Baseline Survey Report 2017

ProOrganic-II

Developing a Culture of Sustainable Consumption and Lifestyle through Organic Production and Consumption in the State of Rajasthan

CUTS International

Baseline Survey Report
2017

ProOrganic II

Developing a Culture of Sustainable Consumption and Lifestyle through Organic Production and Consumption in the State of Rajasthan

CUTS Centre for Consumer Action, Research & Training
D-217, Bhaskar Marg, Bani Park, Jaipur 302 016, India
Ph: 91.141.2282 062, 2282 823/2282 482, Fax: 91.141.4015395
Email : gc@cuts.org, cart@cuts.org
Website : www.cuts-international.org, www.cuts-international.org/cart

With support of

Swedish Society for Nature Conservation

"This document has been produced with the financial contribution by the Swedish International Development Co-Operation Agency (SIDA) through the Swedish Society for Nature Conservation (SSNC). The views herein shall not necessarily be taken to reflect the official opinion of SSNC or its donors.

Contents

List of Figures

Acronyms

BPL:	Below Poverty Line
CART:	Consumer Action Research and Training
CAZRI:	Central Arid Zone Research Institute
CUTS:	Consumer Unity & Trust Society
FLD:	Field Level Demonstrations
FYM:	Farm Yard Manure
GP:	Gram Panchayat
INM:	Integrated Natural Resource Management
KVK:	Krishi Vigyan Kendra
MANAGE:	National Institute of Agricultural Extension Management
MPOWER:	Mitigating Poverty in Western Rajasthan
MSP:	Minimum Support Price
NABARD:	National Bank for Agriculture and Rural Development
NGO:	Non-government Organisation
NHM:	National Horticulture Mission
PGS:	Paramparagat Guarantee Scheme
PiD:	Partners-In-Development
PDS:	Public Distribution System
PKVY:	Paramparagat Krishi Vikas Yojana
PoP:	Package of Practice
RACP:	Rajasthan Agricultural Competitiveness Project
RKVY:	Rashtriya Krishi Vikas Yojana
ROCA:	Rajasthan Organic Certification Agency
RSSOPCA:	Rajasthan State Seed and Organic Products Certification Agency
SDG:	Strategic Development Goals
SHGs:	Self Help Groups
SIAM:	State Institute of Agricultural Management
SSNC:	Swedish Society for Nature Conservation
UNDP:	United Nations Development Programme

Preface

"Developing a Culture of Sustainable Consumption and Lifestyle through Organic Production and Consumption in the State of Rajasthan" or ProOrganic is a project supported by Swedish Society for Nature Conservation (SSNC) and implemented by CUTS Centre for Consumer Action and Research Training(CUTS CART) in multiple phases. The first phase of four years (2013-17) covered 102 *gram panchayats* in 6 districts of Rajasthan. The second phase popularly known as ProOrganic II (2017-21) has extended to four more districts of Rajasthan making it a total of 10 districts covering 192 *gram panchayats*.

This report is the compilation of findings of baseline survey conducted under the ProOrganic II in 10 districts to understand the behaviour of both consumers and producers in relation to organic products and built a way forward accordingly. CUTS International is dedicated to achieve the goal of easy availability and accessibility of organic products without affecting the livelihoods and lifestyles of people.

In this regard, we take this opportunity to express our sincere thanks to SSNC for its valuable partnership to take the objectives forward since more than half a decade now and provide their unrelenting support.

We are very thankful to Partners-In-Development (PiD), a Rajasthan based research and development organisation who dedicatedly conducted the survey and helped the CUTS CART team to come out with the findings listed in the report.

We are also very thankful to all the civil society partners in each of the targeted districts for their support and corporation. This study could not have been substantial without support of agencies like Department of Agriculture, Rajasthan Government; Agricultural Universities of Jobner, Jodhpur, and Kota; Home Science Department, Rajasthan University; State Institute of Agriculture Management (SIAM); Central Arid Zone Research Institute (CAZRI*); Krishi Vigyan Kendra* in various districts and CSOs working on issues related to organic agriculture.

At the end, we would like to thank and express our sincere gratitude to all outside and within the organisation; especially to the ProOrganic II team of my colleagues Deepak Saxena, Dharmendra Chaturvedi, Rajdeep Pareek, Nimisha Gaur and Aakansha Choudhary without whom, anchoring of "ProOrganic II" would not have been possible.

January, 2018

George Cheriyan
Director
CUTS International

Executive Summary

Background

Consumer Unity and Trust Society (CUTS International) was founded by a voluntary group of citizens in 1983 to apprise rural citizens in the north-western State of Rajasthan about various schemes of the central and state governments worked for their welfare and upliftment.

CUTS International began its journey as a consumer organisation and gradually diversified through various programmatic centres to empower consumers in social, political and economic arena. Consumer Action Research and Training (CART) is one of the programmatic centres of CUTS International, which works mainly in three areas of Consumer Empowerment, Good Governance and Sustainable Development. Sustainable Consumption is one of the functional areas under Consumer Empowerment programme initiatives.

Today, with headquarters at Jaipur (Rajasthan), CUTS is a leading think-tank working on economic and public policy issues. It is a leading Southern voice and face of consumer empowerment through its rights-based approach and activities for influencing the process and content of inclusive growth and development.

CUTS in partnership with Swedish Society for Nature Conservation (SSNC), is implementing a four-year project to develop a culture of sustainable consumption and lifestyle in the state of Rajasthan focussing on organic consumption and production through its project entitled 'ProOrganic II'. The project is being implemented in ten target districts in Rajasthan.

The project aims to create a culture of sustainable consumption in the state of Rajasthan thereby leading to sustainable development. The project is focussing on the aspect of sustainable food and farming and execution plan to achieve it through promoting organic production of food grains, vegetables, fruits and other farm products on the one hand, and promote consumption of the same organic produce thereby leading to sustainable development in agriculture and the environmental sector, as a whole, on the other hand.

Conception

The concept of sustainability is although not new but it has become more relevant now. Sustainable consumption is the goal, which can be achieved through various measures. For achieving the objectives of sustainable consumption and lifestyle, it is required that various stakeholders in the supply chain cooperate with one another. Besides, it is also required to educate and make the producers and consumers aware on various aspects of the process.

Since India is traditionally an agricultural livelihood based society, the use of natural and eco-friendly means of production enhancement are continuing since ages. In the contemporary context, it has found its relevance again. The Government of Rajasthan has initiated many schemes, with the specified components for promoting organic farming. In the year 2017, the state has adopted a new and discrete Rajasthan Organic Farming Policy.

Methodology

The study consists of quantitative as well as qualitative research. The quantitative survey has been carried out with the consumers and farmers and to supplement the same, qualitative interviews have been conducted with other stakeholders such as policymakers, concerned government agencies, subject experts, other organisations and institutes working on organic production and consumption issues.

There are total 99 blocks in the ten selected districts having total 3185 *gram panchayats*. For the purpose of the project, only two *gram panchayats* from each block have been selected. This way, a total of 198 *gram panchayats* were covered under the study. A total of 2439 respondents including 644 farmers and 1795 consumers were interviewed during the course of quantitative survey. Besides, gender perspective was also kept into consideration under the research in sampling and analysis. So out of the total samples, more than 40 percent comprised women.

Trainings for survey teams were conducted at four places to brief surveyors, supervisors and field manager on survey objective, survey tools, sampling design and expected data quality. This was to ensure that all team members have a shared understanding of the study. Post training field testing and de-briefing sessions were conducted at two locations. For field work quality control and monitoring of data collection, rigorous field visits were conducted in all the field locations. Analysis of the data was guided by the specified research objective.

Key Findings of Field Survey – Consumers' Perspective

During the quantitative field survey, 1795 consumers were covered for the interviews. Out of the above, 41.5 percent respondents were female. Most of the consumers fall in the active working age. More than half of the consumers (57 percent) were educated up to primary-level only, while only 5 percent consumers were found to be educated up to graduation or above.

Moreover, 31 percent of the consumers belong to the Below Poverty Line (BPL) category. The low economic background is further reflected in the expenditure pattern of the consumers as 72 percent consumers were having expenditure of 1 to 5 thousand per month.

It was found that most of the consumers (86 percent) were aware of the fact that food products with chemicals are harmful for health. Similarly, 84 percent consumers reported their awareness regarding organic products. Further, almost equal proportion of consumers i.e. 86 percent) reported their awareness about farmers producing organic products.

Furthermore, only 41 percent consumers were found to be aware about the availability of organic products in the market. However, only 34 percent of consumer respondents were found to be aware of specific stores/shops selling organic products. Considering consumers' faith in organic products, it was found that 40 percent of consumers strongly believed in retailers regarding organic products. Around 89 percent of the consumers considered organic products to be better than chemical-based products.

It was found that the predominant reason for buying organic products was that they were considered good for health. More than 60 percent consumers reported that they buy food products from specific shops although 30 percent buy from various other sources including Public Distribution System (PDS) through ration shops. More than 80 percent consumers buy fruits and vegetables from local *haats* or local vendor cumulatively.

Only 39 percent of consumer respondents reported of buying organic products ever. More than half of the consumers responded that prices of organic products are higher although 31 percent consumers felt that there was not much difference in the costs of the organic and other products. Consumers, who were not buying organic products stated that their higher price and unavailability were the major causes for not buying the same.

Exploring the challenges and seeking suggestions, 83 percent consumers reported that they would prefer to buy organic products only if they are available at reasonable costs. Further, 68 percent consumers reported facing problems in procuring organic products. More than 50 percent respondents suggested that the farmers should be made aware of organic farming, although only 30 percent emphasised on community awareness.

In addition, 56 percent consumers reported that they were satisfied with the quality of organic produce, while 34 percent were somewhat satisfied. Most of the consumers believed in the retailers as far as quality of organic produce was concerned. Nearly 86 percent consumers believed that certification of the same should be mandatory. The same proportion of consumers mentioned that they are willing to motivate other consumers to buy organic produce.

In six districts, wherein the first phase of the project was implemented, about 17 percent of the consumer respondents admitted of participating in the CUTS ProOrganic meetings. Nearly 82 percent of participating respondents considered the meetings to be quite useful.

However, only 33 percent consumers reported to be aware of kitchen/rooftop gardening, however, on being explained, 64 percent expressed their willingness to adopt kitchen/rooftop gardening for self-consumption.

Besides, a majority of consumer respondents (86 percent) felt that organic products contribute to the local economy. Nearly 97 percent consumers believed that buying organic products is more environment-friendly. There was widespread unawareness on sustainable consumption as only 15 percent consumers were found to be aware regarding this.

Key Findings: Farmers' Perspective

During the field survey, views of 644 farmers were taken into consideration. Out of these, about 40.5 percent comprised female respondents. Average age of respondents varied from 43-51 years for males and from 39 to 49 years for females. More than 30 of respondents belong to the BPL category.

More than 70 percent farmer respondents were from low educational background (up to primary level) while only 2.6 percent respondents were educated up to graduation or above level. 65 percent were found involved in own farming, 18 percent into farm labour. Moreover, 17 percent having own farm land as well as doing farm labour. More than 75 percent belong to households with income between 1 to 5 thousand per month.

Further, 94 percent farmers reported that they were aware of the ill effects of farming-based on chemical inputs. A significant proportion of farmers i.e. 40 percent expressed their unawareness regarding other farmers adopting organic farming. Around 90 percent farmer respondents considered that organic food is healthier as compared to the food produced using chemical inputs. Nearly 60 percent farmers reported their unawareness about the existence of Farmers' Club, while 11.5 percent were found associated with the Club.

Moreover, 18.9 percent farmers reported they are using only organic inputs while more than 55 percent reported using a mix of chemical and organic inputs. 77 percent of farmer respondents have cited more production as the reason for usage of chemical-based inputs while 19 percent referred to less cost as the reason. 46 percent farmers reported that they are somehow involved in organic farming. Only 13.85 percent of the above reported that they are doing 100 percent organic farming.

Around 52 percent of the farmers involved in organic farming reported setting up vermi composting units. 33 percent of farmers who have set up vermi compost units have availed government support. Only 7 percent of farmers involved in organic farming were wholly selling their produce in open market. Besides, 60 percent of them were partly using the same for self-consumption.

Further, 62 percent of farmers are of the view that the demand of organic products is increasing. 38 percent of those doing organic farming have undergone training. Around 80 percent of the farmers doing organic farming are preparing organic inputs in their own fields. About 23 percent of farmers preparing organic inputs have sold these inputs at some point of time.

In addition, 70 percent of respondents selling organic inputs reported that they found prices of organic inputs more than that of chemical based inputs. Likewise, 46 percent farmers reported receiving support for adopting organic farming. Moreover, 60 percent got support from National Bank for Agriculture and Rural Development (NABARD) and only 25 percent got benefitted from National Horticulture Mission (NHM). Nearly 65 percent respondents were of the view that the support received was adequate to some extent. About 15 percent of the respondents reported that they were aware of the Organic Certification Process.

Nearly 28 percent of the questioned farmers reported difficulty in selling their organic produce. Only 32 percent reported receiving higher price for their produce. Farmers were almost equally divided on the reason for not getting higher prices among less demand, high cost input and less awareness among consumers. 25 percent farmers are not satisfied with the quality of produce while 37 percent were satisfied to some extent.

Around 70 percent farmers feel that producing organic inputs is being environmentally more responsible. 91 percent admitted they would like to motivate others for organic farming. Most of the respondents (more than 80 percent) cited changing entire field and long duration of 3 cycles as the major hurdle in going organic.

However, 95 percent of those not doing organic are willing to adopt it if support is provided. Majority of respondents suggested community awareness for increasing demand of organic products. 31 percent of respondents in old districts admitted participating in 'ProOrganic' meetings organised by CUTS. About 72 percent of the respondents participating in the event felt that the meetings were useful. Moreover, 32 percent farmers were found to be aware about sustainable consumption.

Findings in Qualitative Interviews

a) Policymakers and government agencies' support in promoting organic farming

Various government departments and agencies are working in the State to promote organic farming and consumption. For instance, Agriculture and Horticulture Departments and various Directorates under the departments are providing training to the farmers. They are raising awareness amongst the farmers, involved in preparation and distribution of organic inputs and conducting research on agricultural aspects. Agriculture Department is promoting work methodology via new technologies among the farmers. This is done through organising training programmes, displaying organic

crops, providing subsides on irrigation facilities and other farming equipment for promoting their use in agriculture.

Paramparagat Krishi Vikas Yojana (PKVY) is being implemented in selected districts, which promotes organic farming. Main activities under the scheme are farmers' training/demonstrations in their fields and providing them assistance to initiate new technologies developed by agricultural scientists and researchers. Organic fairs have also been proposed in the PKVY scheme. Besides, PKVY, Chief Minister's Organic Block Development Scheme is also being implemented in selected blocks of some districts.

Rajasthan State Seed and Organic Production Certification Agency (RSSOPCA) is established by the Government of Rajasthan. Rajasthan Organic Certification Agency (ROCA) has been set up under RSSOPCA. The agency is the authorised agent of the Government to provide certification and assistance for organic products. Rajasthan Seed Certification Agency is ensuring certification and conducting research of seeds and organising awareness camps for certification of organic seeds in consultation with various line departments.

NABARD is providing support to organic farmers in a number of ways. The most significant one is for preparing vermin pits**.** Banks are providing rural finance and credit to Self Help Groups (SHGs) and farmers in various districts for preparation of organic inputs and other agricultural activities.

Mitigating Poverty in Western Rajasthan (MPOWER) project endeavours to enhance current agricultural practices, integrated farming, buy back the produce and providing vermin compost for organic farming However, there is no specific constituent for organic farming included the project.

State Institute of Agriculture Management (SIAM) conducts trainings for only officials of agricultural department. Farmers' trainings are being provided by the two training centres established in Kota and Tonk districts.

In Rajasthan, new Organic Policy has been announced by the state government in the year 2017. There are various provisions made under the policy. Now onwards it is assumed that the Government agencies will initiate new schemes and programmes in the existing ones specifically targeted for promoting organic farming.

