeve
- Centrally mounted pump assembly
- Minimum metal parts to avoid corrosion
- Diaphragm valves for efficient performance



h) **Bakpak Weedicide (SRP/19)** - Ideal for spraying weedicides in tea and coffee estates and row crops.

Special Features:

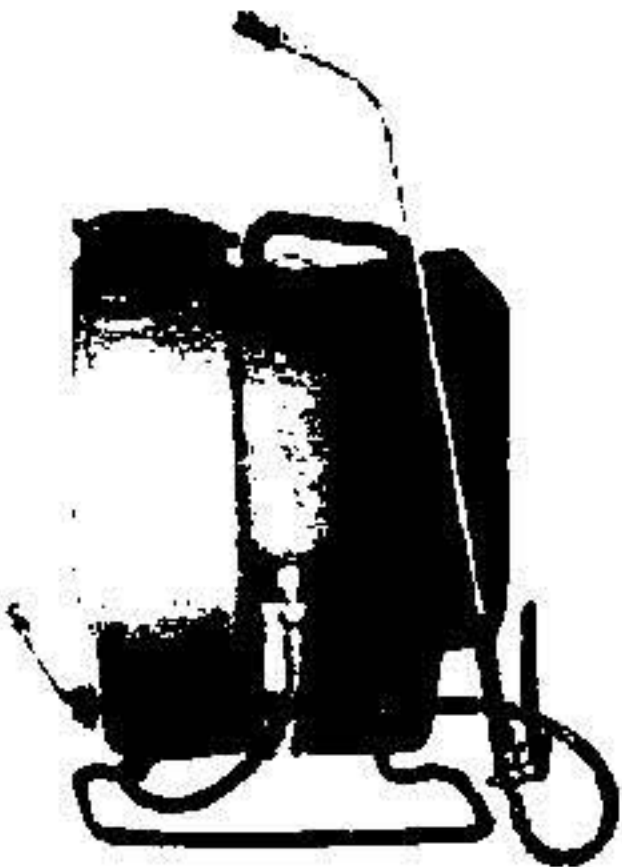
- Designed for spraying weedicide
- Light in Weight and Sturdy in construction
- 13 liters capacity tank moulded from virgin high density polyethylene
- 2 nos. Adjustable shoulder straps
- TCR for constant spraying pressure
- Left or right hand operation
- Plastic spray shield available to avoid drift
- Pressure regulator provided to control spraying
- Spray lance also available with plastic shield



i) **Hi-tech (SRP/60)** - Unique sprayer for agricultural field crops like paddy, wheat and vegetables.

Special Features:

- Recommended as "Most Efficient and Comfortable Sprayer"
- Ergonomically designed
- 16 Liters capacity blow moulded tank from High Density Polyethylene
- Pump is centrally placed outside the tank and has smaller piston diameter, hence easy for operation as balance is perfectly maintained
- Adjustable shoulder straps
- Right or left operation
- Replaceable tubular frame



j) **Bili Hi-tech (SR/200)** - Suitable for spraying on row crops, Horticultural and Nursery lawn and Garden.

Special Features:



- 16 Liters capacity blow moulded tank from High Density Polyethylene
- Shoulder strap hanger and Tubular frame moulded on tank
- Tank ergonomically designed for comfortable resting on the back of operator
- Strong construction and easy operation
- Majority of parts coming into contact with chemical are made from durable plastic material
- Develops sufficient pressure with a few strokes

- Suitable for operation with left or right hand
- Bigger filler hole and Breather hole in strainer allows filling of spray solution without spilling
- Competitive price

k) **Eden Hi-tech (ED/100)** - It is a state of art sprayer specially designed for farmers who believe in Hi-techniques. It is suitable for spraying on field crops.

Special Features:



- 16 Liters capacity blow moulded tank from High Density Polyethylene
- Corrosion resistant plastic tank base
- Plastic Pump Barrel with Brass Sleeve
- Easily adjustable right/left handed operation
- Bigger filler hole at tilted angle to avoid spillage
- Pump is centrally placed outside the tank and has smaller piston diameter, hence easy for operation as balance is perfectly maintained
- Chemical resistant PVC pistons and washers

l) **Millenium (SRP/74)**:- This sprayer is ideal for spraying on all field crops, greenhouses and wherever precise spraying is required.

Special Features:

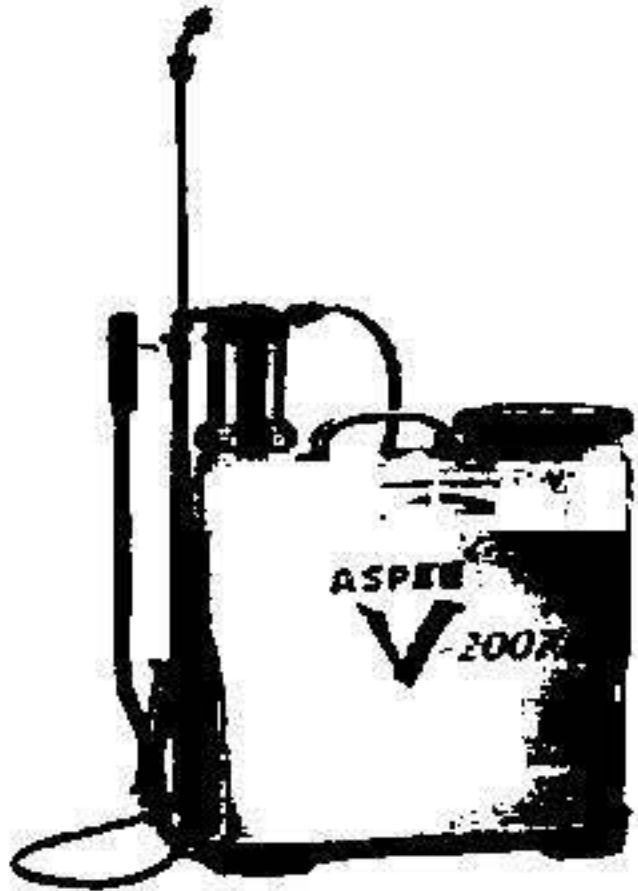
- Easy operation and user friendly product
- Ergonomically designed for operator's comfort



- Designed for steady pulsation - free spraying
- 16 Liters capacity blow moulded tank from High Density Polyethylene
- Light weight sprayer 3.9 kgs but extremely sturdy
- Brass pressure chamber and plastic bottom well with easy to replace diaphragm valve gives complete sealing
- Mechanical agitator helps to maintain an evenly mixed spray solution

m) **ASPEE V-2007 (VNS-16A)** - Ideal for pest control in all field crops. Develops and maintains continuous pressure for a longer time.

Special Features:



- Easy operation and user friendly product
- Ergonomically designed for operator`s comfort
- Total weight of the sprayer is 3.1 Kg.
- Pressure chamber capacity 900 CC ensure pulsation free spray
- Easily replaceable Bottom well but extremely sturdy
- Double piston and double ball valve for quick building and retaining the pressure
- Mechanical agitation helps to maintain an evenly mixed

spray solution

- Right or left hand operation
- No tools required for repair and maintenance

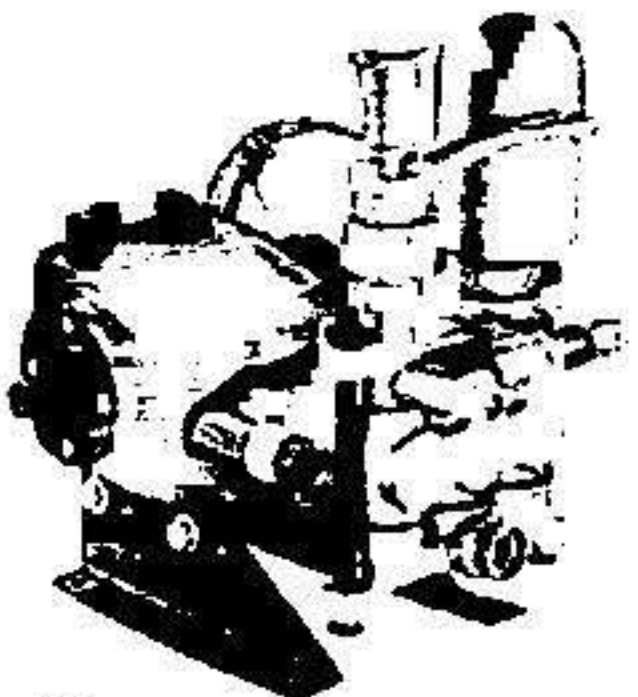
Power Sprayers

ASPEE Power Sprayers are reliable and strong and are available in a wide range for large spraying operations.

Types of Power Sprayer

a) **HTP (PS/16)** - Suitable for quick and effective spraying on orchards, tall-tree, grape vineyards, coffee and rubber plantations and also on field crops.

Special Features:

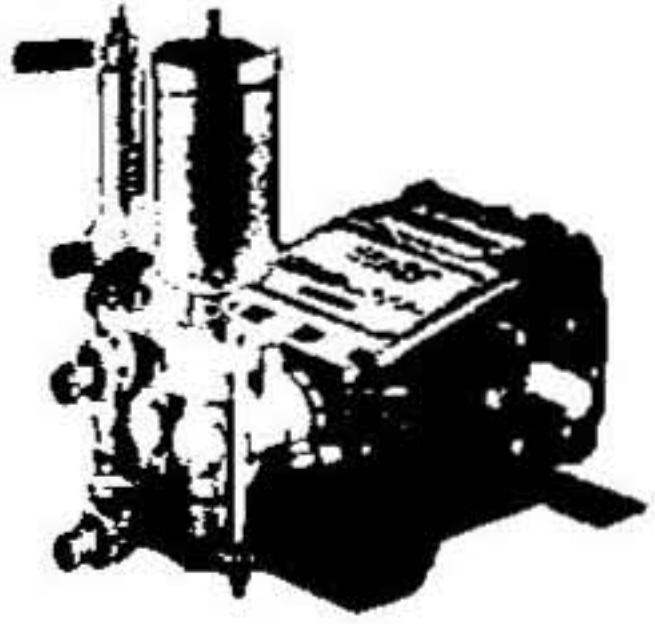


- Heavy duty and efficient sprayer
- Triplex pump with stainless steel piston and oil bath lubrication
- Develops 250 to 350 pounds pressure
- Discharge line consists of 15 Mt. Long delivery hose and ASPEE spray gun
- Needs 3 HP engine or electric motor

- Convenient to spray with 4 to 6 spray lances at a time

b) **Sr. HTP (PS/15)** - Suitable for large spraying operations in orchards, coffee and Rubber plantations.

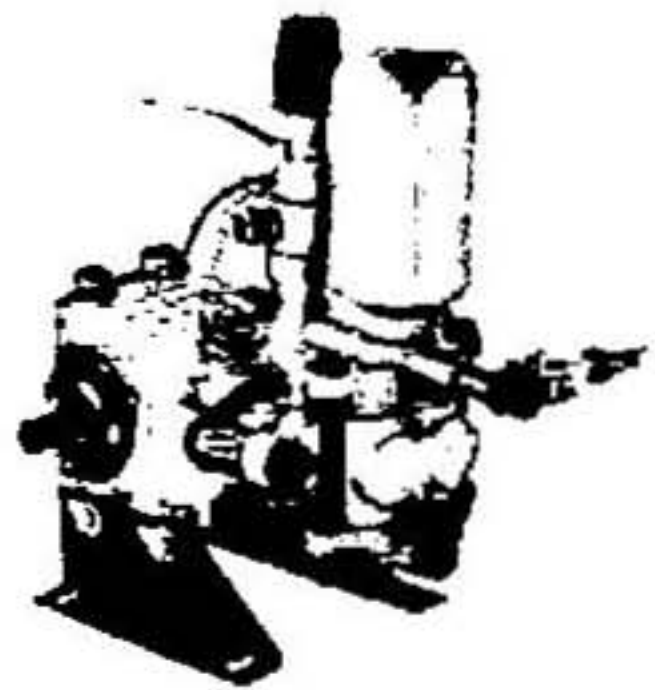
Special Features:



- Suitable for spraying on orchards, rubber and coffee plantation
- Develops a pressure of 600 – 650 PSI
- S.S. Delivery chamber, valve box and valve assembly
- Spring operated CVA with Bypass arrangement
- Provided with drain out plug.

c) **HDP (PS/26)** - Sprayer specially designed for spraying on orchards, hilly terrain, plantations, pepper vines and arecanut.

Special Features:



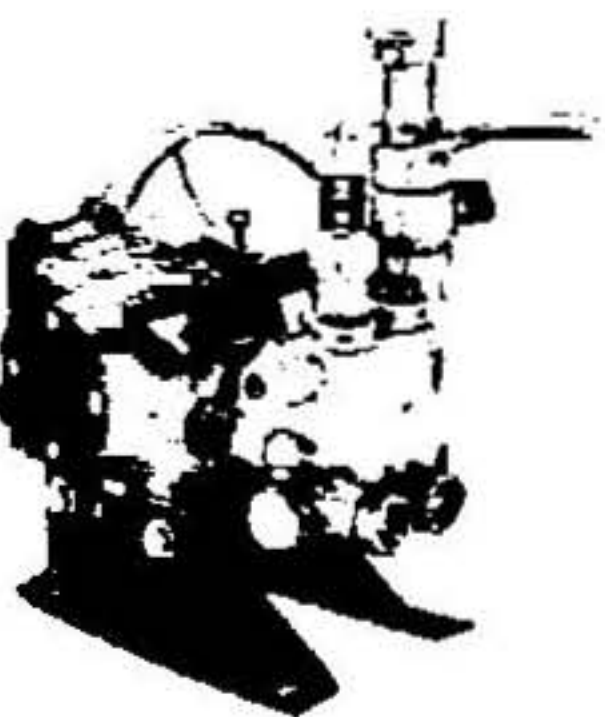
- Portable, compact, light weight
- All working parts, connecting rods, crank shafts, crank bearing are lubricated by oil bath
- Stainless steel pistons
- Suction capacity 24 lt. / min at 950 rpm
- ASPEE spray gun 80 / 150 cm long or hi-tree aluminum spray lance of 250 cm long can be used which can spray

up to a height of 30 to 35 ft.

- Convenient to attach 2 discharge lines with spray gun
- Needs 2/3 hp engine or electric motor
- Supplied without engine and delivery hose

d) **Jr. HDP (PS/40)** - Sprayer specially designed for spraying on orchards and hilly terrain. Also suitable for spraying on Apple and Grape orchards, coffee, rubber trees and field crops.

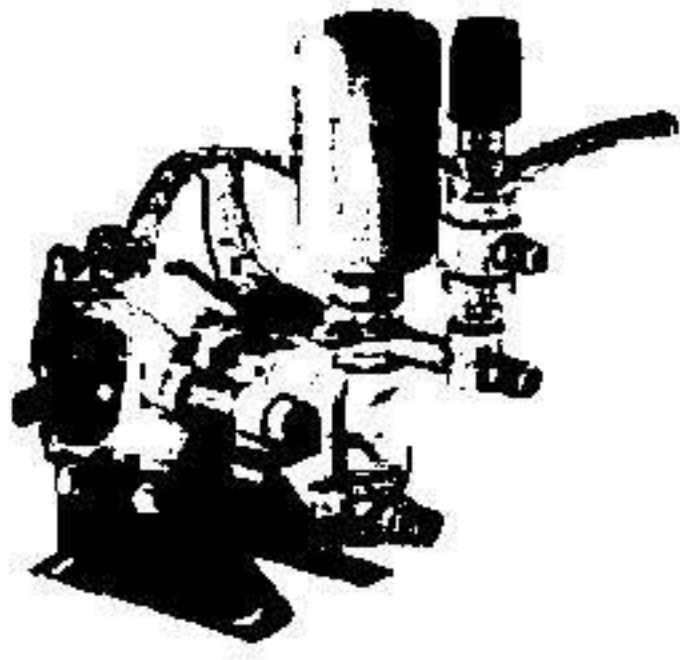
Special Features:



- Portable, compact, light weight
- All working parts, connecting rods, crank shafts, crank bearing are lubricated by oil bath
- Stainless steel pistons
- Suction capacity 13 lt. / min at 950 rpm
- ASPEE spray gun 80 / 150 cm long or hi-tree aluminum spray lance of 250 cm long can be used which can spray up to a height of 30 to 35 ft.

e) **HSP (PS/18)** - Ideal for spraying on orchards, coffee, Rubber plantations and vineyards.

Special Features :



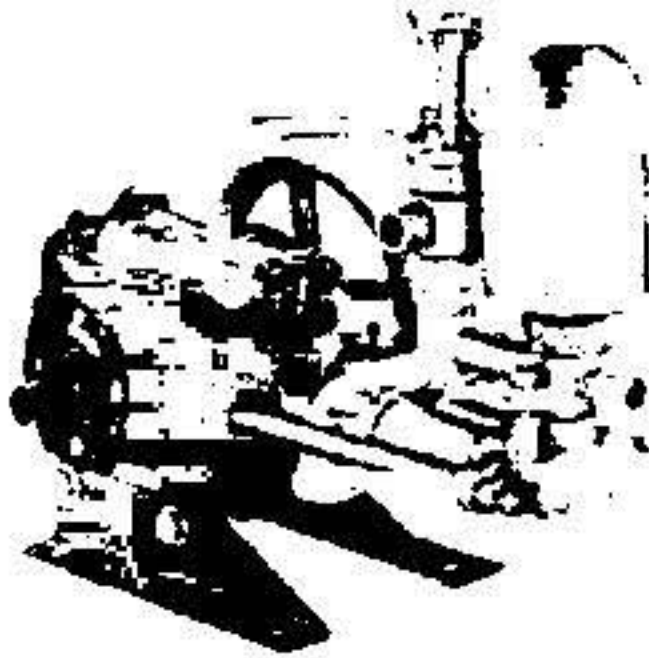
- Heavy duty and efficient sprayer
- All working parts, connecting rods, crank shafts, crank bearing are lubricated by oil bath
- By-pass cum pressure regulator and pressure vessel
- ASPEE spray gun 80 / 150 cm long or hi-tree aluminium spray lance of 250 cm long can be used which can spray upto a height of 30 to 35 ft.
- Develops 250 / 350 psi and has a suction capacity 12

lt./min at 950 rpm

- Needs 2 hp engine or electric motor
- Supplied without engine and delivery hose

f) **Sid Flow (PS/21)** - Sprayer specially designed for spraying on orchards and hilly terrain. Also suitable for spraying on Apple and Grapes orchards, coffee, rubber trees and field crops.

Special Features:



- Portable, compact, light weight
- All working parts, connecting rods, crank shafts, crank bearing are lubricated by oil bath
- Stainless steel pistons
- Suction capacity 14 lt. / min at 950 rpm
- ASPEE spray gun 80 / 150 cm long or hi-tree aluminium spray lance of 250 cm long can be used which can spray

upto a height of 30 to 35 ft.

- Convenient to attach 2 discharge lines with spray gun

Hand Compression Sprayers

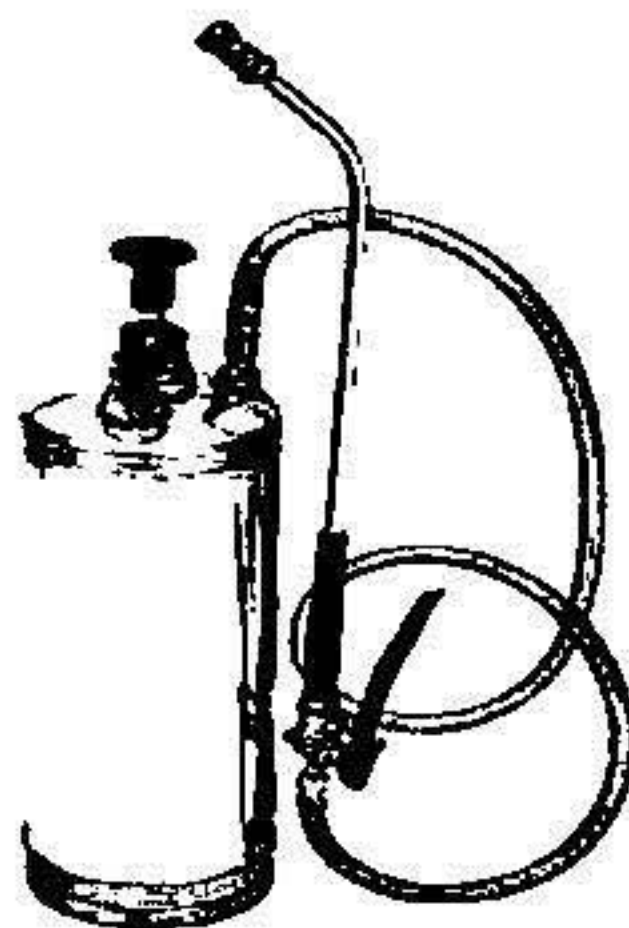
ASPEE Hand Compression Sprayers are available for small applications like nurseries to medium spraying operations.

Types of Hand Compression Sprayer

a) **Marut - 3.5 liters (MT-36)** - Specially designed for nursery and flower gardens, easy for handling and operating.

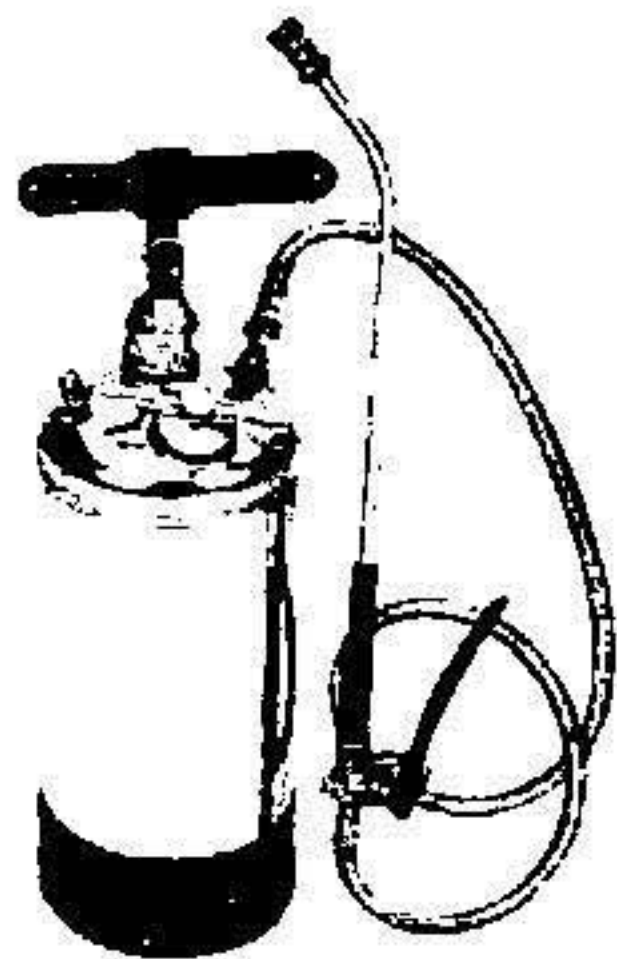
Special Features:

- Ideal for spraying on coconut and arecanut
- Very popular among pest control operators
- Tanks fabricated from cold rolled industrial quality brass alloy sheets, welded joints and tested to 150 pounds pressure
- Air check valve retains pressure
- Adjustable shoulder straps
- Discharge line consists of 110 cm. Delivery hose, trigger cut-off valve and extension rod with cone-mist spray nozzle



b) **Marut - 6 liters (MT-15)** - Suitable for control of pest and diseases on cotton, tea, coffee, potatoes, paddy, jute, groundnut, sugarcane and vegetables.

Special Features:



- Tanks fabricated from cold rolled industrial quality brass alloy sheets, welded joints and tested to 150 pounds pressure
- Brass forged fittings. Built-in air pump
- Adjustable shoulder straps and Air check valve retains pressure
- Discharge line consists of 110 cm. Delivery hose, trigger cut-off valve and extension rod with cone-mist spray nozzle

- c) **Marut - 9 liters (MT-22)** - Suitable for control of pest and diseases on cotton, tea, coffee, potatoes, paddy, jute, groundnut, sugarcane and vegetables.

Special Features:



- Very popular among pest control operators
- Tanks fabricated from cold rolled industrial quality brass alloy sheets, welded joints and tested to 150 pounds pressure
- Brass forged fittings. Built-in air pump
- Adjustable shoulder straps
- Discharge line consists of 110 cm. Delivery hose, trigger cut-off valve and extension rod with cone-mist spray nozzle

- d) **Marut - 12 liters (MT-16)** - Suitable for control of pest and diseases on cotton, tea, coffee, potatoes, paddy, jute, groundnut, sugarcane and vegetables.

Special Features :



- Popular for spraying in sugar cane, banana and paddy
- Clean out port provided to clean the tank
- Back rest and pair of adjustable shoulder straps to mount the sprayer on back
- Discharge line consists of 110 cm. Delivery hose, trigger cut-off valve and extension rod with cone-mist spray nozzle
- Back rest and adjustable shoulder straps to mount the sprayer on back

- e) **Marut - 14 liters (MT-19)** - Suitable for control of pest and diseases on cotton, tea, coffee, potatoes, paddy, jute, groundnut, sugarcane and vegetables.

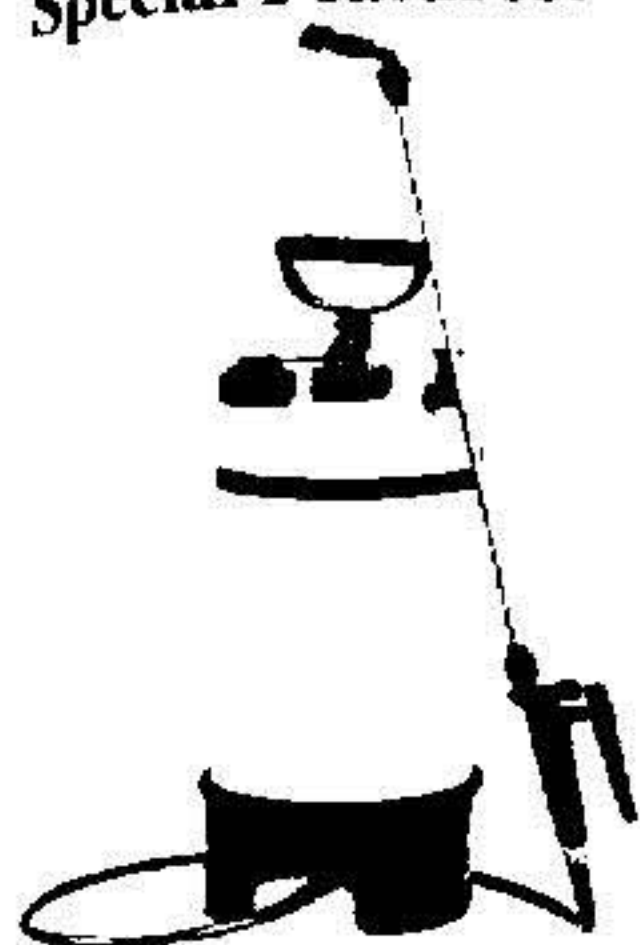
Special Features:

- Popular for spraying on sugar cane, banana and paddy and crops in hilly terrain
- Brass tank and brass forged fittings
- Highly resistant to corrosive chemicals
- Made from brass forging and industrial quality material
- Quality construction designed for rough use under demanding conditions.
- Clean out port provided to clean the tank
- Back rest and adjustable shoulder straps to mount the sprayer on back



f) **Marut Poly (MT 9P)** - Suitable for control of pest and diseases on all types of field crops like Potatoes, Paddy, Wheat and Vegetables.

Special Features:



- Suitable for cotton, potatoes, paddy, jute, sugarcane, groundnut and vegetables
- Extra thick HDPE blow moulded tank
- Corrosion resistant plastic tank base
- Safety valve for pressure release at 60 PSI
- Extra thick HDPE blow moulded tank
- Highly chemical resistant as well as oil and solvent resistant
- Quick coupling system provided for fitting delivery hose to clean out port
- Smooth, comfortable pumping operation

g) **Ganesh (DS/2)** - Specially made for nurseries, seed beds and small farmers.

Special Features:

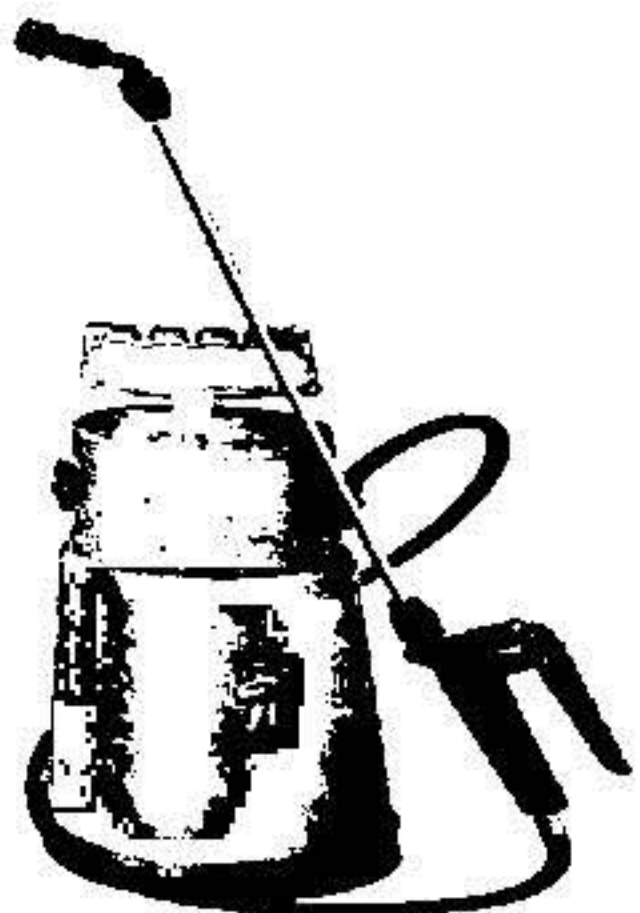
- Enjoy green-n-fresh, pest free surroundings. ideal for small nurseries and rose plants
- All brass parts
- High quality chrome plating
- Fine mist spray nozzle
- Under leaf attachment available
- Versatile, corrosion resistant sprayer



h) **Eden 5 liters (ED/205)** - Ideal for small nurseries and rose plants for spraying Wettable insecticides and fungicides.

Special Features:

- Light weight (1.7 kgs) and user friendly sprayer
- Corrosion resistant plastic tank base
- No tools required to replace the pistons and washers
- Safety valve for pressure release at 60 PSI
- Tank cover cum funnel to avoid spilling



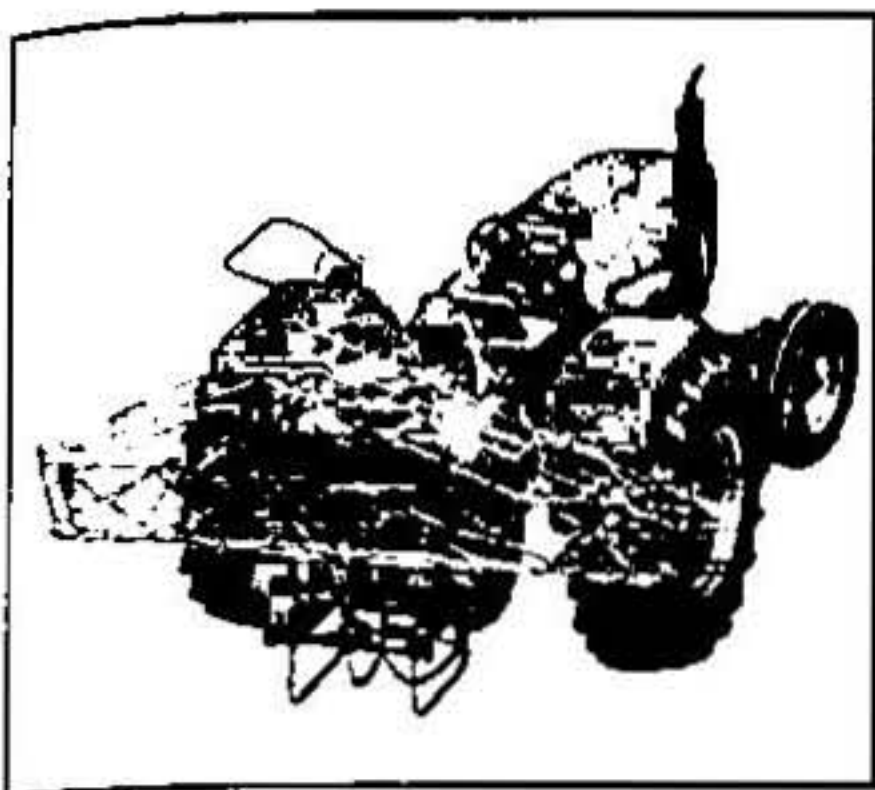
Tractamount Sprayers

ASPEE Tractamount sprayers are useful for spraying of very large and tall spraying operations.

Types of Tractamount Sprayer

a) **Tractamount Boom Sprayer (HTT-30)** - Designed for economic and effective application of pesticides, weedicides and fertilizers in farm crops.

