CUSTOMER SATISFACTION SURVEY FOR JOHN DEERE WATER (NORTH GUJARAT)

A PROJECT REPORT

Submitted by

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Reg. No. 04-1175-2009

in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION
(INTERNATIONAL AGRIBUSINESS)

UNDER THE GUIDANCE
OF

DR. SANJIV KUMAR
(Assistant Professor)

INTERNATIONAL AGRIBUSINESS MANAGEMENT INSTITUTE
ANAND AGRICULTURAL UNIVERSITY
ANAND 388 110

JUNE 2011

INTERNATIONAL AGRIBUSINESS MANAGEMENT INSTITUTE
ANAND AGRICULTURAL UNIVERSITY
ANAND -388110

CERTIFICATE

This is to certify that the project entitled **"Customer Satisfaction Survey for John Deere Water (North Gujarat)"** of M.B.A (International Agribusiness) embodies bonafide research work carried out by **Naikwadi Kiran Vitthal** under my guidance and supervision and that no part of this project work has been submitted for any other degree. The assistance, guidance and help received during the course of investigation have been fully acknowledged.

Place: IABMI, Anand **(Dr. Sanjiv Kumar)**

Date: / / **Advisor**

INTERNATIONAL AGRI-BUSINESS MANAGEMENT INSTITUTE
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ANAND – 388110

CERTIFICATE

This is to certify that the project entitled **"Customer satisfaction survey for John Deere Water in North Gujarat"** submitted by **Naikwadi Kiran Vitthal** to the Anand Agricultural University, Anand in partial fulfillment of the requirement for the degree of M.B.A.(International Agribusiness) after presentation and defended by the candidate before the following members of the Advisory Committee. The performance of the candidate in this project has been found satisfactory; we therefore, recommend that the project report may be approved.

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TO WHOM IT MAY CONCERN

This is to certify that Mr. Naikwadi Kiran Vitthal student of M.B.A. (International Agri Business), in 4th semester in International Agri Business Management Institute, Anand Agricultural University, Anand has successfully completed 16 weeks project work from 7th Feb to 3rd June 2011 in John Deere Water.

I wish him best wishes in his future endeavors.

Place: Pune

Date: June 8, 2011

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DECLARATION

I hereby declare that the project entitled **"Customer Satisfaction Survey for John Deere Water (North Gujarat)"** submitted for the M.B.A (International Agribusiness) degree is my original work and this has not formed the basis for the award of any degree, associate ship or other similar titles.

Place : IABMI, Anand

Date : / / 2011

Name: Naikwadi Kiran Vitthal

Reg. No. 04-1175-2009

ACKNOWLEDGEMENT

This acknowledgement is not merely a catalogue of names but an expression of deep sense of gratitude to all those who helped us in this project & for giving their assistance for completing the project successfully.

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At the last but not the least, I think that the words are insufficient to express deep sense of feeling and respect towards my parents, without their encouragement, blessing and benediction it would not be possible for us to complete this course. Their patience and sacrifice always have been the vital source of inspiration for me.

Date: **(Naikwadi Kiran Vitthal)**

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CUSTOMER SATISFACTION SURVEY FOR JOHN DEERE WATER (NORTH GUJARAT)

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ABSTRACT

India as well as world has a turbulent future as far as water economy is concerned. India accounts for the largest irrigated area in the world and still over 60 % of its cropped area is fed by rain and it contributes substantially to the production of coarse cereals, pulses and oilseeds. The demand of water for agriculture, industry and domestic purpose is shared at 69%, 23% and 8% respectively in the world, however, during next 20-25 years; water requirement is bound to grow by 30-35% versus reduction in availability year after year.

North region of Gujarat state is endowed with rich natural resources of soil and water. But according to the change in climate and for better

productivity there is need of proper use of available natural resources. Farmers are highly concentrating on technical farming and using all the available resources to increase farms productivity with qualitative yield. Micro irrigation is one of the best technology preferred by farmers in this region for the efficient use of water.

JD Water is mainly aimed to do research on satisfaction level of existing customers. Company is highly focussing on the qualitative service to the customers and after sale services of the customers. Company trusts that the satisfaction of existing customers is very important in value addition of services and their suggestions are appreciable for improvements in quality of the system. Also the farmer‟s satisfaction depends on the proper technical guidance and dealer‟s proper responsibility.

The study encompasses determining the satisfaction level of the existing customers about their product, quality of services, dealers support. It also involves inquiry about the expectations from the farmers related to John Deere Water services.

It was found that most of the existing customers of JDW were using MIS since not more than one year (86%) and they are new to the MIS system. Dealers (85%) are playing a big role as they are main source of information for the farmers. Additionally maximum farmers facing

problem mostly prefer to call dealer (79%), very less call the JDW employees (15%).

The farmers have high trust on JDW quality material (64%). Farmers expect the installation period of systems after survey of field to be less. Customers are not satisfied with the long process for addressing the problems related to MIS.

Agronomical advice (54%) was the most rated service by the customers. Helpline number was the least rated service. Most of the customers were satisfied with discussion with JD employees (100%).

It is concluded that quality material is most trusted part from the JDW customers. Customers are highly demanding quick services when they faced any type of problem with their system. Actual field visit of the agronomist was mostly demanded by the farmers. The big size venturi demanded by most numbers of farmers in their system. All the farmers were satisfied with the services provided by JDW but expect the services to be provided in short span of time.

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NOMENCLATURE

AAU	Anand Agricultural University
AFC	Agriculture Finance Corporation
AMITs	Affordable Micro irrigation Technologies
ANaRDe	Navasarjan Rural Development Foundation
APMIP	Andhra Pradesh Micro Irrigation Projects
Dept.	Department
et al	and all
etc	Excreta
GAIC	Gujarat Agriculture Industry Corporation
GGRC	Gujarat Green Revolution Company
GNFC	Gujarat Narmada Valley Fertilizers Company
GOG	Government of Gujarat
GOI	Government of India
Govt.	Government
GSFC	Gujarat State Fertilizer and Chemicals LTD.
ha	Hectare
HS	Highly Satisfied
HUS	Highly Unsatisfied
i.e.	that is

IWMI	International Water Management Institute
JDW	John Deere Water
kg	Kilogram
Ltd.	Limited
MBA	Master of Business Administration
mha	Million Hectare
MIS	Micro Irrigation System
NGO	Non-governmental organization
No.	Number
NRV	Non Return Valve
PPP	Public Private Partnership
Reg. No.	Registration Number
S	Satisfied
SN.	Serial Number
US	Unsatisfied
USA	United States of America
viz.	Which is
&	And
`	Rupee
%	Percentage

I.INTRODUCTION

India is a country having more than 121 crores of population and to meet the food requirement of every Indian citizen is a very challenging task. Our major emphasis lies on increasing the productivity of our farm yield. We are currently having farm yield productivity of around 2000 kg/ha. So, agriculture in this country on which two third of its population are dependent faces a bleak future in the event of deficient rains.

According to research done by the International Water Management Institute (IWMI), one-third of the world's population will face absolute water scarcity by the year 2025, just more than a decade from now. Among the worst hit will be regions in Asia, the Middle-East and Sub-Saharan Africa, home to some of the largest concentrations of rural poverty in the world. In this scenario, micro irrigation systems are increasingly becoming popular with many developed countries. Developing countries like India and China are also not far behind in the adoption of this judicious water use technology.

In the world, India having 80 million ha of area is under irrigation. About 38% of the total cultivated area is under irrigation and our present water availability is 1086 billion cubic meters per year. India is a country having more than 115 crores of population and to meet the food requirement of every Indian citizen is a very challenging task. To meet such a huge requirement we are having 142 m. ha net sown area in India, which cannot be expanded. So our major emphasis lies on to increase the productivity of our farm yield. We are currently having farm yield

productivity of around 2000 kg/ha. There exists a considerable scope for improvement with regard to efficient water management.

To increase the farm productivity of India we have to emphasise on high yielding seed verities, farm mechanization, better supply chains and Irrigation. First green revolution was majorly due to high yielding seed verities but next green revolution will be due to irrigation methods.

India accounts for 16% of the world human population and 30% of the cattle and the country is endowed with just 4% of water resources With India's population to surge ahead in the years to come, our demand from agriculture is also sure to rise. While the demand for water in agriculture sector is estimated to increase during the period 2010 to 2050, the share of water for agriculture is expected to reduce from the present level of 85% to 71% by 2050. So it is high time that we start using our water resources efficiently.

1.1 Micro Irrigation

Micro irrigation is a technique majorly invented in Israel. Scientist found that crop does not require water to grow; it is the moisture that helps to grow the crop. So scientists have invented techniques that provide moistures to the root zone of the crop, rather than huge flow of water. Most famous micro irrigation techniques used in India now a day are:

1) Drip Irrigation
2) Sprinkler Irrigation

Irrigation through micro irrigation techniques can give a real spurt in the water use efficiency. When conventional means of irrigation stands to loose copious amounts of water through evaporation, leaching, seepage and percolation, the MIS directs droplets of water carefully, so that water

use efficiency is enhanced to the tune of 30%-60%. Several studies have pointed out that MIS can increase yields up to 10-60%. The advantages of this system has also prompted many farmers to adopt a more intensive way of cultivation incorporating multiple crops and a better cropping pattern increasing the yield and income from unit area many fold.

Weeds can also be managed efficiently through this system. It has been pointed out that weeds can be reduced to a degree of 30-90% in these systems. In MIS, there exists a scope for fertigation, that is, fertilizers can be applied through irrigation water. So, considerable energy and labour can be conserved using this technique. Moreover, MIS offers flexibility in crop cultures so that farmers can prepone or postpone sowing dates to take advantage of pest free seasons or can manipulate the planting dates based on weather forecasts without affecting yields.

More than 70% of Indian farmers are small scale operators cultivating plots less than one hectare and that is the biggest limitation in using these cost intensive technologies. They have a high initial cost and also needs continuous maintenance. Continuous upkeep of the system not only adds up to recurrent cost but also demands accessible service centres and suitable technical guidance. MIS can only render the guaranteed benefits if they are routinely maintained.

1.2 Indian Scenario

Micro irrigation is having numerous benefits and always helps in progress of the farmers. In case of India, large numbers of farmers are small and marginal so it’s difficult somewhat to the farmers to adopt such an expensive system. Indian micro irrigation industry is still at a very rudimentary stage but now a day it is expected to grow by 20-30%

annually. Current size of this industry is more than ₹ 650 crores and expected to grow the size of ₹1500-₹1600 crores in these year. Central government and various state governments are playing very vital role to boost up these industry through various schemes and subsidies.

There is an overall potential of 27.80 million ha area in India is suitable for providing drip irrigation. Major states in India have progressively using this systems are Maharashtra, Andhra Pradesh, Gujarat, Tamil Nadu, Karnataka, Madhya Pradesh and Rajasthan

Table 1.1: Agricultural Profile of India

Area in Gujarat	**M ha**
Total geographical area	329
Gross cultivable area	190
Net cultivable area	142
Gross Irrigated area	76
Net Irrigated area	56

Source: Agriculture Dept, Govt. Of Gujarat

Indian micro irrigation market comprises of both subsidy and non-subsidy players. Since last three decades MI industries market different technologies and innovative products in India. Some of the major players in micro irrigation in India are **Jain Irrigation, Netafim, Plastro Plasson, Nagarjuna, Parixit and Premier Irrigation**. Apart from that John Deere Water has recently started their micro irrigation business segment in India with highly innovative technology and precise products.

1.3 Gujarat Scenario

Gujarat is having very good potential for micro irrigation industries in India. GGRC is the government registered company responsible for all

micro irrigation development in Gujarat. After the Vibrant Gujarat Schemes, sponsored by Government of Gujarat, farmers are getting aware about such type of technologies and highly appreciating to use it in their farms.