Organic farming and consumption is emerging as one of the important policy aspects in government planning and interventions. However, there is still a lot to do be done as it is evident that organic farming and consumption is still not reflected in important programmes, trainings and schemes, such as SIAM, Rajasthan Agricultural Competiveness Project (RACP) and MPOWER.

Another challenge is the low productivity in first year and initial few years as by adopting organic farming initially farmer will get less production. Problems in

availability and marketing of organic input materials in the market are major challenges in organic farming.

High costs create another challenge for organic farming. Most of the farmers adopt this technique with the support of government schemes only due to the cost factor. For organic products for consumers, and for farmer's inputs like vermin compost, are comparatively expensive and cannot be accessed easily in local markets, thus it is a big challenge for promoting organic farming and consumption.

b) Involvement of organisations in organic farming and consumption

There are various institutes and organisations working on organic farming and consumption issues in the state. These include *Krishi Vigyan Kendras* (KVKs), Research Institutes, such as Central Arid Zone Research Institute (CAZRI), departments or various universities and various Non-Government Organisations (NGOs).

KVKs are organising awareness and training programmes for reducing and controlling adverse effects of use of chemicals in farming and for promoting production of organic products. Besides, they are also contributing in development and monitoring of farmers' groups and model *panchayats*. One of the main functions of KVKs is shifting of technology. KVKs are organising Field Level Demonstrations (FLDs) and extension activities. KVKs along with some non-government agencies are guiding farmers to look at and closely observe soil and insecticide regularly and informing the concerned departments for intervention.

CAZRI is a Jodhpur-based premier institute working on agriculture issues. Certified organic farms have been developed in CAZRI and other institutes as well. Package of Practices (PoP) has been developed by scientists for few organic crops while it is currently in progress for other crops.

Various NGOs/agencies are involved in implementation of various awareness programmes, research, education, promotion of socio-economic balance, promoting organic production and consumption through art and culture, formation of demonstration groups/sites on various issues dealing with reducing chemical-based inputs, promoting traditional and organic farming and promoting sustainable consumption and lifestyles. Vermi wash is being promoted by some of the research organisations and NGOs. Marketing outlets and retail stores have also been set up by some private agencies.

Experts opine that from nutrition point of view there is no difference in the nutrient value in organic products, however, due to absence of harmful constituents, organic produce is recommended. Experts have indicated lack of organic seeds, fertilisers, other inputs, organic PoP/literature and marketing platforms as the major challenges in promoting organic farming.

Lack of coordination among various line departments like Watershed, Agriculture, Seed Certification along with NGOs, NABARD and KVK is also a challenge. No premium price and Lack of market for organic products demotes farmers.

Absence of animal husbandry is the most difficult phase of animal and labour-oriented organic farming activity. Currently, most of the farmers do not have adequate cattle in accordance to agricultural land size and there is no technological support for preparing organic inputs.

Farmers are found receptive to organic farming mode but there are no incentives for organic inputs and marketing platforms. It is also essential to reduce subsidy on chemical-based inputs in order to reduce their consumption and bring their cost at par with the organic inputs.

Recommendations

- PoPs for organic farming is available only for limited crops. Standard PoP and other content/books should be developed for all major crops
- Government should also define Minimum Support Price (MSP) for major crops, so that producers feel safe and secure
- Special price-driven markets for organic products should be developed in order to provide premium price for farmers. In various exhibitions, big retail shops and other marketing platforms, compulsorily space should be provided to the organic products
- Ensuring availability and marketing of inputs materials, such as organic seeds/fertilisers/pesticides and providing required information to the farmers for preparing organic inputs
- Absence of animal husbandry is the most challenging phase of animal and labour oriented organic farming activity. At present, most of the farmers do not have enough cattle in accordance to agricultural land size. For cattle feed, Azola production should be promoted
- It is also essential to reduce subsidy on chemical-based inputs in order to reduce their consumption and bring their cost at par with the organic inputs. Consistent promotion of inorganic products should be reduced in a phased manner
- In the arid zone, there are certain crops, such as *Moong, Month, Gwar, Jwar, Til* (oil seed), which are by default organic as there is very low content of chemical inputs used in these crops. Sustained efforts should be made to protect them from use of chemicals and certify the fields by adopting the desired processes
- In organic farming, early impact is visible in vegetable production; hence the same should be promoted. Efforts should be made to enhance productivity in organic fields, especially in the initial few years as lack of it deters the farmer from adopting organic farming
- As of now, the input cost for organic farming is much more than chemical based farming. Due to this the farmers use this activity with support of government

schemes only. To counter this there should be provisions of subsidy on the organic inputs. Apart from costing, availability of organic inputs is also an issue

- From consumers' point of view prices of organic products are much higher due to which lower and middle income groups are hesitant in purchasing the same. Reduction in or waiver of applicable taxes might be undertaken for this purpose
- There is a need to create mass awareness policy and implement it in mission mode in particular areas. Creation of some model organic farming villages may be undertaken in selected district. There should be complete ban on chemical based fertilisers and seeds in some areas while limited ban in other areas
- Continuous exposure visits to organic fields should be organised, which can motivate other farmers to adopt organic farming
- There should be allocation of more funds for production of organic inputs, so that supply can meet the demand. Subsidy should be provided on sales and production of organic inputs. Along with provision of subsidy government can also relax certification process of organic farming
- It is recommended that government should buy organic products from farmers though a government agency. Government agencies should emphasise on purchasing of organic food for army, mid-day meal and at their respective canteens
- To counter prevalent plant diseases, Trichoderma in injectable form should be made available
- To promote organic farming, government has initiated PKVY in 2015-16 but even after passing of one year the scheme is not yet fully implemented. Government should focus on speedy initiation and implementation of such type of schemes
- Coordination among various line departments like watershed, agriculture, seed certification along with NGOs, NABARD and KVK should be enhanced. Government should also work with farmers in identifying the gaps to plan the interventions so that farmers can become more receptive to such programmes and
- Backyard gardening should be promoted for sustainable farming and consumption.

Chapter 1: Introduction

1. 1 About CUTS

CUTS International (Consumer Unity & Trust Society) began its journey from a rural development communication initiative in Rajasthan, a wall newspaper *Gram Gadar* (Village Revolution). From a modest beginning in 1983, CUTS has achieved significant growth both geographically and in terms of functional areas. To contribute in its vision of *Consumer Sovereignty*, CUTS endeavours through its Mission 'To enable consumers, particularly the poor and the marginalised to achieve their right to basic needs, sustainable development and good governance through strong consumer movement'.

CUTS International mainly works in five programme areas:

1. Consumer Protection
2. International Trade and Development
3. Competition, Investment & Economic Regulation
4. Human Development

Established in 1996, CUTS Centre for Consumer Action, Research & Training (CUTS CART) is a research and advocacy Centre. This Programme Centre was created as a result of diversification of CUTS in order to move ahead with its inherited agenda: consumer protection and education, and to create a more responsible society. In order to contribute in the CUTS' vision of CONSUMER SOVEREIGNTY, CUTS CART endeavours through the mission 'To enable consumers, particularly the poor and the marginalized to achieve their right to basic needs, sustainable development and good governance through strong consumer movement'.

1. 2 Project at a Glance

CUTS in partnership with the SSNC is implementing a four years' project w.e.f. April 01, 2017 to 31st March, 2021 to develop a culture of sustainable consumption and lifestyle in the state of Rajasthan with a special focus on organic consumption and production. In short, the project is entitled as 'ProOrganic II'. *(*Prior to this, a two-year' project 'ProOrganic I' was implemented to promote organic consumption by awareness generation, sensitisation, capacity building and advocacy activities).

This report compiles the findings of the baseline survey conducted under ProOrganic II focussing both on consumers and producers to push for a demand supply model of organic products. The survey has been carried out by Partners-In-Development (PiD) on behalf of CUTS International and report has been prepared in consultation with CUTS CART team working on ProOrganic II.

1.3 Objectives

The project aims to create a culture of sustainable consumption in the state of Rajasthan thereby leading to sustainable development, which in turn will result in a healthy and safe environment for all generations (present and the future). One of the basic thoughts of the project is that promoting sustainable consumption and production are important aspects of sustainable lifestyles, which is largely consistent with environmental and social factors, education and empowerment of consumers.

The project is concentrating on the aspect of sustainable food and farming and plan to achieve it through promoting organic production of food grains, vegetables, fruits and other farm products on the one hand and on the other hand promote consumption of the same organic produce thereby leading to sustainable development in agriculture and the environmental sector, as a whole.

Under the project, there is an activity component of action research. The purpose of the research is to collect evidences about ground realties of organic consumption and production in the state and also to gauge the level of awareness among consumers and farmers on sustainable consumption patterns.

1.4 Geographical Coverage

The project is being implemented in 10 target districts viz. Jaipur, Dausa, Udaipur, Chittorgarh, Pratapgarh, Kota, Sawai Madhopur, Jodhpur, Jhalawar and Bhilwara. There are total 99 blocks in these 10 selected districts having total 3185 *panchayats*, but for the project, only two *gram panchayats* from each block, so a total 198 *gram panchayats* have been selected.

Chapter 2: Literature Review

2.1 Sustainable Consumption

Sustainability is not a new concept although it has become more relevant now with the social, economic and technological advancement the world has achieved today. It is widely accepted that since the resources are limited the human kind need to mend its ways of consumption, so that the present generations can transfer the resources in the same abundance to the future generations as we have been able to receive from our past generations.

The definition proposed by the 1994 Oslo Symposium on Sustainable Consumption defines it as "the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations."[1]

The concept of sustainable consumption has evolved over a period of time and different aspects have been added at different point of times. Sustainable consumption along with sustainable production is part of sustainable development. It is also a prerequisite to counter the sustainability challenges including the environmental problems which the world is facing today. Keeping in mind its importance, ensuring sustainable consumption and production patterns has been identified as the 12th Goal in the SDGs adopted by United Nations.

The driver for sustainable consumption and production are the environmental and social challenges that threaten both humankind and the planet including climate change, land degradation, air and water pollution, depletion of non-renewable resources, poverty and hunger. Unsustainable patterns of consumption and production, including inefficient use of resources, contribute significantly to these challenges.[2]

Achieving sustainable consumption requires an increase in the efficiency of consumption as well as a change in consumption. Taking this into consideration, it is evident that individual consumers play a key role. Many consumers are well aware of the importance of their consumption choices and care about environmental issues, however, most of them do not translate their concerns into their consumption patterns

[1]Source: Norwegian Ministry of the Environment (1994) Oslo Roundtable on Sustainable Production and Consumption. https://en.wikipedia.org/wiki/Sustainable_consumption
[2]UNEP 2009 (Background Paper on Sustainable Consumptions and Green Lifestyles-Definitions and concepts)

as the purchase-decision making process is highly complicated and relies on like social, political and psychological factors.[3]

2.2 Sustainable Lifestyle

Sustainable lifestyles comprise a broader set of activities and values, such as interactions and education, which include, but are not limited to material consumption. Lifestyles serve as 'social conversations', in which people differentiate themselves from other people, signal their social position and psychological aspirations. Since many of the signals are mediated by goods, lifestyles are closely linked to material and resource flows in the society.[4]

For achieving the objectives of sustainable consumption and lifestyle, it is required that various stakeholders in the supply chain cooperate with one another and adopt a well-defined approach. It is also required to educate and make aware the producers (farmers in the context of this study) as well as consumers on the different aspects in the process.

Sustainable lifestyles are patterns of action and consumption, used by people to affiliate and differentiate themselves from others, which: meet basic needs, provide a better quality of life, minimise the use of natural resources and emissions of waste and pollutants over the lifecycle, and do not jeopardise the needs of future generations". Sustainable lifestyles should reflect specific cultural, natural, economic and social heritage of each society.[5]

2.3 Organic Consumption and Production

Sustainable consumption is the goal, which can be achieved through various steps. Consumption of organic food products is a major step in this direction. Production of organic food products involves many components including but not limited to using organic inputs such as organic insecticides, organic manure/compost, micro-organisms and modified seeds etc. Organic consumption requires the use of resource in environmentally responsible way so as to make them sustainable in the long run.

The general principles of organic production, from Canadian Organic Standards (2006) include:[6]

- protect the environment, minimise soil degradation and erosion, decrease pollution, optimise biological productivity and promote a sound state of health
- maintain long-term soil fertility by optimising conditions for biological activity within the soil
- maintain biological diversity within the system

[3]Young, William (2010). "Sustainable Consumption: Green Consumer Behaviour when Purchasing Products". *Sustainable Development* (18): 20–31.
[4] See URL: http://esa.un.org/marrakechprocess/pdf/Issues_Sus_Lifestyles.pdf
[5] See URL: http://esa.un.org/marrakechprocess/pdf/Issues_Sus_Lifestyles.pdf
[6]http://www.omafra.gov.on.ca/english/crops/facts/09-077.htm

- recycle materials and resources to the greatest extent possible within the enterprise
- provide attentive care that promotes the health and meets the behavioural needs of livestock
- prepare organic products, emphasising careful processing, and handling methods in order to maintain the organic integrity and vital qualities of the products at all stages of production
- rely on renewable resources in locally organised agricultural systems

2.4 Organic Farming

'Organic' in organic agriculture is labelling term that denotes products that have been produced in accordance with certain standards during food production, handling processing and marketing stages, and certified by a duly constituted certification body or authority. The organic label is therefore a process claimed rather than a product claim.[7]

The above narration implies that a product to be called organic needs to adopt certain procedural standards in production and processing. Various studies have shown that the consumers consider the certified organic products as a mark of purity and careful processing.

As per Food and Agriculture Organisation, "Organic Farming is a holistic production management system which promotes and enhances health of agro-ecosystem, including bio-diversity, biological cycles and soil biological activity. It emphasises the use of management practices in preference to the use of off-farm inputs, taking into account their regional conditions and require adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials in order to fulfil any specific function within the system." [8]

Organic farming promotes the use of crop rotations and cover crops, and encourages balanced host/predator relationships. Organic residues and nutrients produced on the farm are recycled back to the soil. Cover crops and composted manure are used to maintain soil organic matter and fertility. Preventative insect and disease control methods are practiced, including crop rotation, improved genetics and resistant varieties. Integrated pest and weed management, and soil conservation systems are valuable tools on an organic farm.[9]

[7]http://raitamitra.kar.nic.in/ENG/docs/Organice.pdf (organic farming directory of Karnataka, page6)
[8]http://agriculture.rajasthan.gov.in/content/dam/agriculture/Agriculture%20Department/gram/gram_kota/policies/rajasthan_organic_farming_organic_policy_2017.pdf.#organic-farming-policy
[9]http://www.omafra.gov.on.ca/english/crops/facts/09-077.htm

2. 5. Indian Scenario

After the independence, India faced acute shortage of grains to fulfil domestic needs. The problem aggravated during the wars (due to problem in imports) and frequent failure of monsoons and famines across the country. To overcome these problems agricultural scientists were trying to adopt new technologies and methods of production. Green revolution came as a much awaited solution to this issue. Production in the agriculture sector started to increase day by day with the use of hybrid seeds, chemical fertilizers and insecticides. Slowly India not only became self-dependent in the production of agriculture food grains but also started exporting the same.

However, this progress in the sector came with some adverse effects not only on soil and animal health but also on the environment. Unjustified use of high yielding varieties and high use of chemical-based fertilisers and insecticides led to many problems, which forced the government and society to think again on usage of these inputs and explore alternate ways of production.

Since India is a traditionally agricultural livelihood based society, the use of natural and eco-friendly ways of production enhancement is going on since ages. In the modern context it has found relevance again.

2.6. Organic Farming in Rajasthan

In India different states have adopted policies for promoting organic farming at different points of time, however most of the states do not have a separate organic farming policy. Agriculture policy of Government of Rajasthan lays emphasis on organic farming taking into consideration human, soil and environmental health and sustainability of agriculture production.