Special Features:



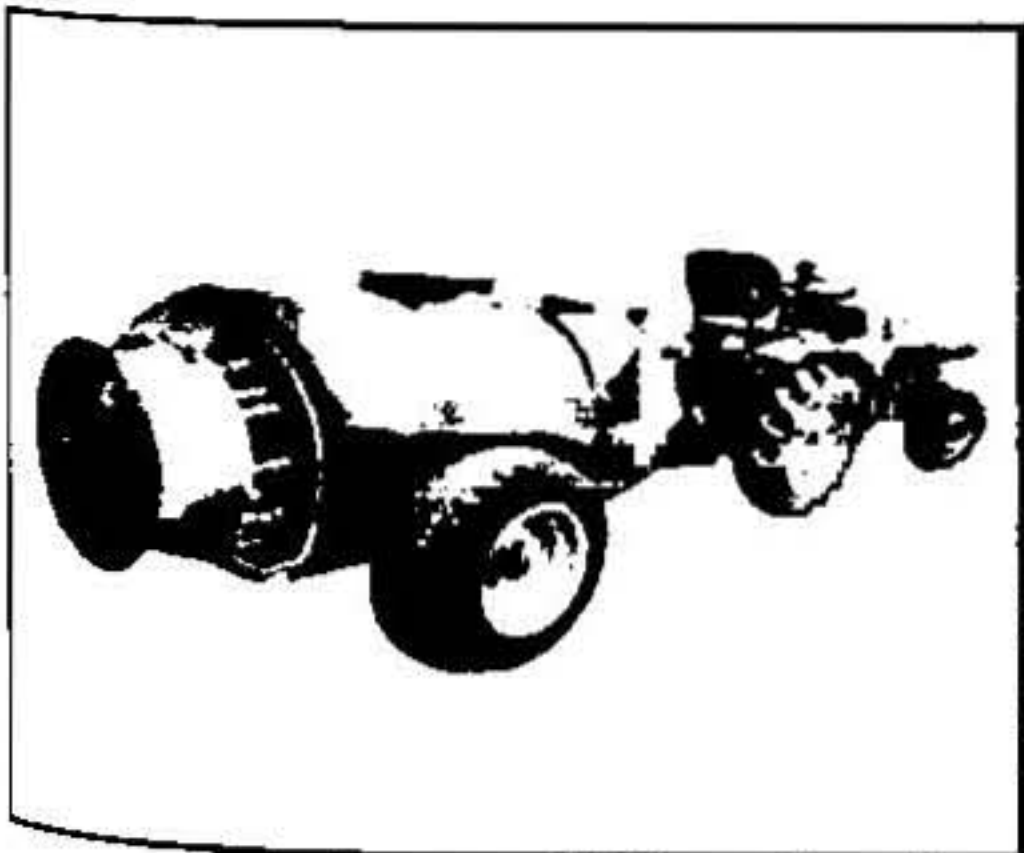
- Ground boom is designed for economic and effective application of pesticides and weedicides in all field crops
- Over head boom is suitable for tall crops in rows like cotton, arahar, sugarcane, maize, bajra, etc
- Four-stage filtration provided at auto filling hose, clean out port, tank filler hole and control panel
- All controls within easy reach from driver seat
- Pressure regulators on control panel for

presetting spraying pressure

- 400 liters capacity tank made from Roto Mould Plastic
- Hydraulic agitator for mixing the spray solution for effective spraying
- Auto filling device fills the 400 liter chemical tank within 8 minutes
- Clean-out port with line-strainer and cut-off
- Available for spraying on field crops with three types of Ground Spray Booms: 20 feet long boom with 14 nozzles
- 40 feet long boom with 20 nozzles
- 40 feet long boom with 25 nozzles

b) **Air Assisted Sprayer (ATB-1)** - Designed for economic and effective application for spraying on field crops and vineyards.

Special Features :



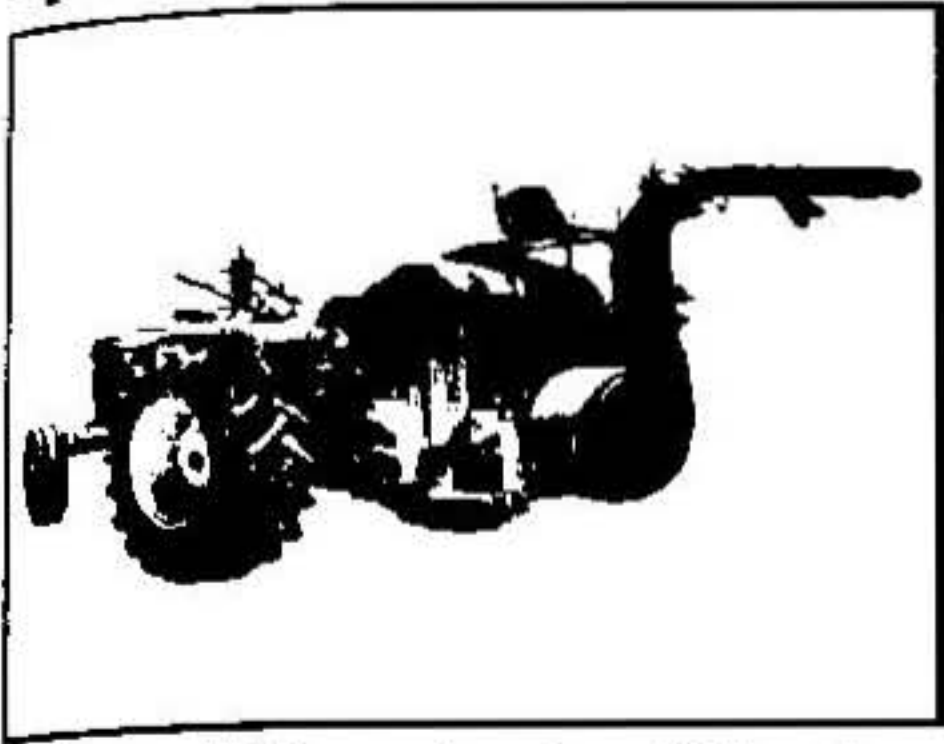
- Designed for economic and effective application for spraying on vineyards
- Roto Moulded blower casing and 200 liters HDPE tank
- Sturdy gearbox giving 2000 rpm
- Suitable for 18 HP as well as higher HP tractor
- Specially engineered to spray liquid chemicals in dense foliage crops

- Compact design for easy operation in vineyards

- The "Double Centrifugal Blower" assures penetration of spray mist through the dense vegetation reaching spray solutions on crops without damage to the foliage.

c) **Tycoon Air Assisted Sprayer** - For spraying on field crops, tall trees, orchards and plantations.

Special Features :



- Chemical tank - 400 liters capacity
- Operational power from PTO of 26 HP tractor (minimum)
- Sturdy gear box speed 1800 rpm with gear ratio 1 : 4.18
- HTP / HDP piston pump gives output of 36/24 lts/min @ pressure of 400 PSI
- 360-degree unique rotating lance
- Auto filling device fills the 400 liter chemical tank within 8 minutes
- Spray swath - 70 ft. and spray height - 50 ft. by using bunch/ rotary/ground type nozzles depending upon the type of crop
- 3 stage filtration to prevent clogging of nozzle
- The blower ensures the right relation between air volume, air velocity and liquid
- The extraordinary versatility allows the treatment of row crops and vineyard

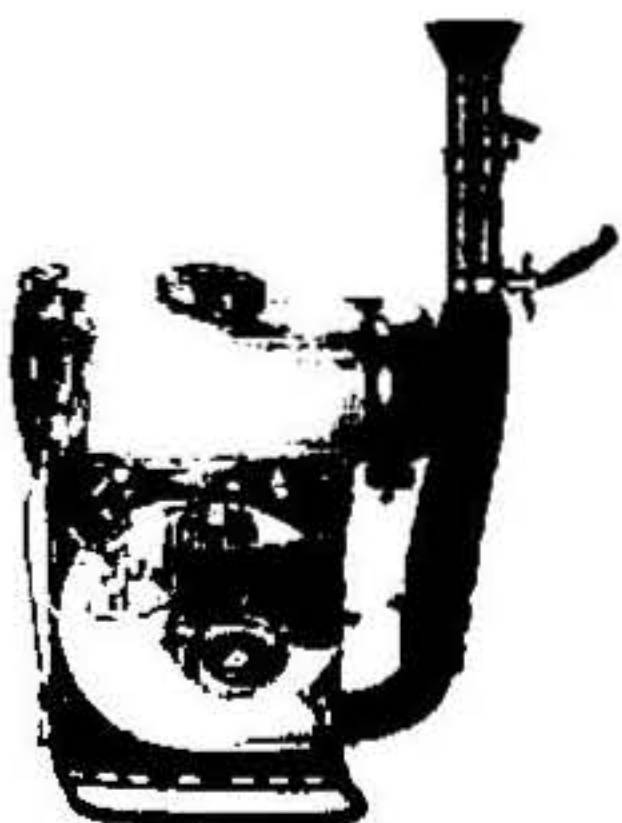
Mistblowers

ASPEE Mistblowers are available for spraying both in liquid and dust form.

Types of Mistblower

a) **ASPEE Bolo (MB/1)** - Ideal for quick spraying operation in liquid forms, orchards, tea, coffee estates and other crops.

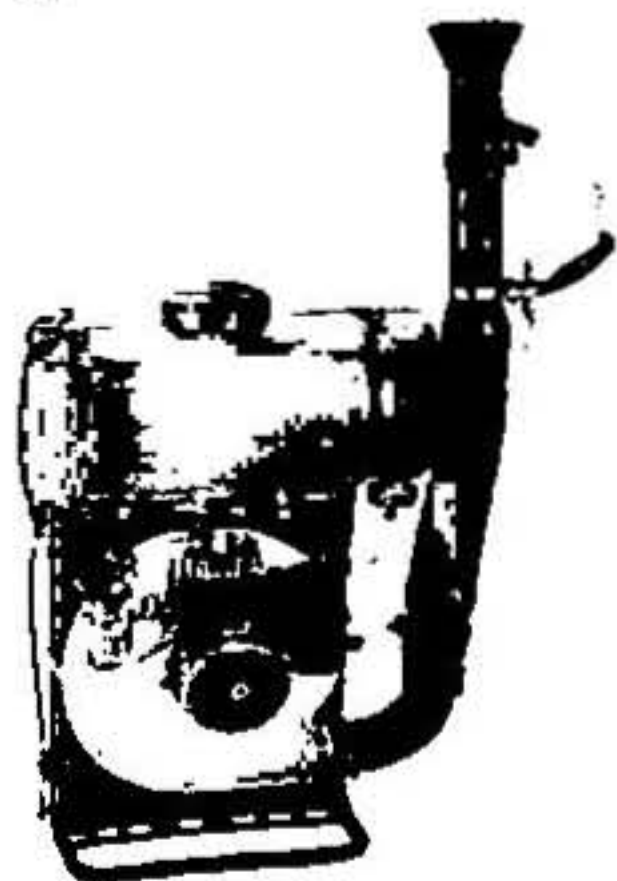
Special Features:



- Effective and quick application of pesticides in liquid forms, orchards, tea, coffee estates and other crops.
- Dynamically balanced aluminum rotor
- Back cushion and padded shoulder straps
- Air velocity: 249 ft/sec
- 1.2 HP petrol / kerosene engine
- Available with greaves L34 or high power HP35 or Rallis-135 engines

- b) **Bolo Duster MB/2** – Ideal for quick spraying operation in farms, orchards, tea, coffee, cotton, chillies and others.

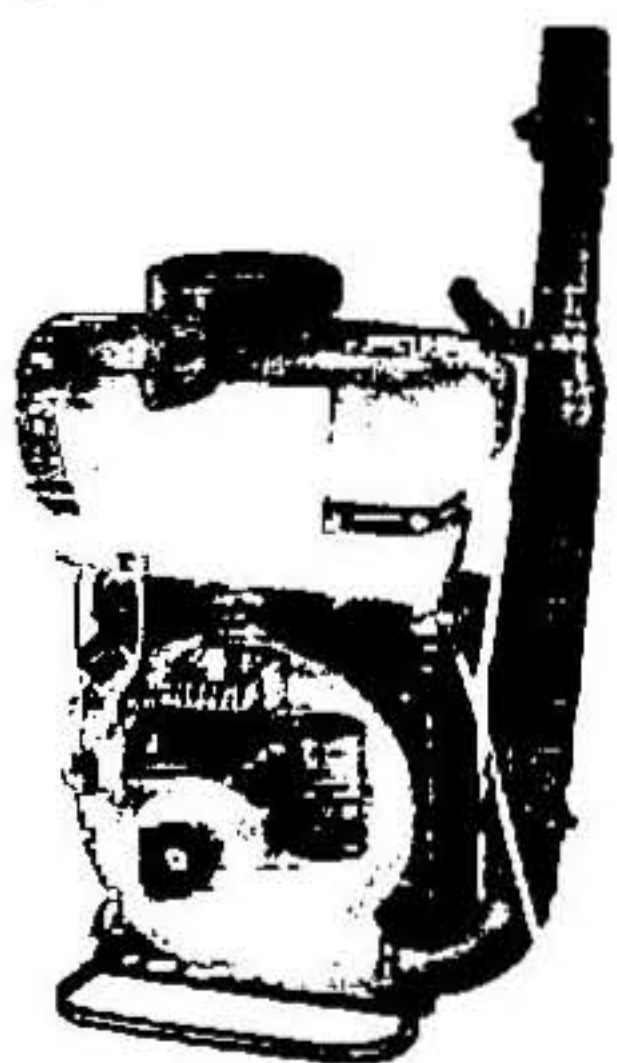
Special Features:



- Effective and quick application of pesticides in Dust forms, orchards, tea, coffee estates, cotton, chillies and other crops.
- Dynamically balanced aluminum rotor
- Back cushion and padded shoulder straps
- Air velocity: 249 ft/sec
- 1.2 HP petrol / kerosene engine
- Available with greaves L34 or high power HP35 or Rallis-135 engines

- c) **Classic Bolo (CMB/2)** - ASPEE Eden classic Bolo has been designed to withstand severe conditions. It is a robust, versatile and accurate chemical applicator suitable for spraying on row crops, Horticulture crops and Nurseries.

Special Features :

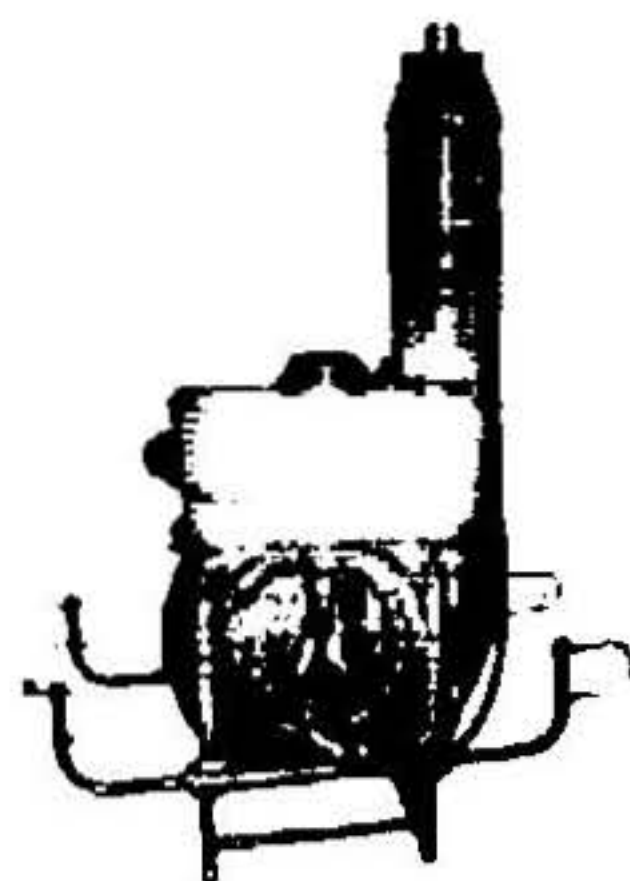


- 12 liters capacity chemical tank
- Bigger filler hole and strainer
- Petrol tank fits in chemical tank
- Rotor made from engineering plastic
- Better performance with plastic rotor than that with aluminum rotor
- RPM increased by 1000
- Higher air velocity resulting in finer droplets and wider coverage
- Special blower casing with cooling air vents for plastic rotor.

- d) **Turblo Mistblower (TRB/1)** - Suitable for spraying on tall rubber trees.

Special Features :

- Roto moulded plastic blower
- Stainless steel rotor
- Easy 1800 adjustment of blower outlet
- Blower generates wind velocity of 200 ft/sec or 130 miles/hour
- 13 liter HDPE chemical tank
- Provided with a centrifugal pump and a micronizer nozzle

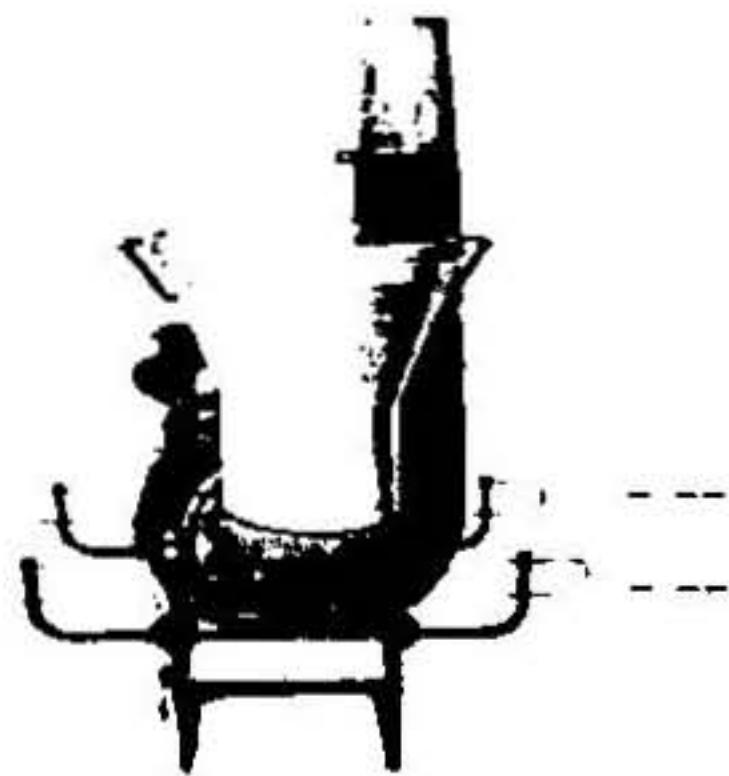


- Particles get atomized by micronizer nozzle rotating at high speed
- Micronizer nozzle produces fine droplets of 150-200 microns
- Rotary pump feeds the micronizer nozzle and also agitates the spray solution
- Suitable for spraying oil based copper fungicides

e) **Turblo Duster (TRB/2)** - Suitable for blowing pesticides in powder form.

Special Features:

- 22000 c.c. Capacity aluminum hopper with feeder
- Heavy duty gearbox
- Agitator driven by the gear box



Dusters

ASPEE Dusters are useful for economic, effective and quick applications.

Types of Duster

a) **Orient Rotary Duster (ORD/10)** - Sturdy and super built for control of pest operations in field crops, tea and coffee plantations and food storage godowns.

Special Features:



- Ideal for Control of Pests and Diseases in Field Crops, Tea and Coffee Plantations Potatoes, Paddy, Jute, Groundnut, Vegetables and Sugarcane
- Light weight and sturdy Rotary Duster
- Mechanical agitator
- Sealed Gear Box with smooth gear revolution
- One-Piece Hopper 6000 cc from Aluminum

Sheet

- Dust discharge control and Adjustable should strap
- Throws homogenous cloud of dust on field crops
- Well balanced to rest comfortably on shoulder

Rocking Sprayers

ASPEE Rocking Sprayers are ideal all purpose sprayers.

Types of Rocking Sprayer

Maruti (MRI/8) - Ideal all-purpose sprayer suitable for both small and large scale spraying on field crops, in orchards, tea, coffee and rubber estates.

Special Features:



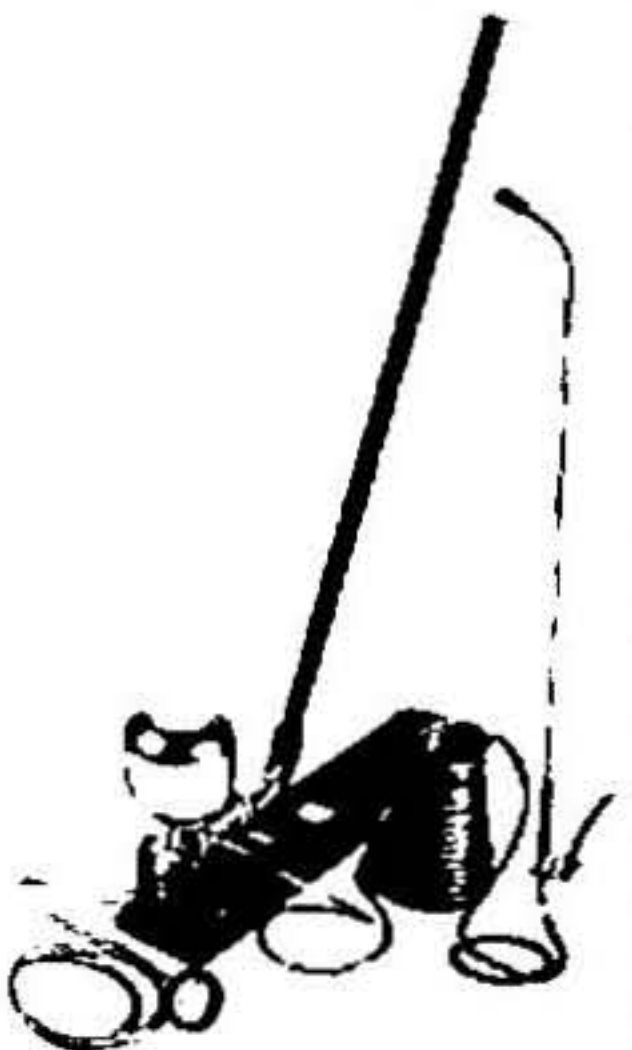
- Very popular for all orchard crops and plantations and in hilly terrain
- Can spray on tall trees with adjustable nozzles
- Die casting Aluminum Joint Bracket
- Suitable for spraying with high pressure gun, bamboo lance or with one or two spray lances
- Develops 80-90 psi. pressure
- Sprayer available with 2 sprays lines from 5 meters to 30 meters available.

- Sturdy sprayer giving years of efficient service
- Easy mobility

Gator (GR/5) - The mighty sprayer developing maximum pressure. Suitable for spraying in plantations, gardens, row crops and vegetables.

Special Features:

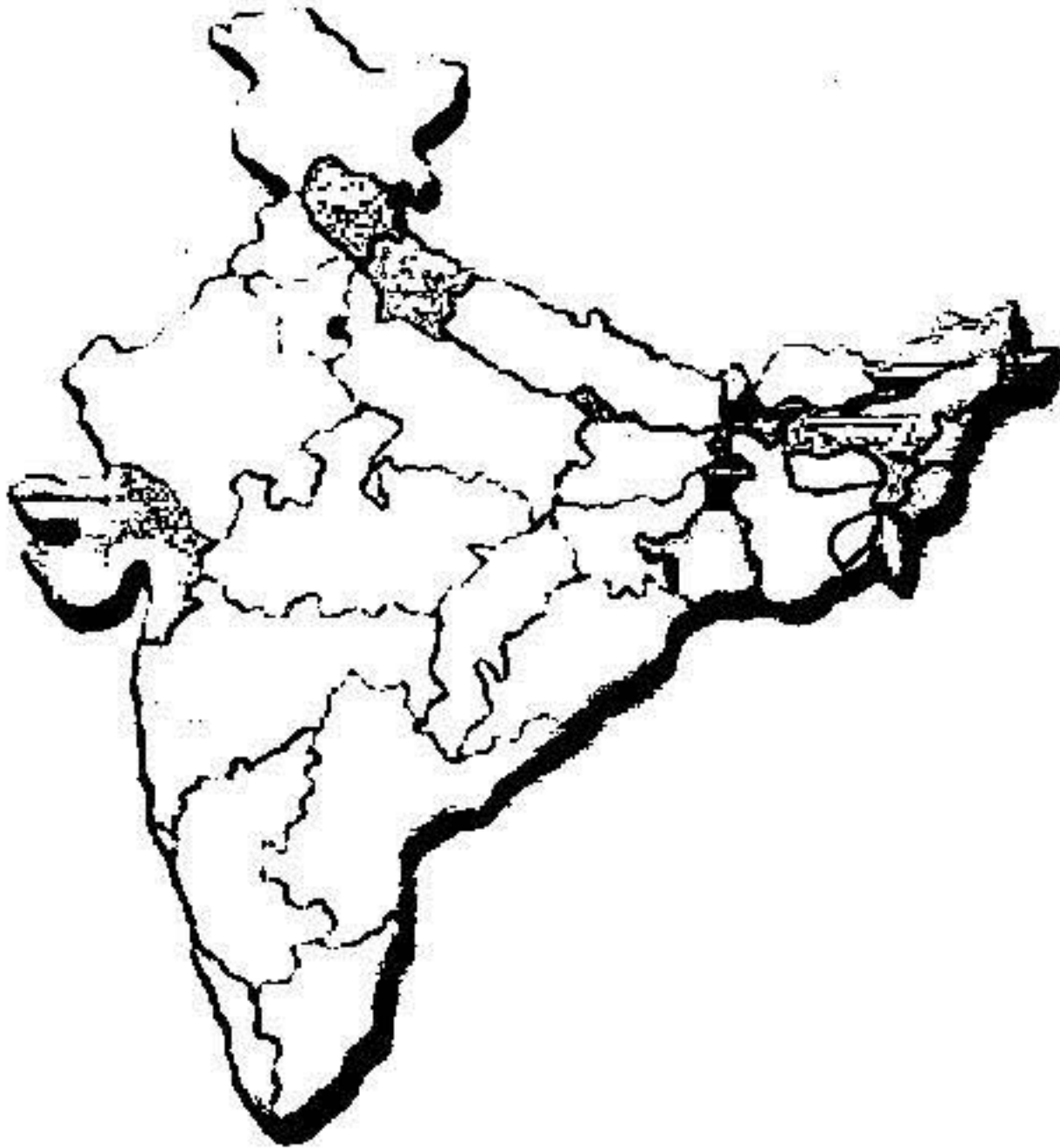
- Hand rocking sprayer



- Made from brass forging and industrial quality material
- Bigger and detachable pressure vessel
- Develops 80-90 PSI pressure
- Pulsation free spray and can spray for longer time
- Easy mobility
- Suitable for spraying with high pressure gun, bamboo lance or with one or two spray lances
- Standard sprayer available with 5 meters long delivery hose. Can spray with 2 discharge lines with hose of 5 meters length or more
- Easy mobility

1.4 Area of Operation

ASPEE National:



ASPEE International:

ASPEE exports its Agricultural Sprayers, Dusters and its various Plant Protection Equipments to following countries.

Australia	Bangladesh	Congo	Dubai	Ethiopia
Sri Lanka	Kenya	Kuwait	Malawi	Malaysia
New Zealand	Maldives	Nigeria	Oman	Peru
South Africa	Singapore	Somalia	Tanzania	Ireland
Saudi Arabia	U.S.A	Uganda	Venezuela	Vietnam



Distributors of ASPEE in Uttar Pradesh:

- M/s. Gopal Krishna Khandewal and Sons, Kanpur
- M/s. Singh Distributors, Agra
- M/s. Shiva Trading, Gorakhpur

Uttar Pradesh at a Glance:

UTTAR PRADESH AT A GLANCE	
Area	2,94,411 sq. km.
Population (2001 Census)	16,60,52,859
Male	8,74,66,301
Female	7,85,86,558
Decennial Growth Rate	25.80 per cent
Female literacy	42.98 per cent
Districts	70
Villages	1,12,804
Cities	631
Nagar Nigams	11
Members of Vidhan Sabha	404
Members of Vidhan Parishad	100

Competitors of ASPEE in Uttar Pradesh (Districts are Basti, Gorakhpur and Deoria)

- Hymatic Agro Equipment Pvt. Ltd.
- Indo-German Agricultural Sprayers and Pressing Works.
- Masand Agro Equipment Pvt. Ltd.
- Mitushi Enterprises
- Punjab Agro Industries Corporation Ltd.
- Solo Sprayers Ltd.

Chapter - 2

THE PROJECT



ASPEE®
Sprayers & Dusters

2.1 Title

Marketing Effectiveness and Competitor Analysis of ASPEE Sprayer and Dusters in Uttar Pradesh.

Statement of the problem:

This market research Survey on above title was conducted in Basti, Gorakhpur and Deoria districts of Uttar Pradesh only. The project is mainly focused on survey of Uttar Pradesh State. So, the outcome of the project cannot be applied for other states due to demographic and geographic differentiation. So the information which ever I got is restricted for that area only. I have to identify the competitors of that area and their marketing strategies, fast moving product of sprayers and duster and consumer buying behavior. Also find out the effectiveness of marketing strategies, opportunities and constraints in the marketing of ASPEE Sprayers.

2.2 Objectives

- To assess the effectiveness of marketing strategies of ASPEE.
- To identify the fast moving product/brands of different companies.
- To understand consumer behavior and factors affecting purchase.
- To conduct a competitor analysis and to determine the market structure.
- To identify opportunities and constraints in the marketing of ASPEE Sprayers and Dusters.

2.3 Purpose

To promote proper and demanded products and ensure customers and consumers receive product within specifications.

Scope and Benefits of Study

This study will show the realistic share of ASPEE Sprayers and duster in market, status of ASPEE and other available brands. This survey also things to see the consumer behavior and the factors affecting purchase. This study will help in to identify the competitors, their strategy, strength and weakness of the ASPEE's sprayers and duster. It also helps in identify the problems of the farmers, dealers and suggestion to organization to make improvement in their product.

2.4 Literature Review

Pandey M. M., (2005) in their study titled "Present Status and Future Requirement of Farm Equipment for Crop Production",

Farm equipment are used in farming operations including immediate post-harvest activities with a view to increase productivity of land and labour through timeliness of operations, for efficient use of inputs, improvement in quality of produce and safety and comfort of farmers, and reduction in loss of produce and drudgery of farmer.

Future requirement for farm equipment and technologies include rota- tiller for seed bed preparation, till planter, strip till drill, pneumatic precision planter, sugarcane sett cutter planter, vegetable transplanter and check-row planter, for sowing and planting. Power weeders and equipment for chemico-mechanical

weed management, electro-static spraying and tall tree spraying are required. Harvesting equipment for sugarcane and cotton are required to be developed.

Patel Nikunj Vinodbhai, (2008-2009) in their report titled “Marketing Effectiveness and Competitor Analysis of ASPEE Sprayers and Dusters offering at Uttar Pradesh”.

This study is done in the Meerut, Saharanpur and Muzaffarnagar regions of Uttar Pradesh shows that farmer give more importance to price factor instead of quality and durability especially in sprayers and dusters. Farmers of Uttar Pradesh are not aware of economic and effective use of pesticides. Knapsack sprayers were owned by majority of farmers.

Varshney A.C., Garg Vijay and Narang Suresh, (2006) in their survey report titled “Pesticide Application Equipment in Soybean Growing Region of Madhya Pradesh - Ergonomic, Economic and Energy Aspects”

Techno-economic survey was conducted through a questionnaire to study the present status of use of plant protection equipment in Bhopal and Indore regions of Madhya Pradesh. Knapsack sprayers were owned by majority of the small and medium farmers while power sprayers were owned by big and some medium farmers. The operation of knapsack sprayer caused fatigue in back, shoulder and arms of the operator. Farmers desired replacement in view of this problem. Use of weedicide applicator was very common in soybean crop since mechanical weeding was not possible due to unfavourable climate and soil conditions. The cost of operation of knapsack sprayer, twin knapsack sprayer, mist blower and tractor operated weedicide applicator were Rs. 179, Rs. 92.44, Rs.107.06 and Rs. 246.25 per ha respectively while the energy requirement for these equipment were 273, 257, 297 and 465 MJ/ha.

Chapter - 3

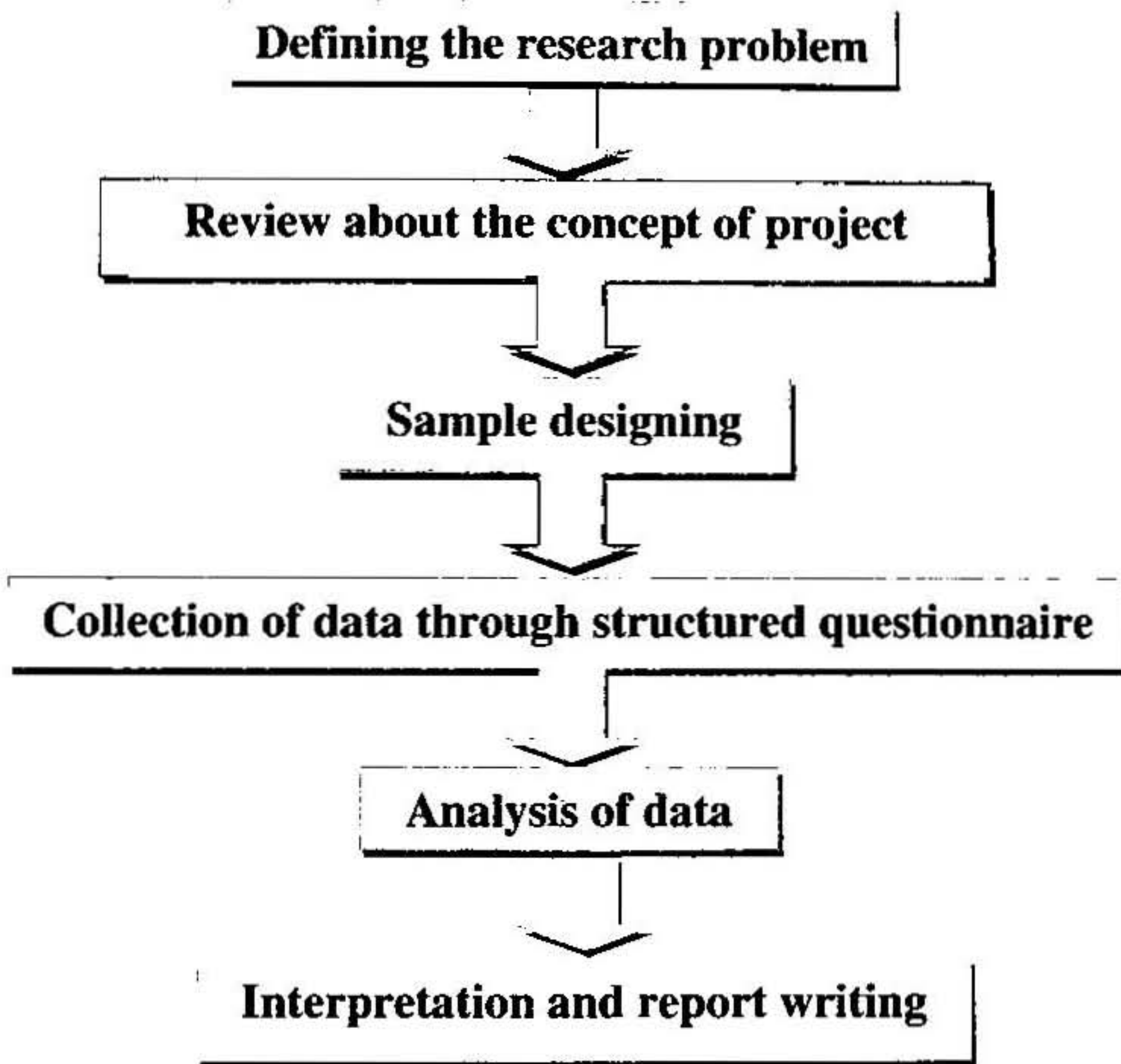
RESEARCH METHODOLOGY



ASPEE®
Sprayers & Dusters

3.1 Research Methodology

Research methodology is a way to systematically solve the research problem, formulating a hypothesis, collecting the facts or data, analyzing the fact and reaching certain conclusion either in the form of solutions towards the concerned problems.