There are 38 players available in the market and about 50% subsidy is available to the farmers. Government can only provide funds, and make available the infrastructure but, it's ultimately the farmers who have to come forward to best utilize the opportunities and schemes in hand.

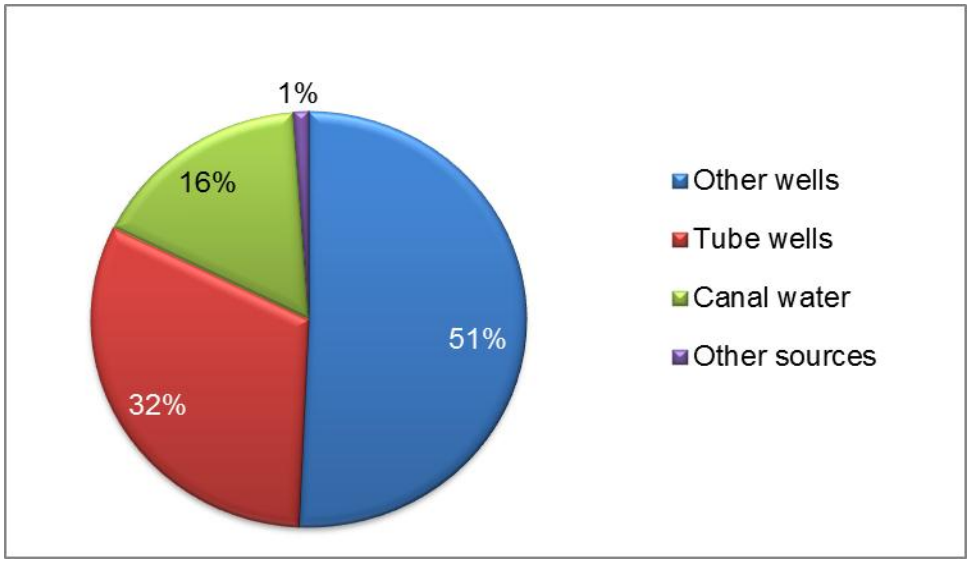
Table 1.2: Agricultural Profile of Gujarat State

Area in Gujarat	**Lakh ha**
Total geographical area	188.12
Gross cultivable area	124.05
Net cultivable area	107.02
Gross Irrigated area	36.28
Net Irrigated area	29.8

Source: Agriculture Dept, Govt. Of Gujarat

Gujarat has 29.8 lakh ha of net irrigated area, but in this net irrigated area, let us see how different irrigation methods have their share in it:

Figure 1.1: Segmentation of Net Irrigated Area of Gujarat



Source: Agriculture Dept, Govt. Of Gujarat

Looking upon the above data it is quite evident that the current share of micro irrigation in net irrigated area of Gujarat is about 1%. So the potential of micro irrigation in Gujarat is still very huge. We can see that still 77.22 lakh ha area of Gujarat depends totally upon rain. This shows that out of the 107.02 lakh ha of net cultivable area, about 72% area depends upon rain fed irrigation.

From these data it is derive that there are still enormous amount of scope and potential is there in the Micro Irrigation Industry.

1.4 Gujarat Green Revolution Company Ltd. (GGRC)

To use the limited natural sources effectively and also the proper use of available lands by the farmers, government of Gujarat has established Gujarat Green Revolution Company Ltd. (GGRC), Vadodara in May 2005. There are 32 registered companies at the end of 2010 for the supply of micro irrigation system for Gujarat state.

1.4.1About GGRC

Government of Gujarat decided to put an integrated scheme such that the provisions under various schemes are uniform, removing all the inequalities and anomalies and the benefit is extended to more and more farmers. GGRC is jointly promoted by the GSFC, GNFC and GAIC. This organization will act as nodal agency and implement uniform scheme for Micro Irrigation System in the state on behalf of GoG.

NGOs are appointed to carry out District wise survey for assessing the impact of MIS on socio economic aspect of the farmers. Services of all 4Agricultural Universities of the State are being taken to conduct audit of the 3rd party inspection agencies. Agricultural Finance Corporation (AFC) is conducting survey every year to access impact of MIS on farm

economics. In order to meet increasing requirement of manpower to look after the maintenance of the system, GGRC envisages training program for Tribal Farmer.

1.4.1.1 Vision statement of GGRC:

"To achieve substantial natural management regime in agriculture sector in the State of Gujarat."

1.4.1.2 Mission statement of GGRC:

"GGRC is aimed to promote Micro Irrigation System (MIS) to the farmers of Gujarat as an implementing agency on behalf of Government of India (GOI) and Government of Gujarat (GOG) to bring 2nd Green Revolution in consonance with the Agriculture policy of Gujarat Vision 2010 so as to save water and energy, besides multiple benefits to improve Agricultural productivity and farmer's prosperity at large."

1.4.2Salient Features

- Any farmer can get subsidy of ₹60, 000 per hectare or 50 % of the MIS cost (derived based on crop spacing) whichever is less for any area & any crop. Tribal Farmer of tribal area can get additional 25 % subsidy from Tribal Department of GOG.
- Government of Gujarat placed the subsidy at the disposal of GGRC. Subsidy is released by GGRC after scrutinizing the applications directly where as in other States subsidy is released through government.
- GGRC arranges bank finance to farmers, who needs loan. MIS supplier has to render agronomic and technical support after

implementation (after sales service). In other schemes, farmers have to rely on themselves.

- Insurance coverage equivalent to cost of MIS, to farmer for five years for MIS components and the farmer (as well) except natural death.
- Maintenance and repairs of MIS support by the supplier for five years.
- Supply of other agro inputs through GSFC depots and continuous farmer services.
- Farmer can choose cropping pattern of his choice with a flexibility of MIS.
- District-wise NGO's provide socio-economic feedback report on the project.
- 200 depots of GSFC/GNFC are coordinating between farmers and MIS agencies.
- Agricultural Finance Corporation will evaluate the impact of MIS on the farm economics periodically.

1.4.3 Norms in GGRC for After Sale Services

- MIS supplier shall undertake repair or replace any components/instruments of the system within guarantee period, if they are found to have manufacturing defects or workmanship defects.
- The authorized representatives of MIS supplier shall carry out the repairs or the replacement of instrument/component within 7 working days of the receipt of the complaints in writing from the farmer or through GSFC Depot in charge on behalf of farmer so that the system remains operative and the crop does not suffer for want of irrigation.

- Farmer will pay cost of fittings / spares and consumables which are not under guarantee period as per the approved price list by GGRC to MIS supplier as soon as the maintenance job is over, against his bill of fittings or spares.
- The farmer has to ensure the safety of the material from the date of the supplied material coming in to the possession of the farmer. There will no insurance coverage for the material supplied by the MIS supplier during the period from date of supplied material coming in to the possession of the farmer to the date of commencement of Insurance. The MIS supplier shall not be responsible for any loss and/or damages during this period and the farmer has to incur the cost involved in replacing damaged / lost material.

1.5 Company Profile

Deere & Company, founded in 1837 (collectively called John Deere), has grown from a one-man blacksmith shop into a corporation that today does business around the world and employs more than 50,000 people. The company continues to be guided, as it has been since its beginning, by the core values exhibited by its founder: integrity, quality, commitment and innovation.

John Deere consists of three major business segments (agriculture and turf, construction and forestry, and credit). Those segments, along with the support operations of parts and power systems, are focused on helping customers be more productive as they help to improve the quality of life for people around the world. The company's products and services are primarily sold and serviced through John Deere's dealer network.

- **Agriculture and Turf** — John Deere is the world's leading manufacturer of farm equipment. The company also produces and markets North America's broadest line of lawn and garden tractors, mowers, golf course equipment, and other outdoor power products. John Deere Landscapes provides irrigation equipment and nursery supplies to landscape-service professionals across the United States.
- **Construction and Forestry** — The Company is the world's leading manufacturer of forestry equipment and is a major manufacturer of construction equipment in North America.
- **Credit** — John Deere Credit is one of the largest equipment finance companies in the U.S. with more than 2.4 million accounts and a managed portfolio of nearly $23 billion (U.S.) In addition to providing retail, wholesale and lease financing to help facilitate the sale of John Deere agricultural, construction and forestry, and commercial and consumer equipment, John Deere Credit also offers revolving credit, operating loans to farmers, crop insurance (as a Managing General Agent), and debt financing for wind energy. Today, John Deere Credit has approximately 1,900 employees worldwide and has operations in 19 countries.

1.5.1 About John Deere Water

John Deere Water, a unit of Deere & Company, is now one of the largest irrigation companies in the world. With the 2008 acquisitions of Plastro Irrigation Systems and T-Systems, International and the 2006 acquisition of Roberts Irrigation Products, John Deere Water provides precision irrigation systems in more than 100 countries.

John Deere Water is one of the world's most valued providers in agricultural irrigation. Our products and services enable the efficient and

uniform application of water, optimizing the use of our precious water resources while increasing the quantity and quality of crop yields.

1.5.2 Vision

Water is a limited natural resource that affects the existence and quality of life for all species. The demand on existing water supplies continues to increase due to many factors including population growth, competitive demand from food, fibre, and fuel crops, and a disparity between the location of water supplies and demand. This demand is not only for any water, but for clean, usable water.

As a global leader in agriculture, John Deere is uniquely positioned to help solve the world's water issues and increase agricultural productivity. It is John Deere Water's vision to be a global leader in the water industry, delivering innovative and efficient water management solutions, and partnering with our customers to enable good stewardship of our water resources.

1.5.3 Leadership

John Deere Water has assembled a world class leadership team from the foundation companies and from the top talent in the industry. Led by John Roberts, President of John Deere Water, the unit is implementing long-term business strategies that create value for our customers, channel partners, and shareholders.

1.5.4Product lines

John Deere Water manufactures high performance micro and drip irrigation products for agricultural, nursery, landscape, greenhouse, and

mining markets. The product offering includes drip tape, drip lines, on-line emitters, micro sprinklers and jets, hose and tubing, and other irrigation technology. Additionally, the company offers services such as hydraulic design, irrigation project management, soil moisture monitoring and agronomic support which provide growers with the right solutions for their crop. All backed by the strength of a company with over 40 years in agricultural irrigation, John Deere Water provides the experience and knowledge to help growers efficiently use their water resources.

- Drip Tape
- Drip lines
- Online Emitters
- Jets, Sprinklers
- Sprayers & Foggers
- Fittings & Accessories
- Hose & Tubing

1.5.5 Facilities & Markets

Headquartered in San Marcos, California, John Deere Water has a global presence with 13 manufacturing locations in ten countries (Argentina, Australia, Brazil, Chile, Ecuador, France, Israel, Spain, India and the United States). Additionally, John Deere Water has sales, marketing, and technical staff supporting sales in more than 100 countries.

John Deere India Private Limited is a subsidiary of Deere & Company, USA in India. Its factory, located near Pune, manufactures 5000 Series agricultural tractors. The Indian operations of Deere & Company include a technology centre located at Magarpatta City Pune and John Deere Water,Vadodara.

The technology centre provides services in the areas of Information technology, engineering, supply management, embedded systems and technical authoring for company's operations worldwide.

1.5.6 Current Achievement in Gujarat State

The Gujarat Government has signed a public private partnership agreement with the company Deere to extend the benefits of farm mechanization in the State. As part of this 5-year PPP John Deere, would open 84 Agriculture Implement Resource Centres across Gujarat. A total of 529 John Deere tractors, each with a set of 13 implements, a trained operator and maintenance staff, would be deployed across these centres in two phases for the benefit of marginalized tribal farmers within the state. *(The Times of India 24Jan, 2011.)*

The farmer groups who use these tractors and implements to facilitate crop cultivation will only have to bear the operating and maintenance costs of the equipment used and not pay for the tractors and implements themselves. To ensure technical skill development and further employment generation in the State, John Deere would train one thousand local youth as tractor operators and another 500 as mechanics as an integral part of the programme. Four local NGOs, Sadguru Foundation, ANaRDe Foundation, Shroffs Foundation and JNPCT, have been entrusted with the task of creating self-help groups that cover at least 100 acres of farm land each and in ensuring early adoption of this programme.