In the above context the Government of Rajasthan has initiated many schemes with the specified components for promoting organic farming. Few of the major schemes in operation in the state including the centrally sponsored schemes are National Horticulture Mission (NHM), *Rashtriya Krishi Vikas Yojana* (RKVY) and *Paramparagat Krishi Vikas Yojana* (PKVY). In the year 2017, the state has adopted a new and separate Rajasthan Organic Farming Policy.

As per Rajasthan Organic Farming Policy 2017, the concept of organic farming is based on the following principles:[10]

a. *Health:* Organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one individual.
b. *Ecology:* Organic agriculture should be based on living ecological systems and cycles, work with them and help sustain them.

[10]http://agriculture.rajasthan.gov.in/content/dam/agriculture/Agriculture%20Department/gram/gram_kota/policies/rajasthan_organic_farming_organic_policy_2017.pdf.#organic-farming-policy

c. *Fairness:* Organic agriculture should be built on relationships that ensure fairness with regard to the common environment and life opportunities.
d. *Care:* Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generation and the environment.

The principles show that organic farming is much more holistic than mere renunciation of agro-chemicals.

Chapter 3: Research Methodology

The study comprises quantitative as well as qualitative research. Whereas quantitative survey was carried out with the consumers and farmers, to supplement the same qualitative interviews were also conducted with other stakeholders. These included policymakers, concerned government agencies, subject experts, other organisations and institutes working on organic farming and consumption issues in the state of Rajasthan.

3.1. Target Groups

As mentioned above, quantitative survey mainly focused on two sets of respondents:

1. Consumers and
2. Farmers/Producers

On the other hand, qualitative method was used to collect the responses of:

1. Policymakers/officials from concerned government agencies
2. Subject experts and
3. Organisations/Institutes working on organic farming and consumption issues

3.2. Sampling

There are total 99 blocks in the 10 selected districts having total 3185 *gram panchayats*. For the purpose of the project, only two *gram panchayats* from each block have been selected. Hence, 198 *gram panchayats* were covered under the study.

Nearly 2439 respondents including 644 farmers and 1795 consumers were interviewed during the course of quantitative survey. District-wise status of farmers and consumers surveyed during the course of quantitative survey is as follows:

Table 3.1: District-wise Distribution of Consumer Respondents

District	No. of Blocks	Sample No. of Blocks	Farmers Sample	Actual No. of Surveyed Farmers	Consumers' Sample	No. of Consumers Surveyed
Jaipur	15	7	92	89	255	251
Dausa	6	3	40	37	110	109
Kota	6	3	40	40	110	110
Chittorgarh	11	6	78	82	220	215
Pratapgarh	5	3	40	35	110	114
Udaipur	11	5	76	66	180	183
Bhilwara	12	6	78	80	220	219
Jhalawar	8	4	52	55	145	147
Sawai Madhopur	6	3	40	39	110	113
Jodhpur	16	8	104	121	290	334
Total	**96**	**48**	**640**	**644**	**1750**	**1795**

Besides, there was a focus on gender perspective under the research in sampling and analysis. So out of the total samples, more than 40 percent were women.

3.3 Research Tools

Survey of consumers and farmers was largely quantitative in nature; it was supplemented by qualitative interviews with other relevant stakeholders including policy makers, concerned govt. agencies, subject experts and organizations/institutes working on organic farming and consumption issues in the state of Rajasthan. Apart from this survey also involved study of project related documents/reports etc.

Following set of study instruments were developed and used for collecting the required information:

- Structured Questionnaire for interviewing Consumers
- Structured Questionnaire for interviewing Farmers
- Semi-Structured Interviews of Policy Makers and/or Govt. Agencies
- Semi-Structured Interviews of subject experts, organisations/institutes working on organic farming and consumption issues

Study instruments/questionnaires were originally developed in English but translated and rendered in Hindi.

3.4 Field Team Composition and Deployment

A core team consisting of 4 key persons was deployed for the study. This core team included the Project Advisor, Project Coordinator, Research Manager and Field Manager. Quantitative survey was completed in all the 10 study districts through 4 study teams of 24 surveyors.

For field data collection, surveyors having required experience were hired locally and were able to understand and speak the local language. The project was headed by a Project Coordinator who was the chief functionary throughout the assignment. There was one Research Manager who was in charge of research work in coordination with the project coordinator. Field Manager was overall manager for the field operations and was responsible for coordination, planning and execution of main survey. He was responsible to manage the fieldwork and consistent reporting to core team comprising of Project Coordinator and Research Manager.

3.5 Training of Field Teams

Trainings for survey teams were conducted to brief surveyors, supervisors and field manager on survey objective, survey tools, sampling design and expected data quality to ensure that all team members have a shared understanding of the study. Training of field teams were carried out before execution of actual field work and entire purpose of the survey was explained to them. This was essential, so that the interviewers are able to convey the same to the personnel being administered the schedule and emphasise the need for truthful answers. The surveyors were trained to invest appropriate time on identifying the possible questions and responses.

Initially, the trainings were proposed at two locations however later on keeping in mind better field coordination and effectiveness, trainings for the field teams were conducted at four locations viz. Kota (for Kota and Jhalawar team), Jodhpur (for Jodhpur team), Jaipur (for Jaipur, Dausa and Sawai Madhopur team) and at Chittorgarh (for Chittorgarh, Bhilwara, Pratapgarh and Udaipur team).

Trainings were delivered by the core team members of the project. In all the four trainings CUTS representatives were also present and provided valuable inputs to the survey team during discussions and planning. Post training Field Testing and De-briefing sessions were conducted at two locations in Dausa and Chittorgarh districts.

3.6 Quality Control

For field work quality control and monitoring of data collection, rigorous field visits were conducted in all the field locations. These visits were carried out by key team members and supervisors. CUTS representatives also made monitoring visits in some of the field locations during the course of survey.

Controlling the quality of the data collection was considered to be the most important function of the Field Manager/Field Supervisors. Throughout the fieldwork, they were responsible for observing interviews and carrying out field editing. By checking the interviewers' work regularly, they ensured that the quality of the data collection remains high throughout the survey.

- Some of the interviews were closely observed, to ensure that the interviewer is conducting well, asking the questions in the right manner, and interpreting the answers correctly
- Spot checking was done of some of respondents selected for interviewing to be sure that surveyors interviewed the right person.
- Field supervisors ensured that for all sampled area/call wherein completion rate is found to be low or seems to be a problem, back checks were done by them.

3.7. Data Disaggregation and Analysis

The data collected was disaggregated and analysed on the below mentioned parameters:

- Geography (district-wise)
- Gender
- Age
- Education
- Income and
- Employment

After collection of data, the data was subjected to data processing, which included editing, coding and decoding of new variables. Subsequent to editing, data analysis was carried out. Analysis of the data was guided by the specified research objectives.

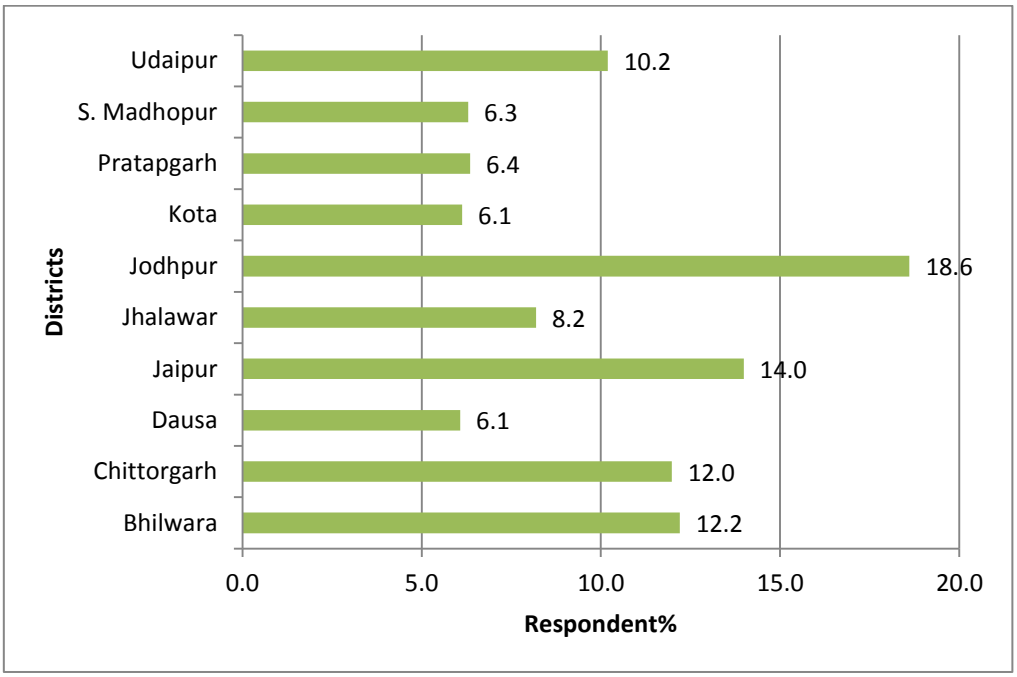
Chapter 4: Key Findings

Part A: Consumers Perspective

4.1 District-wise Distribution of Consumer Respondents

As part of quantitative survey, a total of 1795 consumer respondents were interviewed. Looking at the district wise distribution of consumer respondents, it can be made out that Jodhpur has the highest number of respondents (18.6 percent) followed by Jaipur (14 percent). Dausa along with Kota has the least number of respondents. The difference in number of respondents is due to the size of the district i.e. the number of blocks in a particular district. (Chart 4.1**)**

Figure 4.1 District-wise Distribution of Respondents

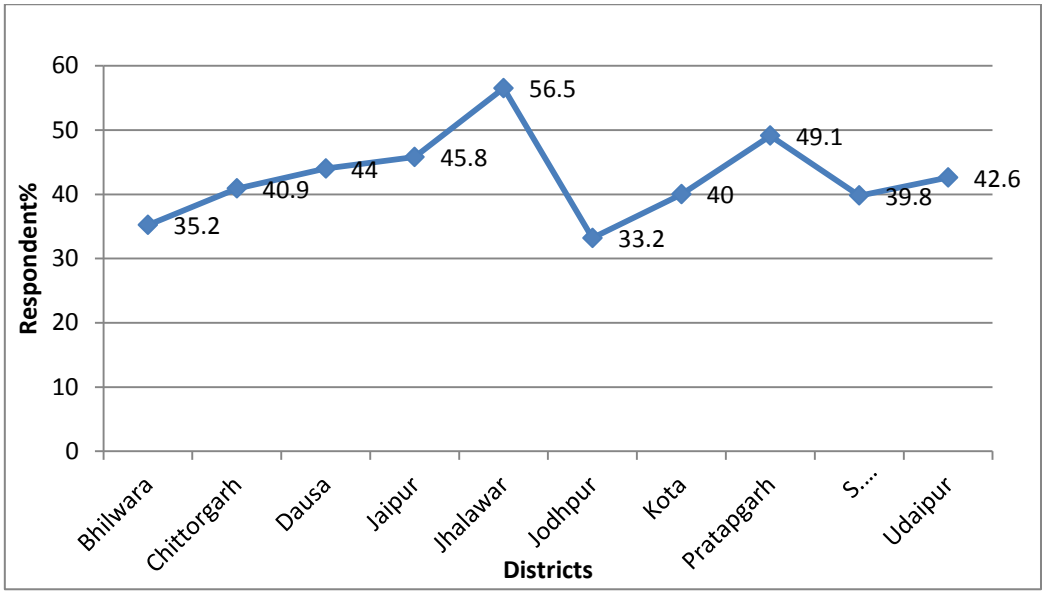


4.2 Gender-wise Distribution of Respondents

Cumulatively more than 40 percent of respondents interviewed were female, although there was slight difference in percentage of women respondents' district-wise. Although efforts were made to maintain a gender wise balance, it depended mainly on the availability of relevant respondents.

Jhalawar was found to have highest proportion of female respondents (56.5 percent) while Jodhpur comprised the minimum (33.2 percent) as given in Figure 4.2.

Figure 4.2: Female Representation Among Consumer Respondents

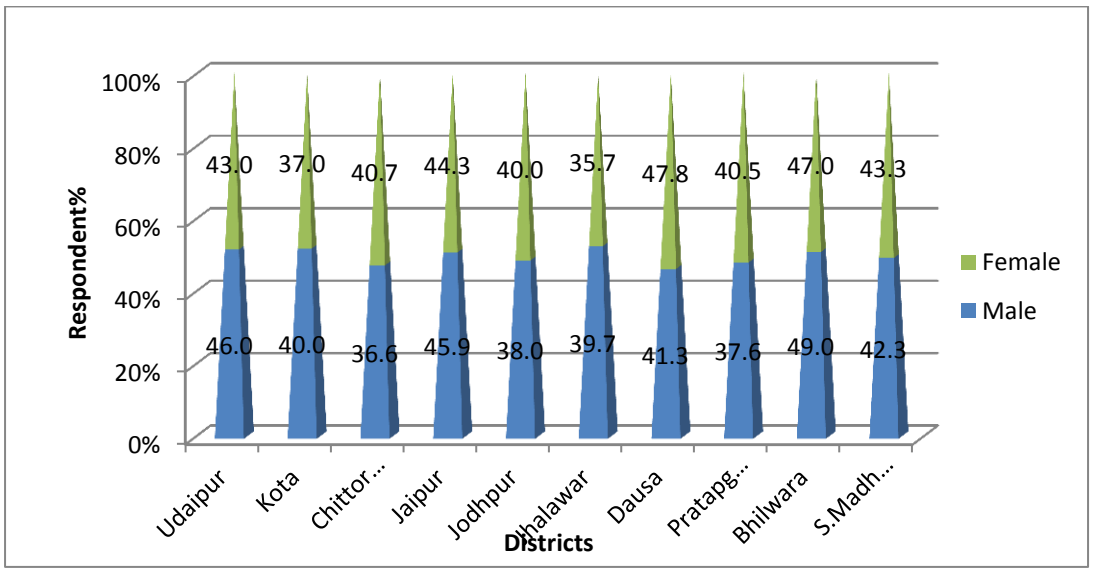


4.3 Respondent Age

Considering the age of the consumer respondents, it was found that the average age of the consumer respondents is approx. 42 years. District wise average age varies from 37.4 years (Jhalawar) to 48 years (Bhilwara).

There is only slight difference between overall average age of male (41.9 years) and female (41.81) consumer respondents however it differs significantly if we look at it district-wise. For male it varies from 36.6 years (Chittorgarh) to 49 years (Bhilwara) while for female it varies from 35.7 (Jhalawar) to 47.8 (Dausa) (Figure 4.3).

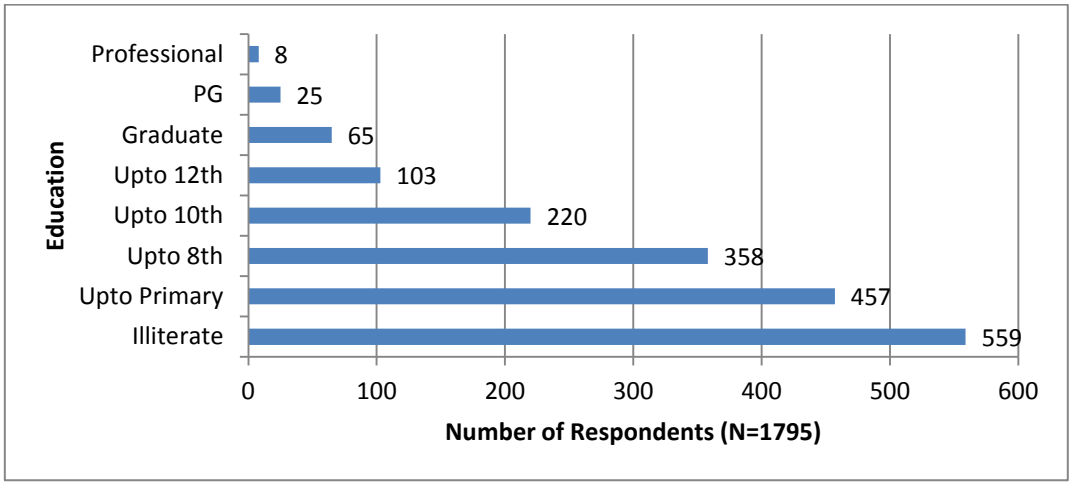
Figure 4.3: Respondent Distribution by Average Age (Years)



4.4 Respondents' Education

Considering the educational background of the consumer respondents it was explored that only eight consumers (0.5 percent) were found to be professionally qualified (Figure 4.4).