Research design:

A research design is simply the framework or plan for a study that is used as guide in collecting and analyzing the data. It is the blue print that is followed in completing a study.

The research design specifies the methods and procedures for acquiring the information needed. It is the overall operational pattern or framework of the

project that stipulates what information is to be collected from which sources and by what procedures.

Purposive Sampling Design - Purposive sampling is a sampling method in which elements are chosen based on purpose of the study. Purposive sampling may involve studying the entire population of some limited group or a subset of a population. As with other non-probability sampling methods, purposive sampling does not produce a sample that is representative of a larger population, but it can be exactly what is needed in some cases - study of organization, community, or some other clearly defined and relatively limited group.

Descriptive Research Design: Descriptive research design is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. It is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. The methods involved range from the survey which describes the status quo, the correlation study which investigates the relationship between variables, to developmental studies which seek to determine changes over time.

Instrument of Data collection -

For collecting the data from farmer, method used was Personal interviews of respondents, as the major criteria required for the survey was flexibility of data collection which is high in in-home survey. The format used for data collection was structured questionnaire and non-disguised.

For collecting the data from dealer office survey method was used along with sample questionnaire. Format used for data collection was structured and non-

disguised. The questionnaire consists of both open ended as well as multiple choices with open-ended questions.

Sources of data:

Method of data collection

Personal interview, telephonic talk and group discussion with Farmers, Dealers, Non-dealers and Retailers. Responses will be collected by using structured Questionnaires.

Primary data: Collection of primary data is done through structured questionnaire. The questionnaire consists of both open ended as well as multiple choices with closed-ended questions. The primary sources of collection of data are Farmers and Dealers.

Secondary data: The secondary source of data provided the insight to understand and define the nature of the problem. The various secondary data sources are literature, Magazines, internet, record and reports of the organization.

3.2 *Sampling Design*

Sampling Design:

More than 30 distributors/dealers from Basti, Gorakhpur and Deoria districts of Uttar Pradesh. The Selection of progressive farmers will be 35 from each district and from each districts 10 dealers will be selected.

Non Probabilistic Sampling Design: A process in which some criterion other than the laws of probability determines the elements of the population to be included in the sample. In the non probabilistic sampling design we choose the Convenience and Purposive method.

Convenience and Purposive Method –

Convenience sampling (sometimes known as grab or opportunity sampling) is a type of nonprobability sampling which involves the sample being drawn from that part of the population which is close to hand. Convenience Sampling is use for the Dealers.

Purposive sampling is a sampling method in which elements are chosen based on purpose of the study. Purposive Sampling is use for Farmers.

Sampling Plan and Sample size

Selection of location: Three districts of Uttar Pradesh are selected as per preplanning of organization. Districts are Basti, Gorakhpur and Deoria.

For farmers survey the respondents is any farmer who used sprayer and dusters on his farm. For dealers survey the respondent is any dealer of any Pesticides and Hardware retail shop who is dealing with sprayer and dusters.

Sample Size: Considering the time and budgetary constraints 100 Farmers has the sample size obtain by without any quota or strata reservation. Type of sampling followed was non-probability convenience sampling. For the collection of data, from 1 district 3 to 4 talukas were selected purposively and from 1 talukas 3 to 4 villages were falling under the catchment area of that particular store/centre visited. Then per village 2 to 4 farmers were selected for the data collection.

3.2.1 For Farmer:-

Sr. No.	Name of District	Name of Taluka	No. of Village	No. of Farmers
1.	Basti	Bhanpur	3	8
		Rudhauri	4	9
		Harraya	4	10
		Basti Sadar	4	8
2.	Gorakhpur	Gorakhpur Sadar	3	6
		Chauri Chaura	2	8
		Bansgaon	2	4
		Sahjanwa	3	6
		Gola	3	6
3.	Deoria	Deoria Sadar	7	14
		Salempur	4	9
		Rudrapur	2	4
		Barhaj	3	8
Total	3	13	44	100

3.2.2 For Dealer, Non-dealer and Retailer:-

Sr. No.	Name of District	Name of Taluka	No. of Dealers
1.	Basti	Basti Sadar	4
		Harrya	5
2.	Gorakhpur	Gorakhpur Sadar	10
		Chauri Chaura	2
		Gola	6
3.	Deoria	Deoria Sadar	7
		Salempur	3
		Rudrapur	1
Total	3	8	38

Sampling Method: Purposive and Convenience sampling.

Date and Place: Place for market research is Basti, Gorakhpur and Deoria. Survey was carried out in months of February and March 2010.

Method of data processing and Analysis:

Simple statistical analysis and SWOT analysis.

Data Analysis Technique

The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among groups.

The data, after collection, has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing research plan.

The techniques that are used for analysis of data are

1. Statistical methods – Percentages and Averages
2. Scaling and Ranking method
3. Pictorial presentation through Bar and Pie Charts

Limitations of project study:

Following limitations may come while conducting the project.

- This survey is totally dependent on response of farmers and dealers.
- Limited time was available for survey.
- The project is mainly focused on survey of Uttar Pradesh State of districts Basti, Gorakhpur and Deoria only. So, the outcome of the project cannot be applied for other states due to demographic and geographic differentiation.

Chapter - 4

DATA INTERPRETATION AND ANALYSIS



ASPEE®
Sprayers & Dusters

4.1 FARMERS ANALYSIS

Note: Farmers analysis is totally based on responses of 100 farmers in U. P. market.

Socio Economic Status of Farmers

4.1.1 Age Profile –

	18-25	26-35	36-45	46-55	56-65	66-75
Basti	1	4	11	14	4	1
Gorakhpur	1	3	9	12	4	1
Deoria	1	3	8	17	5	1
Total (in %)	3	10	28	43	13	3

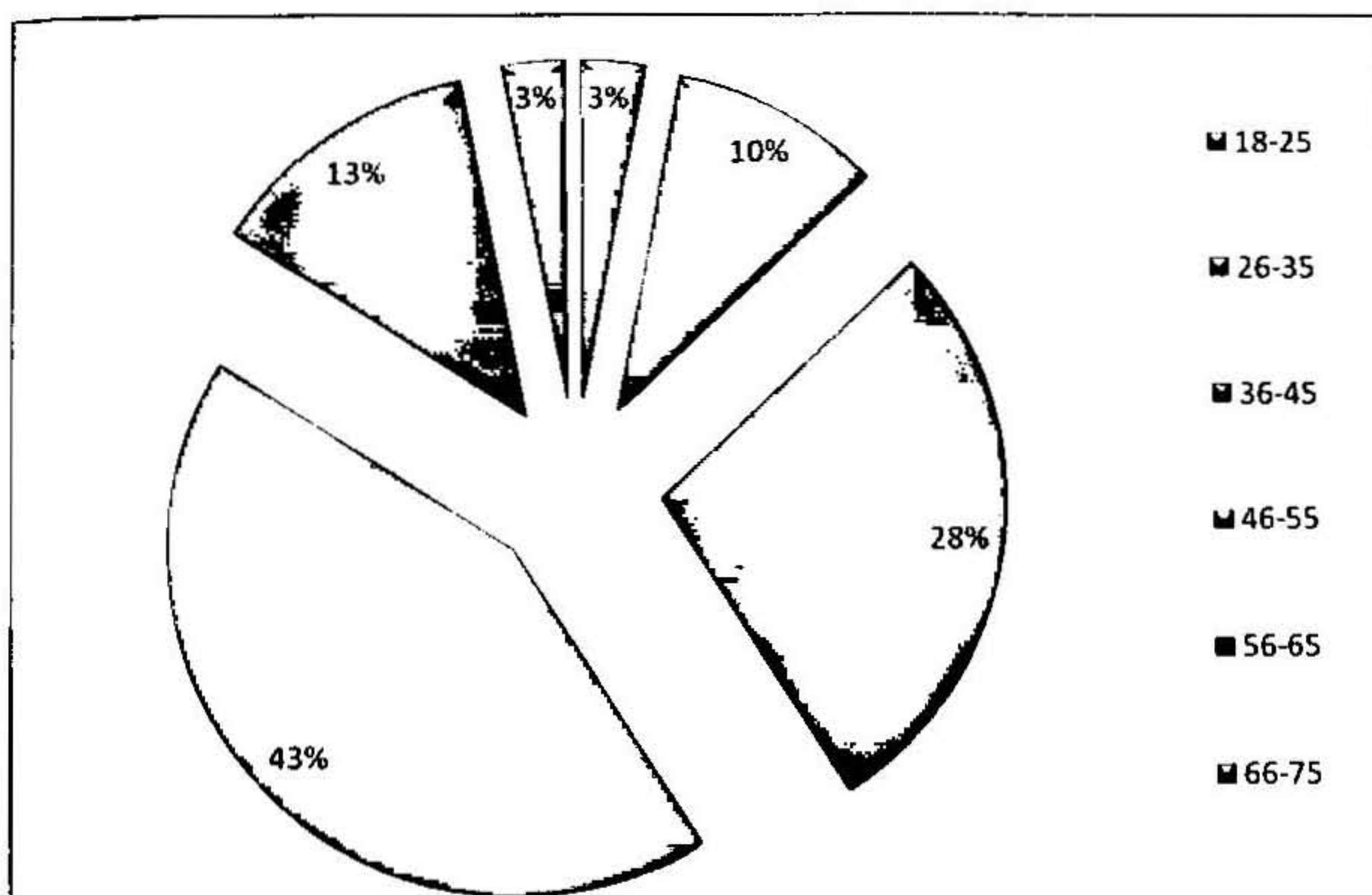


Fig. 4.1.1 Age

The above pie chart shows that the majority (43%) of the farmers belong to the age group of 46-55 followed by 36-45 (28%), 56-65 (13%) and 26-35 (10%), 18-25 (3%) and 66-75 (3%) respectively.

4.1.2 Education Profile –

	Illiterate	Literate	Non Matric	Matric	Attended College	Graduate	Post Graduate
Basti	8	10	8	2	4	2	1
Gorakhpur	0	9	7	6	5	3	0
Deoria	4	9	6	5	7	2	2
Total (%)	12	28	21	13	16	7	3

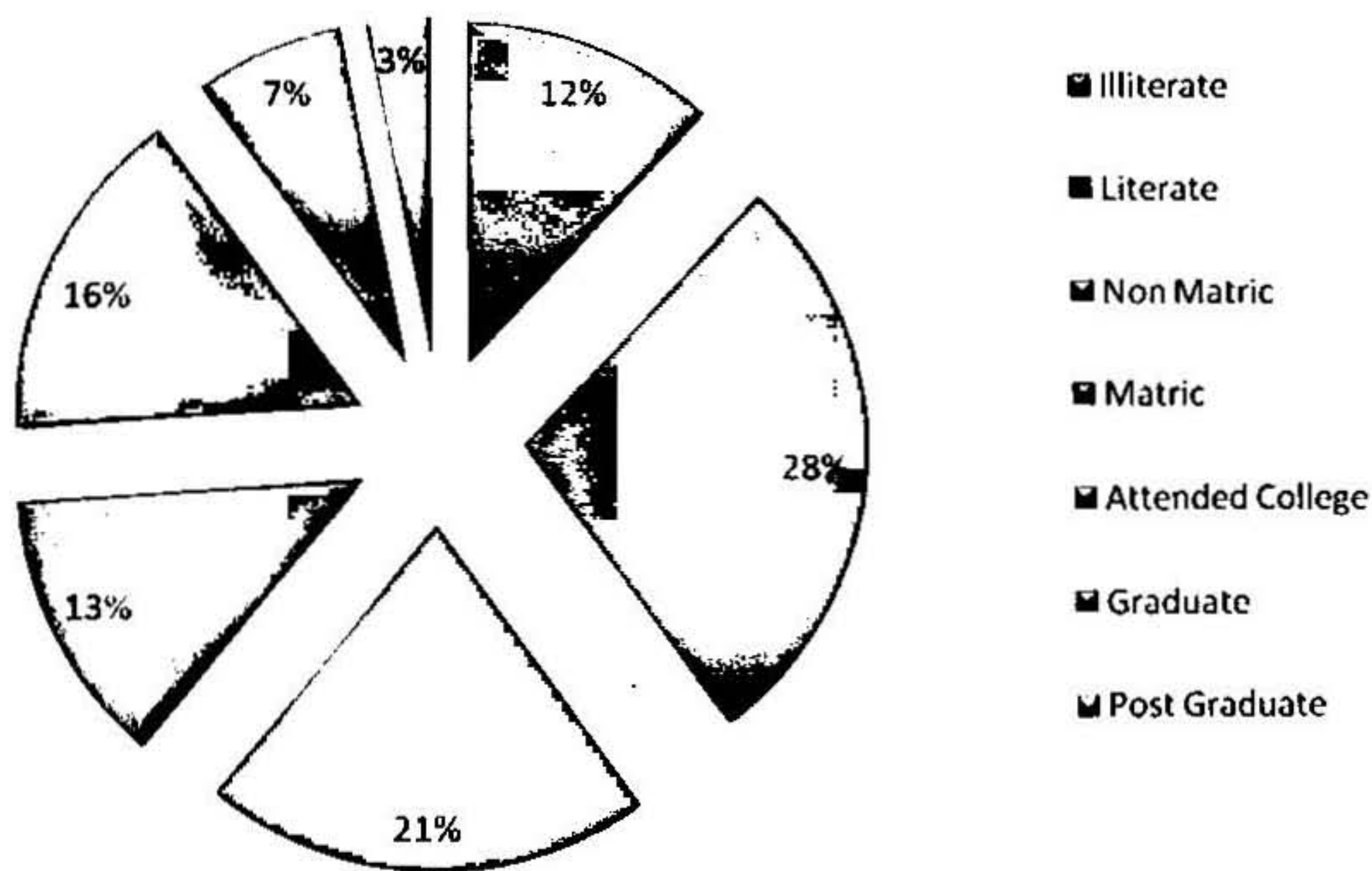
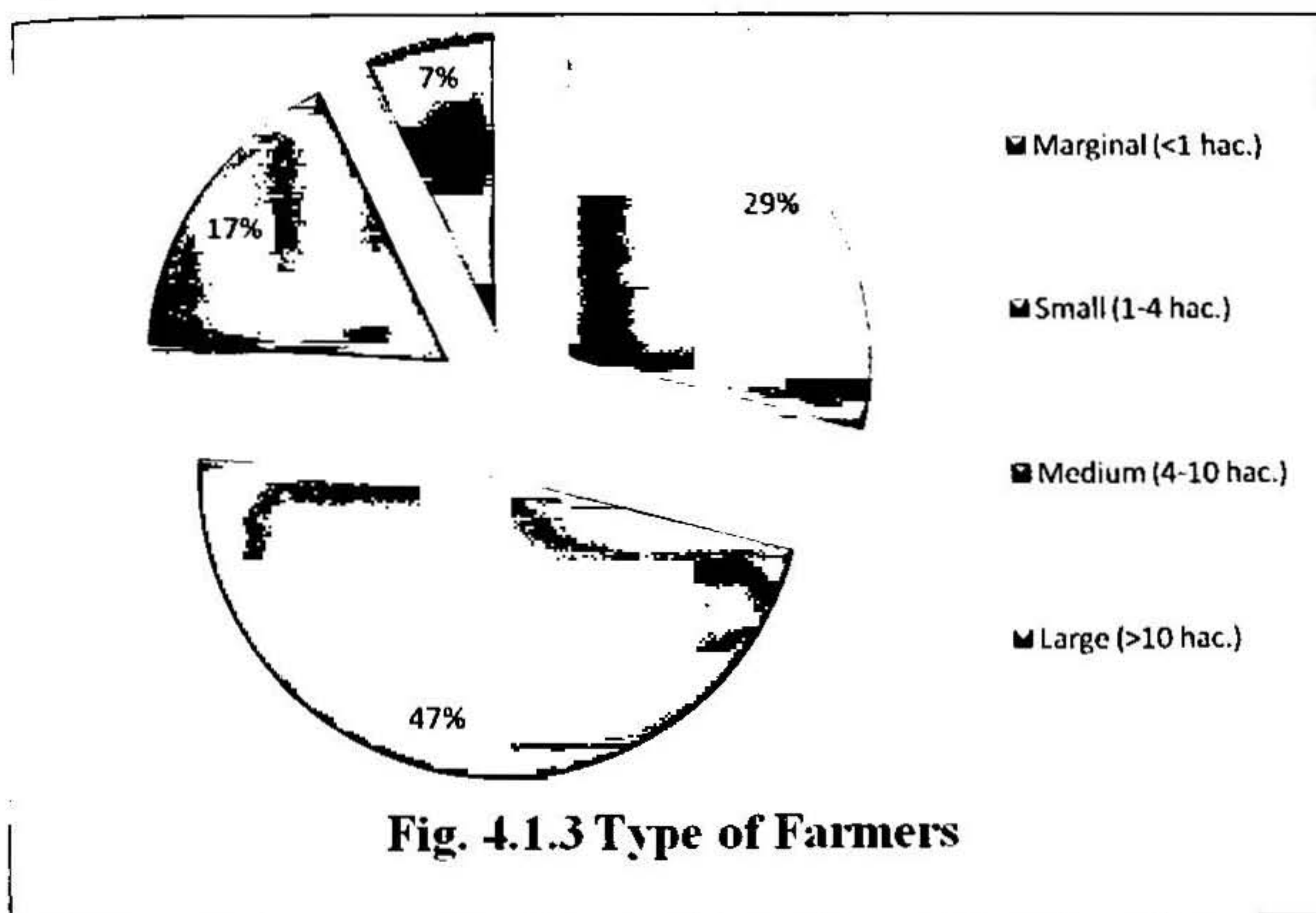


Fig. 4.1.2 Education

The above pie chart shows that the 28% of the farmers are only literate while around 16 have received college education, only 12% are totally illiterate. It suggests farmers are literate enough to understand the importance of Agricultural implements and improved techniques in agriculture.

4.1.3 Type of Farmers – Based on Landholding

	Marginal (<1 hac.)	Small (1-4 hac.)	Medium (4-10 hac.)	Large (>10 hac.)
Basti	11	19	4	1
Gorakhpur	9	16	3	2
Deoria	9	12	10	4
Total (in %)	29	47	17	7



The above pie chart shows that the Majority (47%) of the farmers are small farmers having land holding between 1-4 hac. followed by marginal (29%) and medium (17%) and large (7%) respectively. They need low cost and cost effective equipments and implements.

4.1.4 Crops Grown –

	Basti	Gorakhpur	Deoria
Sugarcane	19	20	24
Maize	29	22	18
Paddy	24	25	30
Wheat	22	27	28
Potato	30	17	0
Mustard	18	19	22
Gram	0	0	18
Arhar	20	7	26

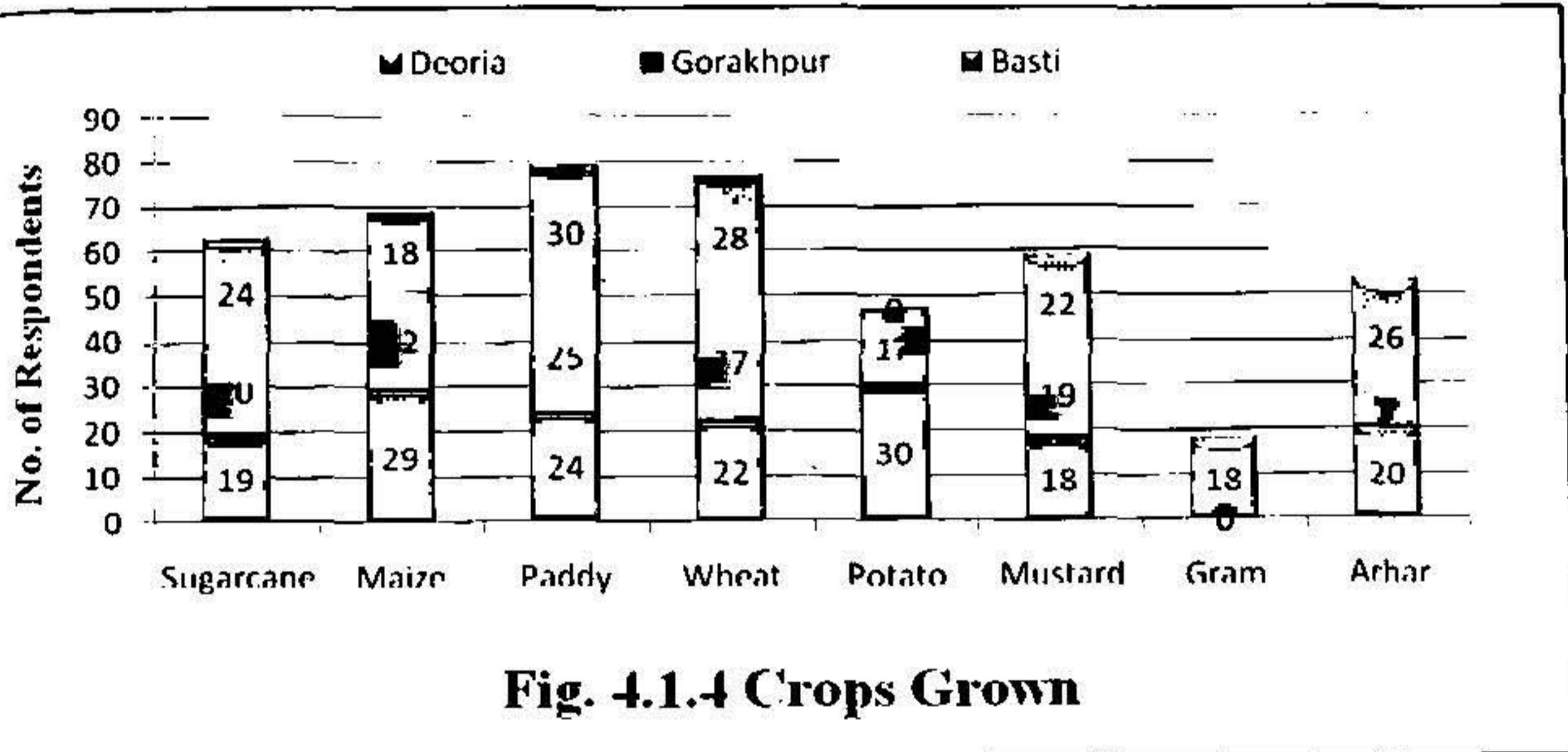


Fig. 4.1.4 Crops Grown

The above column chart shows that,

- ❖ In Basti, Farmers are mainly growing the sugarcane, maize, paddy, wheat, and potato.
- ❖ In Gorakhpur district, farmers are growing sugarcane, wheat, paddy and mustard.
- ❖ In Deoria district, the main crops are wheat, paddy, maize, mustard, arhar, gram and sugar cane.

Farmers Preference for Sprayers and Dusters

4.1.5 Sprayer and Dusters used by the farmers—

Name of the Company	No of Respondents		
	Knapsack	Foot Sprayer	Power Sprayer
ASPEE	33	2	3
Hymatic	51	16	1
Somya	6	0	0
Mitushi	9	0	0
Punjab Agro	19	0	0
Indo-German	22	3	0
Masand	6	2	0
Solo	10	0	0

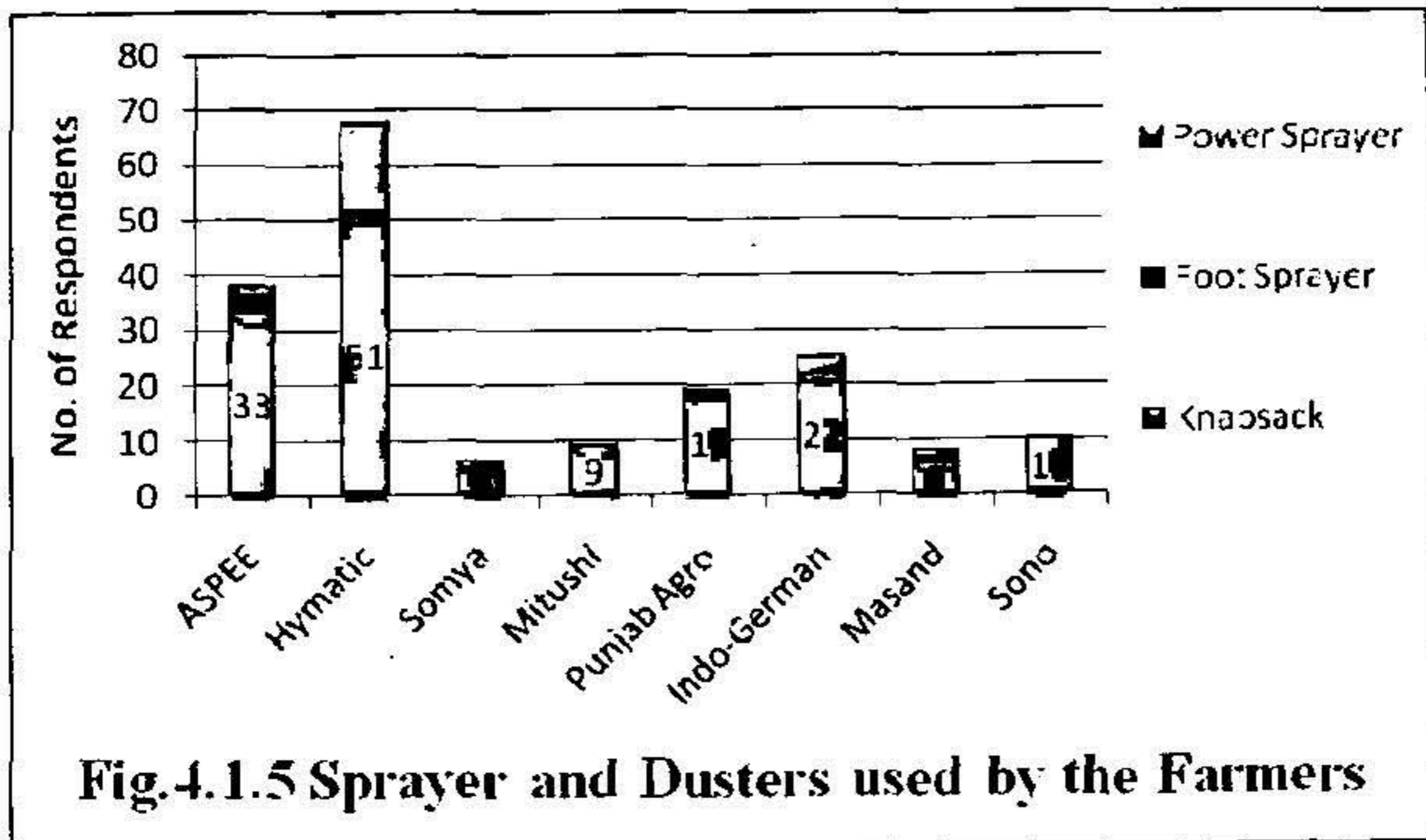


Fig.4.1.5 Sprayer and Dusters used by the Farmers

The above pie chart shows that the Majority of the farmers use knapsack sprayers in the farm. In Knapsack and Foot Sprayer category Hymatic is a leader followed by ASPEE, while ASPEE is a clear leader in Power Sprayers. Other close competitors are Punjab Agro and Indo-German.

4.1.6 Place of purchase for Sprayers and Dusters –

	Respondents (100)
Distributor	2
Dealer	26
Retailer	16
Co-operative	56

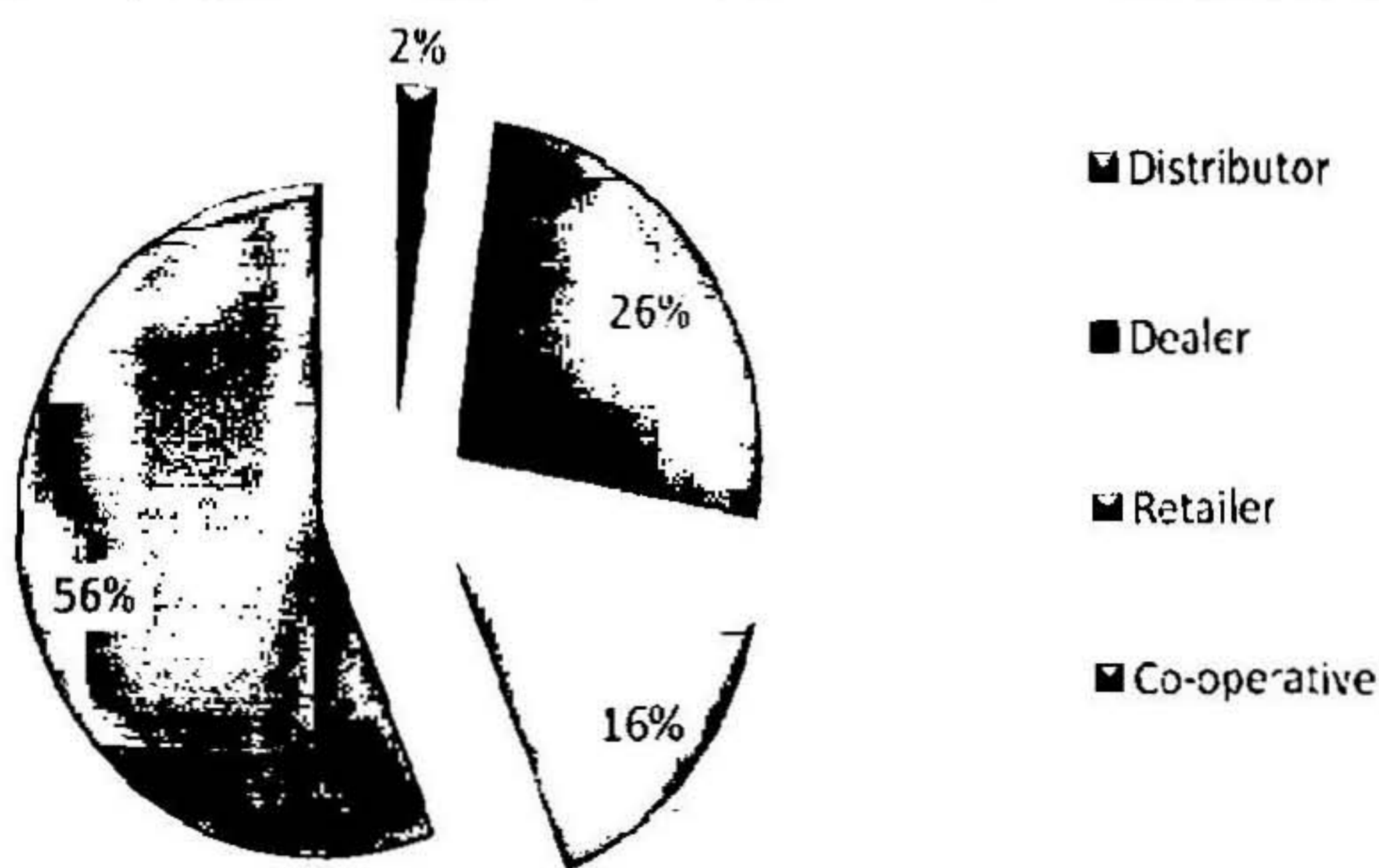


Fig. 4.1.6 Place of purchase for Sprayers and Dusters

The above pie chart shows that the 56% of the farmers are procuring Sprayers and dusters and other equipment from Co-operative. It shows that the Cooperatives are the major source of sale of Sprayers and Dusters followed by Dealers (26%), Retailers (16%) and Distributors (2%) respectively. Farmers purchase from cooperative because of the subsidy provided by them.