Through the PPP, the Government not only aims to train farmers on the productive use of tractors and farm implements but also help develop additional skills in soil testing and micro-irrigation, amongst others skills.

1.6 Objectives

1) To get information from Customers of JD Water about quality of products, quality of installation, quality of agronomic services, design services, after sales services, other expectations/additional services from JDW, customer complaints handling.
2) To get information and opinion from JD Water customers on concerned JD Dealer about services offered.
3) To get information and opinion about JD Water staff about their knowledge, soft skills.

II. REVIEW OF LITERATURE

Narayanamoorthy. A. (2005) has carried out a survey on "Potential for Drip and Sprinkler Irrigation in India". The study pertain the comparative analysis of micro irrigation system like drip and sprinkler as well as for conventional irrigation like flood. Though the initial investment in Micro irrigation is quite more but it gives numbers of benefits in long run like save water, increase productivity and gain, increase income and many more. The study has concluded that to increase the adoption of MI system in farmer the in-depth awareness is required about the benefits and available subsidy from different institutions. Or else Government should play a role through various policies planning which will help to increase the adoption and the overall productivity and income will also increase simultaneously.

Yella Reddy. K. (2007) has carried out a survey on "Coping with Water Scarcity through Micro Irrigation". The basic objective of study was to evaluate the effect of micro irrigation on the yield and quality of crop. The study has considered the APMIP scheme delivered by Andhra Pradesh Government to reduce the water consumption in India through implementation of the MI system throughout the Agricultural land and to save the water from wastage by conventional practices and to increase the yield as well as to use water efficiently. The survey has concluded that though MI system is also helpful for sustainable development but in future to implement such schemes to other states it's needed to have good promotional activities with huge subsidy and efficient bank loan facility to farmers and state level department for MI.

Regassa E. *et.al* (2005) conducted a survey on "Adoption and Impacts of Micro irrigation Technologies: Empirical Results from Selected Localities of Maharashtra and Gujarat States of India". Numbers of farmers, Institutions, NGOs, Government bodies etc were examined in the survey to identify the determinants and impacts of micro irrigation adoption. The conclusion of the survey was that the most important determinants of micro irrigation adoption include access to groundwater, the prevailing cropping pattern, level of education, financial resources, the social stratum of the household, and the wealth or poverty status of the farmer. And only rich farmers can adopt the innovation as the adoption is capital intensive. But the MI system will provide benefits on long term as productivity gain and income can be improved.

IWMI (2006) has published a policy report on "Promoting Micro Irrigation Technology that Reduces Poverty". The basic objective of study was to promote the micro irrigation technologies to reduce poverty in India. Study says that in India the promotion of MI system is not wealthy as it is adopted by only richer farmers. There are certain criteria which influence the adoption of different micro irrigation technologies. Micro irrigation can produce more per unit of water used compare to the traditional approach. Even through MI system the cropping pattern of farmers were shifted to more yielding and less water intensive crops, so it turns to more income and tends to reduce poverty.

Michael Roberts (2002), International Development Enterprises, has given a report on "Micro irrigation for income generation in Asia". The study was based on the Asian country where peoples have a very less income as 75% peoples live in rural areas so the innovation like micro

irrigation can help them to increase the income. As micro irrigation needs less water compared to traditional practices so farmer can save money as well as water. By developing smallholders' comparative advantage in the production of high value crops and facilitating market environments that respond to their specific needs, smallholders are empowered to become effective market participants and to take advantage of market opportunities.

Phene (1995) estimates the reason why people are moving towards drip irrigation is the increasing awareness that water resources are finite and perhaps are even declining. ELawadi (1999); Suryawanshi (1995) concluded by several studies that drip irrigation can save up to 50-75 % of the irrigation water when compared to canal irrigation. Easily control of the water application in drip irrigation, along with reduced weeds growth, easy fertilizer application has led to increases the yield from 30-100 %.

Shrivastava *et al* (2003), has concluded that the investment decision for shifting to drip irrigation depends upon many factors; including cost of cultivation, productivity, yield gain factor, cost of producing electricity prices, depth of groundwater and irrigation requirement. These parameters vary from crop to crop, place to place, size of plot, and farmer to farmer.

Bressan (1995) in his research on drip irrigation and fertilizer use has concluded that the areas with a narrow and irregular landscape, drip irrigation offer a wide range of solutions to maximize the land use without runoff. It gives easy delivery of fertilizers to the roots of the crops as well as proper control of the irrigation water.

Rajput *et al* (2006) has researched that drip irrigation is often chosen over other irrigation methods. The advantages of drip irrigation are water application efficiency and reducing the water losses. In addition, drip irrigation offer very low surface evaporation and deep percolation

2.1 Need for After Sales Services:

With the current downturn being described by economists as the worst recession in over 60 years, having a clear understanding of current market conditions and making customers happy have become more important than ever. Making consumer buy your product may be difficult, but it is even more difficult to retain that customer to buy your product again and again. At this point of time after sales services play major role.

Companies like Nokia & Maruti may be having good quality products with competitive prize, but they are market leaders in their segment not just due to their innovation and product, but majorly due to after sales services provided by them. Such companies believe in maintaining long term relationship with the customers. Such kind of relationship not only makes the customer loyal towards your brand but also makes mouth to mouth publicity media of your brand.

A survey done on Indian customers by **American Express** shows that 82 % of Indian customers put after sales service as their first preference before making any purchase. Moreover 67 % customers have paid more for a product or service of a company with good customer care record. More over about 95 % of consumers give positive reviews about companies in case of good service, in contrast to 77 % who speak negatively after a poor experience *(The Economic Times, 7 July 2010).*

2.2After Sales Services in Micro Irrigation Industry:

As the prices of all parts of MIS are set by GGRC, there are no consumer preferences towards price of the company in MIS industry in Gujarat. So why should customer buy x product, rather than y product? Answer lies in "After sales services".

In MIS industry customer will value the company, which will provide good after sales services to the farmers. As the Micro Irrigation technique is still new for some farmers, they have lots and lots of queries about the MIS. After buying the MIS, they should be properly guided to operate the system efficiently. As the system design varies from crop to crop and soil to soil, farmers should be guided for operation of system, pressure maintenance of system, cleaning of system, fertigation, acid treatment and many other services.

GGRC highly concentrates on the services that are needed by the farmers while installing MIS in their field. Because industries role does not finish at the time of installation, they have to give after sales services too.

- **Agronomical advice:** Advice for better farm yield and quality product, depending upon crop, soil, atmosphere, pest, disease etc.
- **Technical advice:** Advice for the operation and maintenance of the system on the farm.
- **Fertigation:** Advice for fertilizer use through Micro Irrigation system to every plant.
- **Acid treatment:** Mostly needed in Drip irrigation system. It is the method to resolve the problem of clogging of emitters due to water.
- **Routine visit to the farmer/field:** To check the farmer's satisfaction about working of system and their satisfaction.

- **Customer care number:** A phone number on which farmers can quote their problems, queries etc. on the phone
- **Technical booklets** like Krushi Margadarshika & System Maintenance Book.

III. METHODOLOGY

The study entitled "**Customer Satisfaction Survey for John Deere Water"** was carried out during 07th Feb 2011 to 31st May 2011. Objectives of the survey were to get information from Customers of JD Water about quality of products, quality of installation, quality of agronomic services, design services, after sales services, other expectations/additional services from JDW, customer complaints handling, to get information and opinion from JD Water customers on concerned JD Dealer about services offered, to get information and opinion about JD Water staff about their knowledge, soft skills in middle and north region of the Gujarat.

3.1 SOURCE OF DATA

Primary as well as secondary data were collected to meet the objectives of the study.

3.1.1 Primary data: - Primary data were collected from the respondents (farmers) with the help of semi structured questionnaire (Appendix – 1).

3.1.2 Secondary data: -Secondary data were collected from Magazines, Books and from websites.

Discussion were held with the knowledgeable persons and with various stakeholders (Company Persons, Dealers and MI Experts) to firm up the findings originated from the analysis of primary and secondary data.

3.2RESEARCH DESIGN

3.2.1 Type of Research

The research type was Census Survey which carries all the present population for research work.

3.2.2 Target Respondents

Existing customers, located in different villages of JD Water were interviewed in North Gujarat.

3.2.3 Research Frame

A list of existing customers i.e. farmers of the company was provided by the organization.

3.2.4 Population Size

In this survey 84 farmers were selected and interviewed.

3.2.5 Research Instrument

Considering the nature of study as well as for obtaining correct information from the respondent, it was decided to collect information through semi structured questionnaire prepared with the help of company experts. Some ambiguous points were clarified through discussion with concerned experts.

3.2.6 Area of Research

All the existing customers in the 3 districts of North Gujarat (*i.e.* Banaskantha, Kutch, Sabarkantha) were selected for survey purpose as allotted by the organization.

3.2.7 Analytical Tools

Mainly tabular analysis, charts and graphical presentations were used to achieve the objectives of the study.

Following table shows the different villages visited in the respective districts of the North Gujarat.

Table 3.1: - Market area selected for survey purpose

SN	Districts	Villages showing customers presence
1.	Banaskantha	Gathaman, Sangra, Pipali,Chitrasani,Batawada, Vagda,Sadarpur,Pirojpura,Vasda,Kamalpura, Nandpur,Kandhara,Vadali,Malpur.
2.	Kutch	Ratadiya,Vinjhan,Vandh Sim,Morjar,Sinugra, Nagalpar Moti.
3.	Sabarkantha	Kdiyadra,Panol,Raheda,Demai Moti, Khed,Badol,Vejraplep,Tenpur,Chotasan,Berana, Vejarap No Math,Hatharva,Vireshwar,Choila, Bhanpur,Bavsur,Sherpur,Mesan,Chorivad, Kishorpura,Vaghrota,Navi Sinol,Netramali, Rampur,Kothan,Karunda,Nikodiya,Manjrol,Ramos, Bhajpura,Jalodara,Tintisar,Pansora,Diyoli.

IV. RESULTS AND DISCUSSION

4.1 North Gujarat Profile

North Gujarat is having very good potential for agricultural commodities mainly in Sabarkantha, Banaskantha, Mahesana and Kutch districts. Varieties of crops are grown in these areas according to the season and potential of farmers and their production interest.

Table4.1 Cropping Pattern of North Gujarat

Sr No.	Season	Name of Crops
1	Kharif	Bajra,Pulses/Guwar, Jowar, Castor,Cotton
2	Rabi	Cumin, Potato, Mustard, Gram
3	Summer	Bajri, Mug, Watermelon

(*Source*: Irrigation Dept. Govt. of Gujarat)

4.2 MI in North Gujarat

GGRC has changed the farmers thinking about MI and those days due to promotional schemes, farmers believe on the uses of MI uses. In summer season farmers mainly prefer drip irrigation to save not only water but to take good yield. North Gujarat is a hub for micro irrigation industries. Farmers are highly aware about the benefits of micro irrigation and highly concentrating on the technical farming.