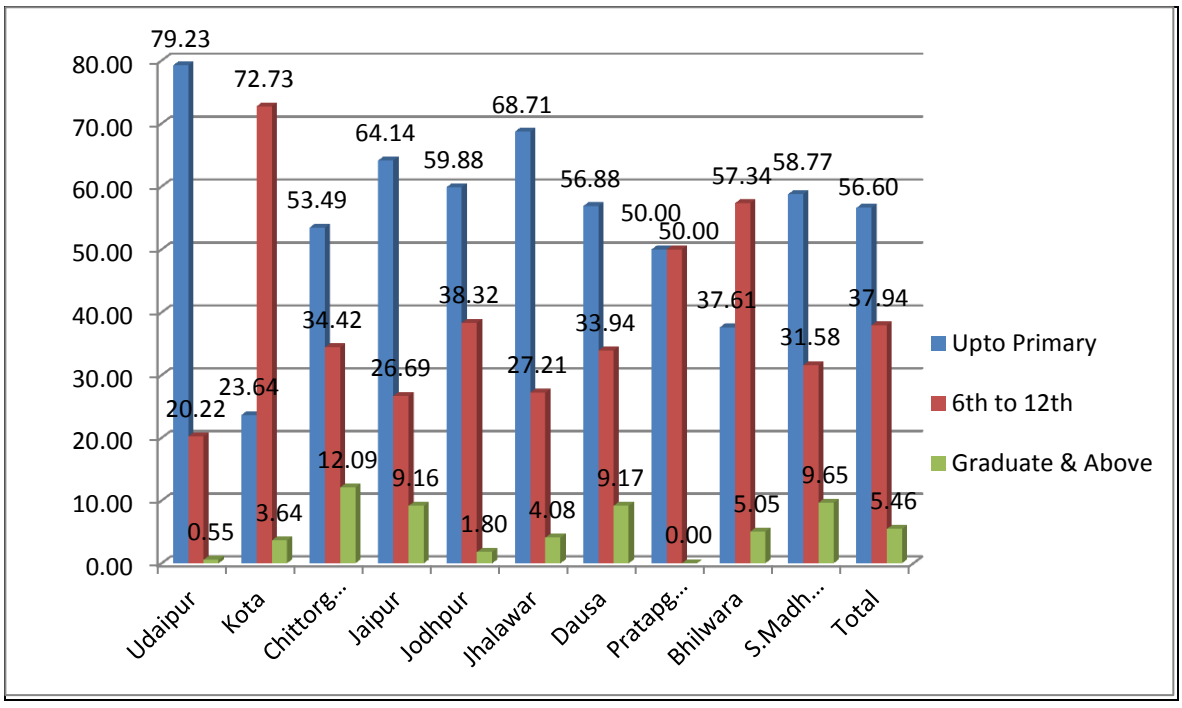
Figure 4.4: Educational Profile of Consumer Respondents



4.5 Educational Background of the Respondents

Most of the respondent consumers belonged to low educational background as more than half of them (56.6 percent) were either uneducated or educated up to primary level only. Consumer respondents who are educated up to Graduation or above level are only 5.5 percent of the total (Figure 4.5).

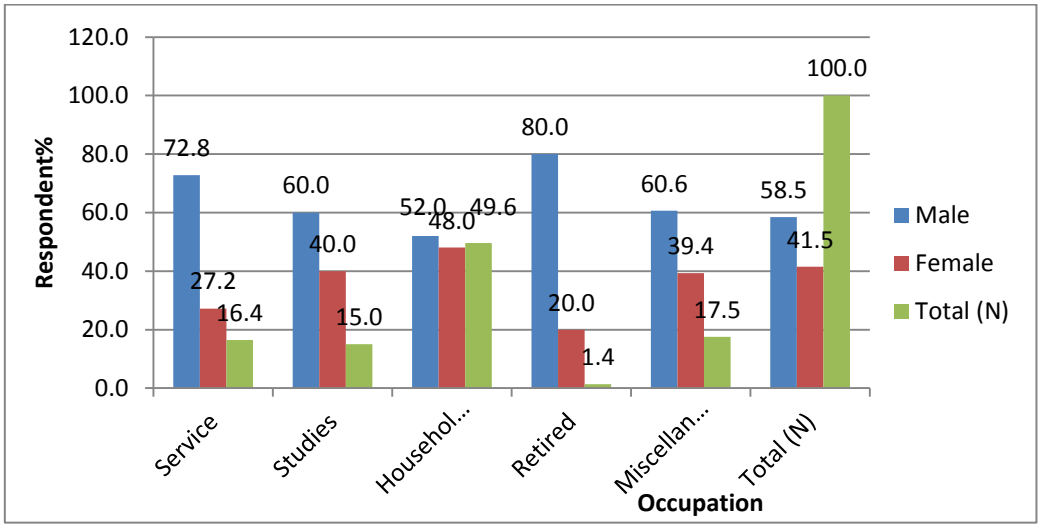
Figure 4.5: Consumer Respondent Distribution on the Basis of Education



4.6 Occupation of Consumer Respondents

Regarding the occupation of consumer respondents, it was found that almost half of them (49.6 percent) are involved in household/small enterprise jobs. Considering their occupation gender-wise, it was found that while household jobs were almost equally occupied by both the genders, but there is significant difference in retired persons and service class being dominated by the male members (Figure 4.6).

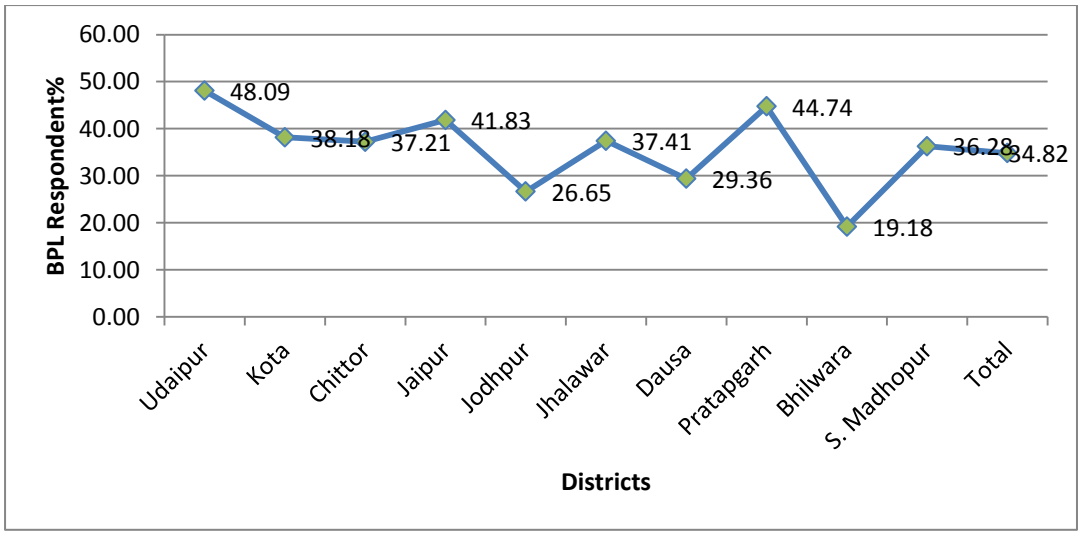
Figure 4.6: Gender-wise Activity Status of Consumers



4.7 Distribution of Respondents Based on Economic Category

More than 30 percent of the respondents belonged to the Below Poverty Line category. Although the situation was not found to be same in other districts. In Pratapgarh, BPL respondents were 44.7 percent while in Jodhpur this figure was found to be 18.9 percent (Figure 4.7).

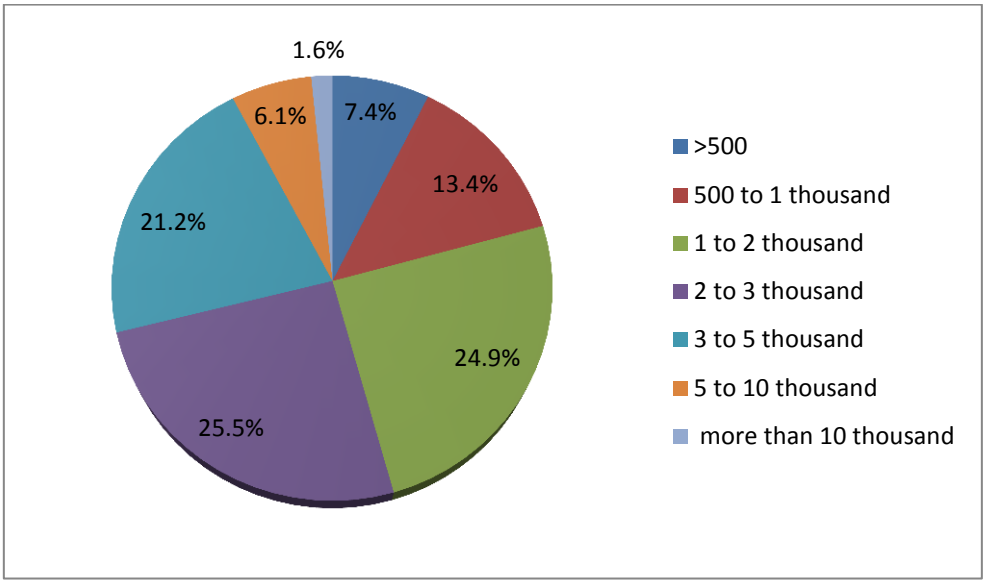
Figure 4.7: Consumer Distribution as Per Economic Category



4.8 Spending on Food and Vegetables

Most of the consumer respondents (72.6 percent) reported spending on food and vegetables in the range of one thousand to 5 thousand. There are only 1.6 percent consumers who reported spending on food item in the range of more than 10 thousand (Figure 4.8).

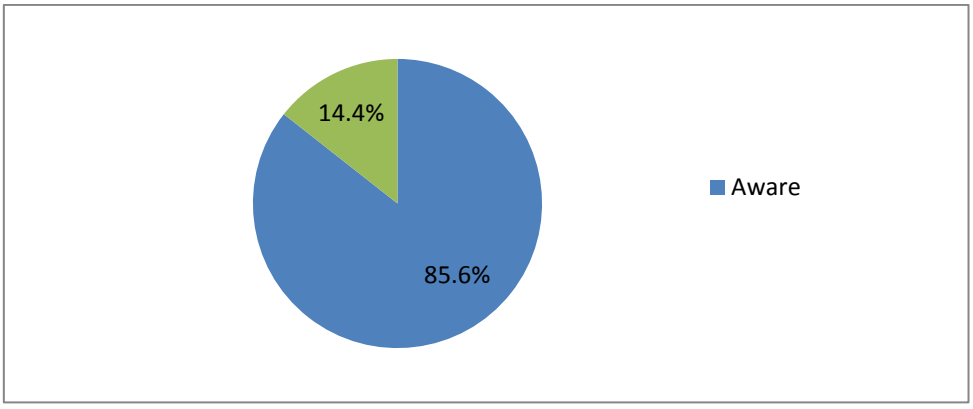
Figure 4.8: Consumer Respondent Distribution by Average Monthly Expenses on Consumables



4.9 Awareness on Harmful Effects of Chemical Products

It was found motivating that a majority of consumer respondents (85.6 percent) were aware of the harmful effects of chemical inputs-based products. In Kota, more awareness was found among more than 90 percent consumers. Only 14.4 percent consumers were found to be not aware about such harmful effects (Figure 4.9).

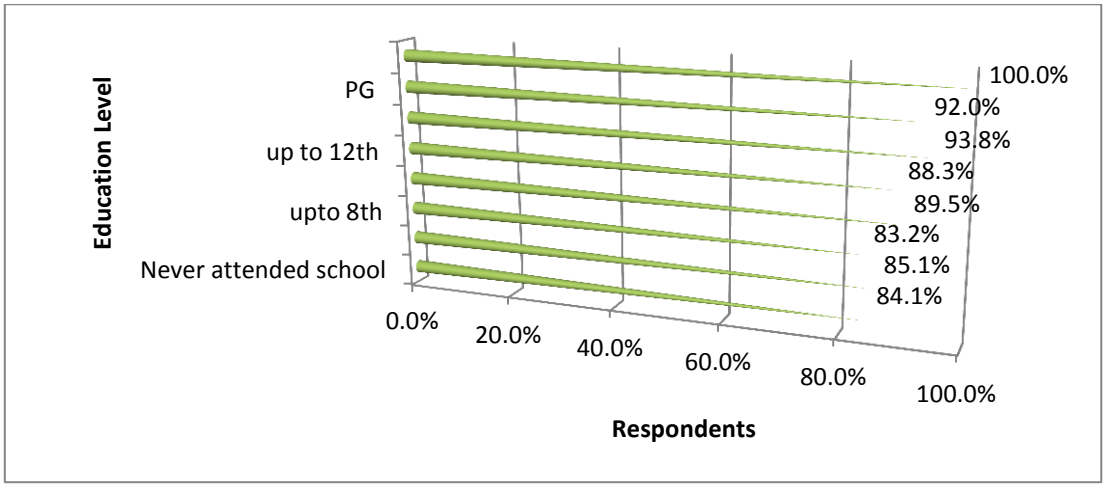
Figure 4.9: Consumer Awareness on Harmful Effects of Usage of Chemical Based Products



4.10 Awareness on Harmful Effects of Chemical-based Products w.r.t. Education

Looking at the consumer awareness *viz-a-viz* education level, it was observed that the awareness increases along with the increase in education-level although there was not much difference as the ones being less educated, were also well aware about the harmful effects of the chemical-based products. People educated up to X class were found to be least aware (Figure 4.10).

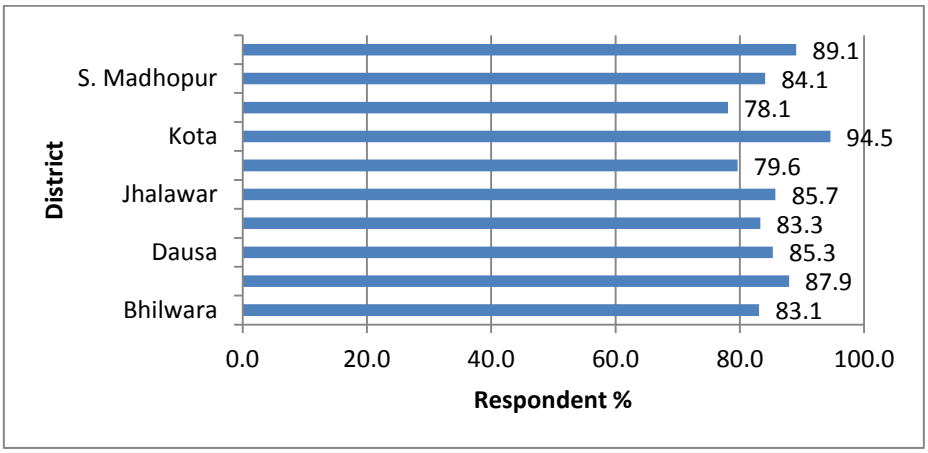
Figure 4.10: Consumer Awareness on Harmful Effects of Chemical-based Products w.r.t. Education Level



4.11 Awareness on Organic Products

When asked about if the consumers are aware about the organically grown products a majority of respondents (84.5 percent) reported that they are aware about organic products although 15.5 percent consumers reported that they are not aware about any such products (Figure 4.11).