4.1.7 Time Since purchase –

	<1years	1-2years	3-5years	>5 years
ASPEE	0	19	12	4
Hymatic	32	24	11	1
Somya	0	2	4	0
Mitushi	0	8	1	0
Punjab Agro	0	4	15	0
Indo-German	0	3	5	17
Masand	0	2	2	4
Solo	0	0	10	0
Total	32	62	60	26

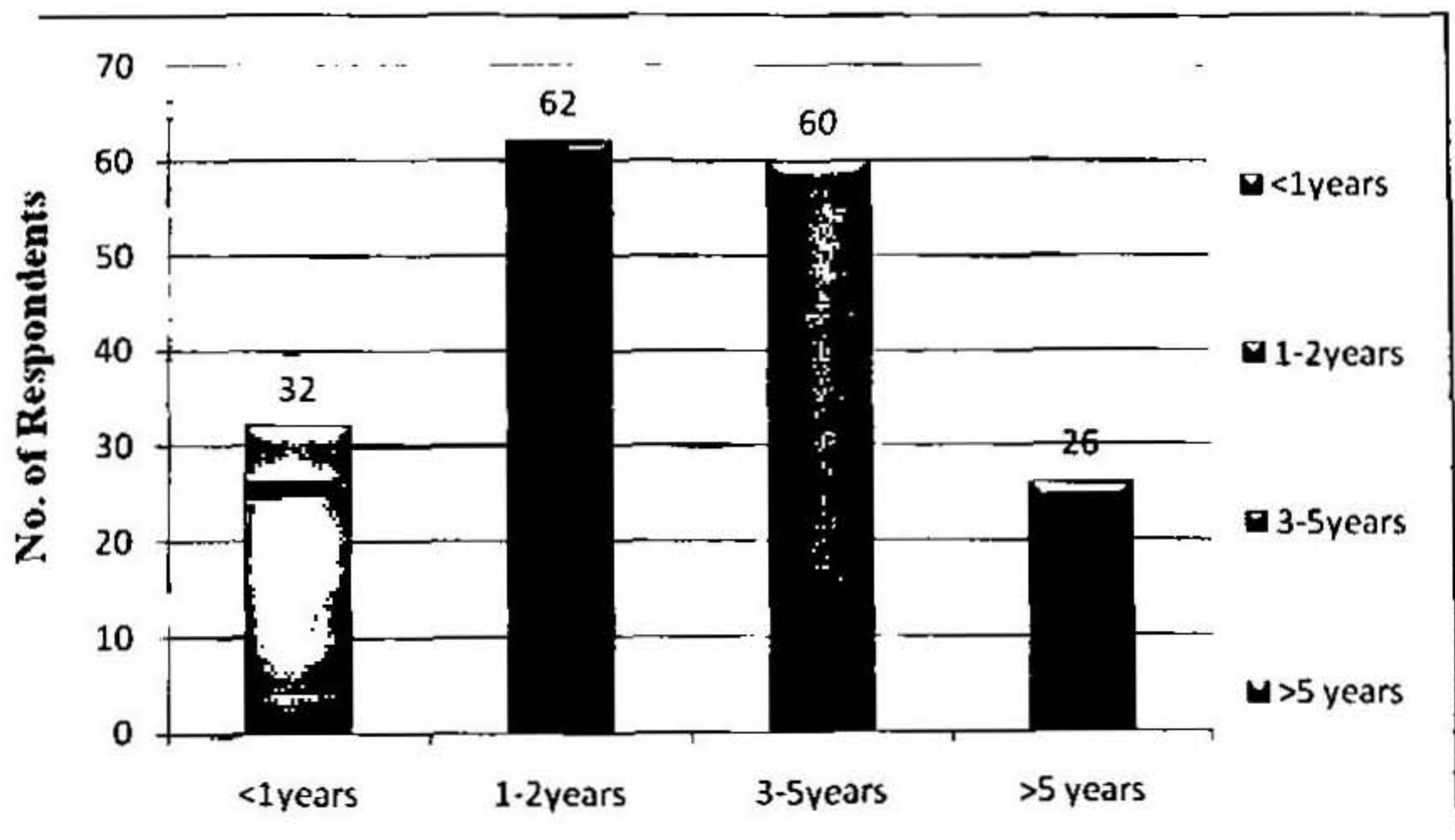


Fig. 4.1.7 Time Since Purchase

The above column chart shows that the most of the farmers are using their sprayers from last 1-2 years followed by 3-5 years. Most of the farmers using ASPEE sprayers are using it from last 1-2 years followed by 3-5 years. Most of the farmers using Hymatic sprayer purchased it last year.

4.1.8 Factors influencing purchase of sprayers -

	Very high a X 5	High b X 4	Moderate c X 3	Low d X 2	Very Low e X 1	Total Score	Rank
Price	72 (360)	4 (16)	24 (72)	0 (0)	0 (0)	448	1
weight	0 (0)	0 (0)	62 (186)	31 (62)	7 (7)	255	6
Durability	17 (85)	60 (240)	13 (39)	10 (20)	0 (0)	384	2
ASS	0 (0)	0 (0)	18 (54)	62 (124)	20 (20)	198	7
Economy	0 (0)	30 (120)	30 (90)	29 (58)	11 (11)	279	4
Look	0 (0)	14 (56)	45 (135)	35 (70)	6 (6)	267	5
Brand Name	28 (140)	0 (0)	17 (51)	40 (80)	15 (15)	286	3

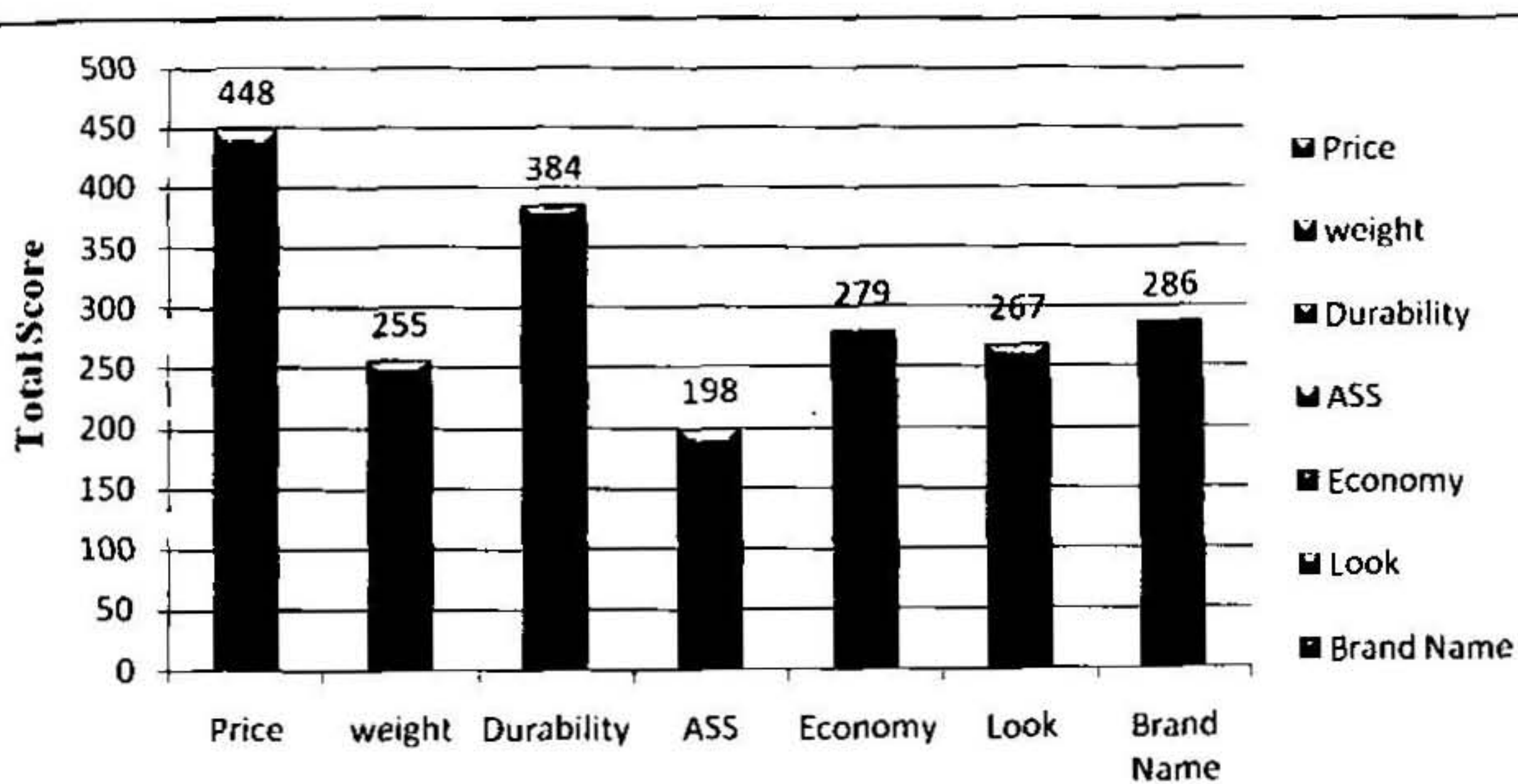


Fig. 4.1.8 Factors influencing purchase of sprayers

The above column graph shows that price factor is given first preference by consumer at the time of purchasing, which is followed by durability and Brand Name. Above column chart shows that almost equal preference is given to Weight, Economy and Look factors by farmers. After sales service factors farmers do not give much importance to after sales service provided.

4.1.9 Source of Recommendation

	Very high (X 5)	High (X 4)	Moderate (X 3)	Low (X 2)	Very Low (X 1)	Total Score
Farmer	44 (220)	30 (120)	17 (51)	9 (18)	0 (0)	409
Agri. Uni.	0 (0)	0 (0)	0 (0)	35 (70)	65 (65)	135
Dealers	65 (325)	32 (128)	3 (0)	0 (0)	0 (0)	453
CFA	0 (0)	1 (4)	0 (0)	41 (82)	58 (58)	144

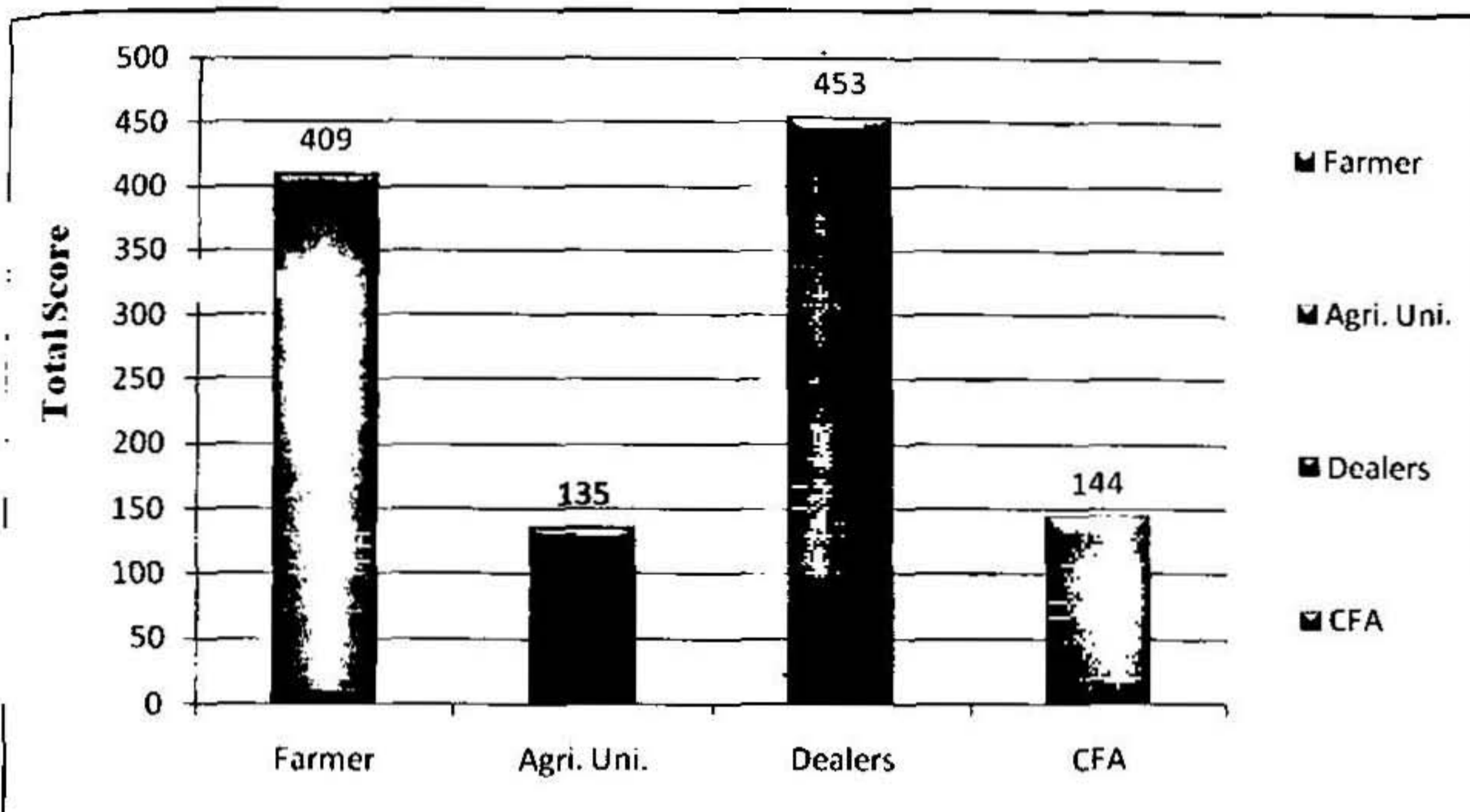


Fig. 4.1.9 Recommendation

The above column chart shows that the major sources of recommendation are farmer and dealer. Dealers play leading role in recommendation to the farmer for purchasing of products. But role of Agricultural University and Company field assistant is not quite important as compared to farmers and dealers.

4.1.10 Popular newspaper in the region

	Basti	Gorakhpur	Deoria	Total %
Dainik Jagaran	31	20	30	81
Hindustan	0	4	0	4
Amar Ujala	4	6	5	15

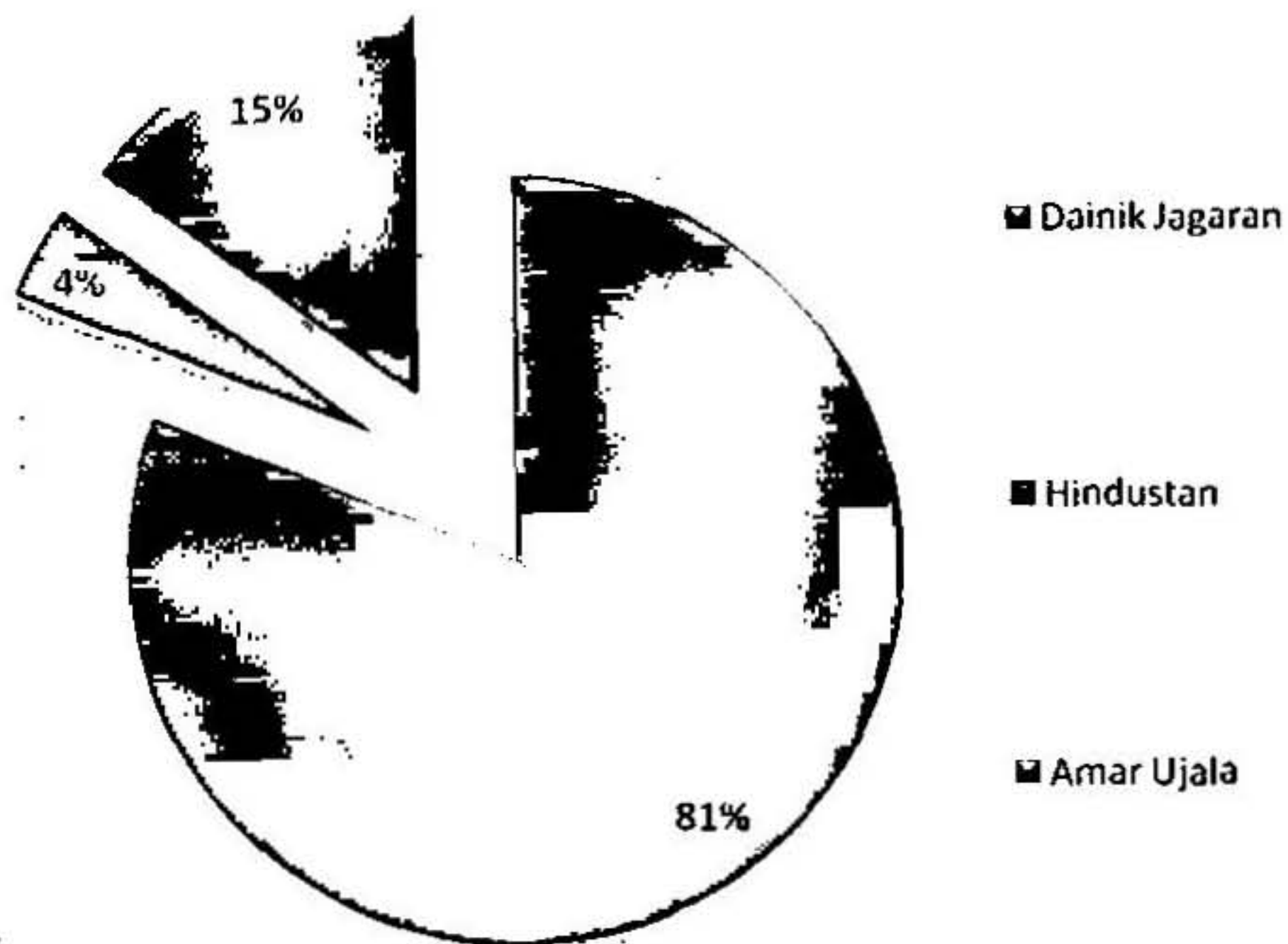


Fig. 4.1.10 Popular Newspaper

The above pie chart shows that the most of the farmers read the Dainik Jagaran newspaper. It is the most preferred media for advertisement.

4.1.11 Most preferred entrainment media

	Basti	Gorakhpur	Deoria	Total %
TV Show	25	15	30	70
Radio	10	15	5	30
Magazine	0	0	0	0

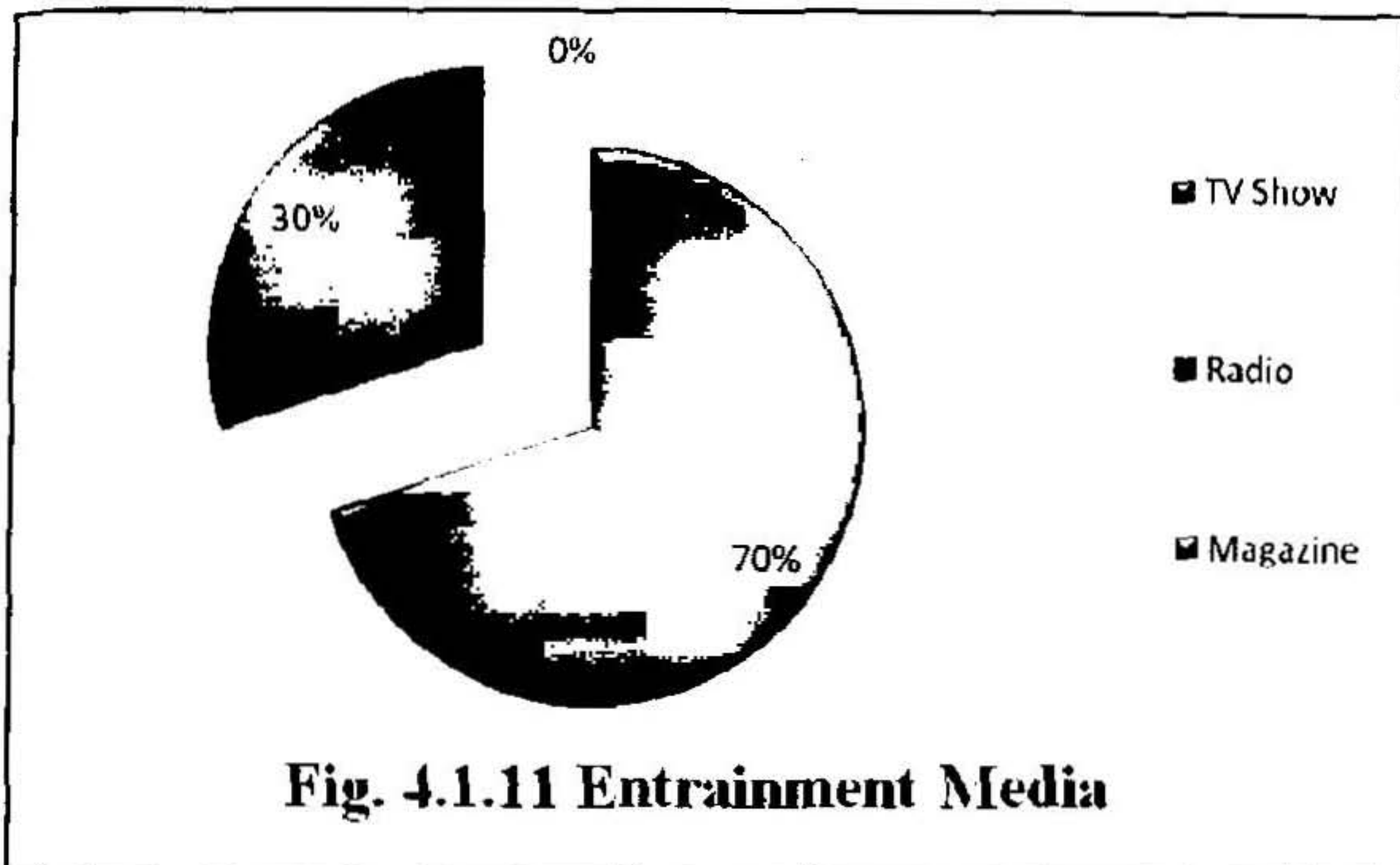


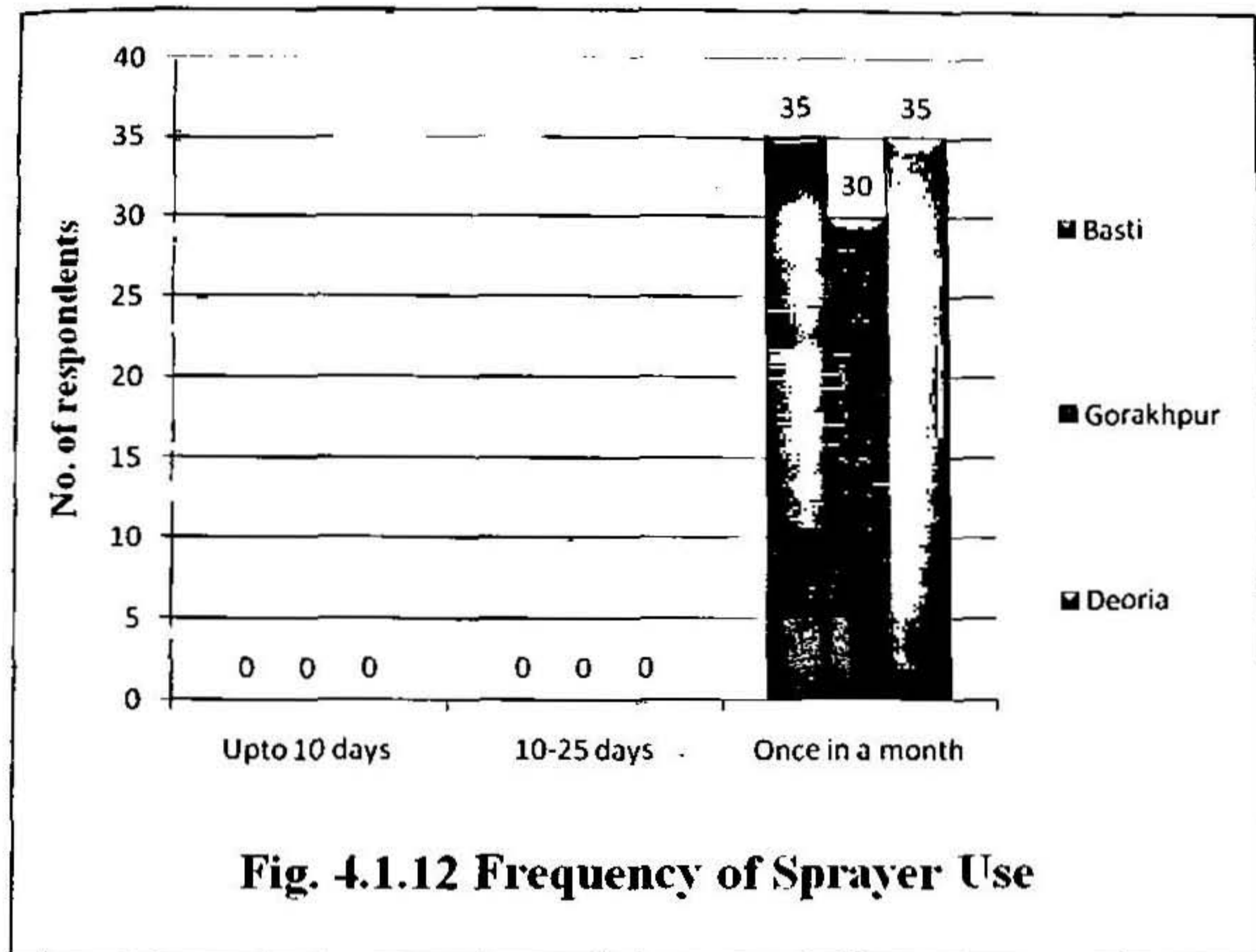
Fig. 4.1.11 Entrainment Media

The above pie chart shows that the most of the farmers preferred TV for his entertainment followed by Radio but Magazines are not read by any farmers.

The most preferred media for advertisement is TV Show followed by Radio.

4.1.12 Frequency of Sprayer use

	Upto 10 days	10-25 days	Once in a month
Basti	0	0	35
Gorakhpur	0	0	30
Deoria	0	0	35



The above column figure shows that sprayer is used once in a month in a season. As most of the farmers grow vegetables and fruits, sprayers is recommended once in a month.

4.1.13 Need for repair and maintenance of Sprayer

Company	Never a×3	Once in a Year a×2	More than Once in a year a×1	Total Score	Respondent	Mean Score
ASPEE	27 (71)	8 (16)	0 (0)	87	35	2.49
Hymatic	28 (84)	30 (60)	10 (10)	154	68	2.26
Somya	0 (0)	5 (10)	1 (1)	11	6	1.83
Mitushi	0 (0)	9 (18)	0 (0)	18	9	2.00
Punjab Agro	4 (12)	10 (20)	5 (5)	37	19	1.95
Indo-German	0 (0)	20 (40)	5 (5)	45	25	1.80
Masand	0 (0)	6 (12)	2 (2)	14	8	1.75
Solo	0 (0)	7 (14)	3 (3)	17	10	1.70

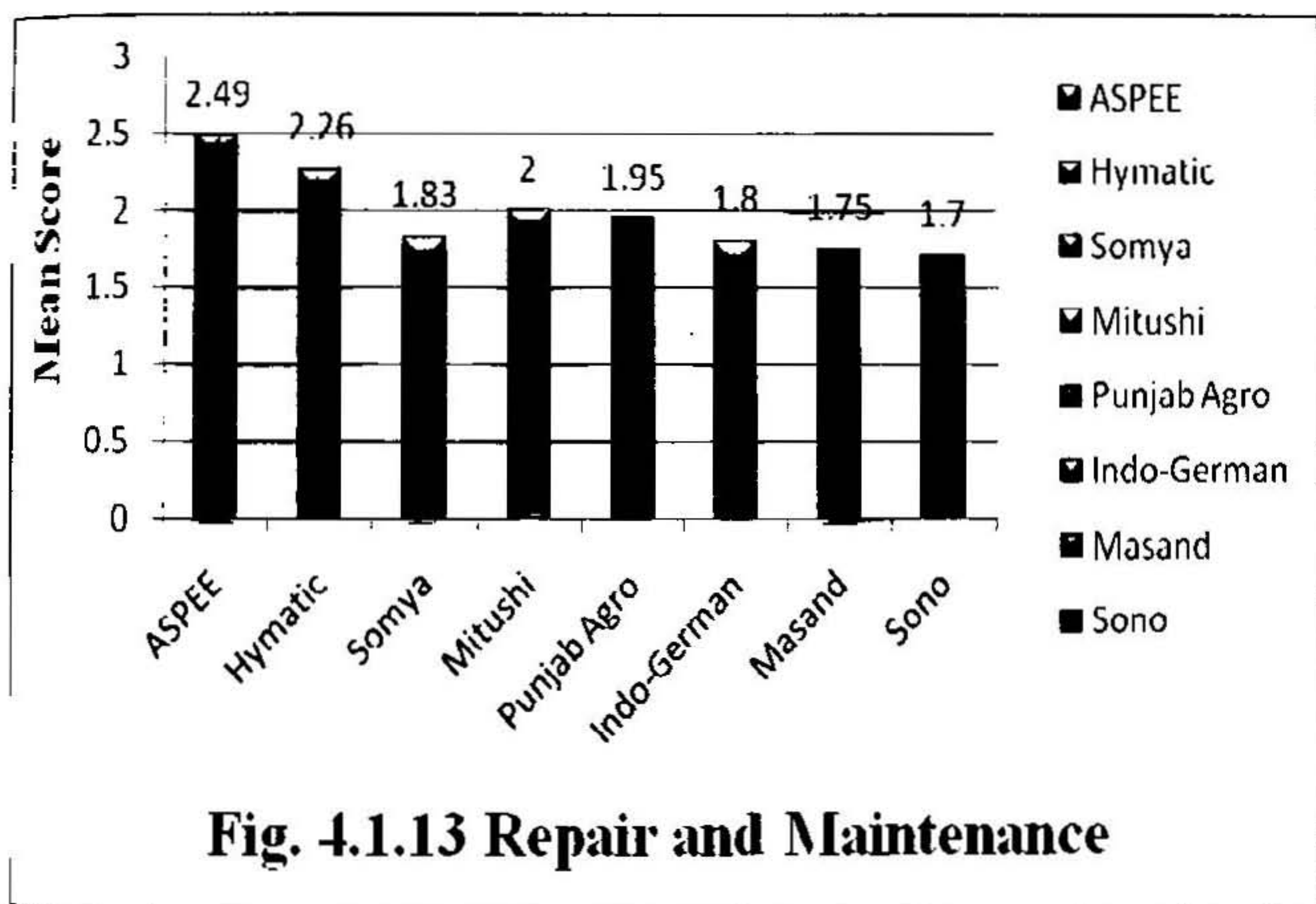


Fig. 4.1.13 Repair and Maintenance

The above column chart shows that ASPEE sprayers need very less repair and maintenance which is followed by Hymatic, Mitushi and Punjab Agro while Masand, Somya, Indo-German and Solo needs greater repair and maintenance.

4.1.14 Repairs provided by dealers

	Basti	Gorakhpur	Deoria	Total %
Yes	4	6	8	18
NO	31	24	27	82

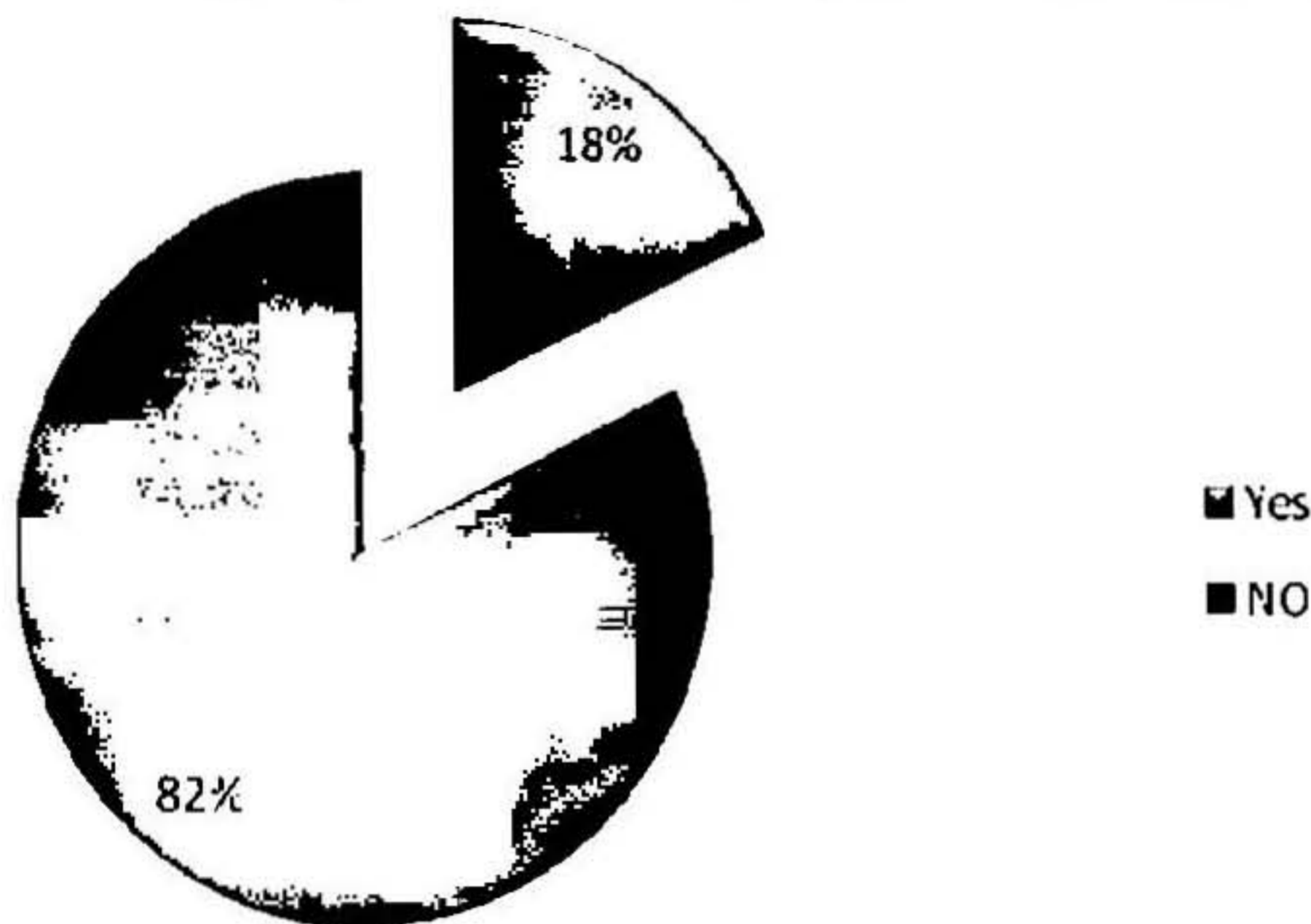
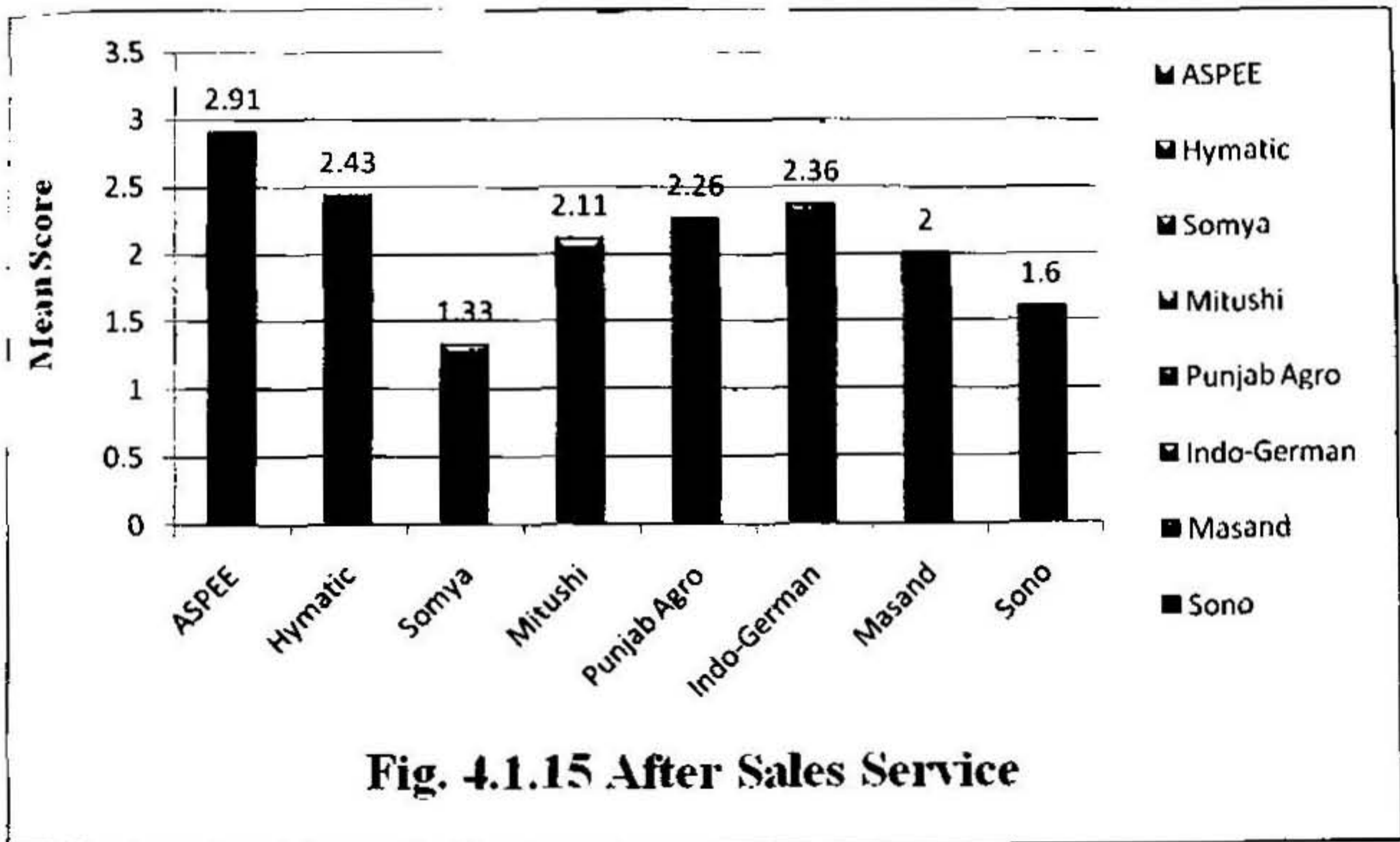


Fig. 4.1.14 Repairs provided by dealers

Above pie chart shows that the 82% of respondents complain about services from dealers. Only 18% respondents said dealer give services to consumer whenever problem occurs in product, particularly at the time of replacement of spare part.