Drip irrigation has helped the arid region of Banaskantha to be on top in water saving campaign for the year 2010-11 in Gujarat. Banaskantha is followed by Sabarkantha and Junagadh districts, says the statistical report of Gujarat Green Revolution Company Ltd (GGRC), a government of Gujarat. *(23rd March, 11 TOI)*

4.3 CUSTOMER SATISFACTION ABOUT JOHN DEERE WATER IN NORTH GUJARAT

4.3.1 Source of Water

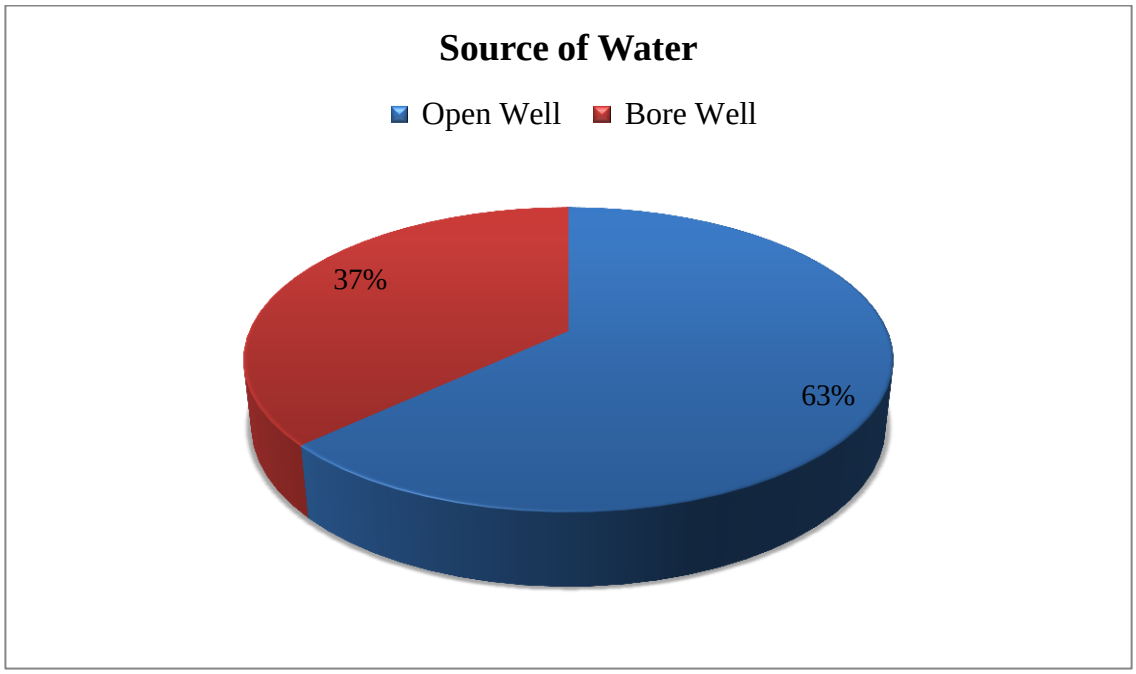


Fig 4.1 Farmers Source of Water for Irrigation

Sr. No.	Source of Water	No. of Farmers
1.	Open Well	53
2.	Bore Well	31

Table 4.2 Source of Water for Irrigation

Open wells are the major source of water in all three selected districts of North Gujarat. Mostly head units are installed near the wells and all the farmers expect that the design of the system should be in accordance with water availability.

4.3.2 No. of Years Since Farmers are Using MI System

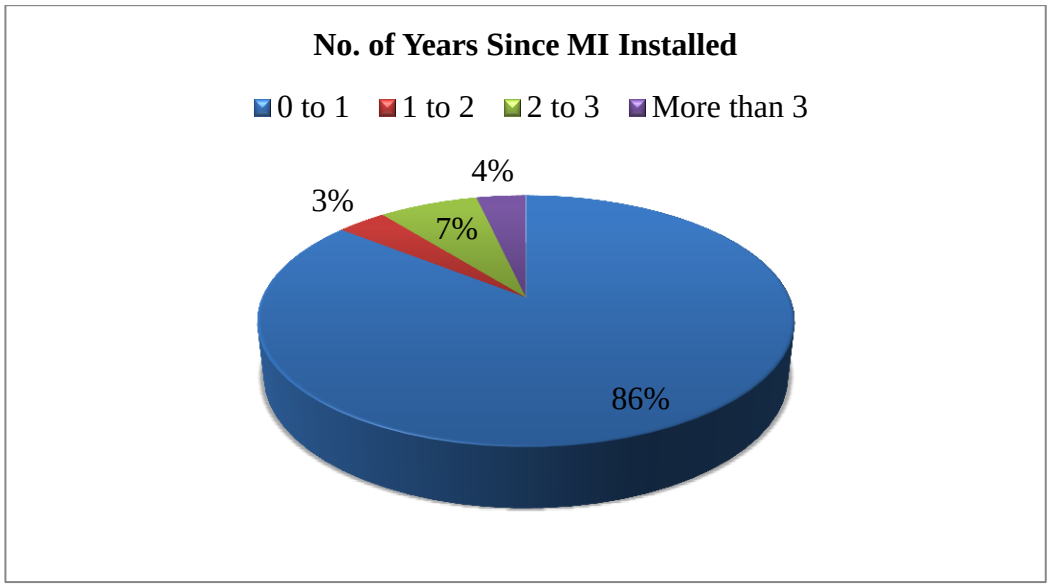


Fig 4.2 Number of Years Farmers are Using MI System

Sr. No.	No. of Years	No. of Farmers
1	0 to 1	72
2	1 to 2	03
3	2 to 3	06
4	More than 3	03

Table 4.3 No. of Farmers Using MI in Years

Most of the farmers have installed JD Water system first time in their field. Farmers are aware about the quality products of JD Company and expecting same quality in drip system also. So the farmer's belief and company's quality service attracted the farmers towards JD Water. The farmers having existing system of different MI companies are also shifting towards JD Water but due to subsidy problems and less farm size, the numbers of farmers are less.

4.3.3 Farmers Satisfaction about JDW who are Using Other MIS also

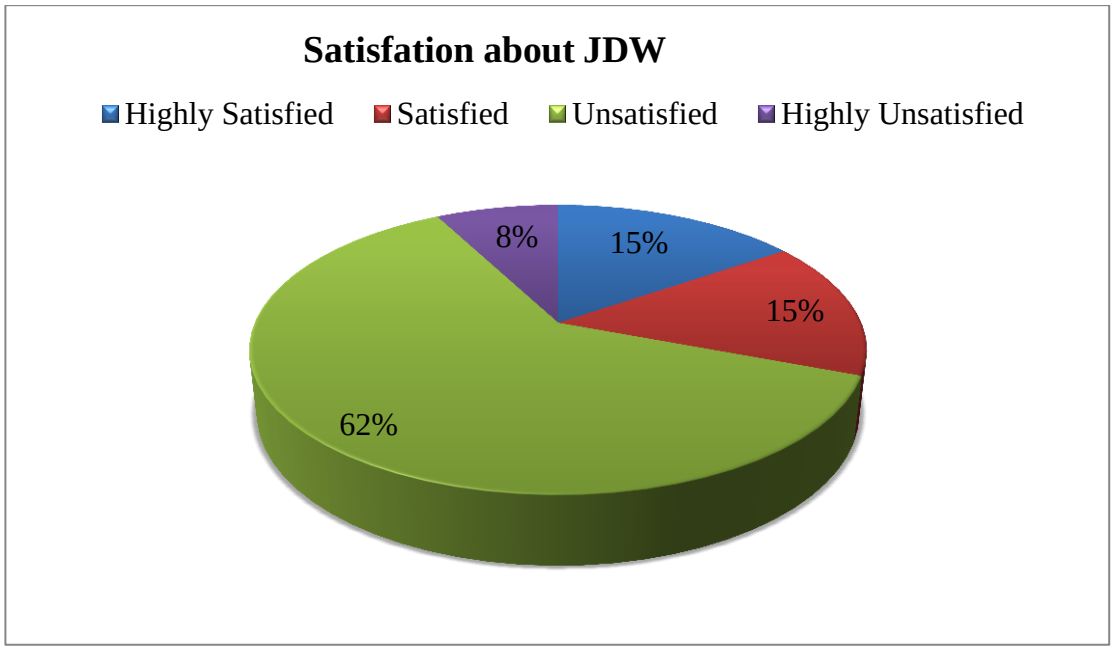


Fig 4.3 Farmers Satisfaction about JDW Using Other MIS with JDW

Sr. No.	Farmers Response	No. of farmers
1	Highly Satisfied	02
2	Satisfied	02
3	Unsatisfied	08
4	Highly Unsatisfied	01

Table 4.4 Satisfaction of Farmers Using Other MIS with JDW

Farmers are not satisfied with JDW with late installation after the survey and has lost main cropping season. Farmers feel that JDW takes more than any other companies for actual installation after the survey. Also the farmers who are facing problems about system have not been resolved within specified time by the company. Few farmers are really getting benefits of quality product and design made by JDW for their specified crops.

4.3.4 Source of Information about JD Water to Farmers

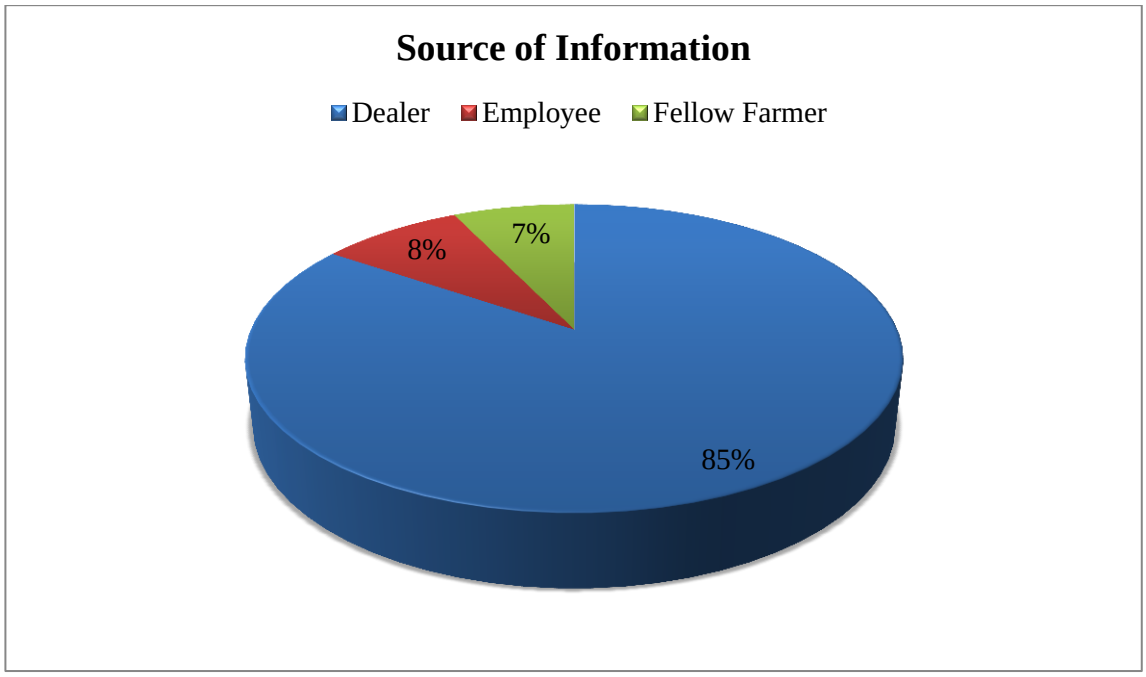


Fig 4.4 Source of Information about JDW to Farmers

Sr. No.	Source of Information	No. of Farmers
1	Dealer	71
2	Employee	07
3	Fellow Farmer	06

Table 4.5 Information Source about JDW to Number of Farmers

In North districts of Gujarat main source of information about JD Water is dealer. Main reason is that most of the farmers are in the contact with dealer due to personal relation and because of having JD tractors. Few farmers are attracted towards system by taking reference of their fellow farmers by seeing actual working and potential output by JD Water system. Due to high competition in these areas more efforts from company peoples with the help of dealers will attract more customers towards JD Water.