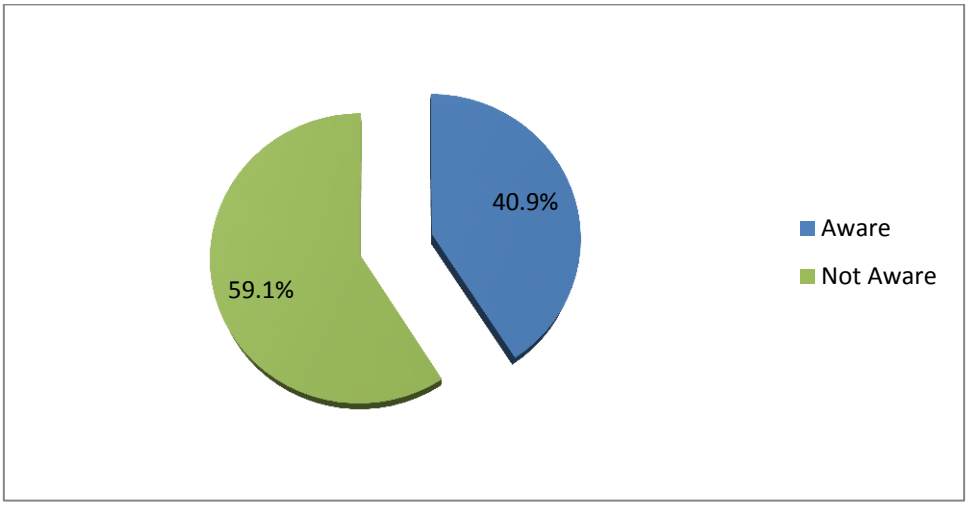
Figure 4.11: Consumer Awareness on Organic Farming



4.12 Awareness on Availability of Organic Products in the Market

Although 84.5 percent consumers were found to be aware about the existence of organic products, only 40.9 percent consumers were found to be aware about the availability of these products in the market (Figure 4.12).

Figure 4.12: Consumer Awareness on Availability of Organic Products in the Market

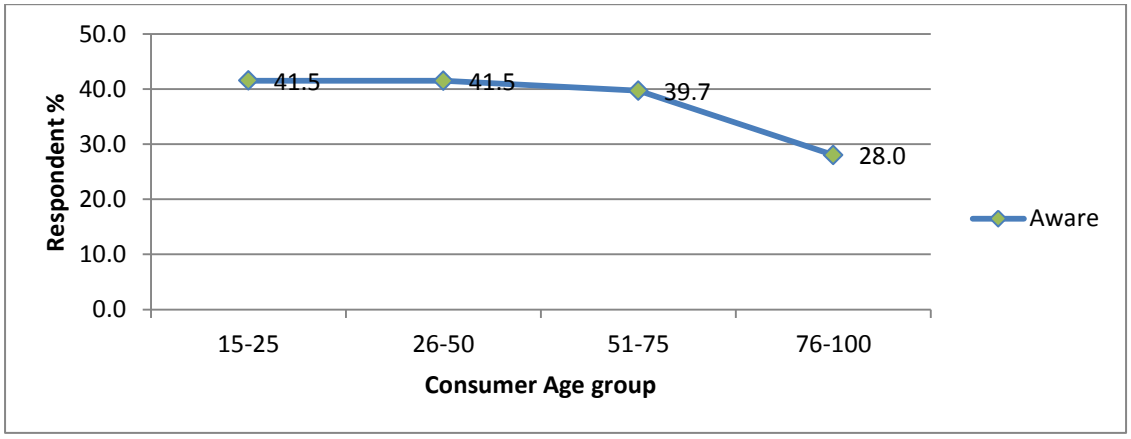


It indicates that markets for organic products are still in nascent stage and more than half of the consumers are not aware about the market for such products.

4.13 Market Availability Awareness of Organic Products

Keeping into consideration the awareness of consumers with reference to their age group, it was explored that the awareness is equally high in 15 to 25 and 26 to 50 age consumers although it decreases in the elderly consumers. (Figure 4.13).

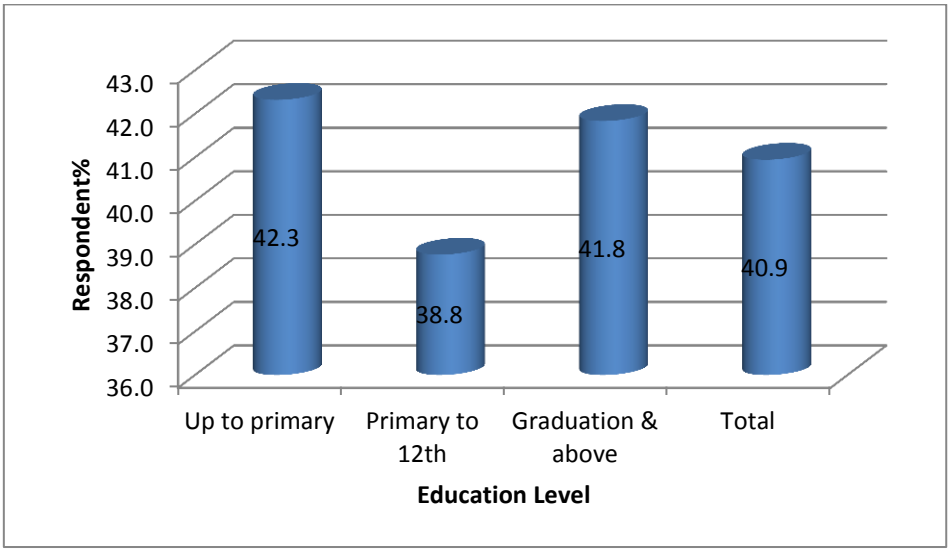
Figure 4.13: Consumer Awareness on Market Availability of Organic Products w.r.t. Average Age



4.14 Awareness on Market Availability of Organic Products

Consumer awareness regarding market availability was found to be the least in the fairly educated consumers. It is at the lowest (38.8 percent) in the consumers educated from primary level up to XII class (Figure 4.14).

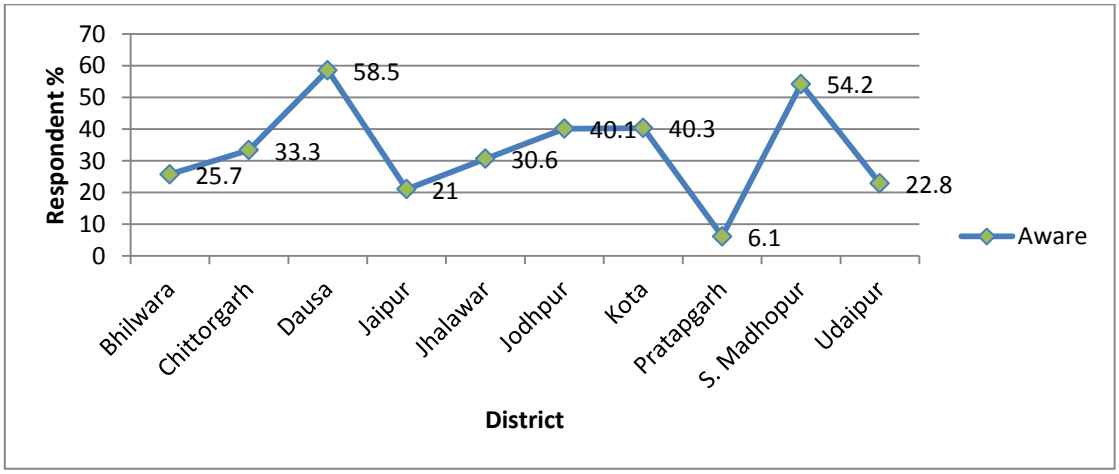
Figure 4.14: Consumer Awareness on Market Availability of Organic Products w.r.t. Education



4.15 Awareness on Specific Shops Selling Organic Products

Consumers found to be aware about the availability of organic products. Only one-third of these consumers were found aware about specific shops. However, this awareness varied in different districts, and was found to be highest (58.5 percent) in Dausa and lowest (6.1 percent) in Pratapgarh (Figure 4.15).

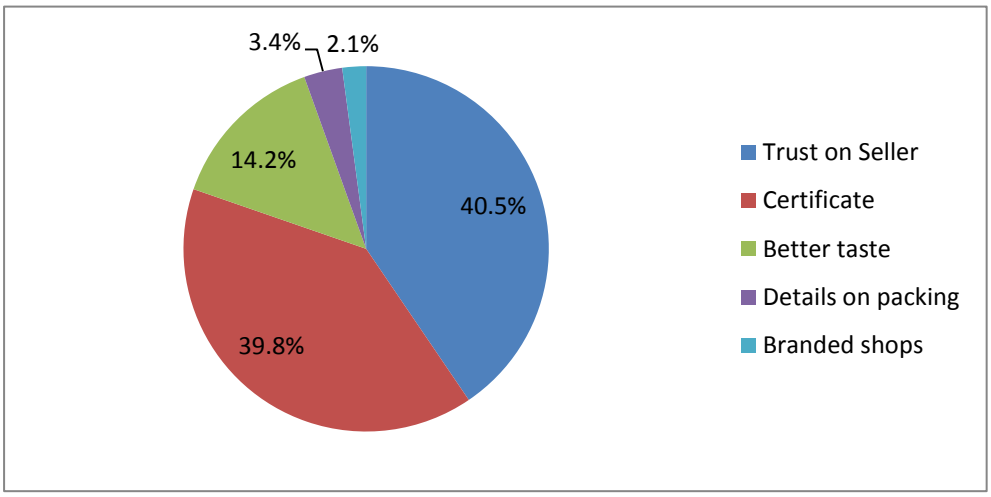
Figure 4.15: Consumer Awareness on Specific Store/Shop Selling Organic Products



4.16 Identification of Genuine Organic Products

Consumers were asked on how they can identify that a particular product is organic or not. It was found that most of the consumers (40.5 percent) showed trust in the seller (Figure 4.16).

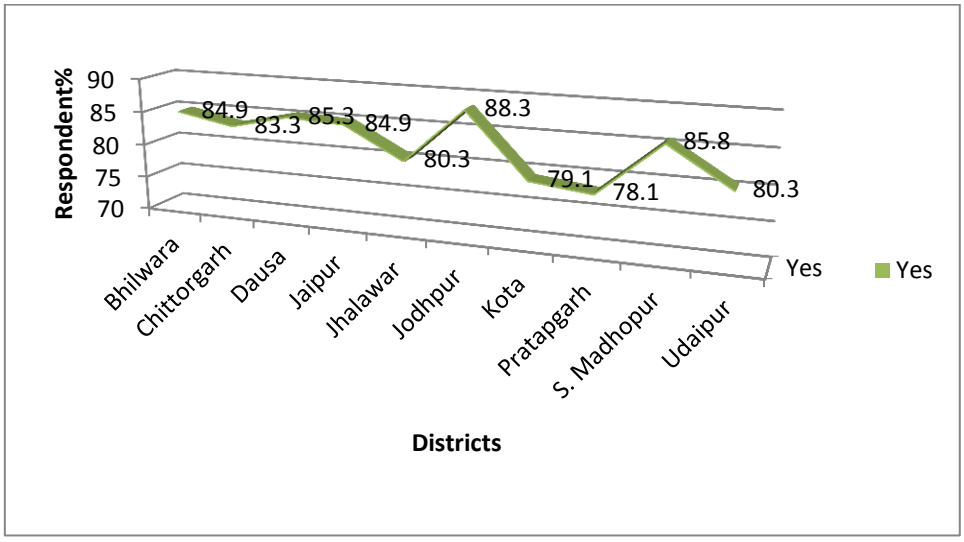
Figure 4.16: Consumer Response on Identification of Genuine Organic Products



4.17 Perception on Organic Products Being Better Than Inorganic

It was also explored that a majority of consumers (83.8 percent) had a perception that organic products were better than the products grown from chemical-based inputs. This perception was found to be highest in Jodhpur followed by Sawai Madhopur (Figure 4.17).

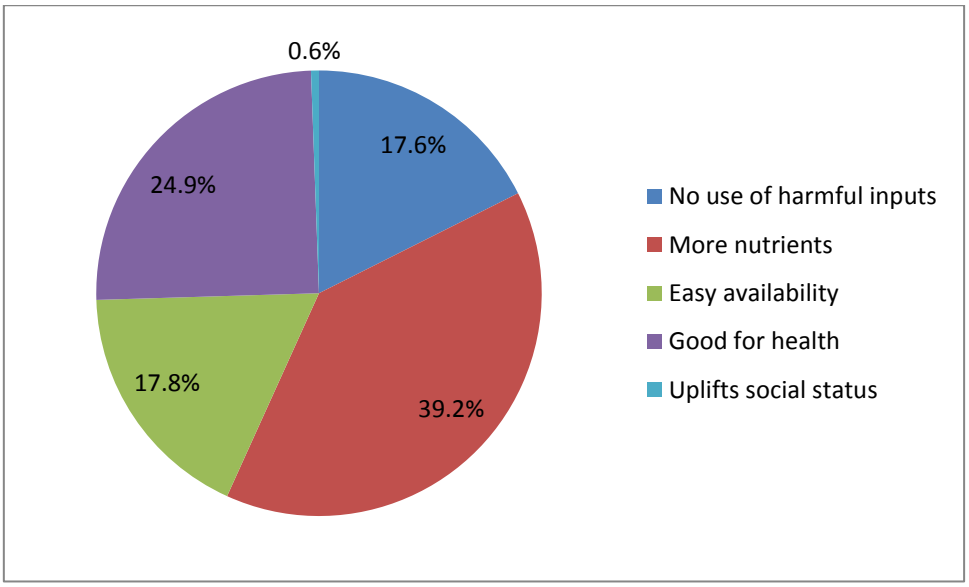
Figure 4.17: Consumers Considering Organic Products Being Better Than Inorganic



4.18 Reasons for Considering Organic Products Better

Existence of high nutrients was found to be the most popular reason cited by consumers for considering organic products being better than chemical input-based products (Figure 4.18).

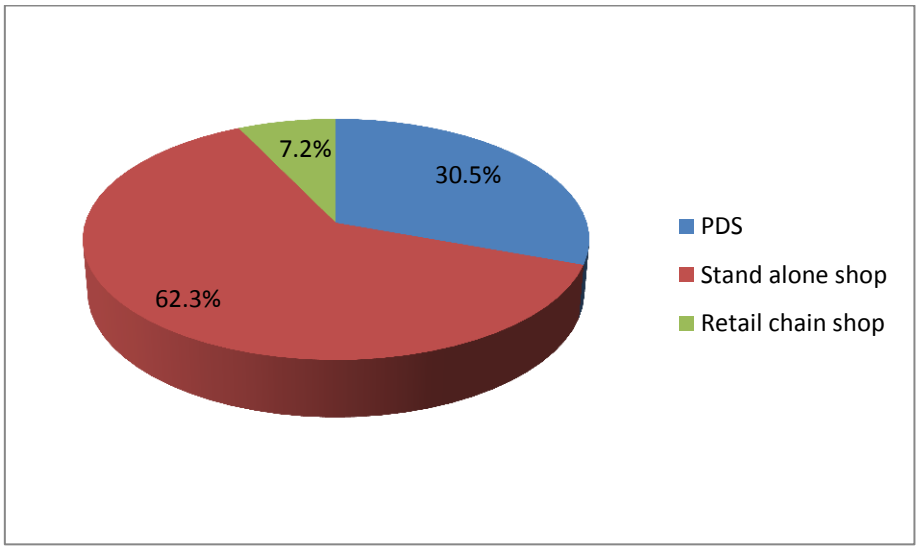
Figure 4.18: Consumers' Reasons for Considering Organic Products Better



4.19 Source of Buying Grocery

Most of the consumers (62.3 percent) bought grocery from the shops. Very few of them were found to buy grocery from retail chains shops (Figure 4.19).