Company	Excellent a×4	Good a×3	Fair a×2	Poor a×1	Total Score	Respondent	Mean Score
ASPEE	2 (8)	28 (84)	5 (10)	0 (0)	102	35	2.91
Hymatic	0 (0)	38 (114)	21 (42)	9 (9)	165	68	2.43
Somya	0 (0)	0 (0)	2 (4)	4 (4)	8	6	1.33
Mitushi	0 (0)	5 (15)	0 (0)	4 (4)	19	9	2.11
Punjab Agro	0 (0)	9 (27)	6 (12)	4 (4)	43	19	2.26
Indo-German	0 (0)	11 (33)	12 (24)	2(2)	59	25	2.36
Masand	0 (0)	4 (12)	0 (0)	4 (4)	16	8	2.00
Solo	0 (0)	0 (0)	6 (12)	4 (4)	16	10	1.60



The above column figure shows that ASPEE play leading role in after sale services which is followed by Hymatic and Indo-German. While Somya and Solo were rated poor in After Sale Service.

4.1.16 Purchased equipment under subsidy

	Basti	Gorakhpur	Deoria	Respondent (%)
Yes	30	22	24	56
No	5	8	11	44

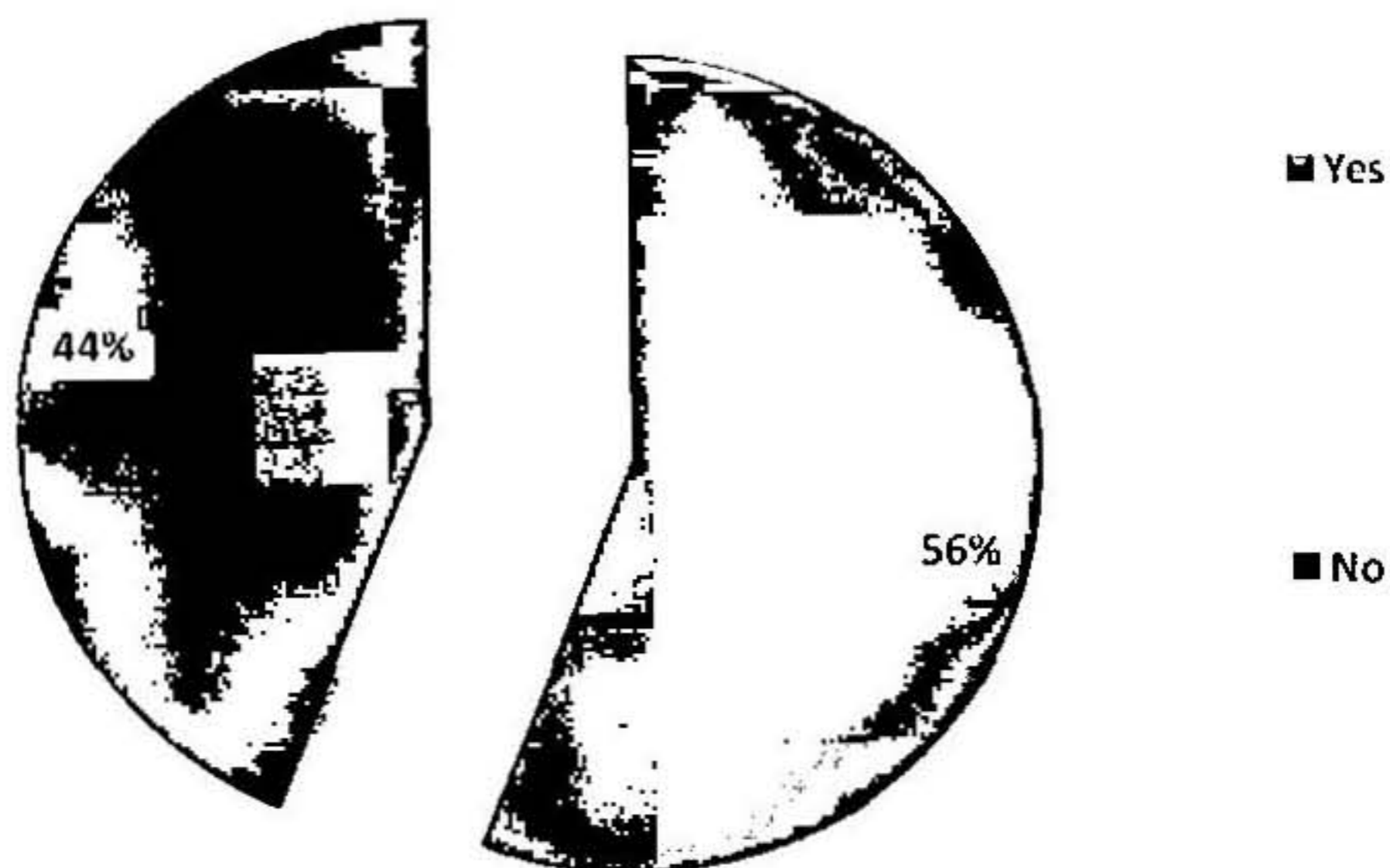


Fig. 4.1.16 Purchased equipment under Subsidy

Above pie chart shows that 44% respondents have purchased equipment under subsidy scheme. While 56% respondents made use of subsidy scheme.

4.1.17 Awareness about the ASPEE product

	Basti	Gorakhpur	Deoria	Respondent (%)
Yes	30	22	29	81
No	5	8	6	19

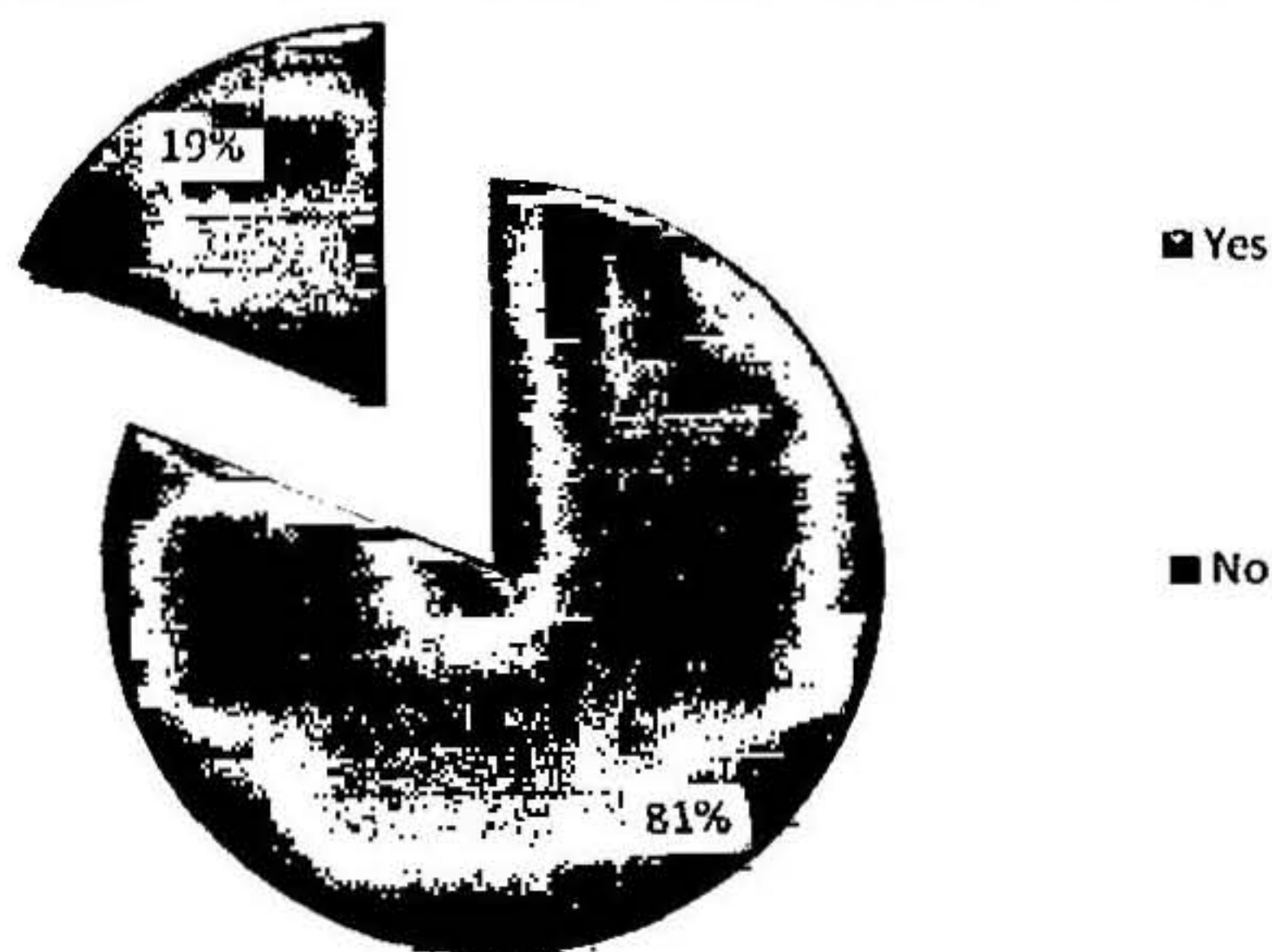


Fig. 4.1.17 ASPEE Awareness

The above pie chart shows that 81% farmers are aware about ASPEE product. Farmers recognized Maruti and other brands of ASPEE; however awareness about the company is low.

4.1.18 Awareness about social responsibility initiatives of ASPEE

	Basti	Gorakhpur	Deoria	Respondent (%)
Yes	0	0	0	0
No	35	30	35	100

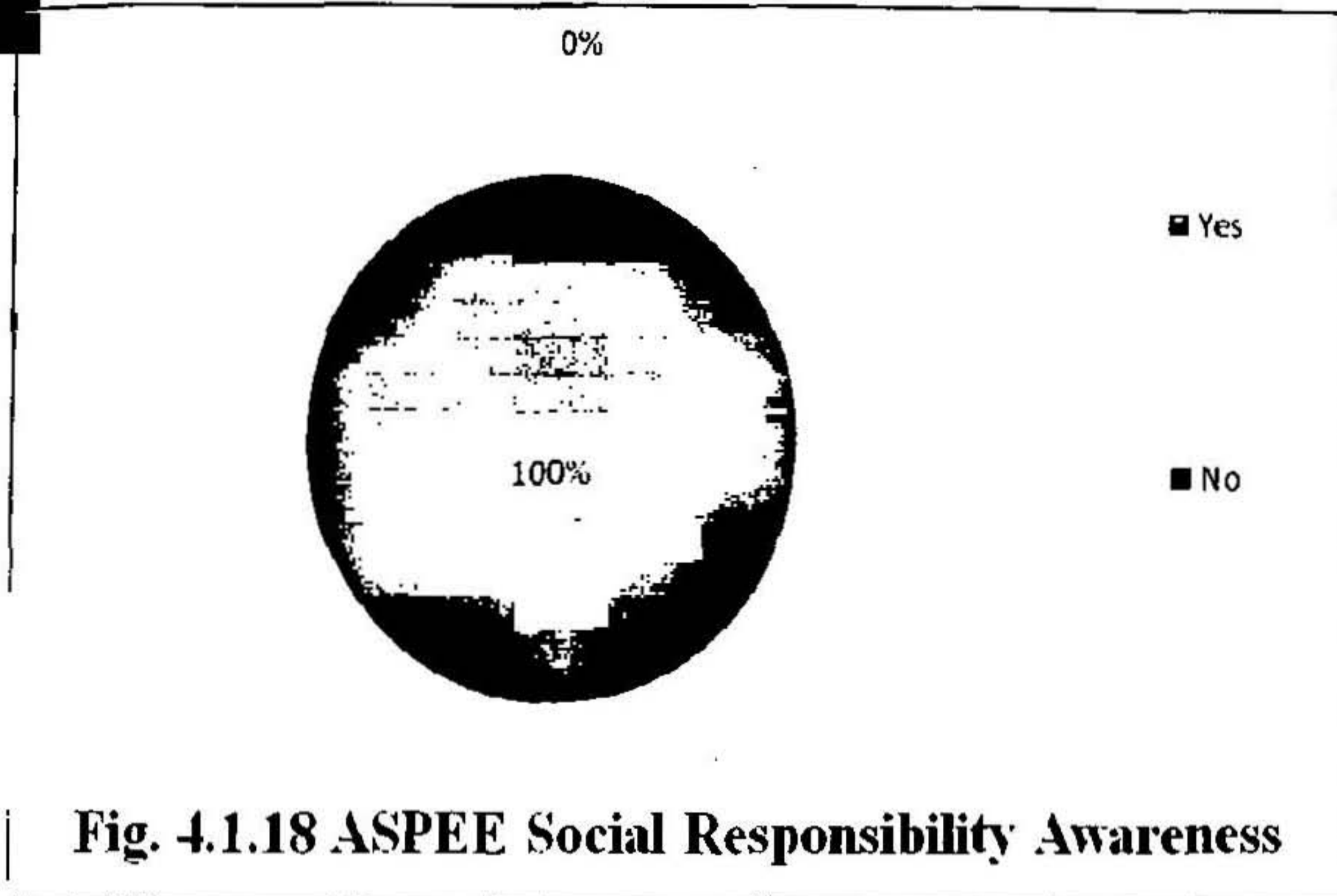


Fig. 4.1.18 ASPEE Social Responsibility Awareness

The above pie chart shows that the farmers are not aware of various activities of ASPEE that it carries out for benefit of the farmers.

4.1.19 Assistance received from Agriculture Department

Sr. No.	Questions	Yes	No	Total Respondent
1	Do you get any help from Agriculture Department?	0	100	100
2	Have you visited any Agriculture Information Centre?	0	100	100

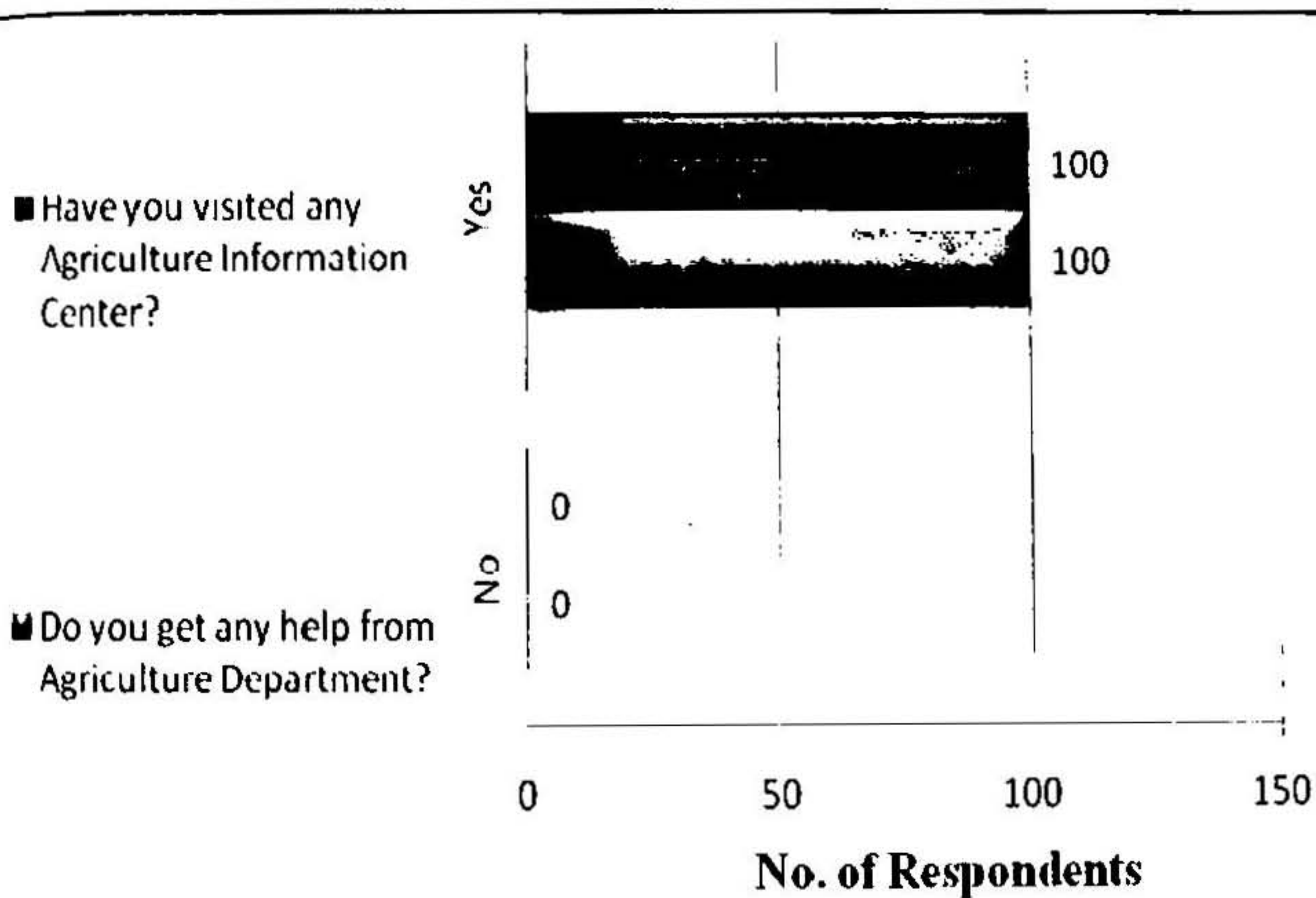


Fig. 4.1.19 Assistance Recieved

The above bar graph shows that farmers have not received any help from Agriculture Department and no farmer has visited in any Agriculture Information Center.

4.1.20 Product feedback of sprayers and dusters.

Note: 1=Very bad; 2=Bad; 3=Average; 4=Good; 5=Excellent

Factors	ASPEE	Hymatic	Somya	Mitushi	Punjab Agro	Indo-German	Masand	Solo
Price	3.2	4.59	4	4.11	4.79	4.48	4	4.5
Weight	4	3.88	3.67	3.44	3.79	3.32	3.75	2.8
After Sales Service	3.91	3.10	2	2.56	3.79	2.44	3	3
Look	4	3.81	4	4	3.11	3.88	3	4
Durability	5	3.56	2.33	3.78	3.42	2.28	2.75	2.8
Brand Image	3.83	2.99	2	2.89	2.84	2.92	2.13	2
Performance	4.86	3.74	3	3	3.74	3.92	3	3
Design/Material Quality	4.86	2.5	4	2.89	4	2.92	3	2.2
Quality of Spray gun, Spray lances and Spray nozzle	4.23	4	3.33	3.22	3.58	2.44	3	2.2
Reliability	5	3.12	3	3.88	3	3.2	2.13	2.2
Availability of Spare Parts	2.14	3.74	2	2	2.16	3	2.75	2.1
Availability of Service	2.14	2.75	2	2	2.16	3	2.25	2
Total Rating	47.17	41.78	37.33	37.77	40.38	37.8	34.76	32.8
No. of Respondents	35	68	6	9	19	25	8	10
Rank	1	2	6	5	3	4	7	8

Max. Rating: 12 (Market parameters) x 5 (Maximum scale) = 60 (Maximum)

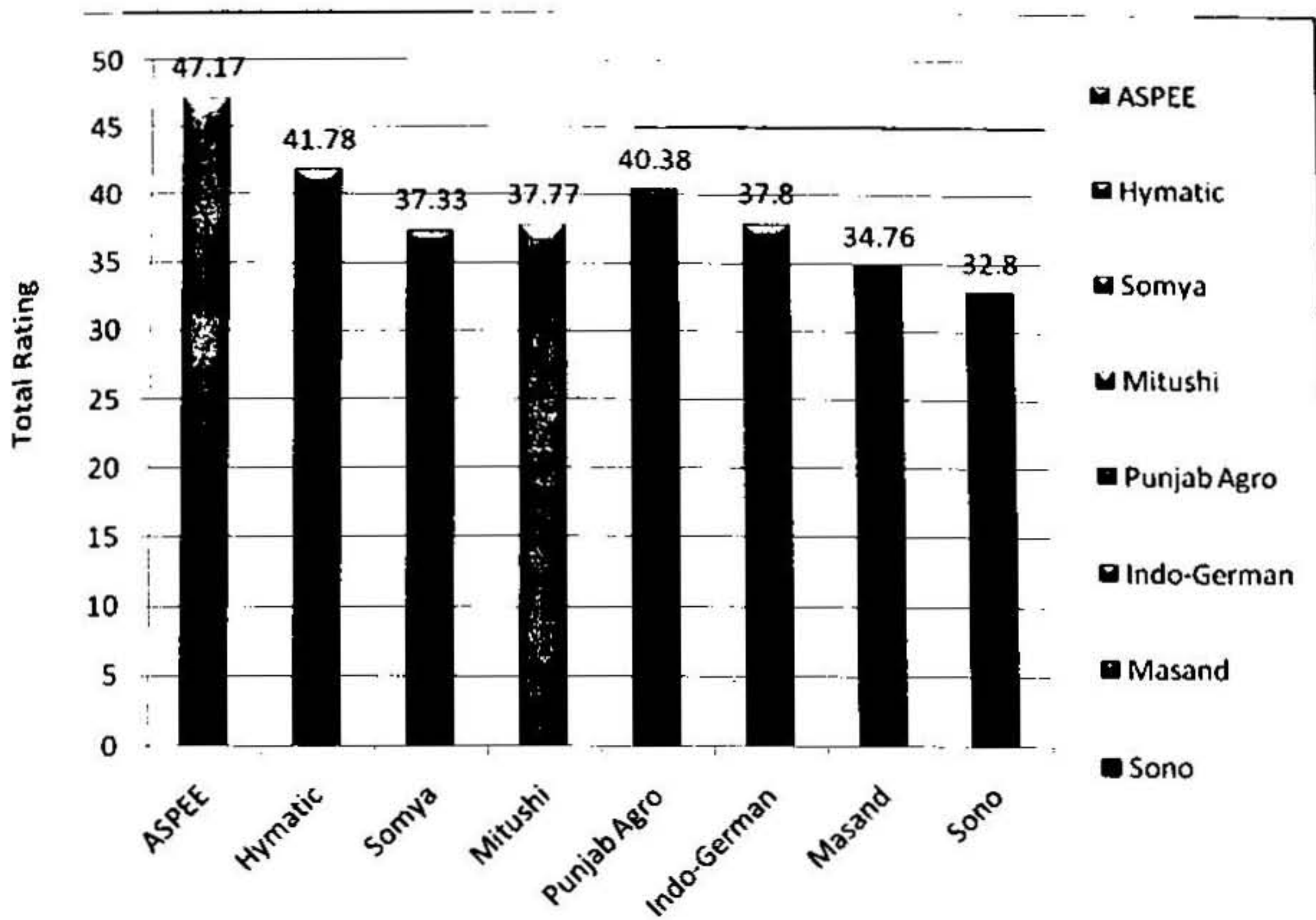


Fig. 4.1.20 Product Feedback

The above graph indicates that the ASPEE product price is rated high as compared to other competitor's price. In addition to, ASPEE product feedback the availability of spare parts and service is rated poor as compared to Hymatic, Indo-German, Masand and Punjab Agro. The other parameters of product feedback about ASPEE are better than competitors. ASPEE score 47.17 out of 60. ASPEE was rated excellent on Durability, Reliability, Performance, Design and material quality, Quality of Spray gun, Spray lances and Spray nozzle and Look.

4.1.21 Contact with ASPEE

	Respondents	%
Dealer	20	57.15
Distributor	2	5.71
Retailer	13	37.14
Co. Sales Executive	0	0
Total	35	

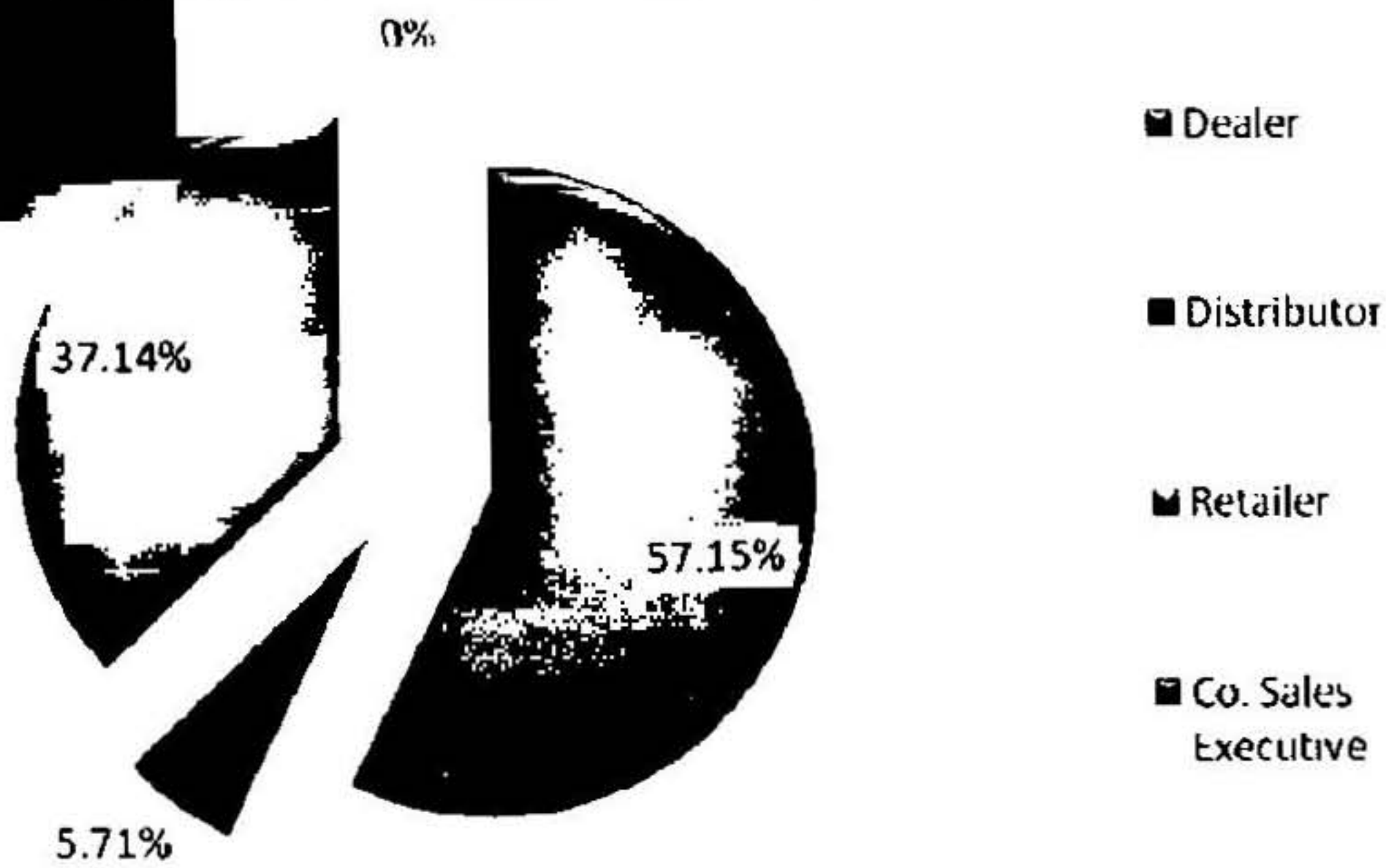


Fig. 4.1.21 Contact with ASPEE

Most of the farmer contact dealer for product related problem followed by retailer and distributor. No one directly contact to the ASPEE Sales Executive.

4.2 DISTRIBUTION ANALYSIS

Note: Distribution analysis is based on responses of distributor, dealers, non-dealers and retailers.