4.3.5 Farmers Satisfaction about Quality of Products

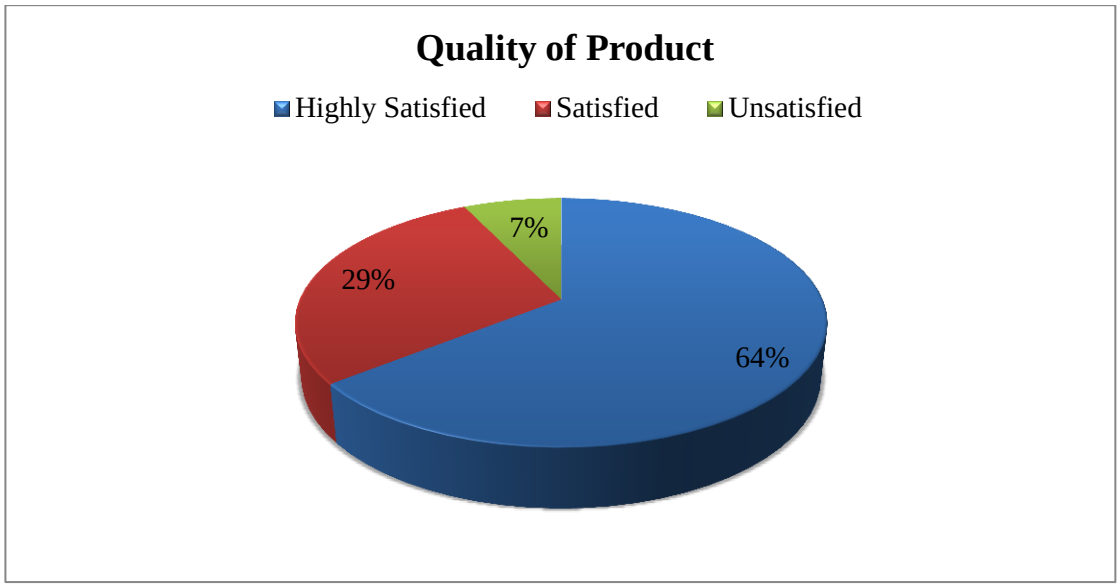


Fig 4.5 Farmers Satisfaction about Quality of Products

Sr. No.	Perception about Quality	No. of Farmers
1	Highly Satisfied	54
2	Satisfied	24
3	Unsatisfied	06
4	Highly Unsatisfied	00

Table 4.6 Farmers Perception towards the Products Quality

Farmers are highly satisfied due to the robust quality of materials in head unit, tuff material of laterals with good flexibility and nice working environment for installed product. Few farmers are facing the problems of venturi leakage in this district, one of the major reasons of only satisfaction. Miss-punching in laterals is the possible reason of high unsatisfaction for some farmers. Farmers are taking the benefits of quality product of JD Water than any other competitors in the market. High qualitative product is the major success key for JD Water among the farmers in very short time span.

4.3.6 Farmers Facing Problems about the System

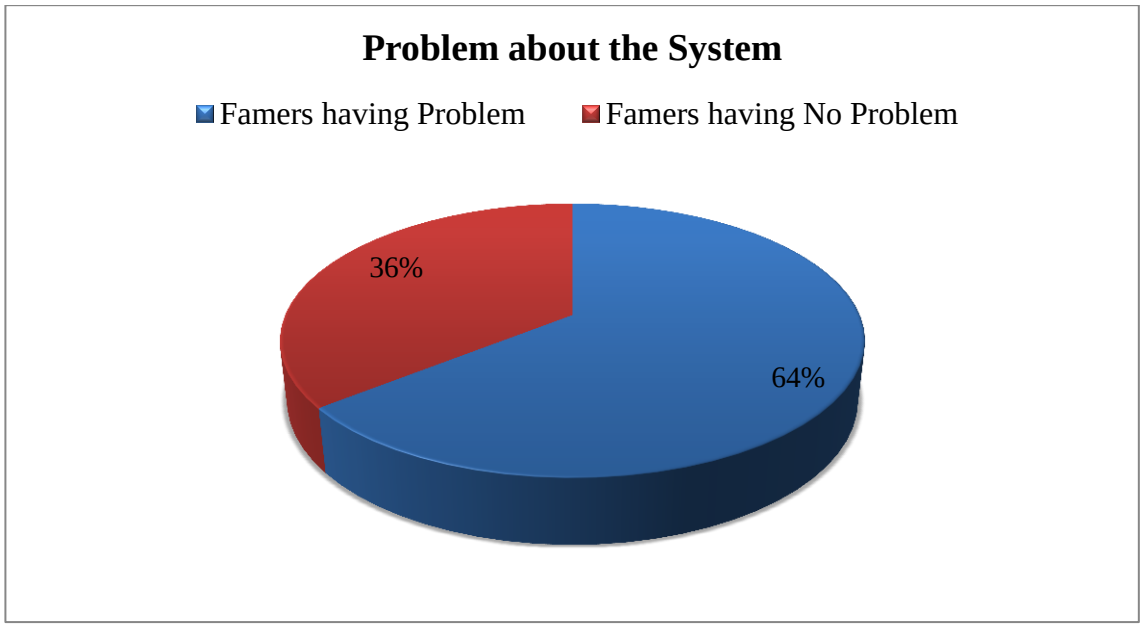


Fig 4.6 Farmers having the Problems about the System

Sr. No.	Perception	No. of Farmers
1	Farmers having Problems	54
2	Farmers having No problems	30

Table 4.7 Number of Farmers Facing the Problems

Most of the farmers are facing the problems in venturi and they expecting 2 inch venturi rather than ¾ inch venturi in the system. Sometimes valve leakage and miss-punching create problems to farmers in standing crops and farmers face problems up to repairing. Extra materials are not available, so quick service for any part of the system from company or dealer's site is not possible. Farmers are expecting visit of agronomist in the standing crops so they will get exact suggestion for their crops. 3 inch head unit demand of few farmers has not being considered by the company, so farmers are facing the problems with small head units.

4.3.7 Visits of Agronomist to the Farmers

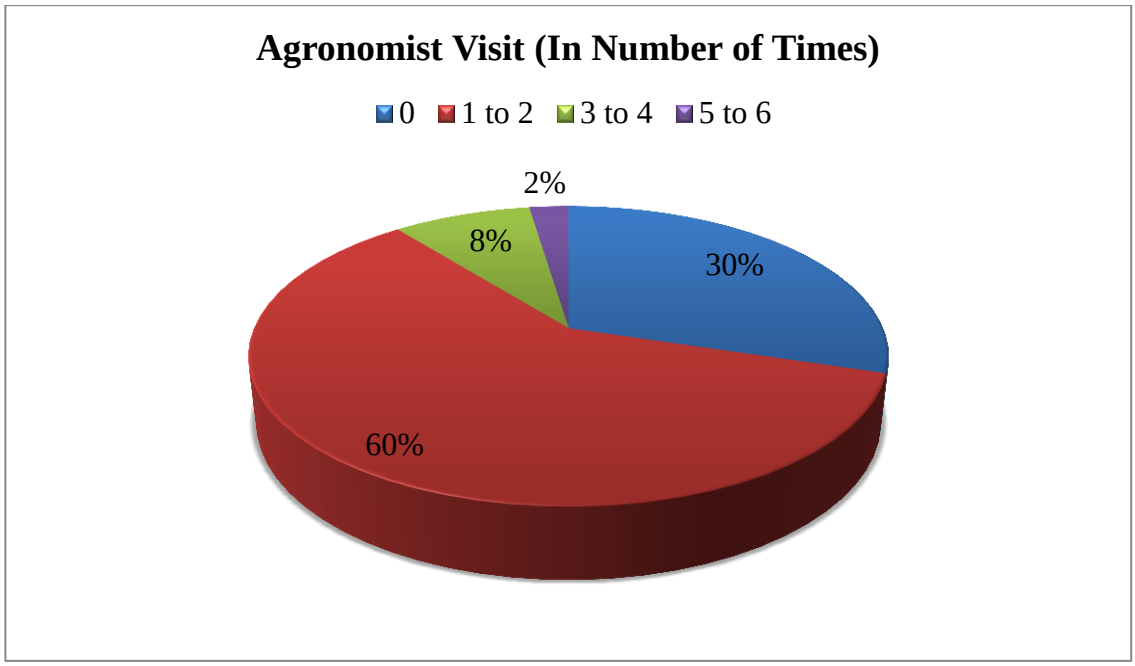


Fig 4.7 Number of Visits by Agronomist to the Farmers

Sr. No.	No. of Visits	No. of Farmers
1	0	25
2	1 to 2 times	50
3	3 to 4 times	07
4	5 to 6 times	02

Table 4.8 Visits by Agronomist to the Farmers in Numbers

Most of the farmers have been visited by the agronomist and fertigation schedule has been provided for their particular crops. The farmer who has not been visited by the agronomist is guided on phone calls for their crops. But most of the farmers expect regular guidance and inspection by the agronomist in their standing crops rather than phone calls.