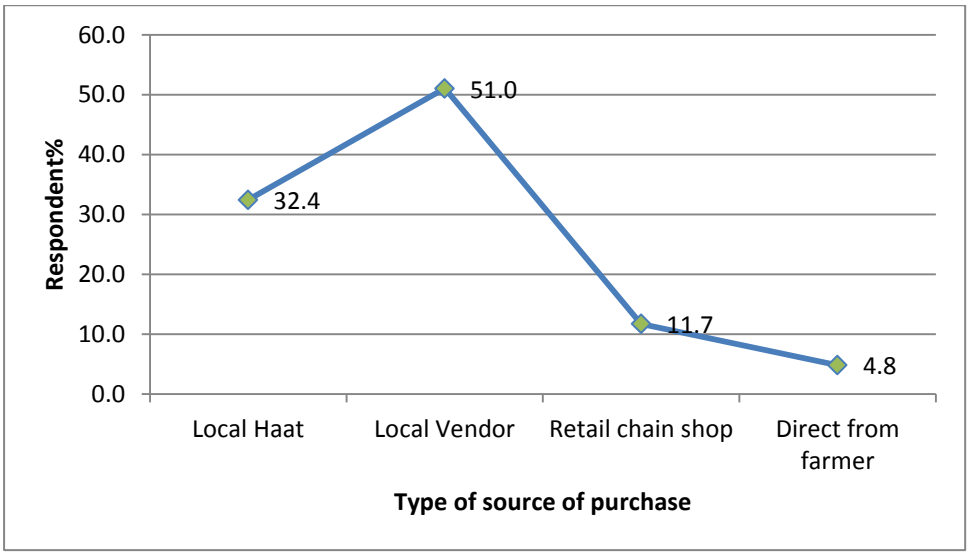
Figure 4.19: Source of Buying Grocery



4.20 Source of Buying Fruits/Vegetables

More than half of the consumers bought fruits and vegetables from the local vendor while almost one third consumers who bought these items from local *haats*. (Figure 4.20).

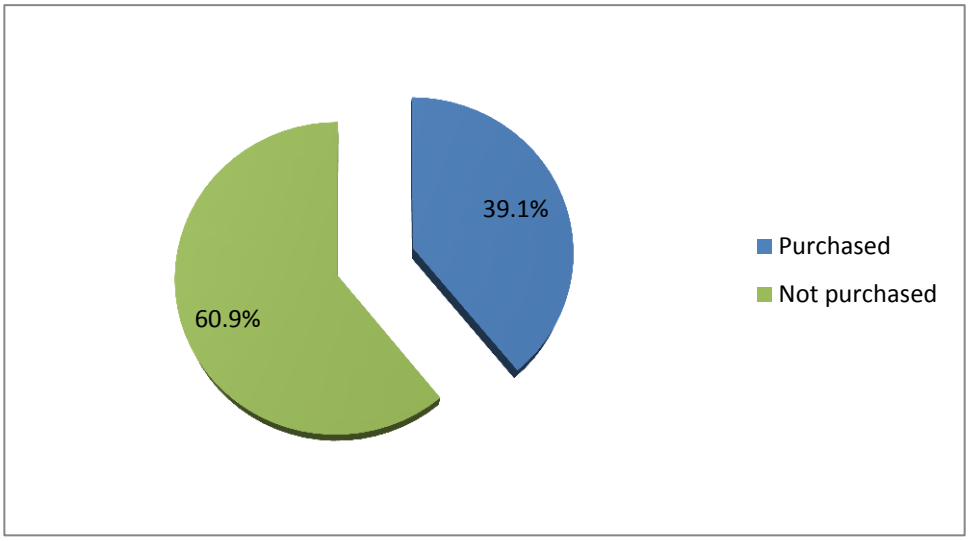
Figure 4.20: Source of Buying Fruits/Vegetables



4.21 Consumers Purchasing Organic Products

On being asked of purchasing organic products, nearly 39.1 percent consumer respondents indicated that they had purchased the same, although more than 60 percent informed that have never bought such products (Figure 4.21).

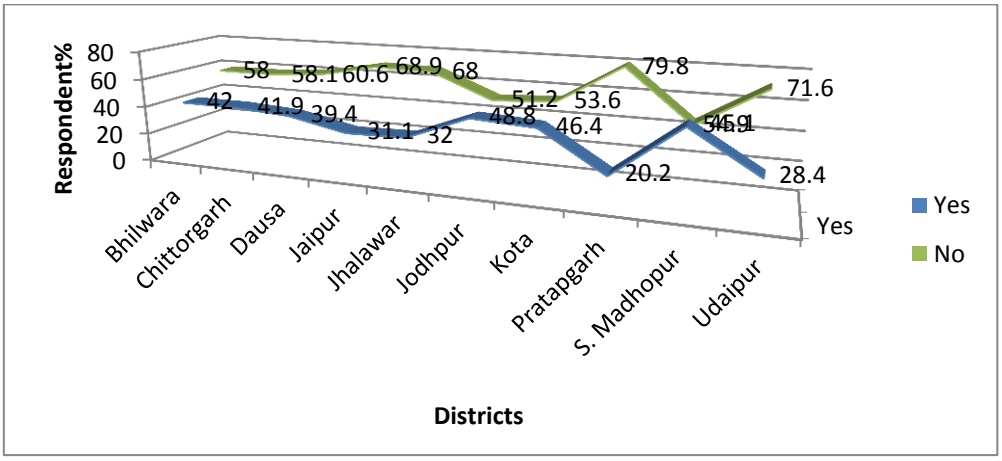
Figure 4.21: Consumers Purchasing Organic Products



4.22 Consumers Purchasing Organic Products (District-wise)

On analysing district-wise perception of the consumers, for buying organic products, it was found that highest ratio of consumers buying organic products hailed from Jodhpur district, whereas minimum consumption of organic products was found in the Pratapgarh district (Figure 4.22).

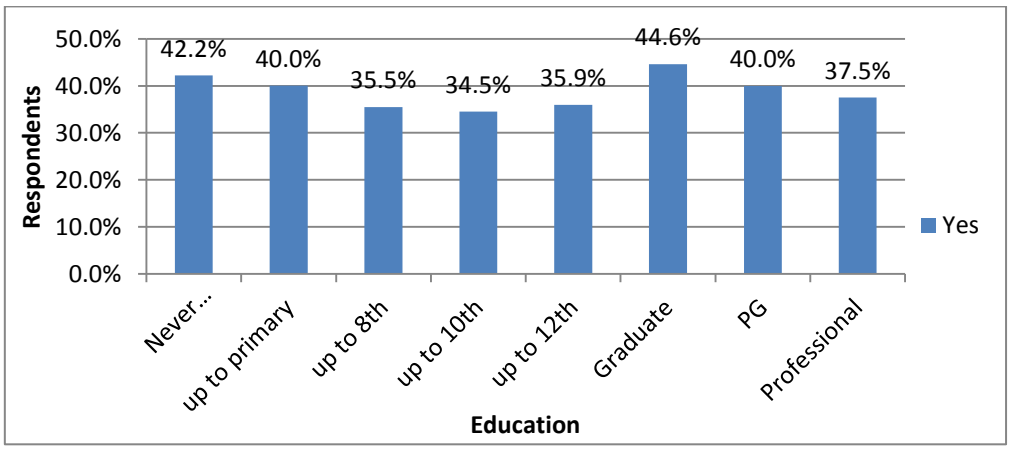
Figure 4.22: Consumers Purchasing Organic Products (District-wise)



4.23 Buying Organic Products w.r.t. Education

Not much variation was found in purchase of organic products with change in education level of consumers as it varied only from 34.5 percent to 44.6 percent. It was observed that graduate consumers were buying organic products maximum at 44.6 percent followed by consumers (42.2 percent) who had never attended school. Similarly, among the consumers, who were educated up to class X, consumers buying organic products were 34.5 percent. However, at the same time, among professionals also such consumers were almost same as 37.5 percent . From these findings, it was clear that there was no relation between the education status of consumers and their behaviour for buying organic products (Figure 4.23).

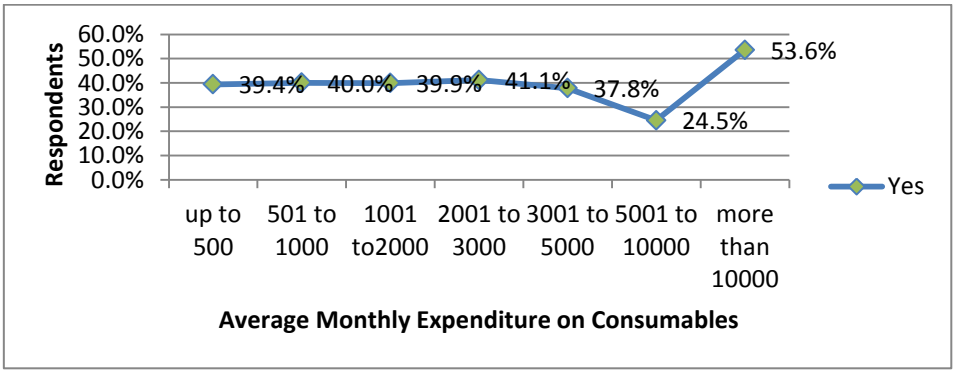
Figure 4.23: Consumers' Purchase of Organic Products w.r.t. Education



4.24 Buying Organic Products w.r.t. Monthly Income

Buying organic products by consumers is almost stable for an expenditure of up to Rs 5000 per month, and then there is a falls and then a rise. From the findings it can be made out that when the monthly expenditure increases beyond a certain limit (more than Rs 5000/per month), it is not much utilised to purchase organic products. However, when there was further raise in buying capacity (more than Rs 10,000/month) then the consumers prefer purchase of organic products (Figure 4.24).

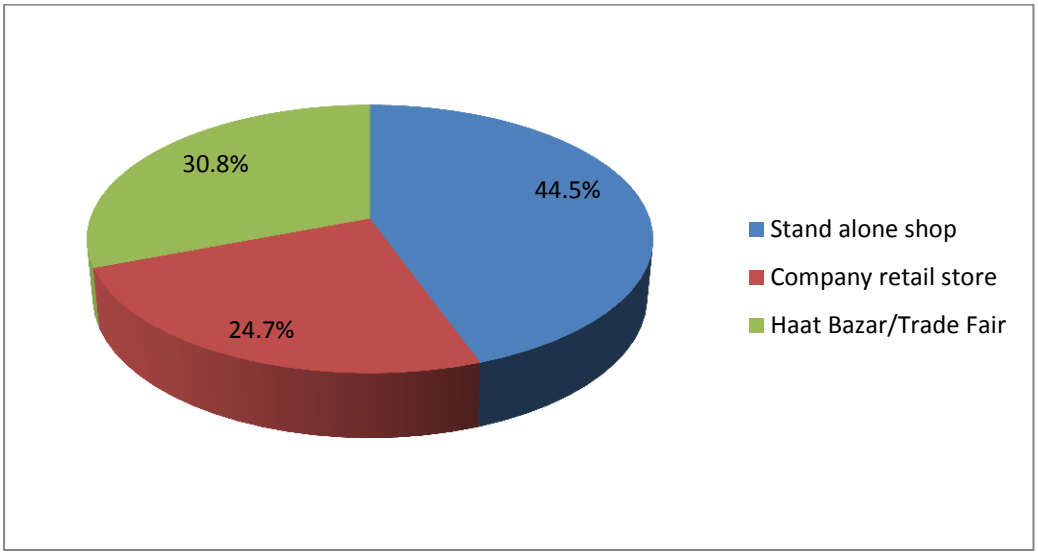
Figure 4.24: Consumer Purchasing Organic Products w.r.t. Monthly Expenditure



4.25 Source of Buying Organic Products

More than three-fourth of consumers bought organic products either from shops or *Haat* bazaar/trade fairs. Less than one-fourth consumers bought organic products from a company's retail store.

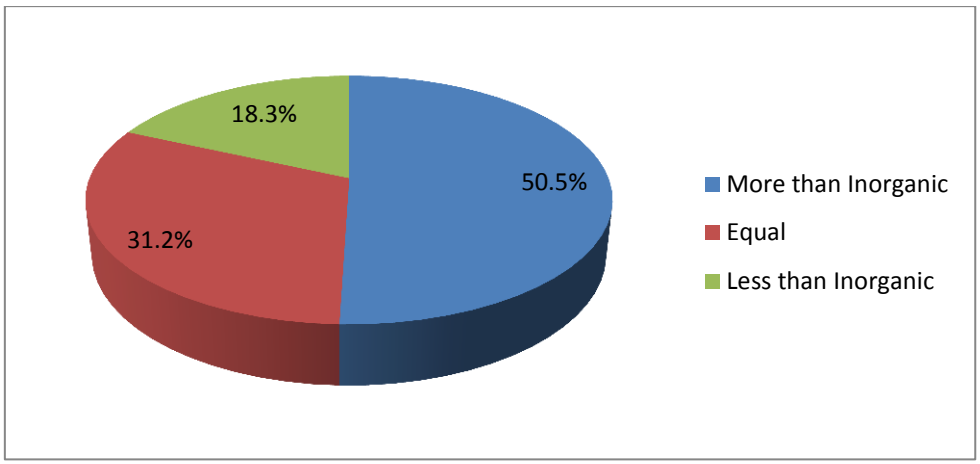
Figure 4.25: Source of Purchase of Organic Products



4.26 Perception on Price Comparison of Organic Products

The consumers having buying organic product were asked on the comparison of prices of organic products with the products produced with chemical- based inputs. More than half of the consumers (50.5 percent) found the prices of organic products comparatively high (Figure 4.26).

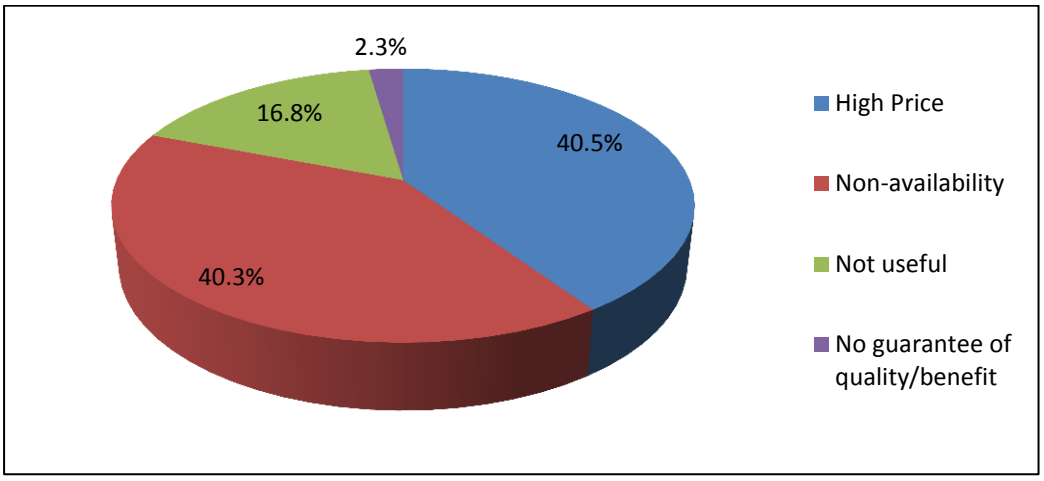
Figure 4.26: Consumer Response on Price of Organic Products in Comparison to Inorganic Products



4.27 Reasons for Not Buying Organic Products

It was found that more than 80 percent consumers do not buy organic products either due to high price of organic products in comparison to chemical input based products or the non-availability of organic products (Figure 4.27).