4.2.1 Composition of the sample of Distribution member –

District	Dealers	Non-Dealers	Retailers	Distributors
Basti	1	0	8	0
Gorakhpur	3	0	12	1
Deoria	2	0	11	0
Total	6	0	31	1

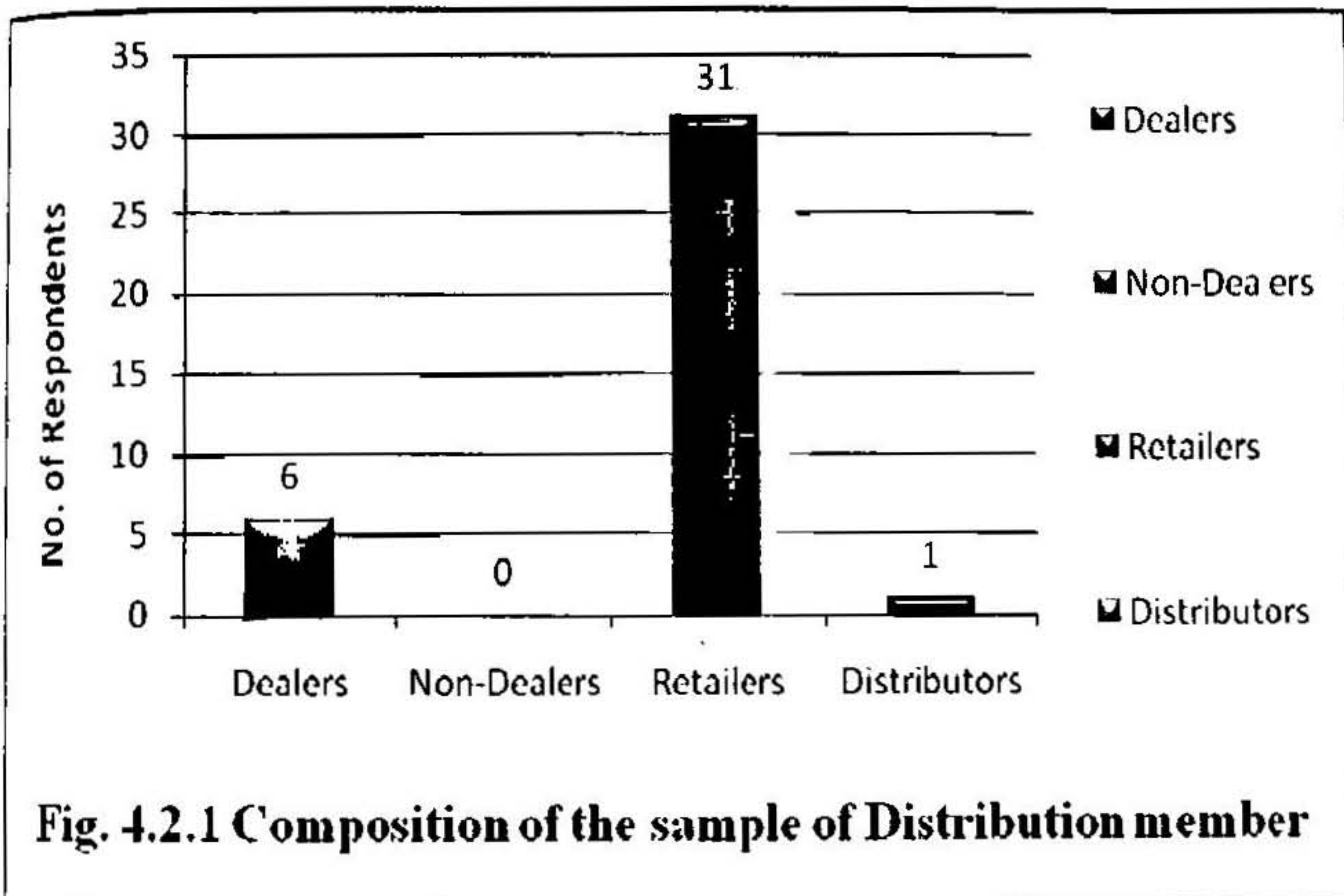
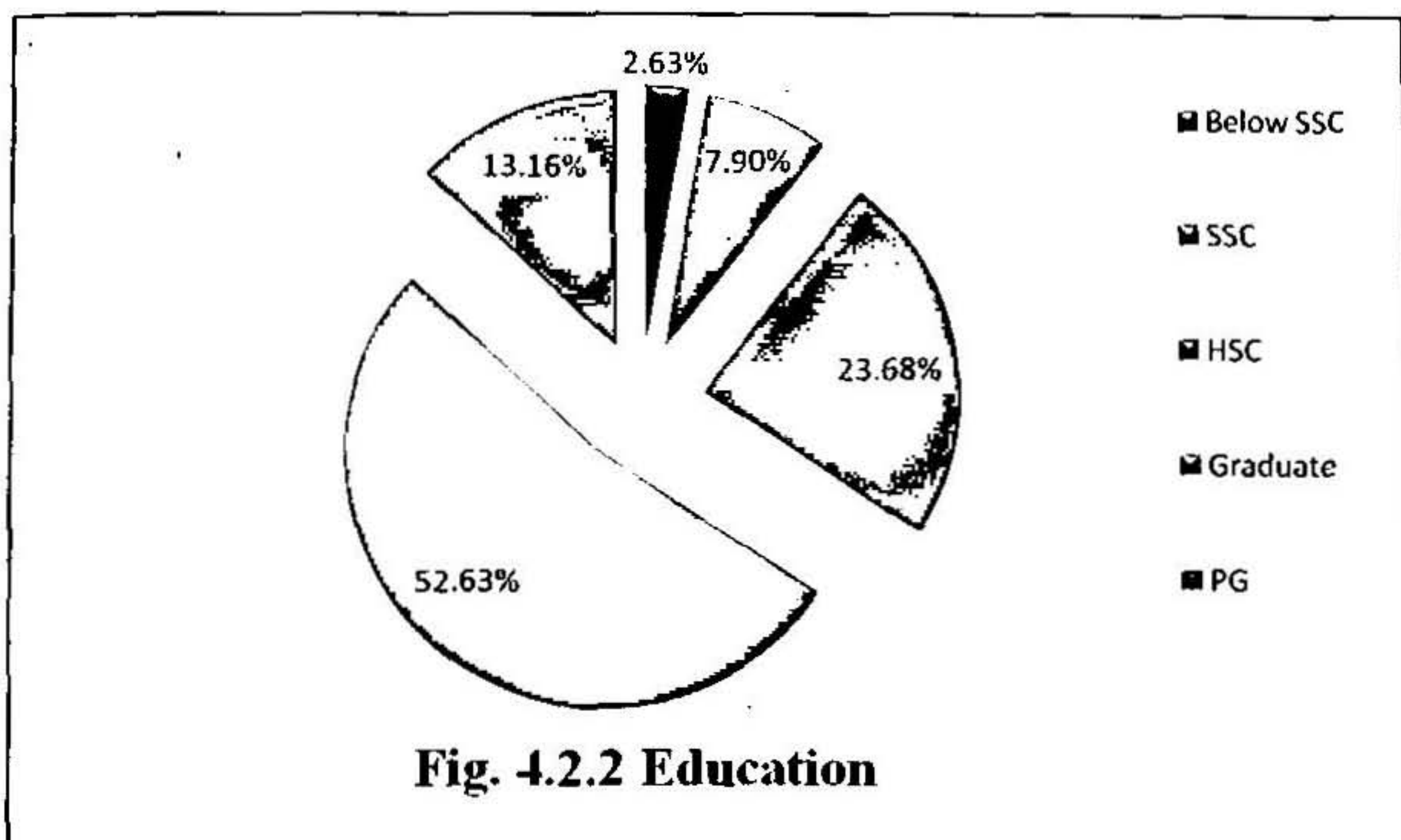


Fig. 4.2.1 Composition of the sample of Distribution member

The above graph shows that the all the three district only ASPEE has the Dealer and Distributor. Other Company sells their product through retailers. ASPEE has 1 Distributor, 6 dealers and 8 retailers.

4.2.2 Education Profile –

District	Below SSC	SSC	HSC	Graduate	PG
Basti	0	1	3	5	0
Gorakhpur	0	1	4	10	1
Deoria	1	1	2	5	4
Total	1 (2.63%)	3 (7.90%)	9 (23.68%)	20 (52.63%)	5 (13.16%)



The above pie chart shows that the 52.63% of the respondents are Graduate followed by HSC (23.68%).

4.2.3 Factors for choosing career –

Factors	Respondents
Money	15 (39.47%)
Interest	0 (0%)
Family Business	23 (60.53%)
Total	38 (100%)

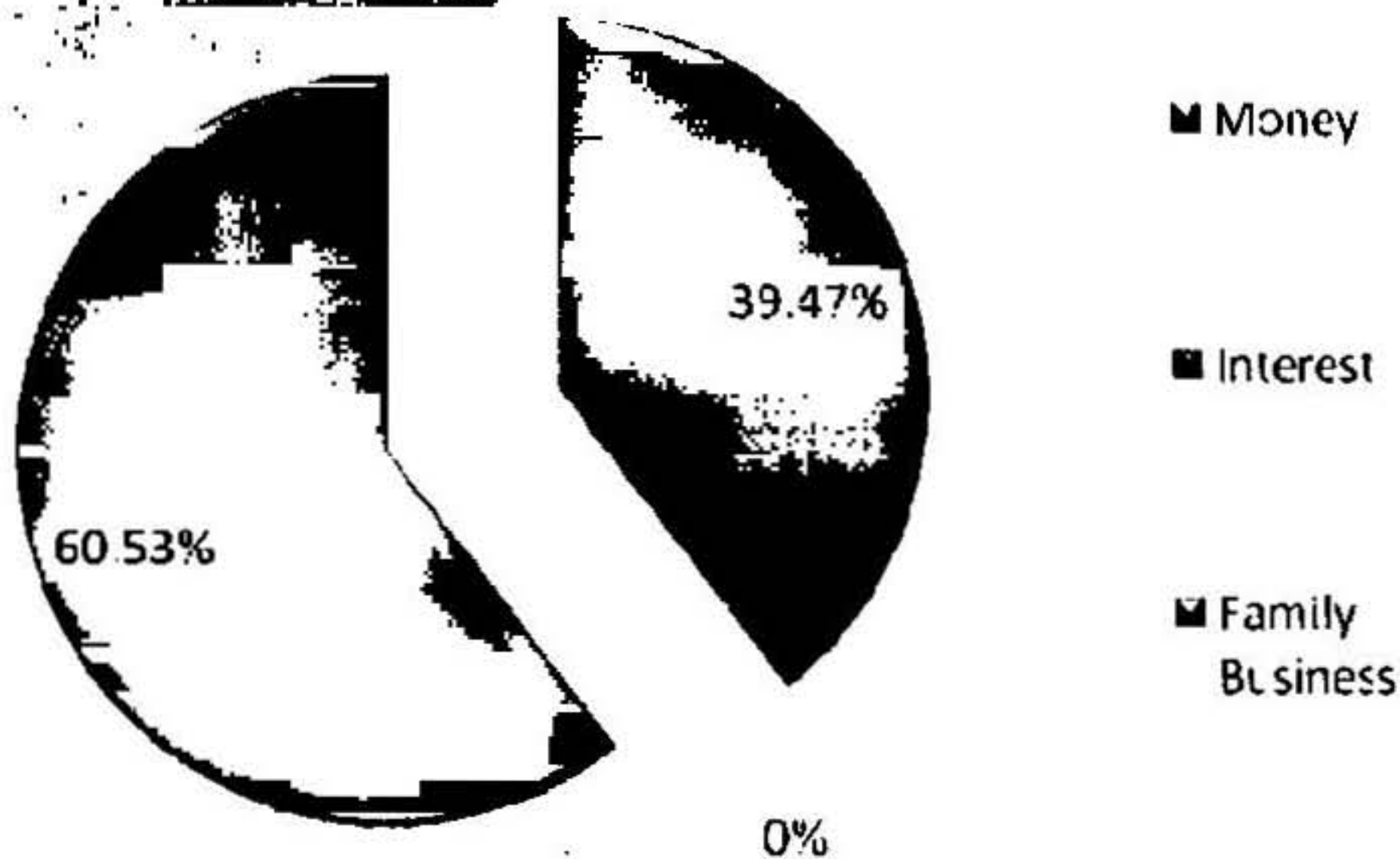


Fig. 4.2.3 Factor for choosing Career

The above graph shows that the majority (60.53%) of the dealers have come in agriculture farm mechanized business because his family is already doing this business. Other reason is they see good opportunity to earn money in this business.

4.2.4 *Sprayers and Dusters sold by the Dealers –*

Name of Company	No of Respondents		
	Power Sprayer	Foot Sprayer	Knapsack
ASPEE	12	6	7
Hymatic	23	7	1
Somya	8	3	0
Mitushi	3	1	0
Punjab Agro	1	0	0
Indo-German	6	3	1
Vikas	1	0	0
Masand	5	1	0
Khaitan	1	0	0
Solo	2	2	0
Chetak	1	1	0

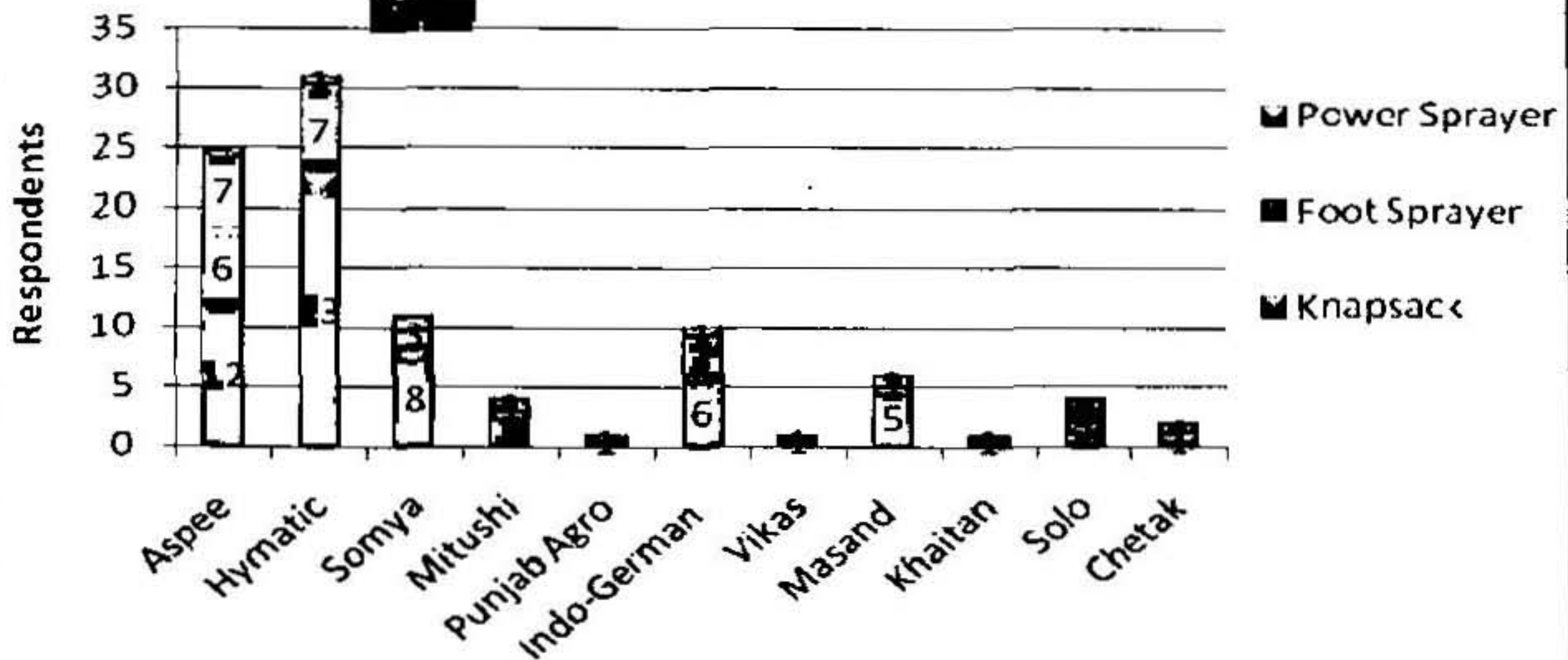


Fig. 4.2.4 Sprayers and Dusters sold by the Dealers

The above graph seems that maximum numbers of dealers are dealing with Hymatic brands. In Knapsack 23 dealers are dealing of Hymatic, 12 dealers are dealing ASPEE. In Foot Sprayer ASPEE have 6 dealers and Hymatic have 7 dealers. In Power Sprayer ASPEE have 7 dealers and Hymatic and Indo-German have 1 dealer.

4.2.5 Fast moving product

Name of Company	No of Respondents		
	Knapsack	Foot Sprayer	Power Sprayer
ASPEE	9	0	0
Hymatic	20	2	0
Somya	0	0	0
Mitushi	0	0	0
Punjab Agro	1	0	0
Indo-German	3	2	0
Vikas	0	0	0
Masand	1	0	0
Khaitan	0	0	0
Solo	0	0	0
Chetak	0	0	0

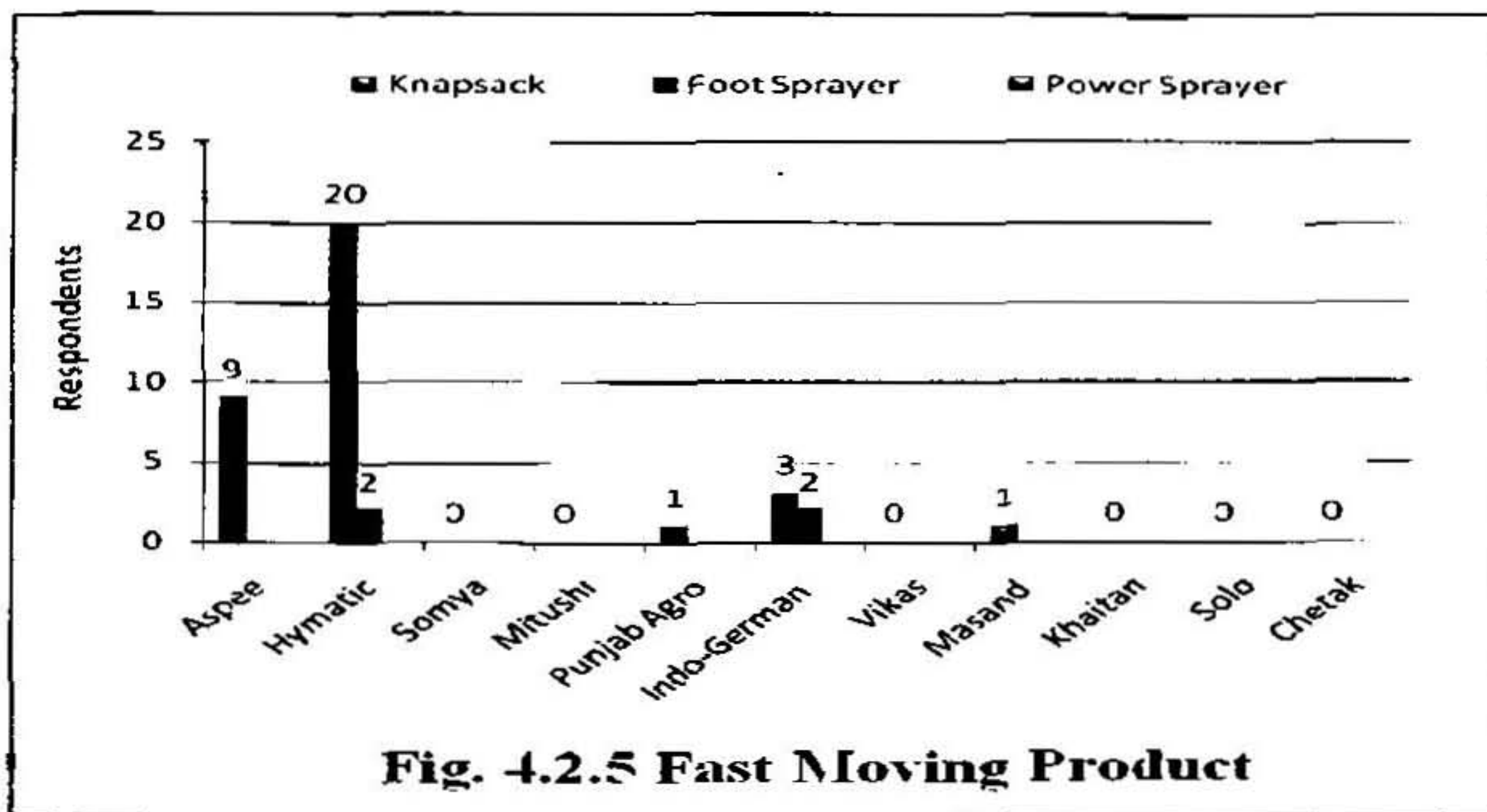


Fig. 4.2.5 Fast Moving Product

The above graph shows that Hymatic Knapsack sprayer is fastest moving product in market followed by ASPEE knapsack. Then in Foot Sprayer Hymatic and Indo-German is fast moving product.

4.2.6 Availability of Mechanic

Sr. No	Respondents	%	
1	Yes	12	31.58%
2	No	26	68.42%
	Total	38	

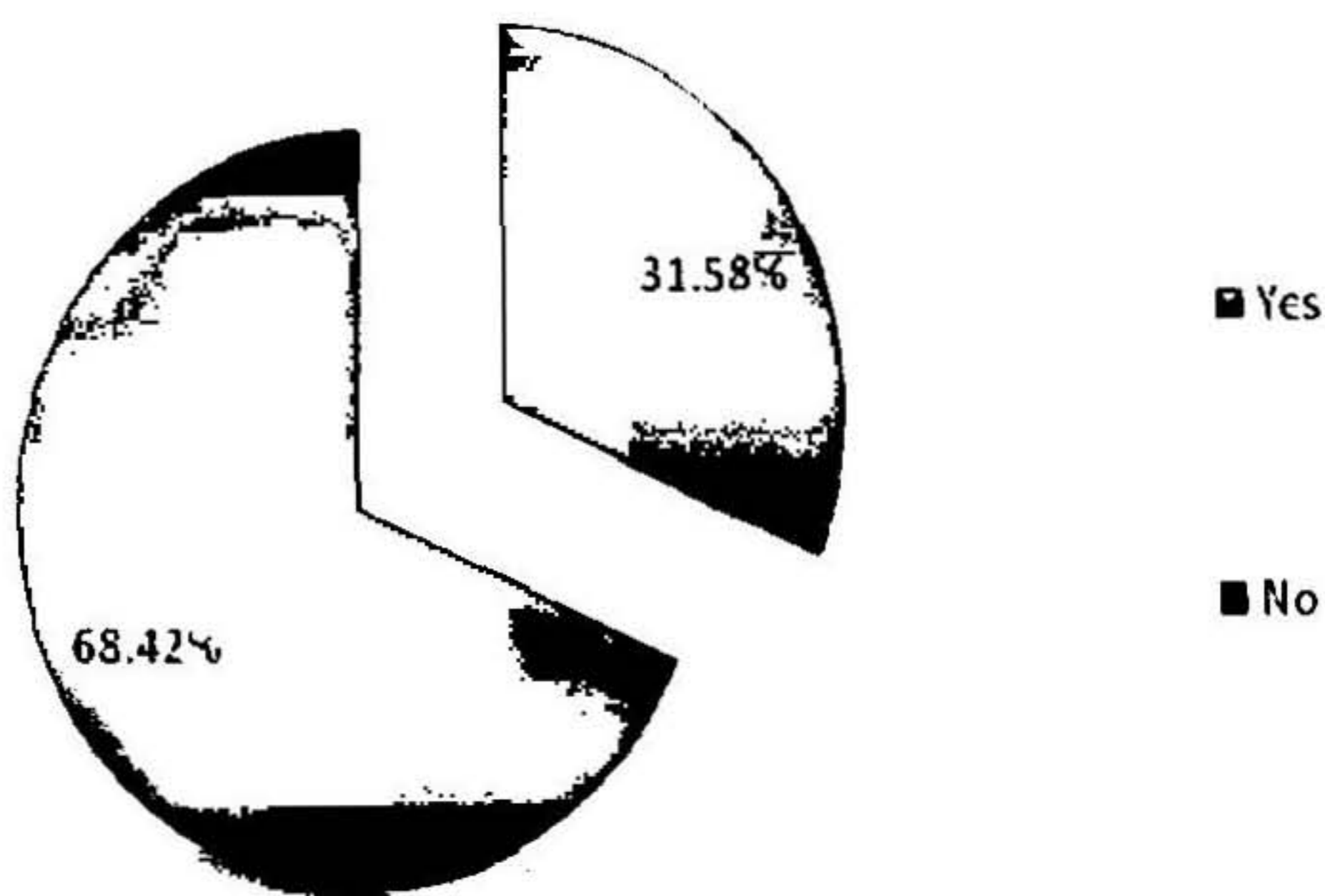


Fig. 4.2.6 Availability of Mechanic

The above Pie chart shows that 68.42% Dealers (26 Dealers) do not have mechanic in their shop for providing after sale services. While remaining 31.58% (12 Dealers) provide service through mechanic of his store.

4.2.7 Mechanic trained by company

Sr. No		Respondents	%
1	Yes	0	0
2	No	12	100
	Total	12	

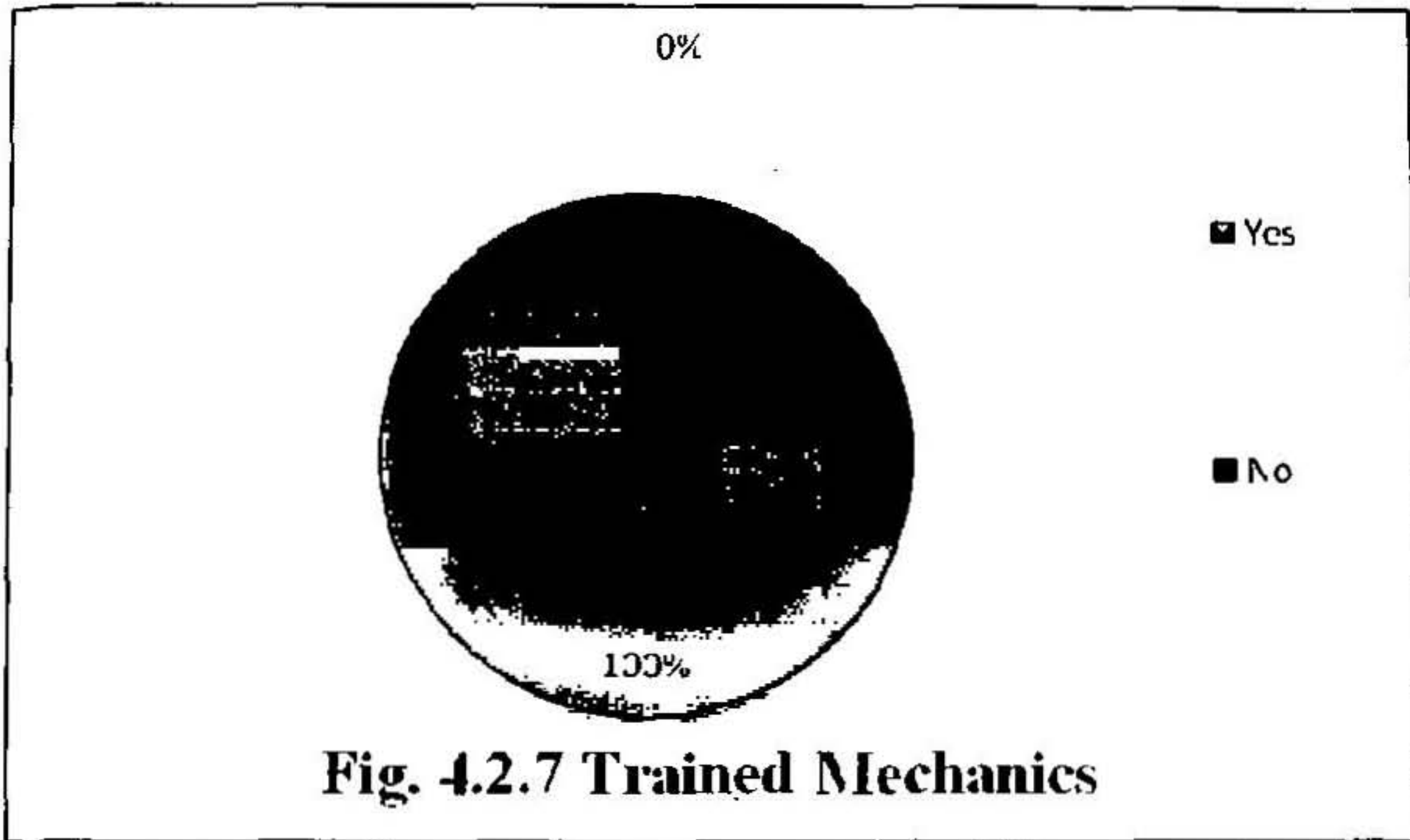


Fig. 4.2.7 Trained Mechanics

The above Pie chart shows that 12 dealers have mechanic but they are not trained by company. All the mechanics have not received any training or technical knowledge from company's side.

4.2.8 Availability of spare parts of Equipment

Sr. No		Respondents	%
1	Yes	20	52.63%
2	No	18	47.37%
	Total	38	

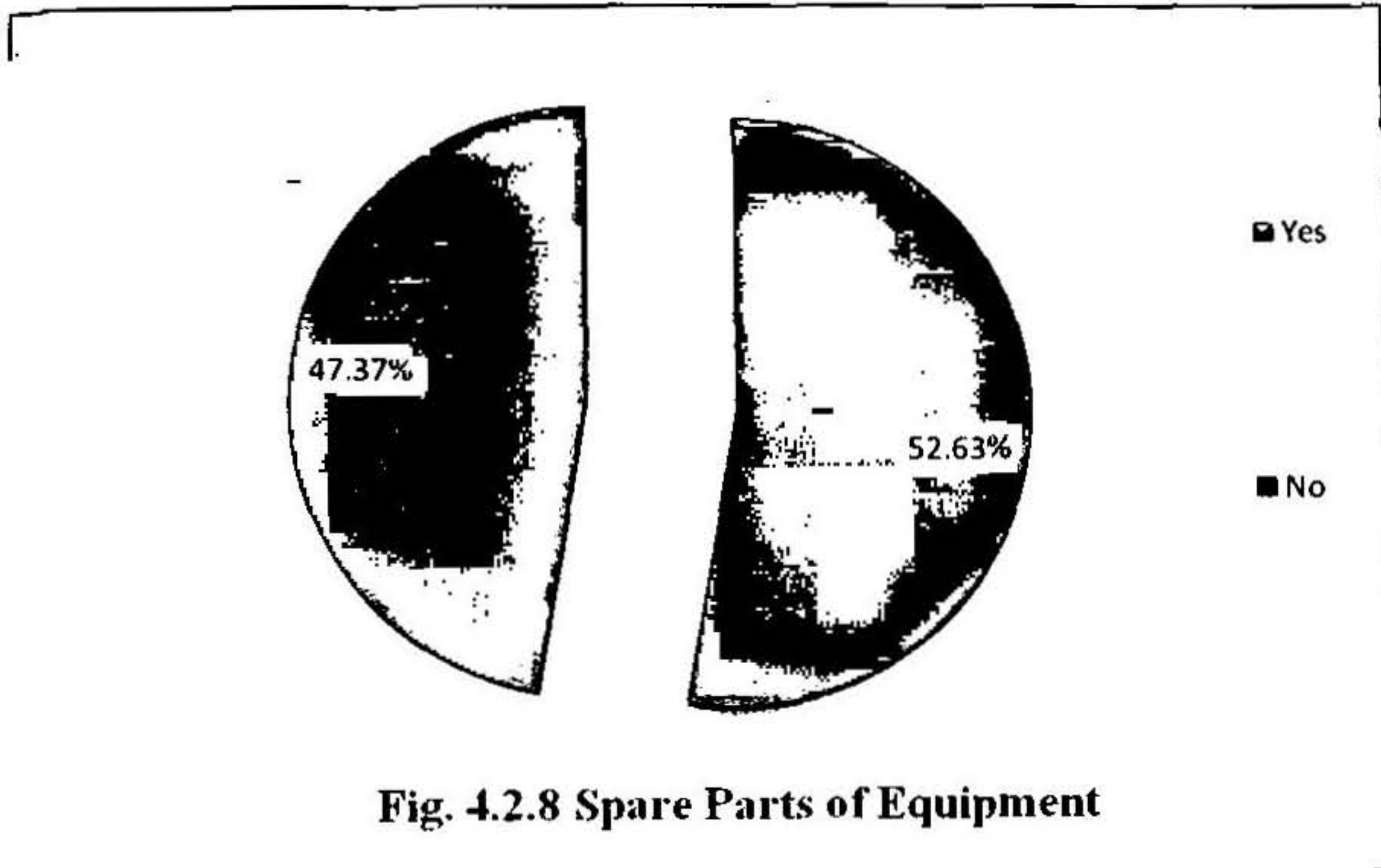


Fig. 4.2.8 Spare Parts of Equipment

The above pie chart shows that 52.63% dealers kept spare parts in his shop to fulfill the requirement of consumer, while 47.37% dealers are not interested in selling spare parts.

4.2.9 Maintenance of Farmers data bank

Sr. No		Respondents	%
1	Yes	9	23.68%
2	No	29	76.32%
	Total	38	

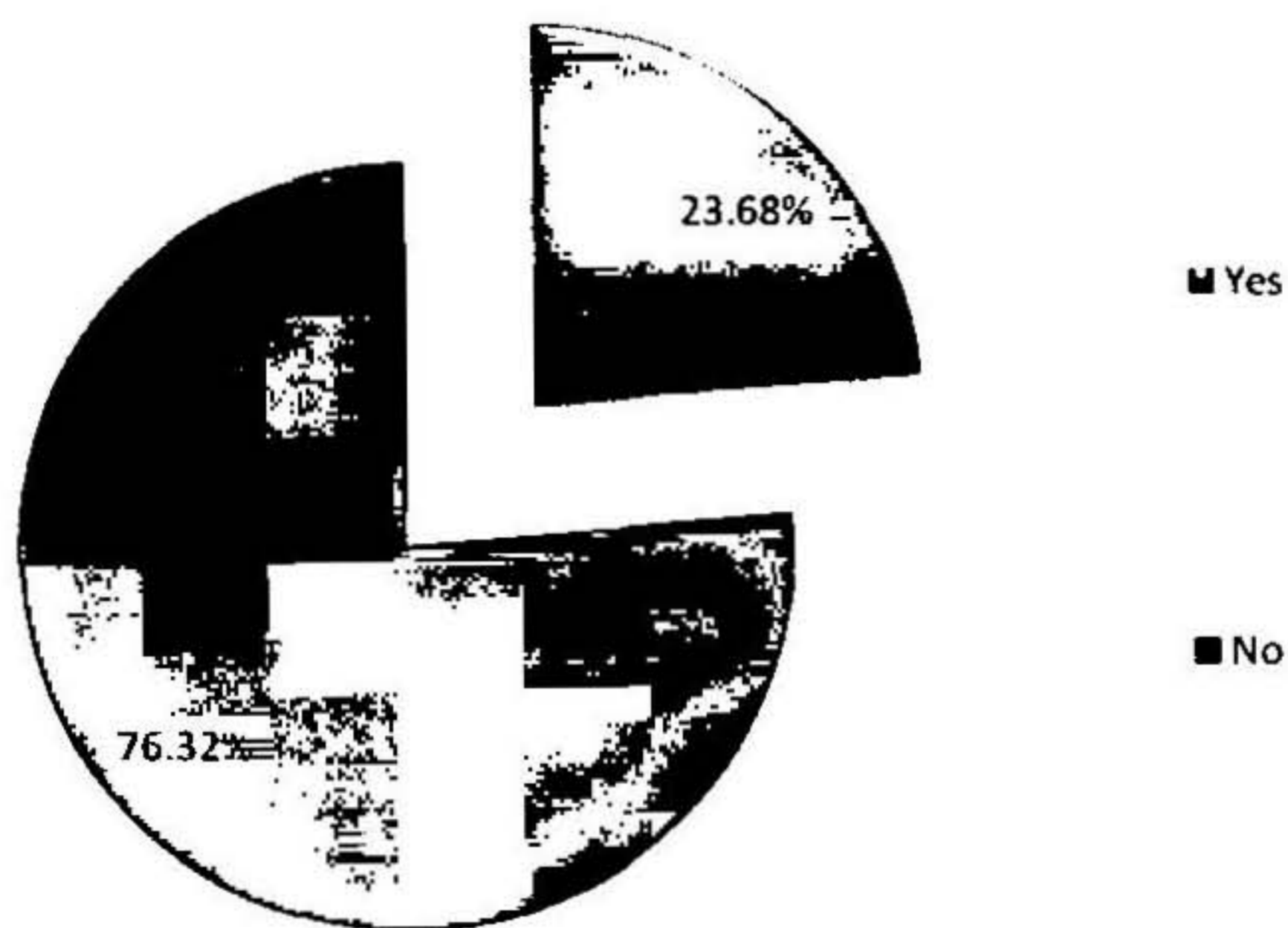


Fig. 4.2.9 Farmer's Data Bank

The above pie chart shows that only 23.68% dealers maintain farmer data bank and remaining 76.32% dealers do not maintain the farmer data bank. This type of data bank can help tap the farmers for sale and services.