4.3.8 Information Provided by the Dealer about System

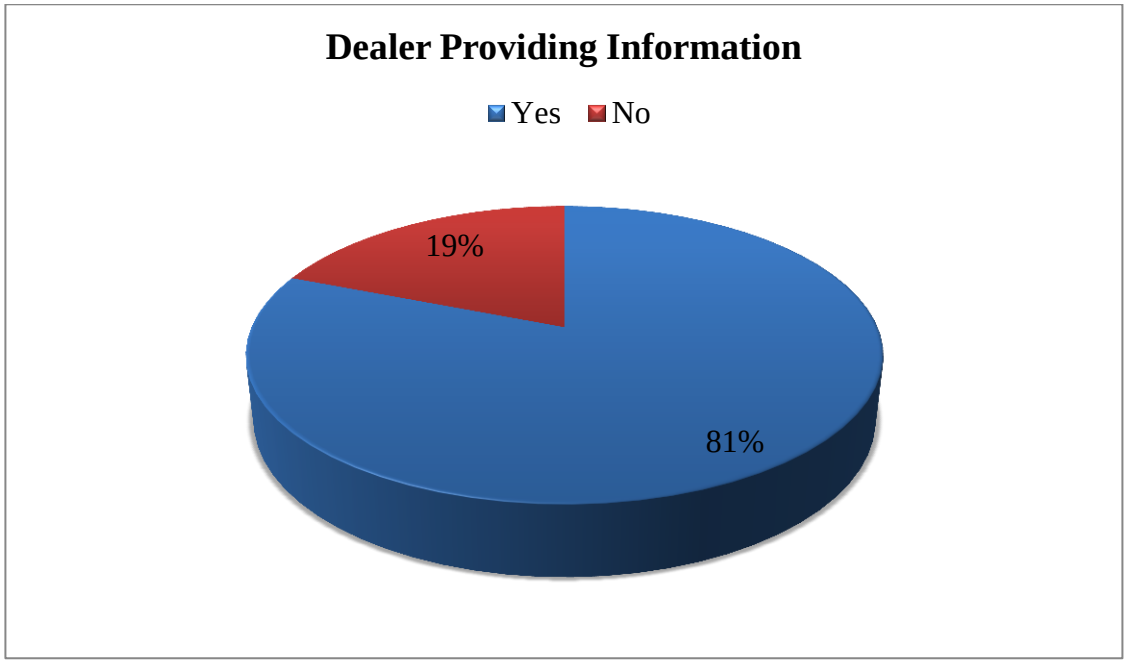


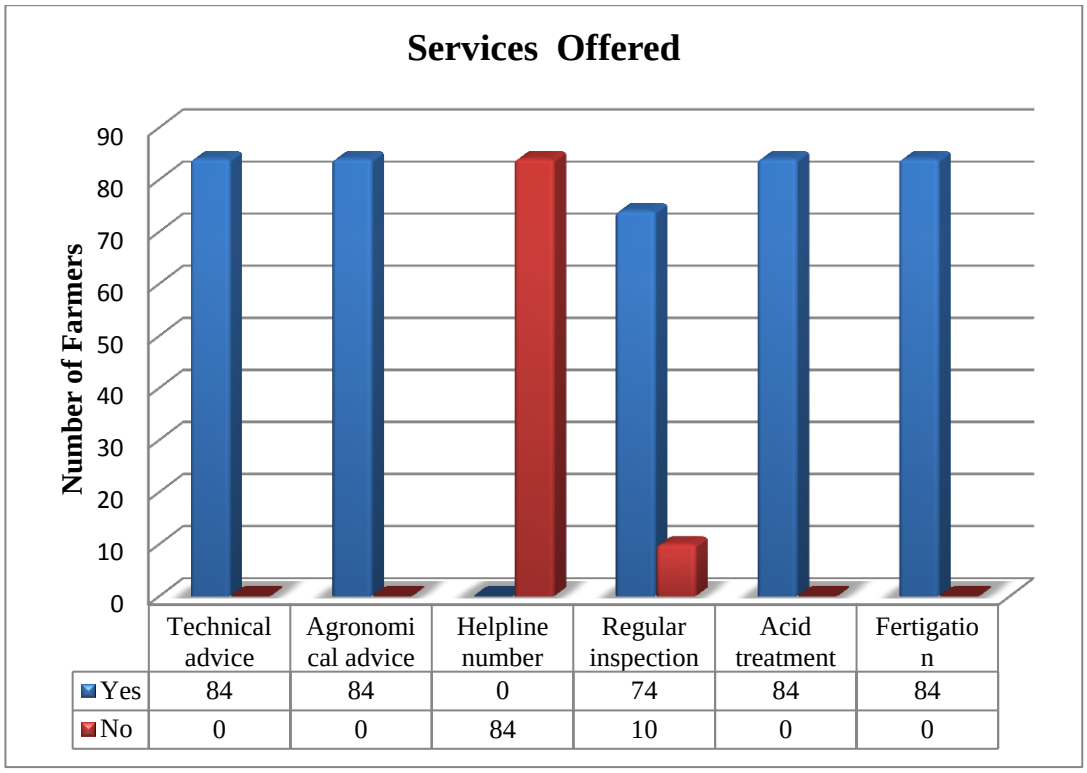
Fig 4.8 Information Provided by the Dealer about System

Sr. No.	Dealer Providing Sufficient Information	No. of Farmers
1	Yes	68
2	No	16

Table 4.9 Dealer Providing Information to the Farmers

Dealer is the major integral part in between company and farmers. It is expected that the dealer should provide all the basic and necessary information about the system to the farmers. In this district most of the farmers are happy with the discussion and guidance by dealer. Few farmers are not happy with the dealer's response and are expecting more guidance about the system.

4.3.9 Services Offered by JD Water



	Technical advice	Agronomical advice	Helpline number	Regular inspection	Acid treatment	Fertigation
Yes	84	84	0	74	84	84
No	0	0	84	10	0	0

Fig 4.9 Services Offered by Company to the Farmers

Farmers are offered with the different services by the company and company is taking care of its existing customers by all possible way. Technical advice and agronomical advice is the key part of any MI working system. Company is providing these services to all the farmers and farmers are taking the benefits by their qualitative production.

Any direct helpline is not provided by the company and shortly farmers will get that to contact directly to the company at specific time. Some farmers are little away from the regular inspection and expecting regular visits by company persons. Fertigation schedule is provided to all the farmers according to their crops and acid treatment will given by the company according to the soil, water and system working condition.

4.3.10 Farmers Satisfaction about Quality of Installation

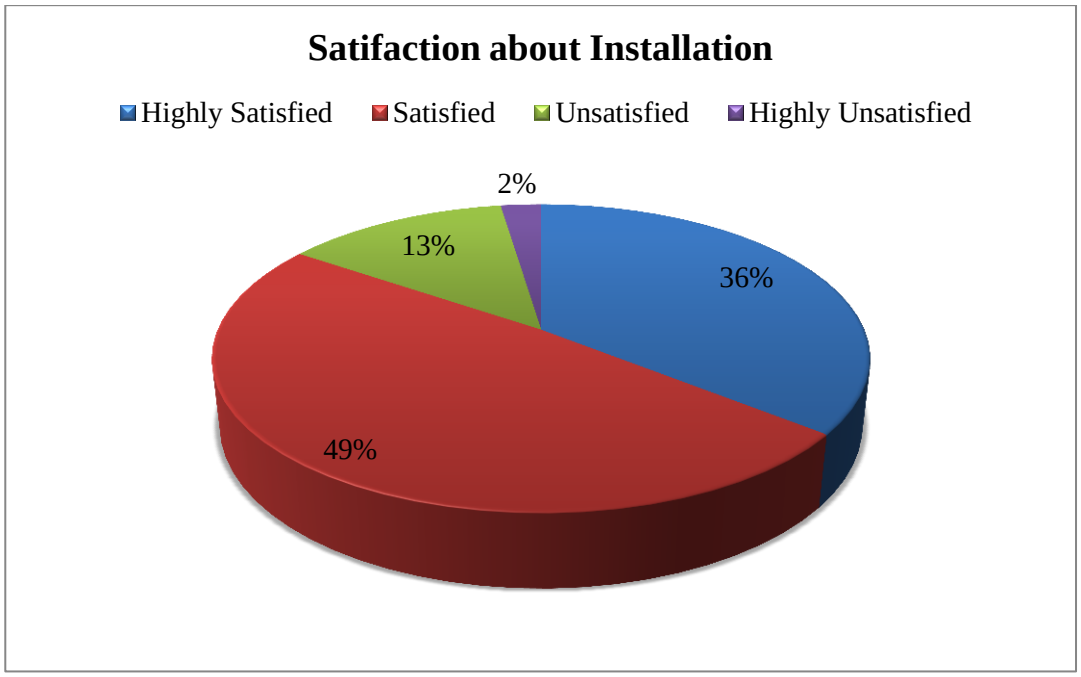


Fig 4.10 Farmers Satisfaction about Quality of Installation

Sr. No.	Farmers Perception	No. of Farmers
1	Highly Satisfied	30
2	Satisfied	41
3	Unsatisfied	11
4	Highly Unsatisfied	02

Table 4.10 Farmers Perception about Installation Quality

The farmers whose suggestion has being considered while designing the system and installed according the farmers convenience are highly satisfied. But those whose suggestion was not being considered by the company are not satisfied about installed system. The positions of the mains and sub-mains as well as head unit size are the major reasons of high unsatisfaction of some farmers.

4.3.11 Irrigation Schedule Provided to the Farmers

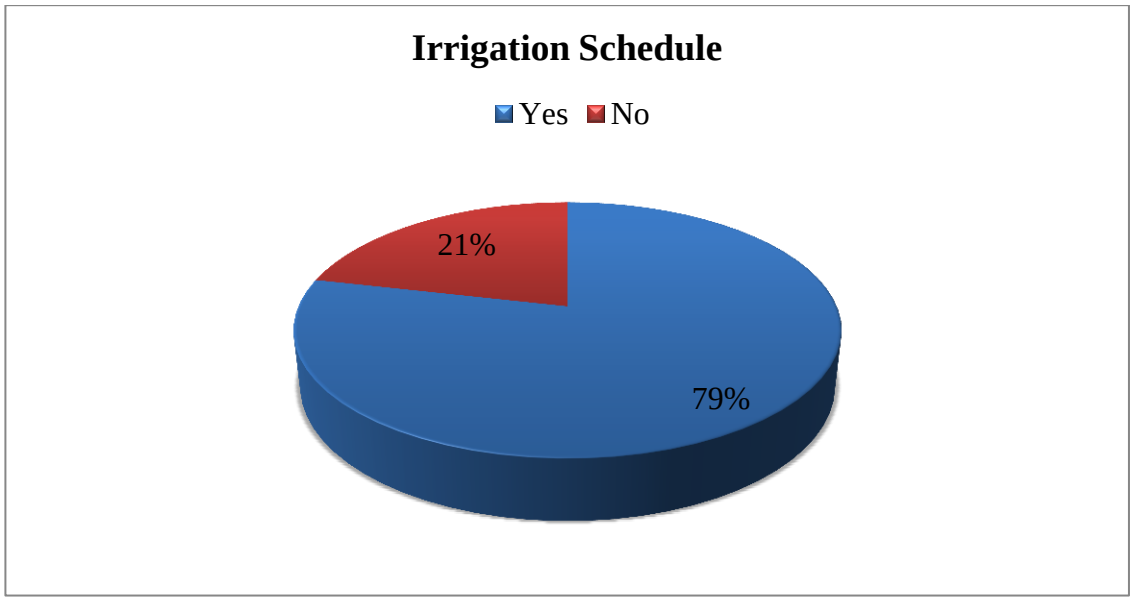


Fig 4.11 Farmers Provided with the Irrigation Schedule

Sr. No.	Irrigation Schedule Provided	No. of Farmers
1	Yes	66
2	No	18

Table 4.11 Irrigation Schedule Provided to the Farmers

Mostly farmers have got their irrigation schedule according to their cropping pattern by shift wise. Those who have installed the system recently have not been provided by irrigation schedule. Farmers expecting the irrigation schedule should be in the accordance with electricity availability. So farmers can give proper irrigation in accordance with the schedule. Availability of electricity is the major problem to the farmers as well as partition in their water source sometimes has effect on the irrigation time.