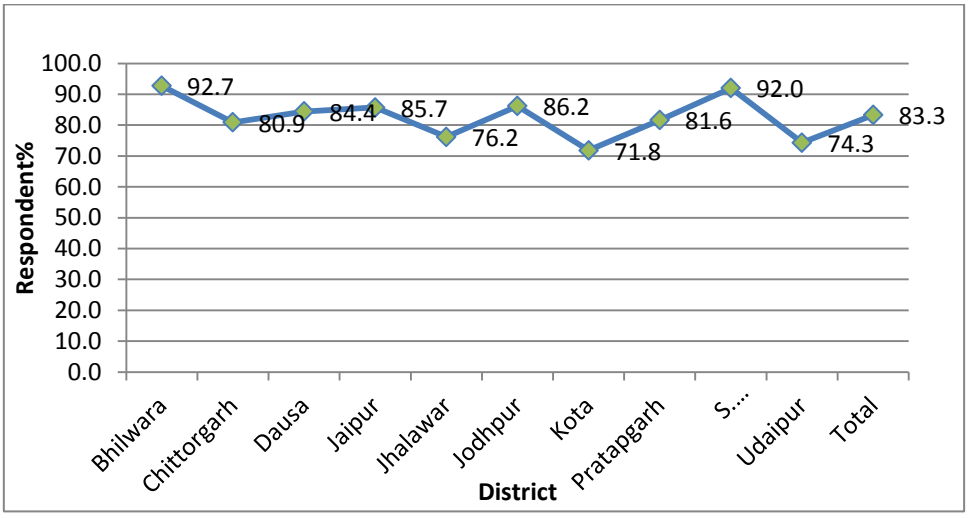
Figure 4.27: Reasons for Consumers Not Buying Organic Products



4.28 Consumers Buying Organic Products At Fair Price

A majority of the respondents (83.3 percent) told that they would like to purchase organic products provided they are available at reasonable prices. Proportion of such consumers was found maximum (92.7 percent) in Bhilwara and minimum (71.8 percent) in Kota district (Figure 4.28).

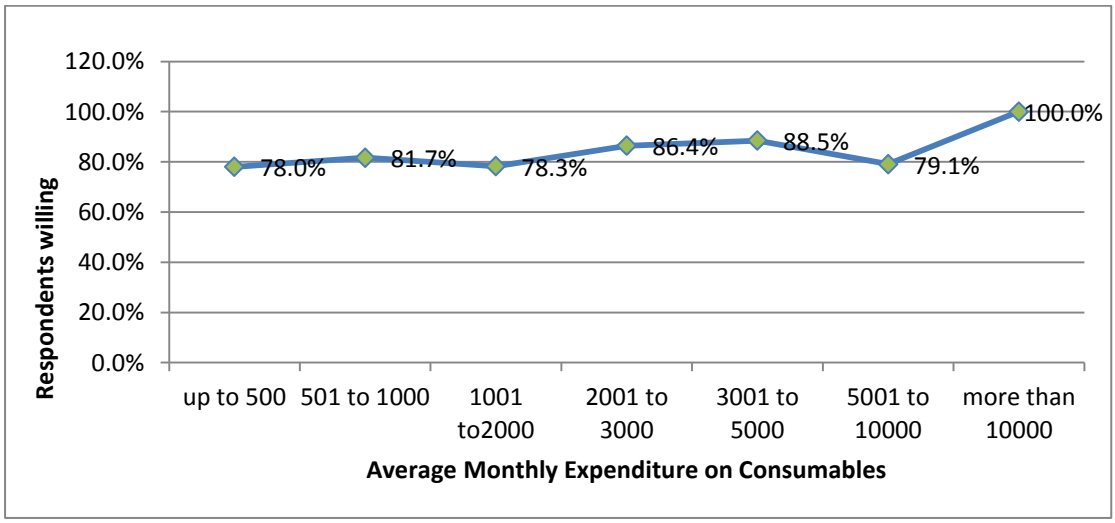
Figure 4.28: Consumer Response on Purchasing at Reasonable Price



4.29 Buying Organic Products at Viable Price w.r.t. Average Monthly Expenditure

Although there is no direct correlation between the average monthly expenditure of consumers and willingness to purchase organic product, a significant finding is that 100 percent of the consumers making average monthly expenditure – more than 10,000 were willing to buy organic products (Figure 4.29).

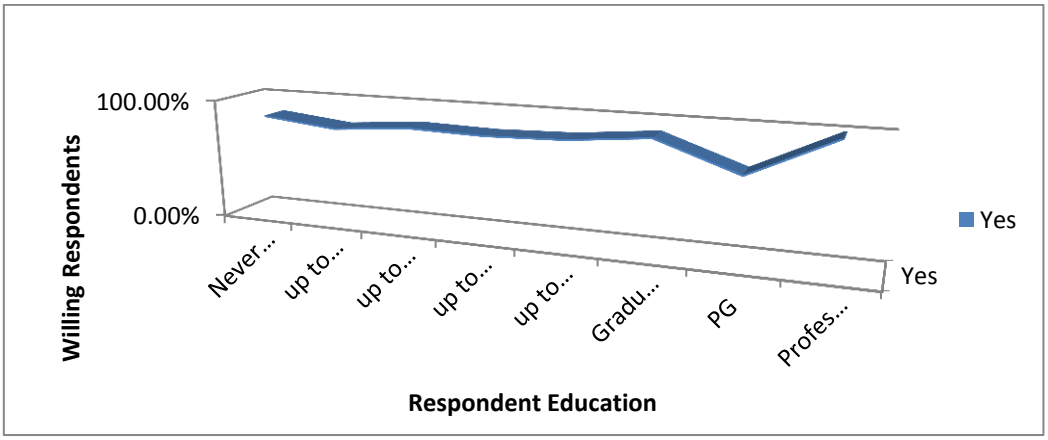
Figure 4.29: Purchasing Organic Products at Viable Price w.r.t. Average Monthly Expenditure



4.30 Buying Organic Products at Viable Price w.r.t. Education

Observing the willingness of the consumers to buy organic products *viz-a-viz* education of consumers, there was hardly any difference in the consumers who were graduates or lesser educated. Further, a decline was seen in willingness of those consumers who were educated up to Post Graduate level. The technically or professionally qualified consumers showed willingness to buy organic products only if available at viable prices (Figure 4.30).

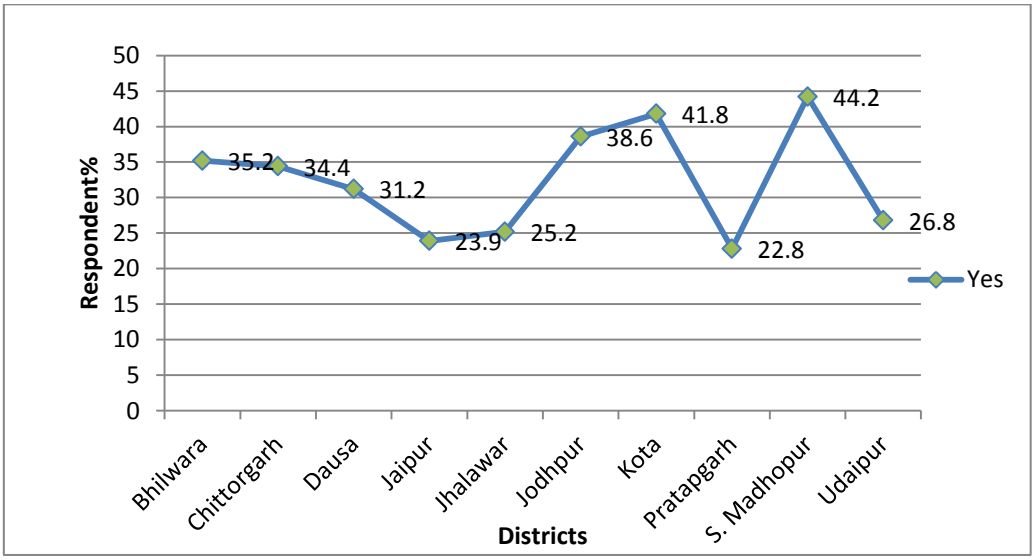
Figure 4.30: Purchasing Organic Products if Available at Viable Price w.r.t. Education



4.31 Accessibility to Organic Products

Only 32 percent consumers reported that they can locate organic products easily in the market, while more than two-third consumers reported facing difficulty in finding such products in the market. It shows that the availability of these products is still very low (Figure 4.31).

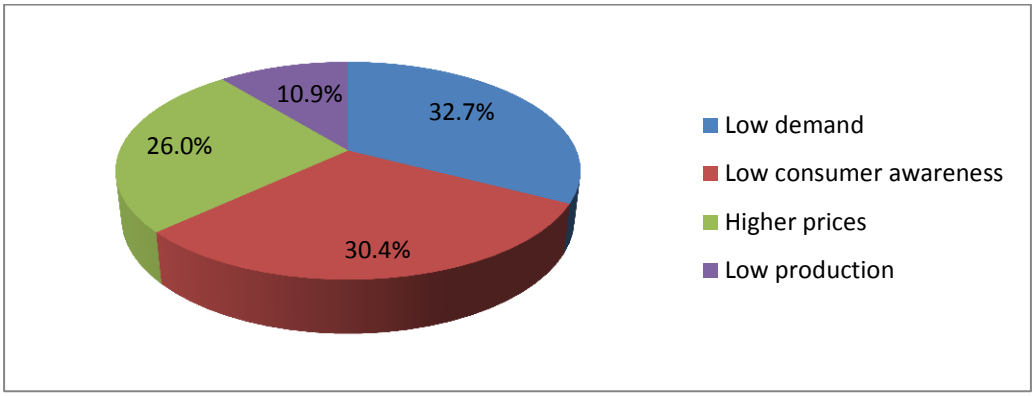
Figure 4.31: Consumer Response on Easy Accessibility to Organic Products



4.32 Reasons for Non-Availability of Organic Products

Consumers were asked on what they feel are the reasons for non-availability of organic products in the market. The reasons found were less demand followed by low consumer education and higher prices. Very less consumers (10.9 percent) feel low production to be a reason for the non-availability.

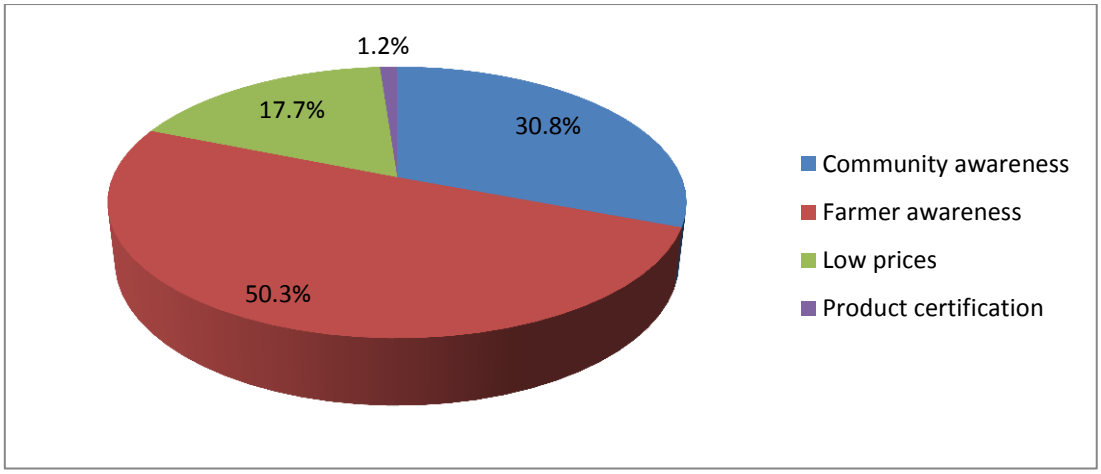
Figure 4.32: Consumer Response on Reasons of Non-Availability of Organic Products



4.33 Suggestions for Increasing Consumption of Organic Products

Consumers were asked to provide their suggestions for increasing consumption of organic production. Surprisingly, more than half of the consumers suggested increasing production through farmers' awareness, which they felt in turn will increase consumption. Other prominent recommendations included community awareness and keeping prices low. Very few consumers proposed organic certification as a prerequisite for increasing consumption (Figure 4.33).

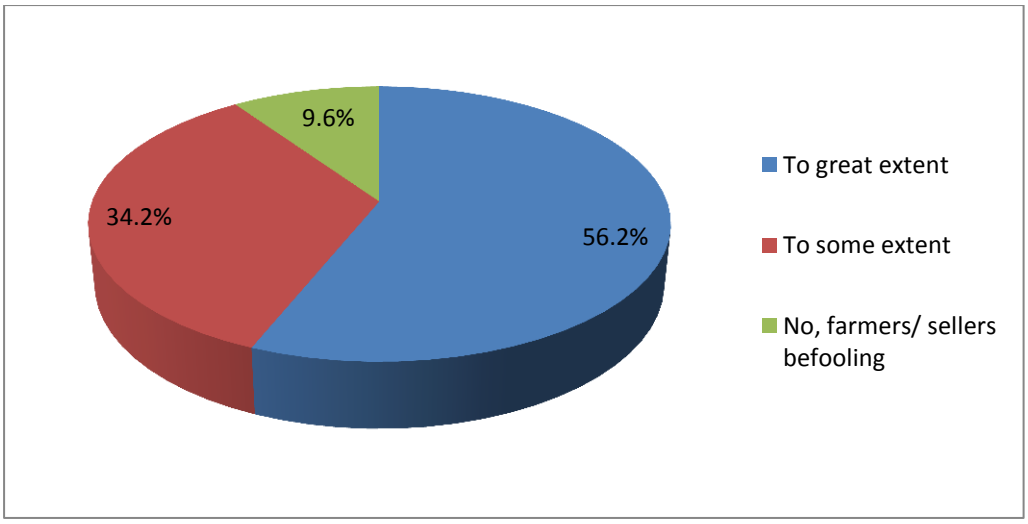
Figure 4.33: Consumer Suggestions for Increasing Consumption of Organic Products



4.34 Satisfaction Level from the Quality of Organic Products

A majority of consumers (90.4 percent) were found satisfied with the quality of organic product they purchased either to a great extent or comparatively less (Figure 4.34).

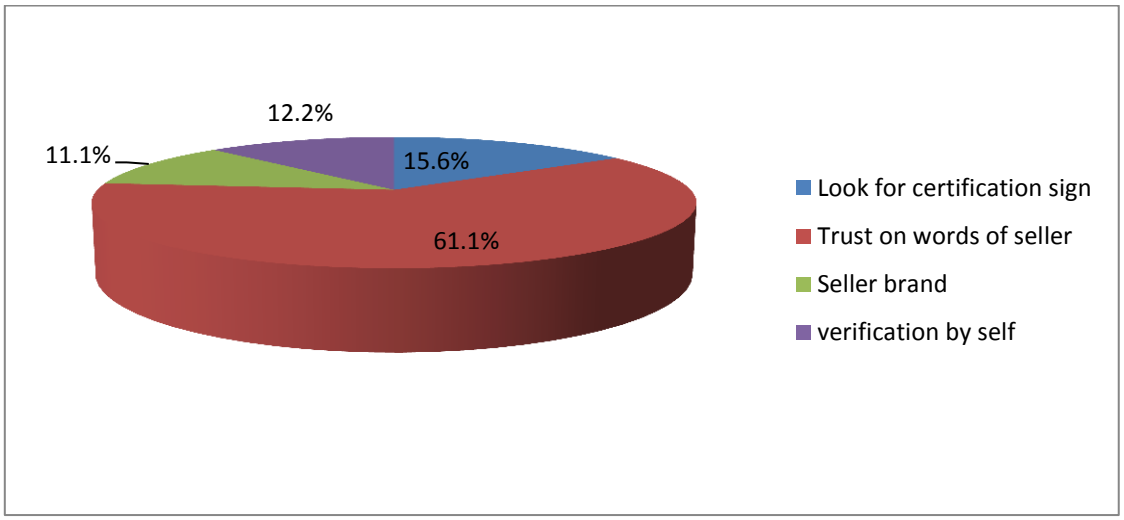
Figure 4.34: Consumer s' Satisfaction Level from the Quality of Organic Products



4.35 Quality Assessment of Organic Products

The consumers were asked as to how they assessed the quality of organic products. Majority of them (61.1 percent) responded that they had trust on the seller (Figure 4.35).