4.2.10 Dealers visit at farmer's farm

Sr. No	Respondents	%
Yes	16	42.11%
No	22	57.89%
Total	38	

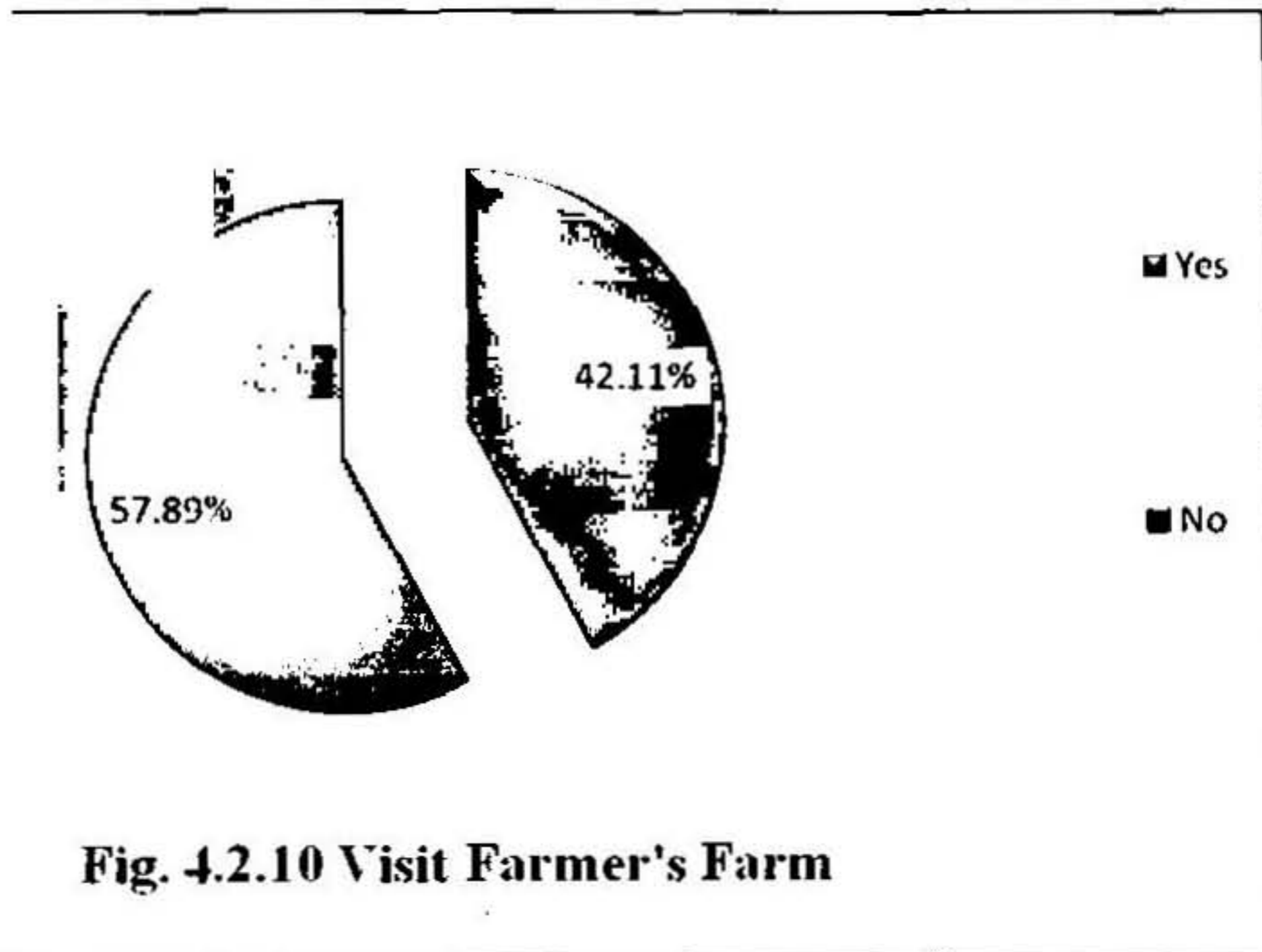


Fig. 4.2.10 Visit Farmer's Farm

The above pie chart concludes that only 42.11% dealers visit farmers' farm to solve the problems of farmer, while 57.89% Dealers do not visit farmers' farm.

4.2.11 Frequency of visit at farmer's farm

5-15 Days	15-30 Days	Once in a Month	After 2-3 Months	Once in a Year	On Complaint
3	1	7	2	1	2
18.75%	6.25%	43.75%	12.5%	6.25%	12.5%

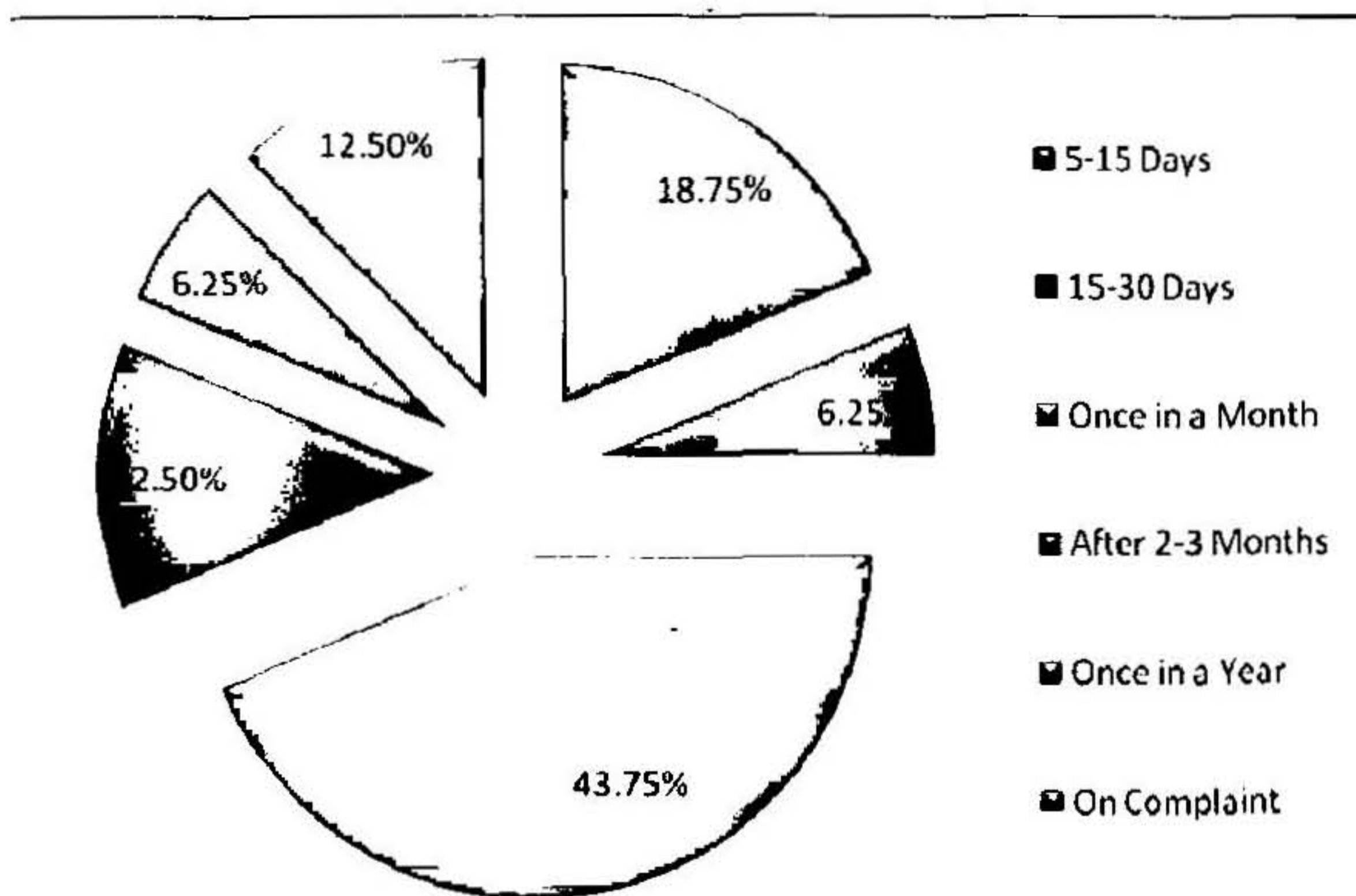


Fig. 4.2.11 Frequency of visit in farm

The above pie chart shows that the majority (43.75%) of the dealers visit in the farmer's farm once in a month. 18.75% dealers visit in the farmer's farm in 5-15 days and 12.50% are visit on complaint and Once in a year.

2.12 Participation in Exhibitions and Kisan Melas

Sr. No		Respondents	%
1	Yes	7	18.42%
2	No	31	81.58%
	Total	38	

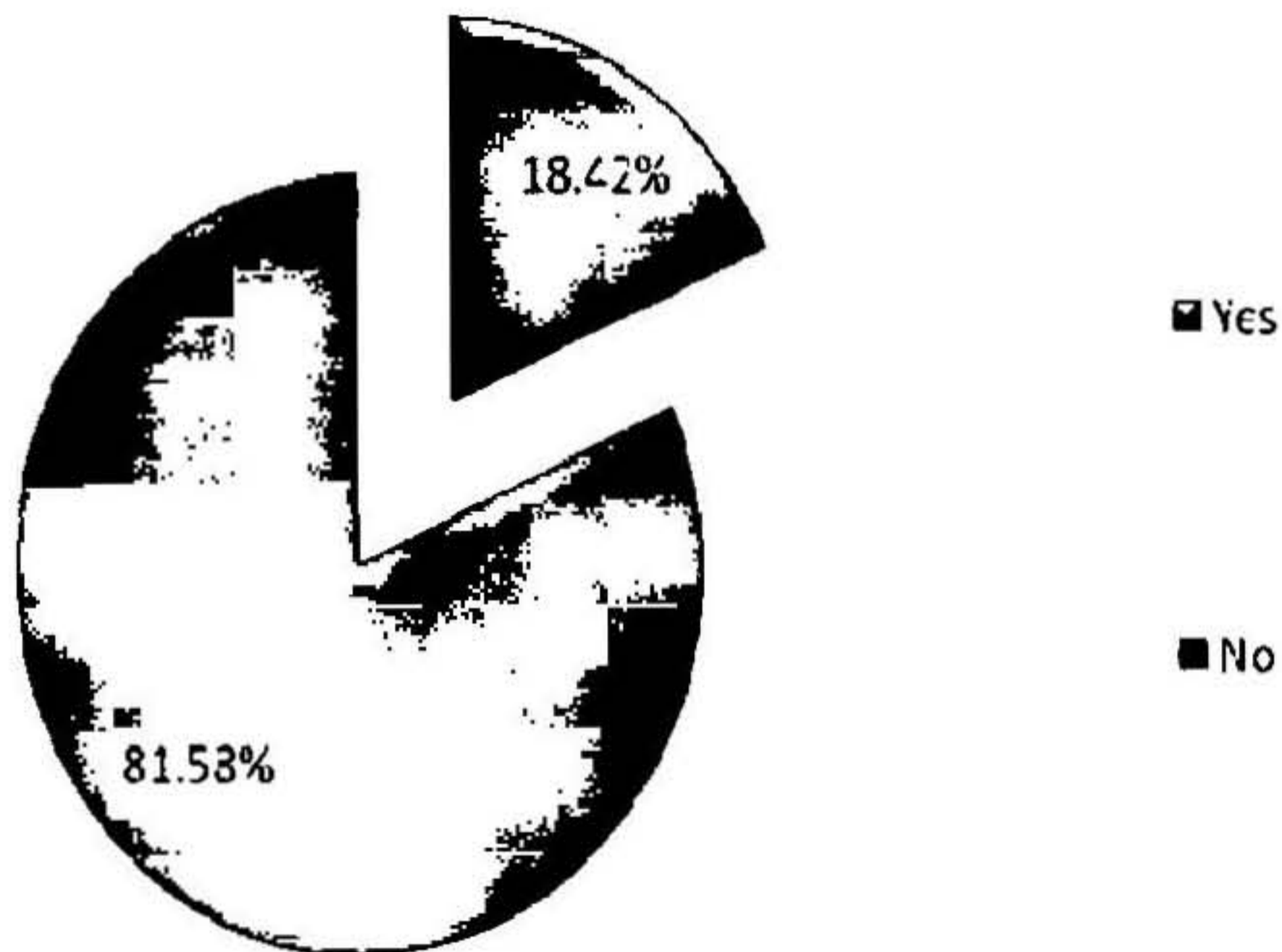


Fig. 4.2.12 Participation in Exhibitions and Kisan Melas

The above pie chart shows that majority (81.58%) dealers do not participate in Exhibitions and Kisan Melas. Only 18.42% participate in Kisan Melas.

4.2.13 Demonstrations and other sales promotional campaigns

Sr. No	Respondents	%	
1	Yes	16	42.11%
2	No	22	57.89%
	Total	38	

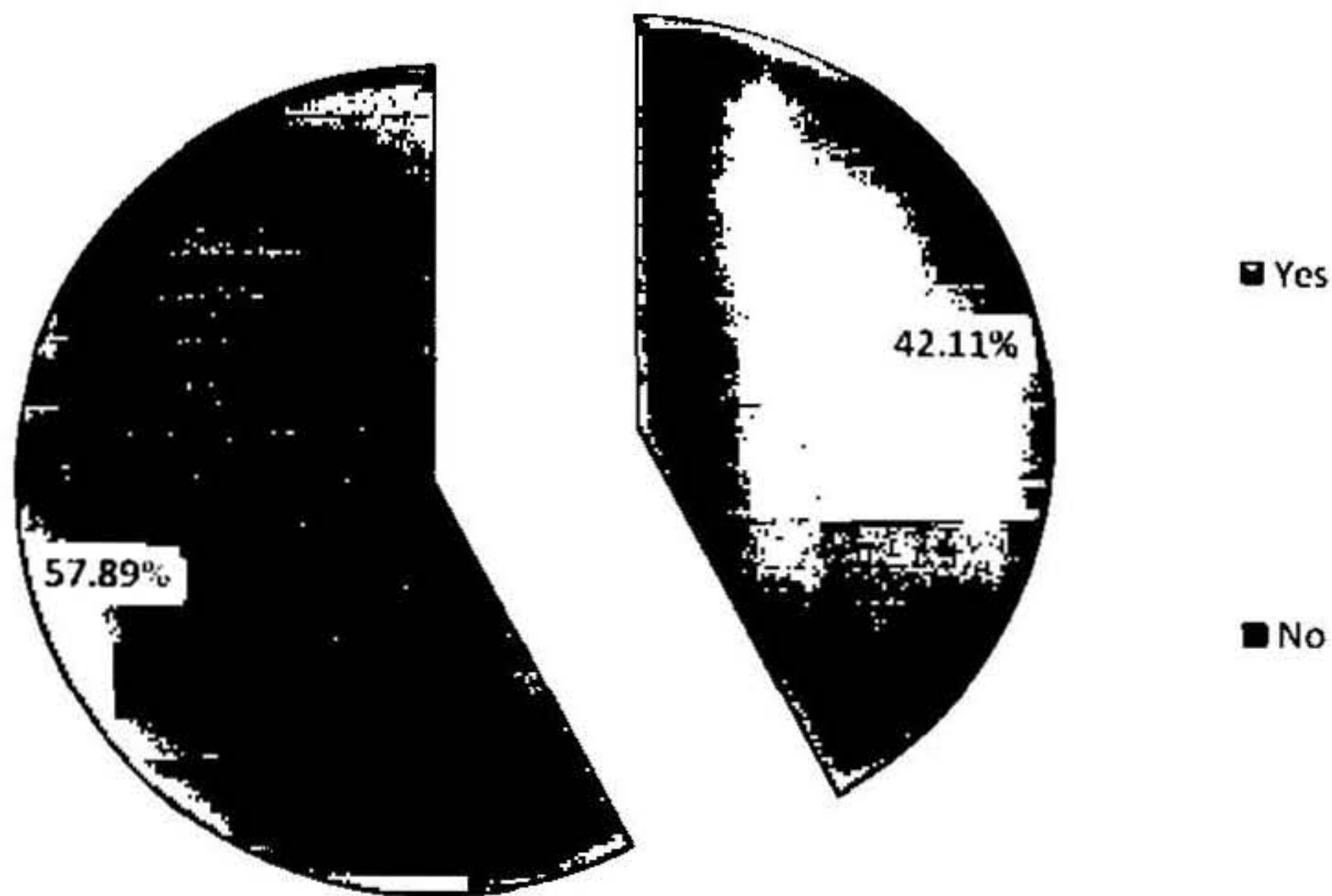


Fig. 4.2.13 Demonstrations and Sales Promotional

The above pie chart seems that among 38 Dealers, 42.11% dealers arrange demonstrations and other sales promotional campaigns, while remaining 57.89% dealers do not arrange demonstrations and sales promotional campaigns. In demonstration and sales promotional activity they only give the Calendar once in a year and Hand Bills. There is no Field Demonstration, Advertising in local newspaper, Wall paintings; Van Campaign and Road Show for the promotional activity.

4.2.14 Factors Preferred by Consumers according to Dealers

Factors	Very High (X 5)	High (X 4)	Moderate (X 3)	Low (X 2)	Very Low (X 1)	Total Score	Rank
Price	34 (170)	1 (4)	2 (6)	0 (0)	1 (1)	181	1
Weight	0 (0)	1 (4)	5 (15)	1 (2)	31 (31)	52	7
Durability	29 (145)	4 (16)	2 (6)	0 (0)	3 (3)	170	3
ASS	0 (0)	2 (8)	4 (12)	3 (6)	29 (29)	55	6
Economy	0 (0)	1 (4)	3 (9)	4 (8)	30 (30)	51	8
Look	3 (15)	4 (16)	30 (90)	0 (0)	1 (1)	122	5
Recommendation from farmers	3 (15)	5 (20)	30 (90)	0 (0)	0 (0)	125	4
Recommendation from dealers	33 (165)	0 (0)	5 (15)	0 (0)	0 (0)	180	2

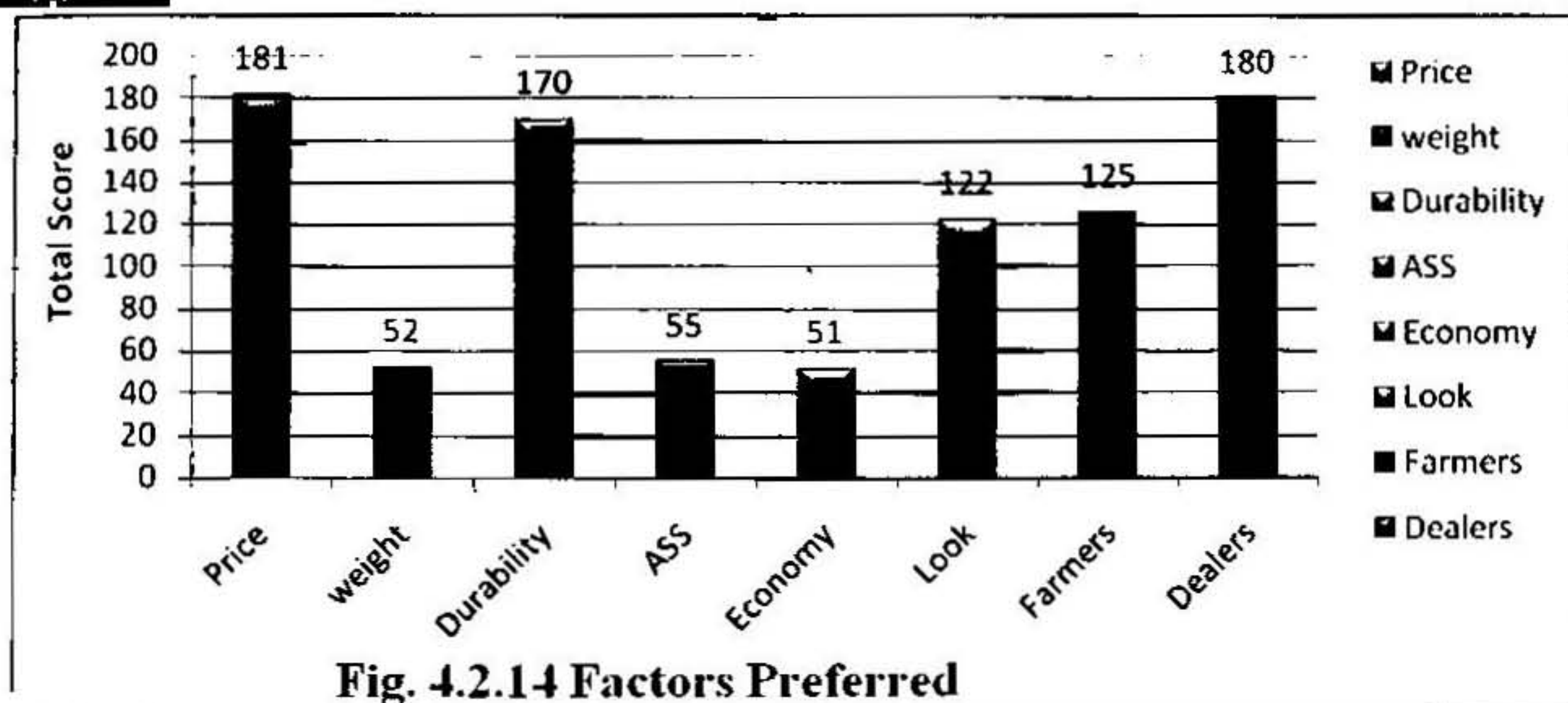


Fig. 4.2.14 Factors Preferred

The above graph shows that according to dealers at the time of purchasing a product consumer gives first preference to price and dealer's recommendation then second factors is given to durability. Recommendation from farmers and look is the third important factors After Sales Service, Weight and Economy are given less importance while purchasing.

4.2.15 Satisfaction with brand of Sprayers

Company Name	High (a×3)	Moderate (a×2)	Low (a×1)	Total Score	Respondents	Mean Score
ASPEE	9 (27)	3 (6)	3 (3)	36	15	2.40
Hymatic	16 (48)	6 (12)	1 (1)	61	23	2.65
Somya	1 (3)	2 (4)	6 (6)	13	9	1.44
Mitushi	2 (6)	0 (0)	2 (2)	8	4	2.00
Punjab Agro	1 (3)	0 (0)	0 (0)	3	1	3
Indo-German	4 (12)	2 (4)	3 (3)	19	9	2.11
Vikas	0 (0)	0 (0)	1 (1)	1	1	1
Masand	4 (12)	1 (2)	0 (0)	14	5	2.80
Khaitan	0 (0)	1 (2)	0 (0)	2	1	2
Solo	0 (0)	1 (2)	1 (1)	3	2	1.5
Chetak	0 (0)	0 (0)	1 (1)	1	1	1

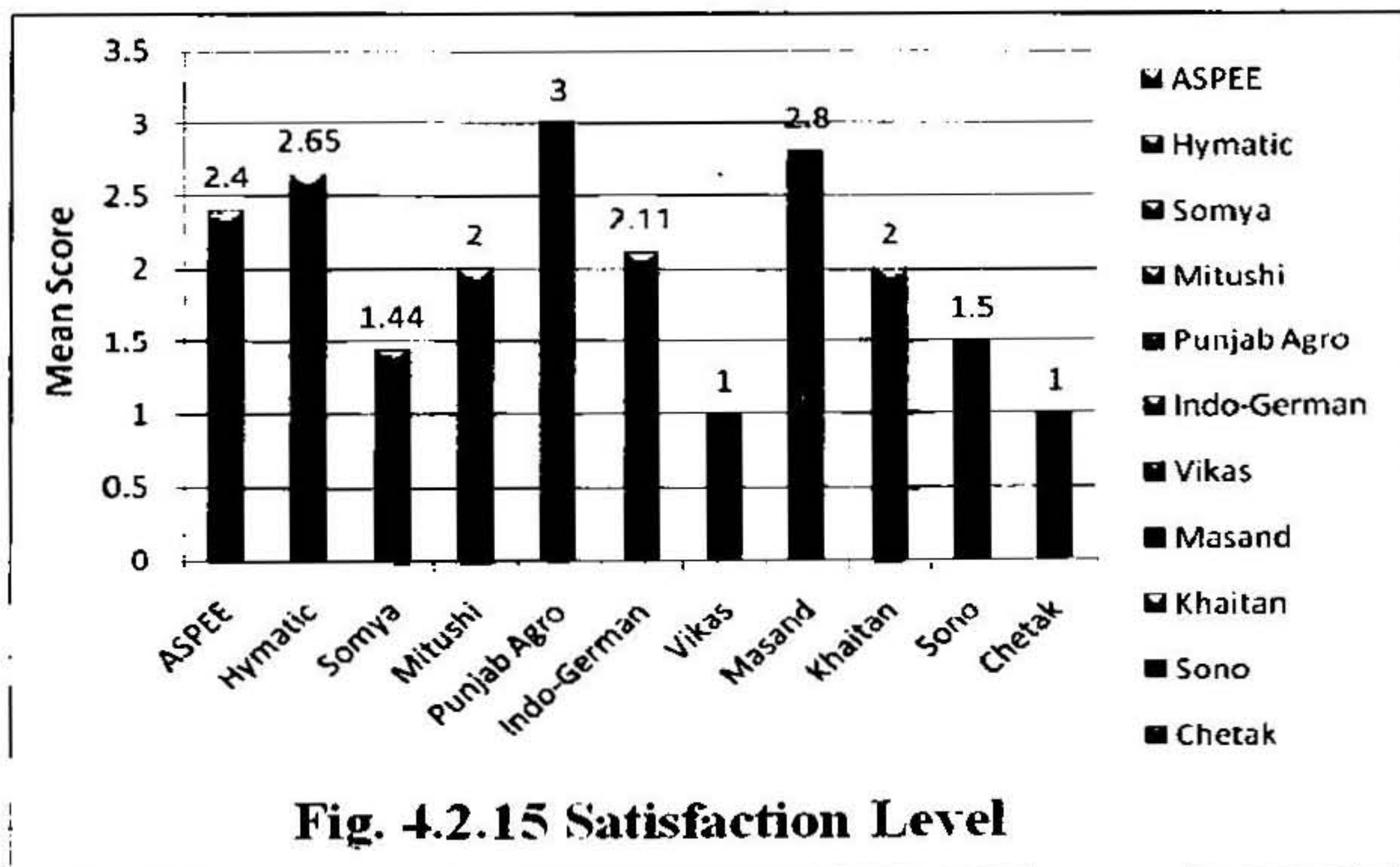


Fig. 4.2.15 Satisfaction Level

The above column chart seems that dealer's satisfaction level in sense of dealing with Punjab Agro is high followed by Masand and Hymatic as compared to ASPEE and Other competitors.

4.2.16 Dealers Awareness about ASPEE

Sr. No		Respondents	%
1	Yes	34	89.47%
2	No	4	10.53%
	Total	38	

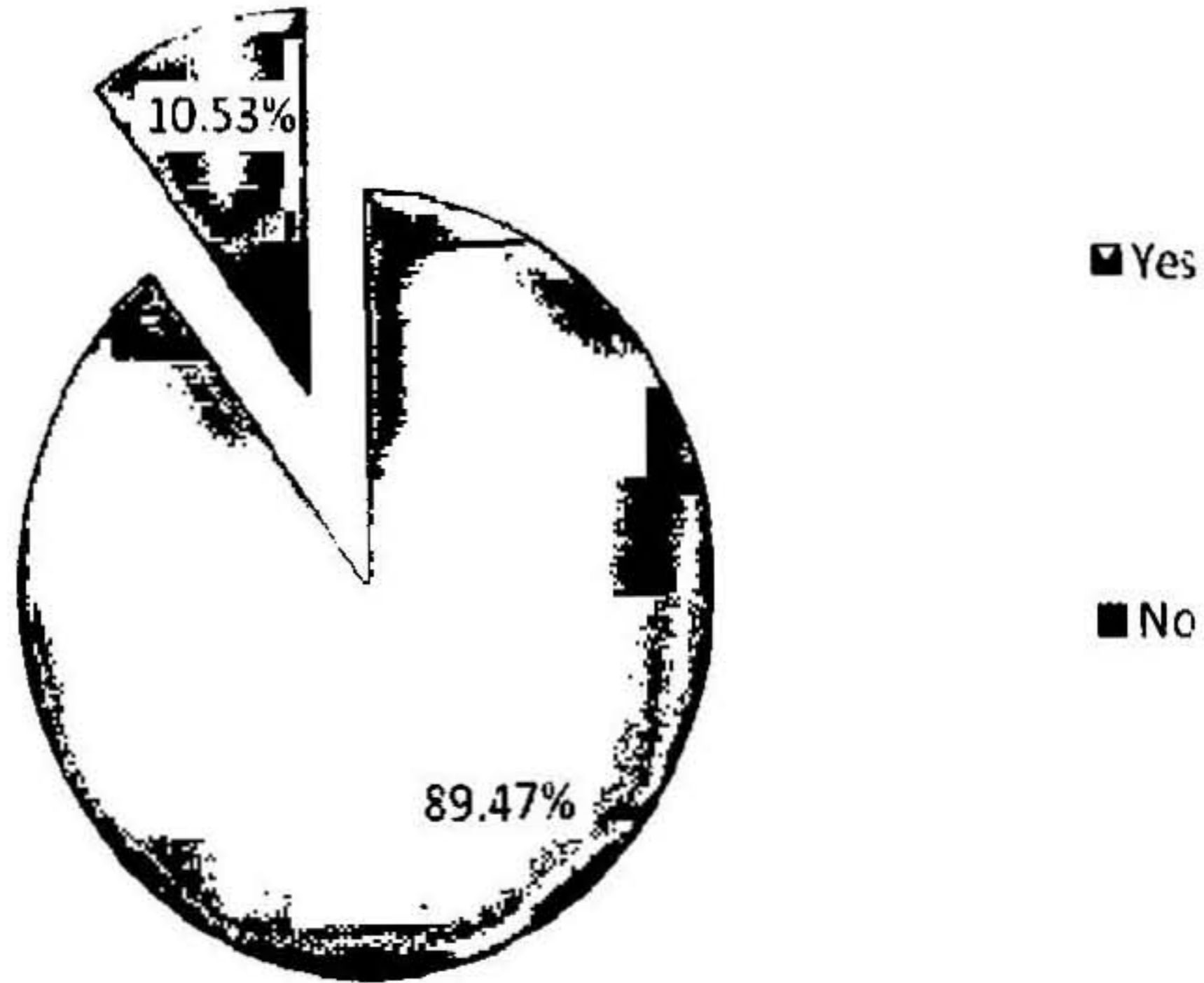


Fig. 4.2.16 Dealers Awareness about ASPEE

The above pie chart shows that majority (89.47%) of the dealers know about ASPEE.

4.2.17 Awareness about ASPEE Activities

Sr. No	Respondents	%	
1	Yes	5	13.16%
2	No	33	86.84%
	Total	38	

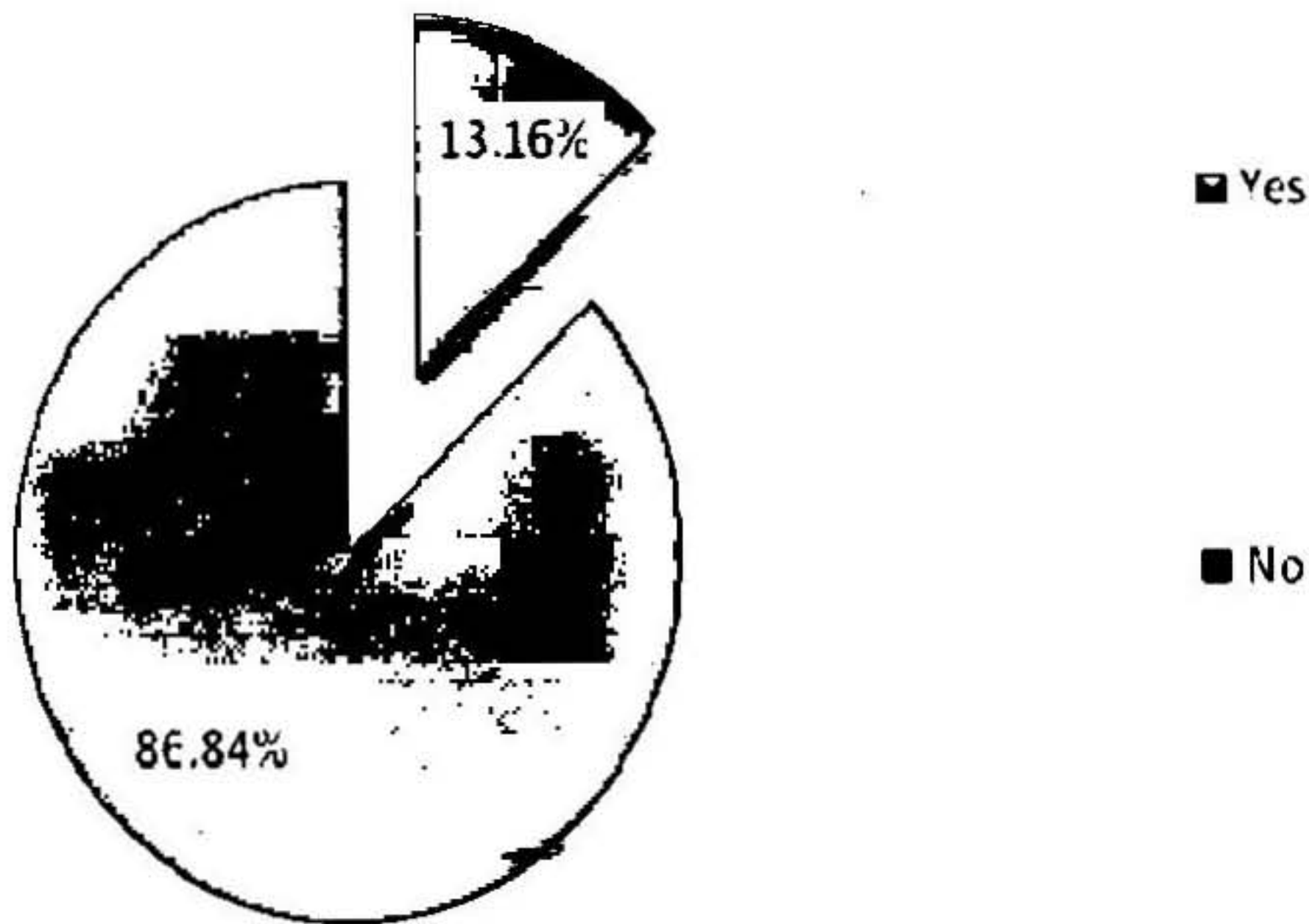


Fig. 4.2.17 Awareness about ASPEE activities

The above pie chart shows that the only 13.16% dealers aware with the activities of ASPEE does for the benefit of the farmers like scholarship, awards, sponsor to college etc., while remaining 86.84% dealers were not aware of the activities of ASPEE.