4.3.12 Perception about Design by the Farmers

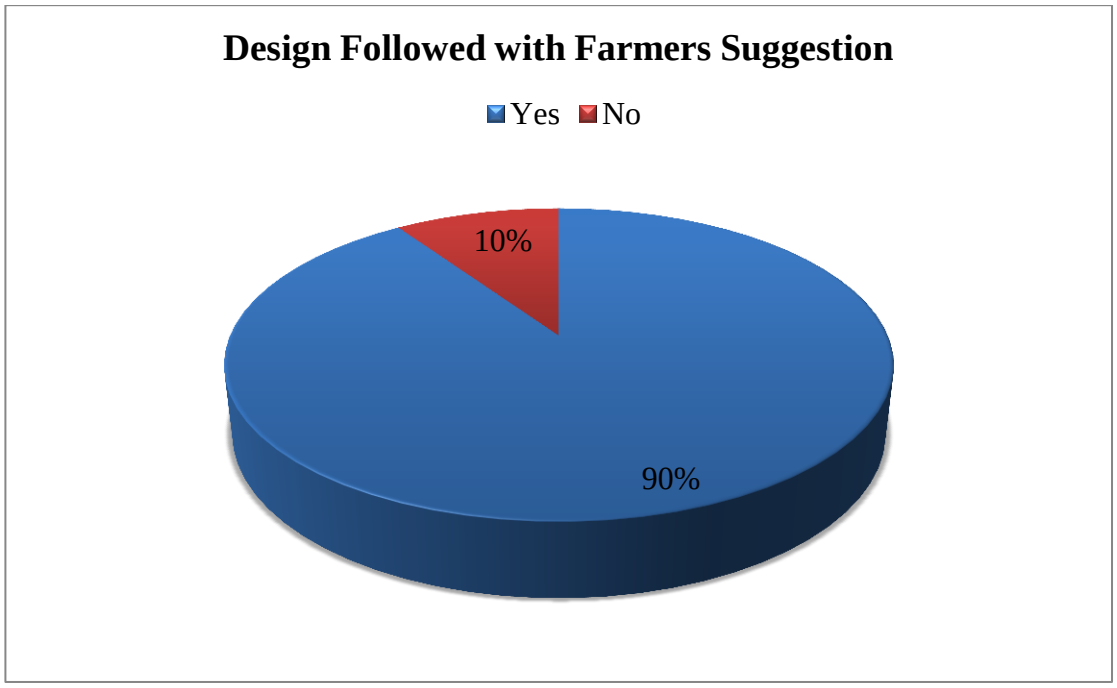


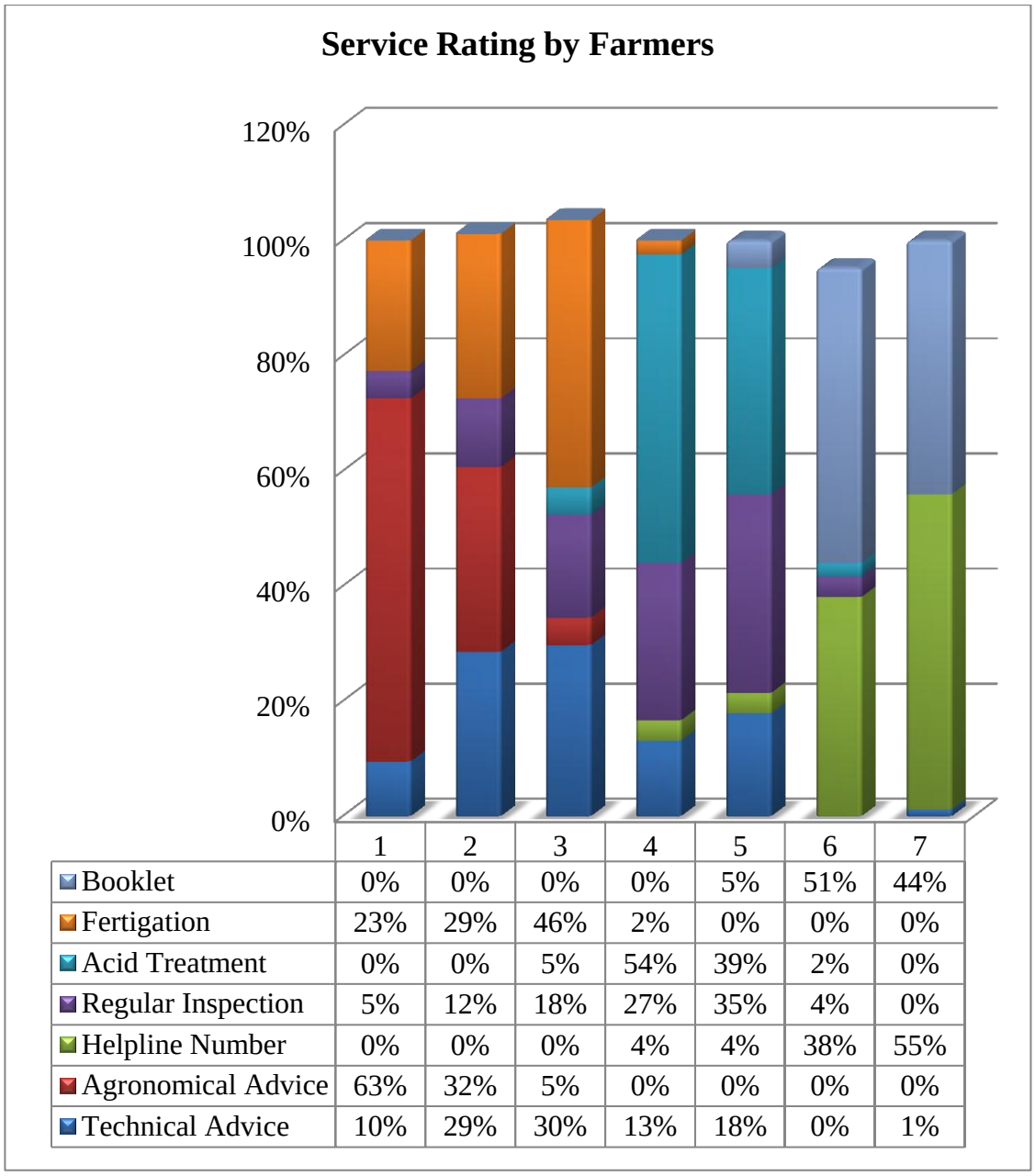
Fig 4.12 Farmers Suggestion Followed for the Design

Sr. No.	Farmers Suggestion Accepted	No. of Farmers
1	Yes	76
2	No	08

Table 4.12 Farmers Suggestion Followed for the Design

Most of the farmers suggestions have being considered for the system design. Suggestions and instructions by the farmers strictly followed while designing the system and company's suggestions also accepted by the progressive farmers. Some farmers suggestions has not being considered while designing the system because of technical problems in the system and positions of main, sub main pipes. Head unit size and venturi size were suggested by the company according to the necessity of the systems work.

4.3.13 Service Expectation Rating by the Farmers



	1	2	3	4	5	6	7
Booklet	0%	0%	0%	0%	5%	51%	44%
Fertigation	23%	29%	46%	2%	0%	0%	0%
Acid Treatment	0%	0%	5%	54%	39%	2%	0%
Regular Inspection	5%	12%	18%	27%	35%	4%	0%
Helpline Number	0%	0%	0%	4%	4%	38%	55%
Agronomical Advice	63%	32%	5%	0%	0%	0%	0%
Technical Advice	10%	29%	30%	13%	18%	0%	1%

Fig 4.13 Service Expected by the Farmers with Preference Rating

Most of the farmers have given first preference to the agronomical advice. Agronomical guidance is most important for standing crops and for better yield. Fertigation suggestion and technical advice are required by the farmers time to time.

Preference / Sevices	1	2	3	4	5	6	7
Technical Advice	8	24	25	11	15	0	1
Agronomical Advice	53	27	4	0	0	0	0
Helpline Number	0	0	0	3	3	32	46
Regular Inspection	4	10	15	23	29	3	0
Acid Treatment	0	0	4	45	33	2	0
Fertigation	19	24	39	2	0	0	0
Booklet	0	0	0	0	4	43	37

Table 4.13 Number of Farmers with Their Preference

JDW provided agronomist service to all the farmers but not the regular visits as required by the farmers. Kutch and Banaskantha district farmers are not getting proper benefits of agronomist visit as a regular visit in their standing crops. Farmers are expecting that the field visit of agronomist is more important than on call guidance.

Acid treatment is one of the preferences farmers expect in time to time and as per requirement of their farms. Quality product of the JD Water mostly avoids the acid treatment within short span as compared with the competitors. Expectation of booklet has very less preference by the farmers but who so ever expecting need all the suggestions in local language. Similarly helpline number is less preferred because field officers and dealer persons are immediately available on call service by the farmers.

4.3.14 Farmers Response towards Problems

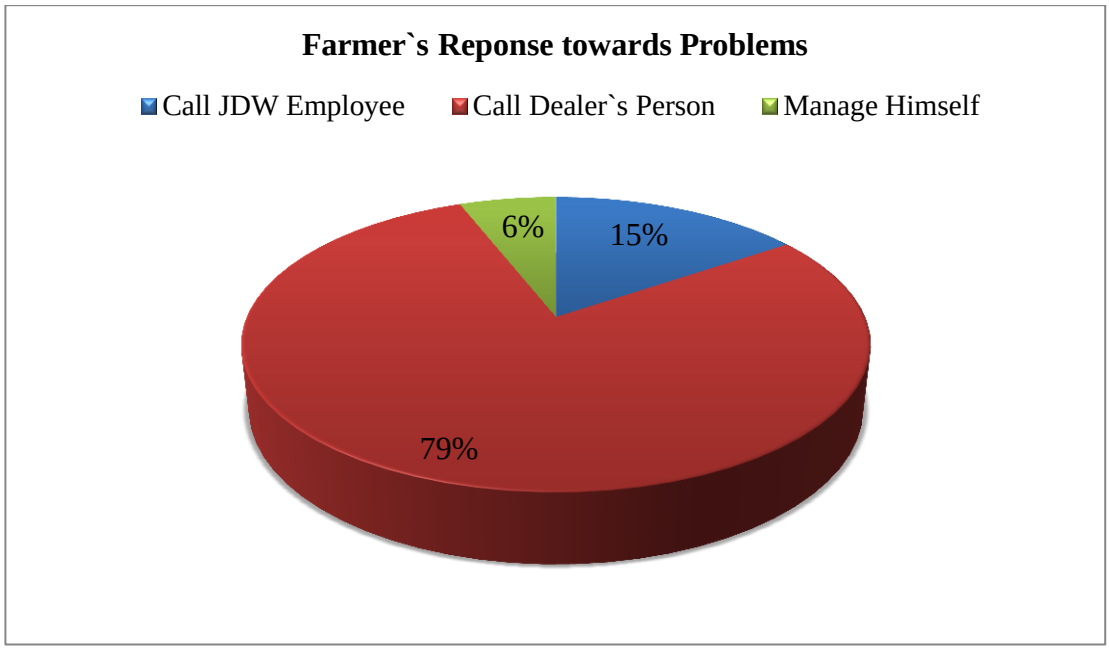


Fig 4.14 Farmers Response towards Problem

Sr. No.	Farmers Response	No. of Farmers
1	Call to JDW Employee	13
2	Call to Dealers Person	66
3	Manage by Himself	05

Table 4.14 Farmers Response towards Problem

Major source to handle the problem is farmer himself. Farmers are always ready to manage with the system for proper working and to save the time. Dealer's persons are also available on call system to handle the problems. So farmers may not have to wait longer. Dealer immediately sends the person when he receives any complaint. Dealer forwards complaint to the company for major problems. Technical assistant or field officer immediately reached in the field when company receives any complaint by the farmers.

4.3.15 Company`s Response towards Farmer's Problem

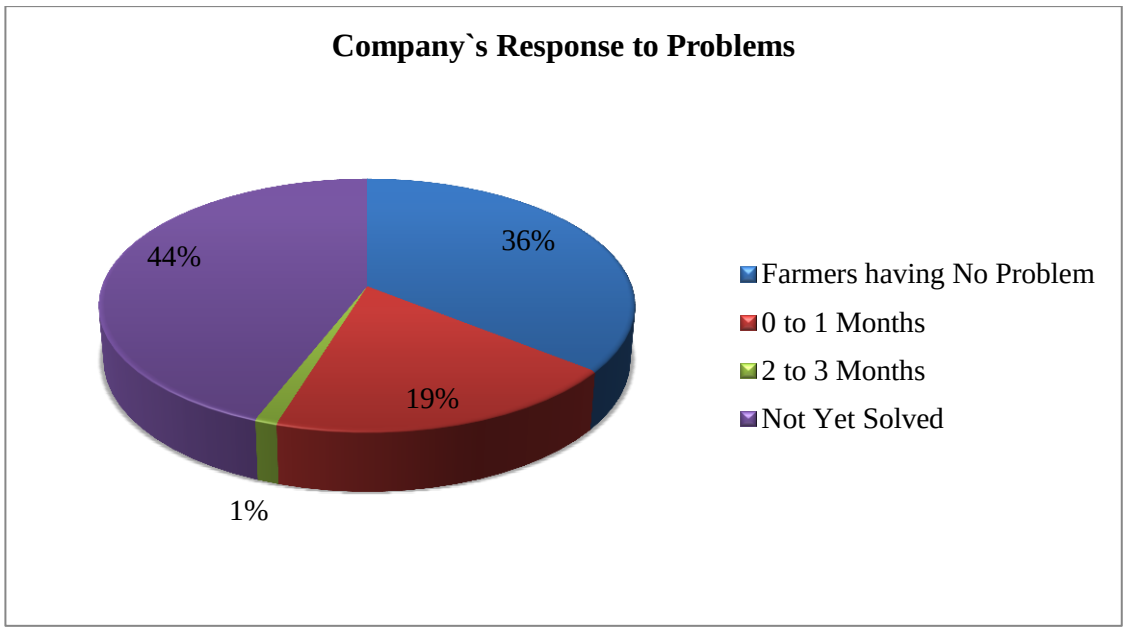


Fig 4.15 Companies Response towards Farmer's Problem

Sr. No.	Companies Response Period	No. of Farmers
1	Farmers having No Problems	30
2	0 to 1 Months	16
3	1 to 3 Months	01
4	Not Yet Solved	37

Table 4.15 Companies Response towards Farmer's Problem

Farmer's major problem of miss-punching and venturi leakage has not yet been solved. Small venturi size is not economically beneficial due to less availability of electricity and covering for large area. Farmers expect replacement of laterals where the miss-punching problem is at higher end. Most of the farmers expect the venturi replacement due to small size. Problems are not highly affecting the working system but farmers are expecting it to be solved within short period.

4.3.16 Farmers Opinion about Employee Knowledge of the Company

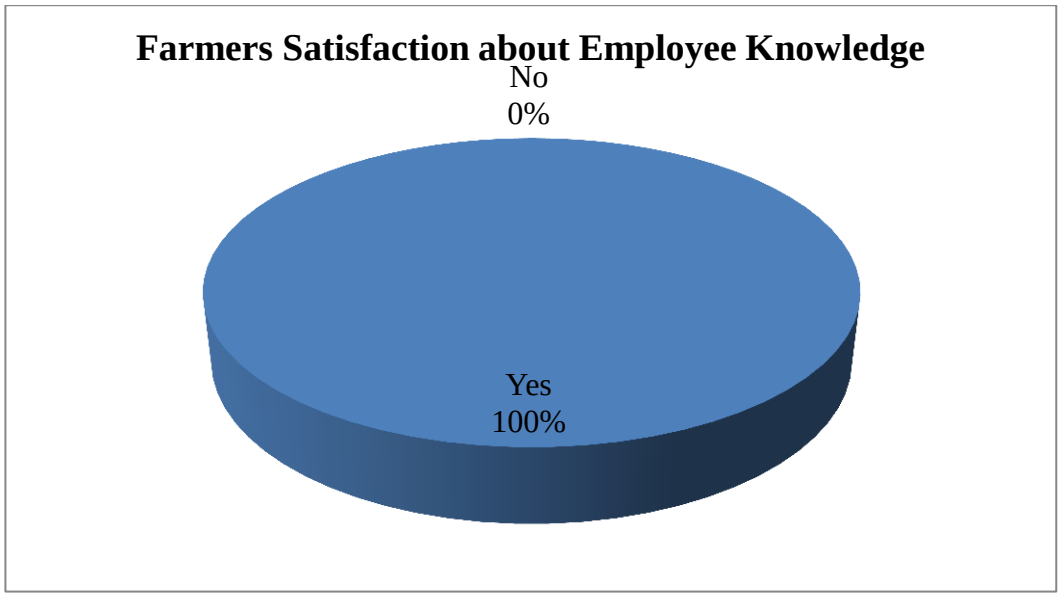


Fig 4.16 Farmers Satisfaction about Employee Knowledge of the Company

Farmers are always getting the proper response from the JD staffs and employees for their system. Also the field knowledge and work experience of the staff help farmers for proper design suggestions, installation and if any problem occurs in the working system.

Every single problem and expected information are well responded by the company staffs so almost all the farmers are happy with the overall system of the JD Water.

4.4 Miscellaneous Findings

4.4.1 Extra Wish list by Farmers

- High demand of winder and farmers are ready to pay for it.
- Demand for big head units by some farmers (3 inch head unit rather than 2 inch) and if they are ready to pay then company must have to follow such demands.
- Highly interested in company visits and demonstration plots.
- Most of the farmers demand irrigation and fertilizer schedule in Gujarati language.
- Some farmers demand greenhouse material of JD company who are loyal customers of JDW (using JD tractor & drip irrigation).
- Expect SMS services about weather report and extra suggestions about farming practices on mobiles.
- Some farmers demand open and close cock instead of connectors for the convenience of the system.
- Expect some gifts in return of better yield and using posters of these good yields to show to fellow farmers.
- Demands of night meetings and group meetings by progressive farmers for increasing awareness.
- Expecting some kind of lock system for valves at head unit.
- Demand of shed for head unit by some farmers and ready to pay the cost also.
- Some farmers demand fertilizer drum for venturi operation.

V. SUMMARY AND CONCLUSION

Role of micro irrigation sector has been substantial during the last three decades in Indian agriculture. The expansion of micro irrigation industry has occurred in parallel with the growth of agricultural productivity.

GGRC is playing impartible role in Gujarat state in between micro irrigation customers and registered companies. Governance by GGRC in providing well support to the farmers and farmers are enjoying better procedure followed by GGRC for their installation. John Deere is highly supporting the GGRC structure and rules, and recommending to the farmers best suitable system as per farmers demand and expected cropping pattern.

Customer satisfaction is very important aspect in micro irrigation sector and JD Water highly believes in it. Company has developed well organised structure for providing after sales services. Focussing on farmers demand and proper follow up of farmer's problems is the main motto of company and it strictly follows in North Gujarat region.

The existing customers of JD Water were personally visited during project work in north Gujarat. Major source of water for irrigation north Gujarat were open wells (63%) and remaining farmers using bore wells (37%). Most of the farmers (existing customers of JDW) surveyed were found that they were using MIS since not more than one years (86%). Some farmers were using system more than two years (7%). Long term users like more than three years (4%) were very less. Farmers who were using JDW system along with other companies MIS were mostly unsatisfied (62%). Some farmers got very good results with JDW and

they are highly satisfied (15%). Satisfied farmers (15%) about JDW were enjoying the better quality product than competitors.

Main source of information to the farmers were dealer (85%) because of their strong network. Few farmers got information from company employees (8%) and some attracted toward JD Water after seen the quality of system by their fellow farmers (7%). Quality of product is highly satisfactory (64%) part for customers and unsatisfied customers (7%) are very less in numbers. Quality of installation was satisfactory (49%) to the farmers and unsatisfied (13%) farmers were comparatively less. High unsatisfaction (2%) was in very few cases.

It was found that during survey the farmers facing any type of problems (64%) were in more numbers. Farmers having problems in their system mostly prefer call to dealer (79%). Remaining was used to call John Deere employees (15%) and some manage all by themselves (6%) on the basis of past experience. Long procedure of the company was unable to solve the problem in time so few problems were not yet solved (44%) by the company. Some farmers (19%) got their solution within a month.
Most of the dealers (81%) provide sufficient information to the farmers about system and their uses. JD Water provided technical assistance, agronomical advice, acid treatment, fertigation to all the farmers. Helpline number had not been provided to anyone by the company.

Most of the farmers were got agronomist visit 1 to 2 times (60%). More than 3 time's visit (8%) was done by agronomist to few farmers. Irrigation schedule were provided to the farmers (79%) according to their cropping pattern and few (21%) have not got yet because of new installations.

Agronomical advices (63%) were most rated service by the customers with first preference. In the second preference also agronomical advice (32%) preferred by customers with fertigation preference (29%). At the third place fertigation (46%) were rated by the farmers. At the sixth place helpline number were preferred by the farmers (38%). Similarly at the seventh place again helpline number were most rated by the customers (55%) followed by booklet demand (44%). All the customers (100%) were getting satisfactory discussion with the JD employees and were happy with the knowledge of JD workers.

It was concluded that the farmers expect short time and quick services from the company. Early solution for the farmers used to increase farmers satisfaction and very essential in after sales services. Agronomists field visit were highly demanded by the farmers and time to time feedback by technicians were demanded for proper working of the system. Most of the farmers have trust on the quality and getting proper benefits of the system. It is required that the company makes the customers aware about the benefits of small sized venturi and its application to avoid the unnecessary demand of big venturi.

Findings illustrate the importance of customer's expectations, their demands about system, customer's suggestions and feedback about the employees. These are the most considerable key points for arresting accessible market share, creating great brand building and for being top in this business. At present JD Water's strength is in Brand lead product and after sales services. So the above mentioned ideas can really help JD Water to reserve a better place in top micro irrigation companies in every aspect in India.

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APPENDIX I

1. Basic Information
    - Farmer‟s Name
    - Village
    - Taluka
    - Contact Number
    - Farmer‟s Educational level
2. Land Utilization Pattern

    Total land _____ Irrigated _____ Non irrigated _____

    Leased _____
3. Cropping Patterns

Seasons	Crops	Total Area
Rabi		
Monson		
Summer		

4. Source of water available

    Tube well _____ Wells _____ Canal water _____
    Farm pond _____River _____ Any other _____

5. Since how many years do you using MIS? _____years and _____months.

6. How did you get information about JD Water?
   Fellow farmer _____ Dealer _____ Advertisement _____ JD employee _____

   Any other (specify it) _____

7. Are you using any other MIS in your field? _____(Yes/No) If Yes then specify name of company _____

8. Name of the crop(s) in which JD water system has been installed_____

9. How much percentage of subsidy did you get from GGRC? _____%of the installation cost. (If required value in ` _____)

10. Have you taken any type of loan for installation of JD water system? _____(Yes/No)

    If Yes then
    Name of the bank_____
    Total value of loan in `_____

11. Is dealer providing you sufficient information about JD water before purchasing?
    Yes/No

12. After you bought the JD water system which services have they offered you?

    a) Technical advice
    b) Agronomical advice
    c) Helpline number
    d) Regular inspection
    e) Acid treatment
    f) Fertigation
    g) Others

13. Are you satisfied with the quality of the products?

Highly satisfied ☐ Satisfied ☐

Moderately satisfied ☐ Unsatisfied ☐

Highly unsatisfied ☐

14. Are you suffering from any of the following problems of the products?

Leakage _____
Emitter discharge variation _____
Blockage of laterals _____
Clogging of emitters _____
others (specify it) _____

15. Are you satisfied with the quality of the installation?

Highly satisfied ☐ Satisfied ☐

Moderately satisfied ☐ Unsatisfied ☐

Highly unsatisfied ☐

16. Have you got the irrigation schedule from JD Water? _____ (Yes/No)

17. How many times the agronomist visit in your field? (during cropping season)

No visit ☐ 1-2 times ☐
3-4 times ☐ More than 5 times ☐

18. Is the agronomist able to handle your problems about crops and field? _____ (Yes/No)

19. Which extra services do you expect from the agronomist?

20. Has JD Water consulted you about the design of the system?
_____ (Yes/No)

21. Is your suggestion has being considered while design the system?
_____ (Yes/No)

22. Do you satisfied with the designed installed system in your field?

Highly Satisfied ☐ Satisfied ☐

Moderately Satisfied ☐ Unsatisfied ☐

Highly Unsatisfied ☐

23. Rate the services as most required by you for the system? (Give ranking)

a) Technical Advice _____ b) Agronomical Advice _____

c) Helpline Number _____ d) Regular Inspection _____

e) Acid Treatment _____ f) Fertigation _____

g) Booklet _____

24. Which type of problem have you faced during working of system on farm?

a) Insufficient technical guidance b) Agronomical Advice

c) Any damage of parts (Clogging etc.) d) Animal/ Rodent/ Squirrel problem

e) Leakage of pipes f) Others

25. When problem occurs what do you do?

a) Manage by yourself b) Call the dealer

c) Visit the dealer d) Call the field officer

e) Others (please specify) _____

26. Write 2 measure sources who handle your problems?

1)
2)

27. What company does when they receive problem from you? a) Send technical person b) Send Dealer
c) Others (specify)

28. What dealer does when you register a problem to him?
a) Send the person to the solve problem
b) Ask you to go to company
c) Ignores the problem

29. In how many days the dealer/company give response? If company _____days
If dealer _____days

30. Is the technical person able to solve problem on the spot?
_____(Yes/No)

31. In how many days your problem is resolved with satisfaction?
_____days

32. Is Repair and maintenance free or chargeable by company? _____ (Yes/No)

33. Is Repair and maintenance free or chargeable by dealer? _____ (Yes/No)

34. Do you get satisfactory discussion with the company people meeting (weekly/monthly) with farmers? _____(Yes/No)

35. Are you satisfied with overall services of the JD water?
_____ (Yes/No)
36. Any suggestions _____