4.2.18 Interested for Dealership in ASPEE Products

Sr. No	Respondent		%
1	Yes	14	36.84%
2	No	17	44.74%
3	Already Dealer	7	18.42%
	Total Respondent	38	

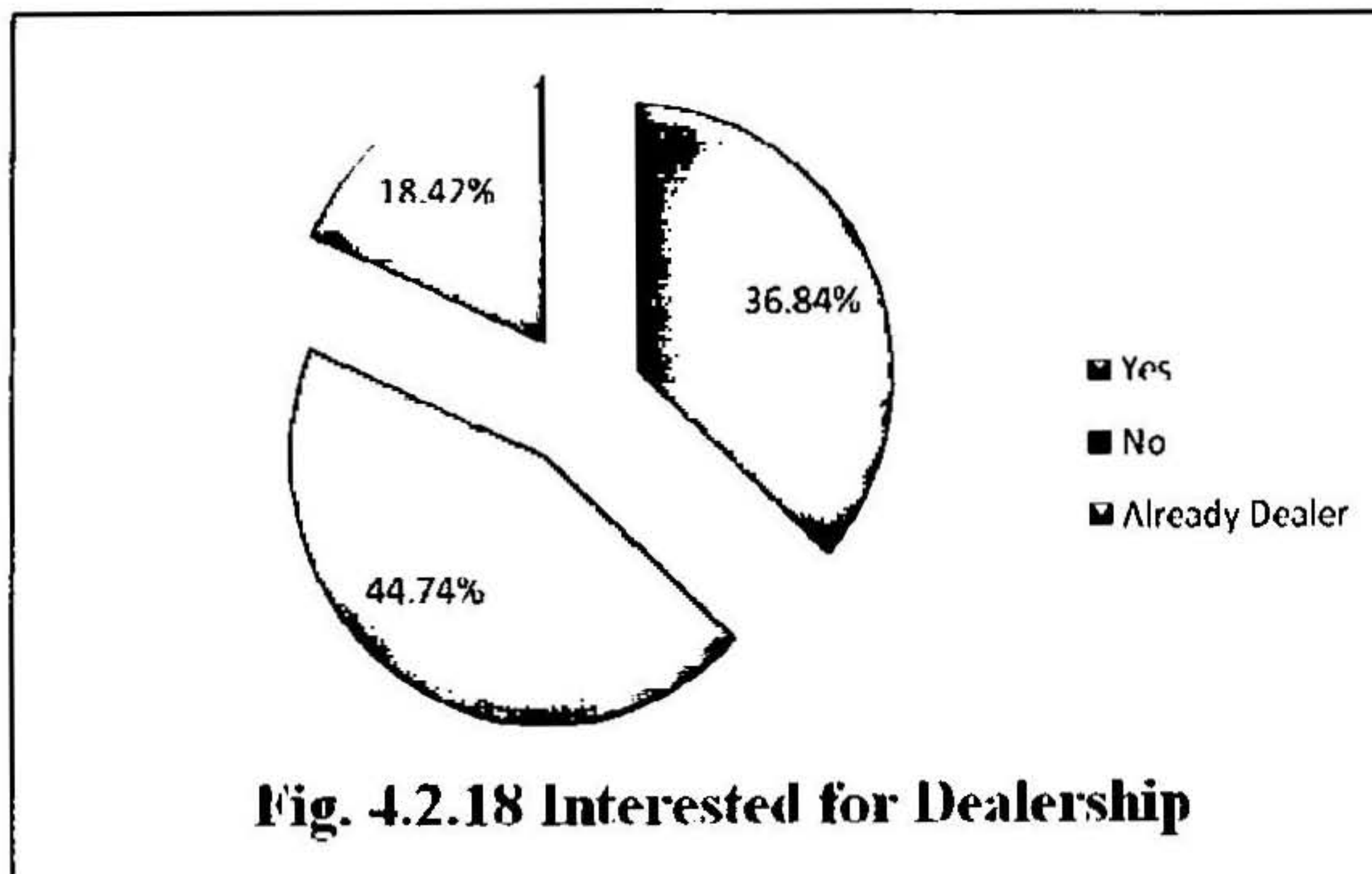


Fig. 4.2.18 Interested for Dealership

The above pie chart shows that 7 respondents are already dealing with ASPEE products, 17 respondents are not interested in availing dealership and 14 respondents are interested in take dealership of ASPEE products.

4.2.19 Performance level of the companies

Note: 5= Very Satisfied, 4= Quite Satisfied, 3= Neither Satisfied nor Dissatisfied, 2= Quite Dissatisfied, 1= Very Dissatisfied

Factors	ASPEF	Hymatic	Somya	Mitushi	Punjab Agro	Indo-German	Vikas	Masand	Khaitan	Solo	Chetak
Price	3.33	3.48	3.22	4	5	3.44	4	3.8	4	4	3
Margin	3.13	3.52	2.89	3.75	5	3	4	4	5	3	2
Demand	2.93	3.13	3	3	5	3.44	2	3.4	3	2	2
Durability	4	3.17	2.78	3.25	5	3.44	1	3.2	3	2.5	1
Popularity	3.47	3.17	2.56	1.75	5	3.44	2	2.4	2	2	1
Reputation	3.53	3.04	2.78	2.5	5	3.44	1	2.4	2	2.5	2
Availability	3.53	3.48	2.56	3.25	5	1.67	3	3.2	3	2	1
ASS	3.6	3.1	2.56	3	3	3	1	3	2	2.5	1
Sales Support	2.6	2.78	2.56	1.25	5	2.56	2	2.4	1	2	1
Market share	2.6	3.39	2.78	2.75	5	3	1	3	1	2.5	2
Geographical coverage	2.53	3.3	2.56	2	5	3	2	3	1	2.5	2
Promotion effectiveness	3.67	2.78	2.56	1	1	2.56	1	2.2	2	3	1
Customer satisfaction	3.93	3.1	2.56	3.75	5	3	2	3.6	4	2.5	1
Innovation effectiveness	3.1	3	2.56	2	1	2.56	2	1.2	1	2	1
Marketing Officer behaviour	3.27	3.26	3	5	3	3.44	3	2.8	5	3	2
Total Rating	49.22	47.7	40.93	42.25	63	44.99	31	45.8	39	38	23
No. of Respondent	15	23	9	4	1	9	1	5	1	2	1

Max. Rating: 15 (Market parameters) x 5 (Maximum scale) = 75(Max.)

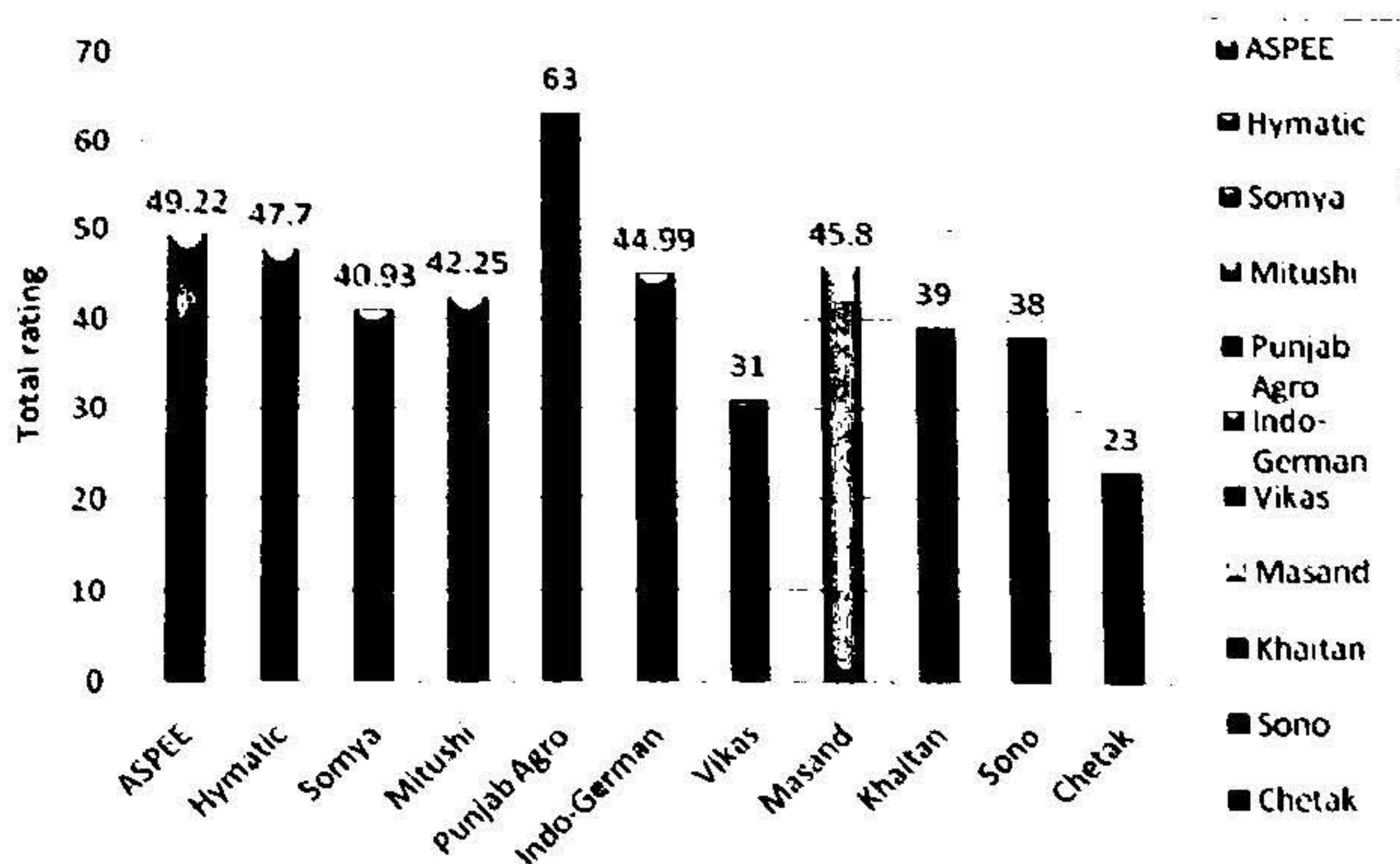


Fig. 4.2.19 Performance Level of Companies

The above graph shows that the performance of the companies, in which ASPEE product price is considered very high as compared to competitors' product price. ASPEE performance related to margin, demand, sales support and market share is poor as compared to competitors. The other parameters of performance such as durability, popularity, reputation, availability, after sales service, promotion effectiveness and customer satisfaction about ASPEE are better than competitors. ASPEE score 49.22 out of 75 and Punjab Agro score is 63 out of 75. Performance level of Punjab Agro is high because of one respondent in Punjab Agro, and he gives higher rating to the Punjab Agro, on the basis of one respondent we can't say that the Punjab Agro performance level is high.

4.3 SWOT Analysis

Strength:

- Best quality and durability of product is their strength.
- The dealer is the brand ambassador of the company. They play role as a bridge between ASPEE and the ultimate consumer.
- Due to good quality, Progressive farmers play important role in word of mouth publicity of the product.
- Product innovation, after sale service and reputation is their strength.
- Brand image: The brand loyalty of ASPEE made it possible to become a market leader in Knapsack sprayers, Foot Sprayers and power sprayer's category.

Weakness:

- Price of ASPEE products is considered high as compared to competitor's product.
- Lacking of promotion and advertisement of ASPEE products in area of Basti, Gorakhpur and Deoria district of Uttar Pradesh.

Opportunity:

- In Uttar Pradesh, main crops are Sugarcane, Paddy and Maize in Basti, Gorakhpur and Deoria. So there is a huge scope for dusters rather than sprayers, because these crops required dusters for dusting the Insecticides.
- Tractors dealers may also be approached to sell the Tractamount and other power operated sprayers.

Threats:

- Competitors low price marketing strategy is threat to the company.
- Increasing competition with Hymatic, Punjab Agro and Indo-German sprayer and dusters.

Chapter - 5

FINDINGS AND RECOMMENDATION



ASPEE®
Sprayers & Dusters

5.1 Findings

Company growth and development in any market area is totally depending on company marketing policies and product portfolio.

Price:

Product Price is prime factor for a company. As per the study in Uttar Pradesh, according to dealers ASPEE products are best with all dimensions except 'price'. As a result of higher Price of ASPEE products in compare to competitors' product, which diminish market share and sales year by year. Consequently, farmers switched their mindsets towards other companies' product to fulfil their low price product requirement. After analysing primary data, it seems that farmers give first importance to price of product at the time of purchase. So, competitor's market share is increasing because of their lesser priced products and higher margins to dealers.

Product:

Durability and quality of ASPEE is considered better in market as compared to competitor's quality and durability. From above market study, there is not a single doubt appeared about company's product range and quality. From farmer's point of view, many farmers know the brand name but they don't know the name of the company of that brand such as farmers know the brand name of Maruti and this is the life time product but they are not aware of that this is the product of ASPEE Company.

Promotion:

As per market research, I come to know from farmers that they are familiar with ASPEE Company, but they don't know the different products range of ASPEE and about their social and promotional activities. Behind this lacuna,

lacking of promotional activities is the reason. As per dealers' response, they agree to do all promotional activities only when company provide support. As per farmers' feedback ASPEE promotion activities in their area is almost nil. So, company must be give more importance in Promotional activities likes, Demonstration of new and earlier products on farmer field with the help of local dealer and distributor to increase awareness of farmers and interest of dealers for selling of company's products. Advertisement support should be given to dealers by company. Some retailer wants the dusters but they don't know which company is manufacturing and where they are available. It is happen because of lack of promotional activity.

Subsidy:

On the basis of market research it was found that local companies are selling their product through Co-operative and Gram Panchayat with a reasonable price with the subsidy provided from Government. So, subsidy factor also increases sales of competitors' products. By that way subsidy is a sound factor to farmers to purchase product especially agricultural equipment. Because of subsidy the selling of sprayers through dealers is very difficult. Subsidized products are half the price, so it is very difficult for dealers to sell such product. It is very important for ASPEE to reconsider its price in this environment.

Market share:

The above analysis part of market research indicates that ASPEE Knapsack and Hymatic Knapsack is fast moving product in Basti, Gorakhpur and Deoria district of Uttar Pradesh. So, market share of that product is very high. But at the present time, 75% market share cover by others and ASPEE cover only 25% market share. Hymatic captured more market because of its price (approximately half price of ASPEE). From dealer's point of view before a

decade there was very much demand in market for ASPEE, but after penetration of foreign product with less price and somewhat advance technology, the market share has fallen.

Dealer Satisfaction:

After discussion with ASPEE dealer, it comes to surface that ASPEE must maintain their old original dealers which are dealing ASPEE products. During the discussion, somewhat unsatisfaction was felt by the dealers with ASPEE because of the sell of ASPEE product is lower than the other competitors products, due to the subsidy on the other competitors product. Some dealers are deal with only farm mechanized product and due to the subsidy there sell of the product is decreases day by day and this is the only source of the income for the dealers, so now they are concentrating on other type of business that is TV repairing and electronics, Printing cards etc.

Brand loyalty:

According to my finding in market research progressive farmers are the loyal consumers of ASPEE product because they are able to purchase and they know the durability and quality of the ASPEE product. From the farmers and dealers point of view, repair of ASPEE product is very easy because of its simple model. Some farmers say; if the problem occurs in the product they repair themselves because of simple and easily operated model.

Timely Availability and Credit Facility:

After discussion with ASPEE dealer, it was found that all the dealers in Basti, Gorakhpur and Deoria region are unsatisfied with the Gorakhpur distributor because of lack of credit facility to the dealers and charging advance money before delivery of the product. Distributor in Gorakhpur does not deliver the order on the door as compared to the Kanpur distributor. These are the big

problem for a dealer that's why they like to buy their product from Kanpur distributor at any time in a season or even off season.

Unskilled Mechanic:

On the basis of market research it was found that dealers have the mechanic but they are untrained. From the dealers point of view if they sell the power sprayer and any problem occur in the power sprayer, the person can't repair the power sprayer. This is the one big reason for the low selling of the power sprayer and other mechanized equipments.

Sprayers on Rent:

According to my survey, some dealers who deal with pesticides, they have the sprayers and they give their sprayer on rent to the farmers if they buy the pesticides on his shop. This is why farmers are reluctant to buy sprayers.

5.2 Recommendation

- ❖ After conducting market research, higher Price of ASPEE products as compare to competitors' product, diminish market share and sales. So, company should reduce price up to some extent. So that small and marginal farmer can buy ASPEE product in their economic condition.
- ❖ In Uttar Pradesh, farmers are aware with ASPEE brand, but not aware with all products of company, activities of company which is beneficial to them. So company should conduct suitable product demonstration on farmers' field. Also for increasing sales in particular region, company should help dealers in advertisement activity like, advertisement in local news paper, demonstration through dealers, leaf let, TV and Radio show, campaigns, road show, posters, banners, wall paintings, visual aids, etc.
- ❖ Night Meeting at village should be conducted to increase awareness of ASPEE's large range and benefits and increasing awareness in farmers' community about calibrated nozzle techniques and its benefits, quality of products, ISO and standard specification company products, product characteristics like durability, economy, look, weight etc.
- ❖ Prepared Farmers data bank with all detail like name, address, land holding, contact no, crop detail, sprayer used and its feedback, etc. Make a Demonstration on Progressive farmer's field. Mouth Publicity: "Progressive satisfied farmers are brand ambassador of our products". So, continuous follow-up visits to them increase sales.
- ❖ From that survey, it was found that Hymatic Knapsack has higher sales Basti, Gorakhpur and Deoria. There is a huge demand of Knapsack sprayers in this region. ASPEE should do advertising in Dainik Jagran and

TV particularly for Knapsack and Power sprayer to compete with Hymatic Knapsack.

- ❖ In Uttar Pradesh, It was found that the main crops are Sugarcane, Paddy and Maize in Basti, Gorakhpur and Deoria. So there is a huge scope for dusters rather than sprayers, because these crops require dusters for dusting the Insecticides. Sales of dusters should be pushed through existing distributor channel and direct marketing. Farmers' Field visits with the help of Field Assistants and sales representative.
- ❖ Many of the farmers purchase agricultural equipments under subsidy scheme given by government, Co-operatives, Gram Mandali, NGOs, companies, etc. ASPEE should also actively participate in Subsidy scheme, to increase market share and promotion. It is the best way to sell products in low price with participation in Government, co-operative, NGO's, etc.
- ❖ All the dealers of ASPEE product and some retailer who sell ASPEE product have the mechanic and they want to train their mechanic for giving the better sales service and sell the other mechanized equipment without fear for repairing problem. It is suggested that the training program for the mechanics should be arranged.
- ❖ At the time of farmers purchasing the equipment the dealers must guide them how to use and maintain the product easily. If this type of guidance will be given to the farmers they will become loyal customers of ASPEE.
- ❖ Concentrate on seed, fertilizers and Pesticides Company's authorized dealers because they have good farmers database. Dealers' shops can decorate with our company's banners or simple air balloons otherwise company should create pressure on our existing dealers to put box or demo pump or leaflets on table which is easily visual to customers.

- ❖ Make a good supply chain management that is right product, right time and right place strategy used. Because availability of our product in dealers shop is important which prevent our customers to buy another company products just for not available of model/pump.
- ❖ Proper control on sales officer. He should be trained. Sales officers are representative of our company, so he should be strong personality.

5.3 Conclusion

Agriculture has long been seen as a sector with tremendous potential in India. Today, farmer condition is improved year by year, due to implementation of new innovative techniques in farming business. Agricultural equipments are also contributing in that result. Many agricultural equipment manufacturing company play important role. Among them ASPEE is a pioneer company in sprayers and dusters manufacturing.

This study shows that today farmer give more importance to price factor instead of quality and durability especially in sprayers and dusters. Farmers of Uttar Pradesh are not aware of economic and effective use of pesticides. As a result of that they do not understand the economic benefits of ASPEE sprayers and dusters with calibrated nozzle.

The literacy level of farmers is good. They have grown mostly Sugarcane, Paddy, Wheat, Maize, Potato and Some vegetables.

Based on the foregoing analysis, promotional activity is almost nil in that areas. Promotional activity can increase sales of product with convey product information and benefits. Dealers are totally depended on company in terms of advertisement activity. Dealers are brand ambassador of ASPEE products, but they are not interested in promotional activity because of there no incentive and discount given by company to develop market.

Increased global competitiveness has opened enormous opportunity in agribusiness. Today foreign investor invests money in Indian market. Like, Hymatic and Indo-German sprayers are cover majority of ASPEE Knapsack market with their low price strategy. It suggests that ASPEE should take up aggressive push and pull strategies to beat competitors and take hold of market.

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Appendices and Annexure

DEALER'S QUESTIONNAIRE

GENERAL INFORMATION						
Name of the Proprietor					Age	
	Dealer	Non-Dealer	Retailer	Distributor		
Village		Post		Taluka		
District		State		Pin Code		
E-Mail Address						
Mobile			Landline			
Education	SSC		HSC		Graduate	
	Below SSC		PG			
Any Other business						

1.	What (can) motivate(s) you choosing dealer as your career?		
	Money	Interest	Other (specify) :

2.	Which are the major crops grown in your area?			
	Kharif	Rabi	Summer	All Seasons
	Cereals			
	Pulses			
	Cash crop			
	Horticulture crop			
	a) Vegetables			
	b) Fruits			

3. Items you deal in :			
	Company	Brand	Total Sold Quantity/ Turnover
Pesticides			
Seeds			
Fertilizers			
Sprayers and Dusters			
Hardware			

4. Sprayers and dusters you deal in			
Equipment	Brand	Name of Company	Total sold quantity in values
Knapsack Sprayer			
Power Sprayer			
Foot Sprayer			
Tractamount Sprayer			
Brush Cutter			
Power Weeder			
Other			

5. From how long you are in this business?	

6. From where are you procuring Sprayers and Dusters and Other Farm Mechanized Equipment?			
Dealer	Distributor	Retailer	Others

7. Which is the fast moving product (sprayer and duster) in market?

8. How long have you been a (ASPEE) dealer?

<1 year	1 to 2 years	3 to 5 years	> 5 years

9. Performance of the following company dealing in above brand of sprayers and dusters. Rank the following parameters according to scale:
 (1) Very satisfied (2) Quite satisfied (3) Neither satisfied nor dissatisfied (4) Quite dissatisfied (5) Very dissatisfied

Market Parameters	ASPEE				
Price					
Margin					
Demand by farmers					
Durability and Quality					
Popularity of brand					
Reputation of the Company					
Availability (timely supply)					
After sales service					
Sales support					
Market share					
Geographical coverage					
Promotion effectiveness					
Customer satisfaction					
Innovation effectiveness					
Marketing officer behaviour					

10.	Do you have Salesman / Mechanic	YES	NO
	If yes, how many/ total no. of employee including mechanics		
	No. of family members involve in this business		
	Education of Salesman/Mechanic		
	If No, How do you provide services		
	Are your Mechanics / Salesman trained by Company	YES	NO

11.	Do you sell spare parts of Equipment	Yes :	No :
	If yes, of which company		

12.	Do you maintain Farmers Data Bank	Yes :	No :
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13.	No. of Dealers/ farmers you cater to in your area	
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14.	Do you visit farmers farm, If yes, How often in	Yes :	No :			
	5-15 days	15-30 days	Once in month	After 2 to 3 months	Once in year	Other

15.	Do you participate in Exhibitions and Kisan Melas?	Yes :	No :
	If yes, how many times in a year and where?		

16.	Do you arrange demonstrations and other sales promotional campaigns? If Yes, Tick it and how many times in year	Yes :	No :
	Arranging Road Shows		
	Van Campaign		

Wall Paintings	
Advertisements in local newspaper	
Hand Bills	
Field Demonstrations	

17. How far is Dealer and Farmer from you		
Dealer	Name of place	
	Kilometers away	
Farmer	Name of place	
	Kilometers away	

18. Do you deal with any other business?
If yes, which and how long you are in this business?

19. According to you which are the major factors preferred by consumer while purchasing the product?						
Parameters		Very high	High	Moderate	Low	Very low
1	Price					
2	Weight					
3	Durability					
4	After Sales Service					
5	Economy (Saving of Pesticides)					
6	Look					

7	Recommendation from other farmers					
8	Recommendation from other dealers					

20.	Your satisfactory level in sense of dealing company.		
	High	Moderate	Low

21.	Your suggestions to sprayer and dusters manufacturers.

22.	Do you know the activities ASPEE does for the benefit of the farmers		
a)	Scholarship of Agriculture Students	Yes	No
b)	Awards of Rs.1 lakh to 3 farmers	Yes	No
c)	Sponsored college for Horticulture and Nutrition	Yes	No

23.	What do you know about ASPEE :		
	Wide range of products	YES	No
	Social activities like Farmers Awards / Scholarships / Agriculture College	YES	No
	Technically sound Company	YES	No
	Any other		

24. Are you interested in availing Dealership in ASPEE products? If yes, specify the products you would like to sell.

	Equipment	Quantity (Estimated Sales)	Total value
a.	Knapsack Sprayer		
b.	Power Sprayer		
c.	Foot Sprayer		
d.	Tractamount Sprayer		
e.	Brush Cutter		
f.	Power Weeder		
g.	Spare parts		
h.	Others		

25. What are your expectations from ASPEE, if you intend to undertake dealership?

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26. What is the range of your dealership's sales volume of (company) products last year?

2.5 L – 4.99 L	5 L – 9.99 L	10 L – 29.99 L	30 L – 49.99 L	50 L – 99.99 L	Above 1 Cr.

27. How much share of Sprayers and Mechanized Farm Equipments from ASPEE?

0-10%	11-25%	26-50%	51-75%	76-90%	91-100%

28. What kind of Credit facility given by the Company?					
Name of company	ASPEE				
Credit (in Days)					

29. Do you have access to the Internet at home or at work?			
Yes - at home	Yes-at work	Yes-both	No

30. Which of the following, if any, have you bought on the Internet?				
Computer	Books	Music	Farm Equipments	Others

31. Contact with ASPEE	
I have several contacts at ASPEE and I know whom to ask when	
I have several contacts at ASPEE, but I always ask the same person	
I have several contacts at ASPEE, but I'm never sure who to ask	
I have just one contact at ASPEE and he/she can find the answer	
I have just one contact at ASPEE but he/she can't always answer	

32. Delivery Accuracy	
More than 1 in every 10 times a delivery is wrong	
1 in every 20 times a delivery is wrong	
1 in every 50 times a delivery is wrong	

1 in every 100 times a delivery is wrong	
Deliveries are never wrong	

33.	Is there any Agrimall in your area?	Yes	No
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34.	If yes, then name of the Agrimall	
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FARMER'S QUESTIONNAIRE

GENERAL INFORMATION

Name of the Farmer :				Age	
Village		Post		Taluka	
District		State		Pin Code	
E-Mail Address					
Mobile			Landline		
Education			No of members in family		
Any business (other than farming)					

1.	Are you using Agriculture sprayer in your farm?	
	Yes	No

2.	Other than agriculture farm, where you use your sprayer?	

3.	Do you believe that spraying equipment plays an important role in your farm?	
	Yes	No

4.	If yes, name of the equipment, brand, name of the company and price.			
	Equipment	Brand	Name of Company	Price
	Knapsack Sprayer			
	Power Sprayer			
	Foot Sprayer			
	Tractamount Sprayer			
	Brush Cutter			

Power Weeder			
Others			

The crops grown in your farm				
Name of crop	Season	Months		Acreage
		From	To	
Total acres of land				

6.	From where are you procuring Sprayers and Dusters and Other Farm Mechanized Equipment?			
	Dealer	Distributor	Retailer	Others

	How long have you used an ASPEE product?			
	< 1 year	1 to 2 Years	3 to 5 Years	> 5 Years

Factors which are considered important while selecting the sprayer						
In scale ranking 1 - 5 as per importance:						
		Very high	High	Moderate	Low	Very low
1	Price					

2	Weight					
3	Durability					
4	After Sales Service					
5	Economy (Saving of Pesticides)					
6	Look					
7	Others					

9.	Recommendation from	Very high	High	Moderate	Low	Very low
1	Farmer					
2	Agricultural Universities					
3	Dealers and distributors					
4	Cos. Field Asstt.					

10.	Name of the popular newspaper, Magazine you read, TV Show and Radio you listen to?			
	Newspaper	TV Show	Radio	Magazine
	Daily Once or twice a week Once or twice month		More than 2 hours a day About an hour a day A few times a week	CHITRALEKHA AGRI. TODAY AKHAND ANAND SHETKARI MASIK KRISHAK JAGAT AGROLOOK
NAME				
TIME				

The details of Pesticides consumed by you?				
Crop	Approx consumption In Value (Rs) per year	Form of Pesticides (Liquid and powder)	Sprayer / Duster	Company Brand name

12. How many times in a season sprayer is used?						
Crop	How many Times used					
	Upto 10 days	10 to 25 days	> 25 days	Upto 50 Hours	50 to 150 Hours	> 150 Hours

13. How many times your existing sprayer needs repairs and what is the maintenance cost?						
Equipment	Spare parts	Cost	How many times in a year			
			Never	Once	More than once	

4. The details of after sales services available for the Equipment?			
1)	The kilometers you have to travel		
2)	Dealer from whom you purchased give services	Yes :	No :

c)	If no, then where you get service	
d)	The parts you purchase are from Dealers of original equipment manufacturers or any other?	

15.	After sales services rank according to scale?			
	Excellent	Good	Fair	Poor

16.	Have you purchased equipment under subsidy scheme? If Yes, which and why?

17.	After how many years have you purchased the new sprayer?

18.	Are you aware of ASPEE brand? How?

19.	Do you know the activities ASPEE does for the benefit of the farmers?		
	Scholarship of Agriculture Students	Yes	No
	Awards of Rs.1 lakh to 3 farmers	Yes	No
	Sponsored college for Horticulture and Nutrition	Yes	No

20.	Do you get any help from Agriculture Department for :	Yes	No
	Higher yield		
	New crops		
	New innovation techniques		

21.	Have you visited any agricultural information centre?	Yes	No.
	If yes,		
	Krishi Vigyan Kendra		
	ATIC		
	State Dept. of Agriculture		
	State Agril. Universities		
	Agriculture Research Station		
	Any other		

22.	Your suggestions to sprayer manufactures?

3.	Product Feedback of the following company dealing in above brand of sprayers and dusters. Rank the following parameters according to scale:					
	(1) Excellent (2) Good (3) Average (4) Bad.					
	ASPEE					
Price						
Weight						
After sales service						
Look						
Durability						
Brand image						
Performance						
Design / Material quality						

Quality of Spray gun, Spray lances and Spray Nozzle						
Reliability						
Availability of Spare parts						
Availability of Service						

24. **Did you dislike any aspect of the product you have just tried?**

25. **What are the problems and lacuna did you faced in your existing company product?**

speed and reliability	Quality	Tank Capacity	Working Pressure	Weight	Others

26. **Did you get training for operation and maintenance of purchased equipment from dealer and company? If yes, how you satisfy from that and what more do you want?**

27. **From where did you come to know about the product you have purchased?**

T.V	News paper	Radio	Wall painting s	Exhibition s	Field demonstrati ons	Farmers	Deale r	Direc t mail

8.	Your suggestions about company sprayers and dusters.

29.	If you want to purchase the new sprayer and duster than which company you will prefer? And why?

30.	Do you have access to the Internet at home or at work?			
	Yes - at home	Yes-at work	Yes-both	No

31.	Which of the following, if any, have you bought on the Internet?				
	Computer	Books	Music	Farm Equipments	Others

32.	Contact with ASPEE	
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	I have several contacts at ASPEE, but I'm never sure who to ask	
	I have just one contact at ASPEE and he/she can find the answer	
	I have just one contact at ASPEE but he/she can't always answer	
	Contact through Dealer	

33.	Which of these Sprayers and Mechanized Farm Equipments have you seen or heard advertising for in the past month?						
ASPEE							

34.	Could you describe the advertising you remember best?