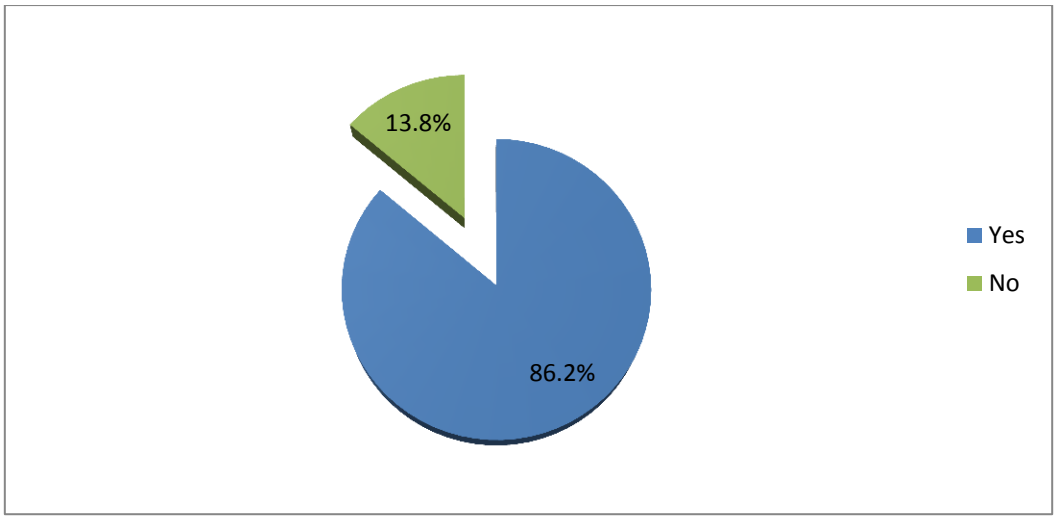
Figure 4.35: Ways of Quality Assessment of Organic Products by Consumers



4.36 Making Organic Certification Mandatory

More than 86 percent consumers reported that they were in favour of making organic certification mandatory for organic products (Figure 4.36).

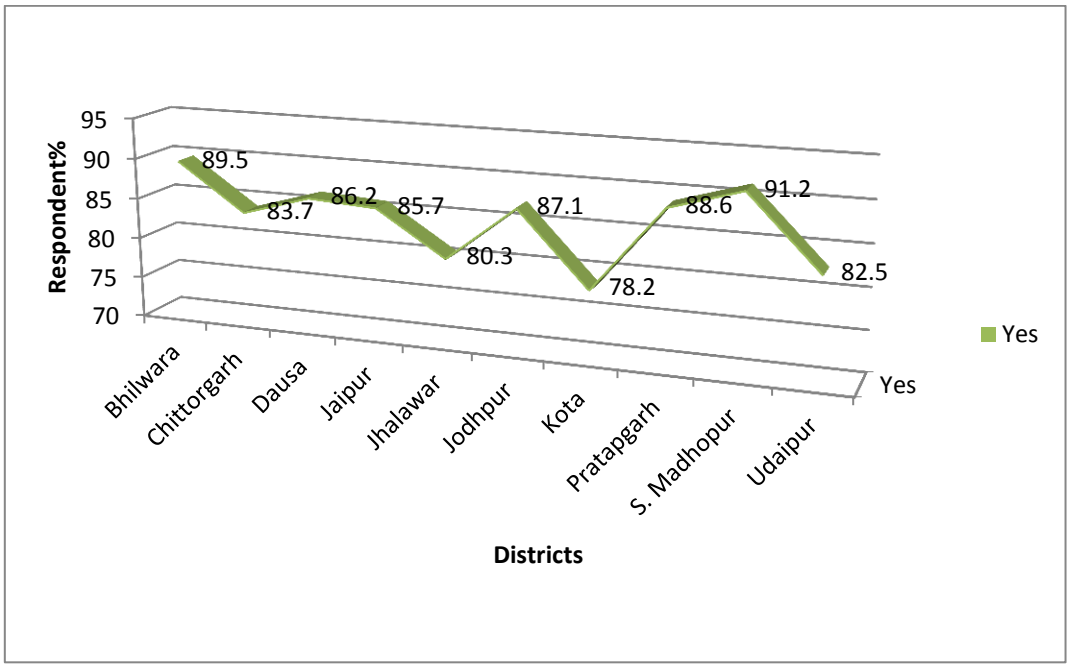
Figure 4.36: Consumer Response on Making Certification Mandatory



4.37 Consumers Motivating Others

More than 85 percent consumers reported that they would like to motivate other consumers for usage of organic products. These consumers were found in majority in all the districts. They were found to be maximum (91.2 percent) in Sawai Madhopur, while minimum (78.2 percent) were reported in Kota (Figure 4.37).

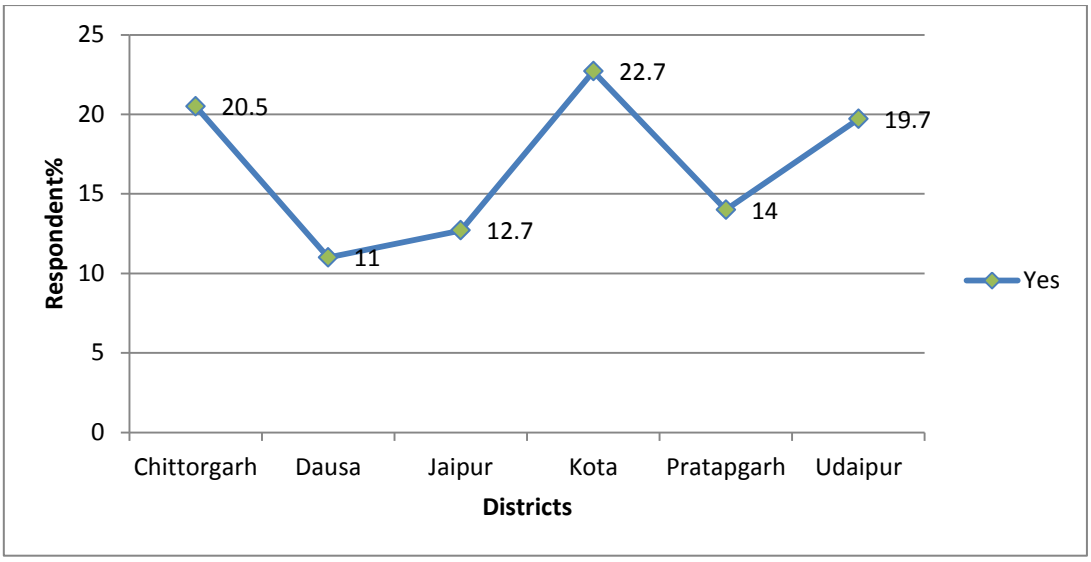
Figure 4.37: Consumer Response on Motivating Others



4.38 Participation in CUTS ProOrganic I Meeting

The consumers were asked about their participation in CUTS ProOrganic I Meeting, specifically in six districts where Phase I of the Pro-Organic project was implemented. About 16.8 percent of the consumer respondents reported that they had participated in the meetings organised by CUTS in phase I of the project (Figure 4.38).

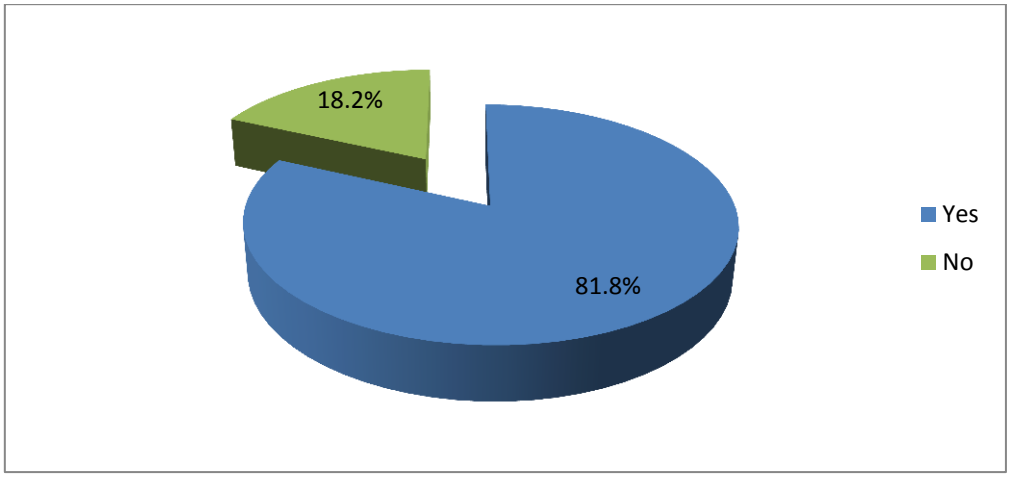
Figure 4.38: Consumer Response on Participating in CUTS' ProOrganic-I Meeting



4.39 Assessing Success of ProOrganic Meeting

Approximately, 82 percent of the consumers who participated in the CUTS ProOrganic meetings found the meetings to be useful, though 18 percent reported that they were not so beneficial for them (Figure 4.39).

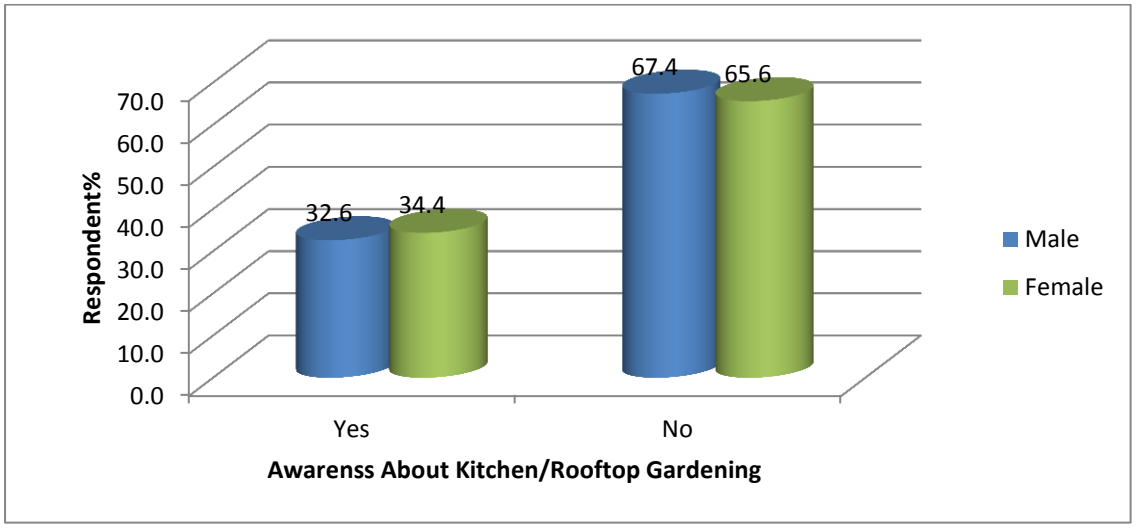
Figure 4.39: Consumer Response on ProOrganic-I Meeting



4.40 Consumer Awareness on Kitchen/Rooftop Gardening

There was widespread unawareness on kitchen/rooftop gardening. On being asked about the awareness on kitchen/rooftop gardening approximately, two-third of the respondents reported that they were not aware about the same. Only 33.4 percent consumers were found to be aware about the same. This unawareness ration was found to be almost equal in male and female consumers (Figure 4.40).

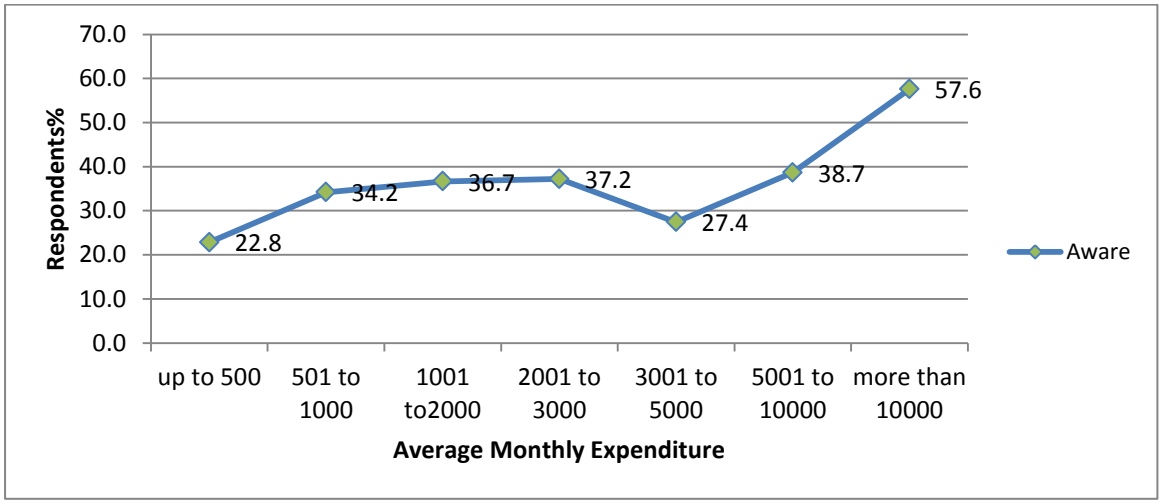
Figure 4.40: Gender-wise Awareness on Kitchen Gardening



4.41 Awareness on Kitchen Gardening w.r.t. Monthly Expenditure

It was found that the awareness regarding kitchen/rooftop gardening increased with the increase in the average monthly expenditure although the trend was not uniform (Figure 4.41).

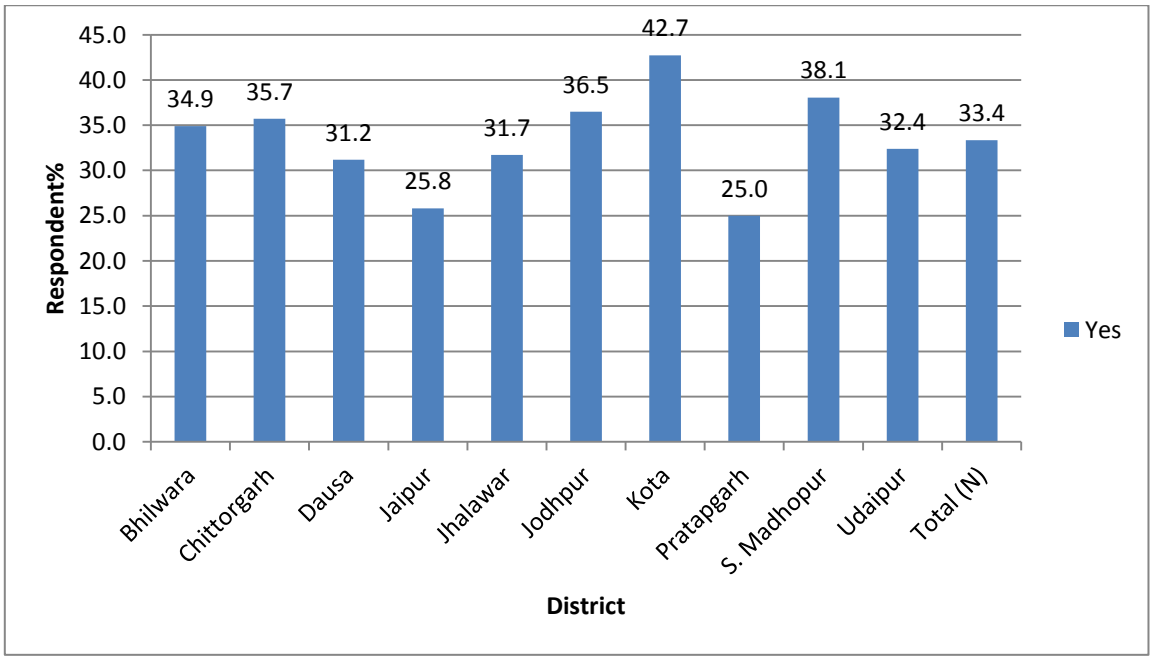
Figure 4.41: Consumer awareness on Kitchen Gardening w.r.t. Monthly Expenditure (N=1760)



4.42 Consumer Awareness on Kitchen Gardening

Exploring district-wise status of awareness on kitchen gardening it was found that consumers of Kota were mostly aware (42.7 percent) on kitchen/rooftop gardening, while consumers in Pratapgarh (25 percent) were least aware (Figure 4.42).

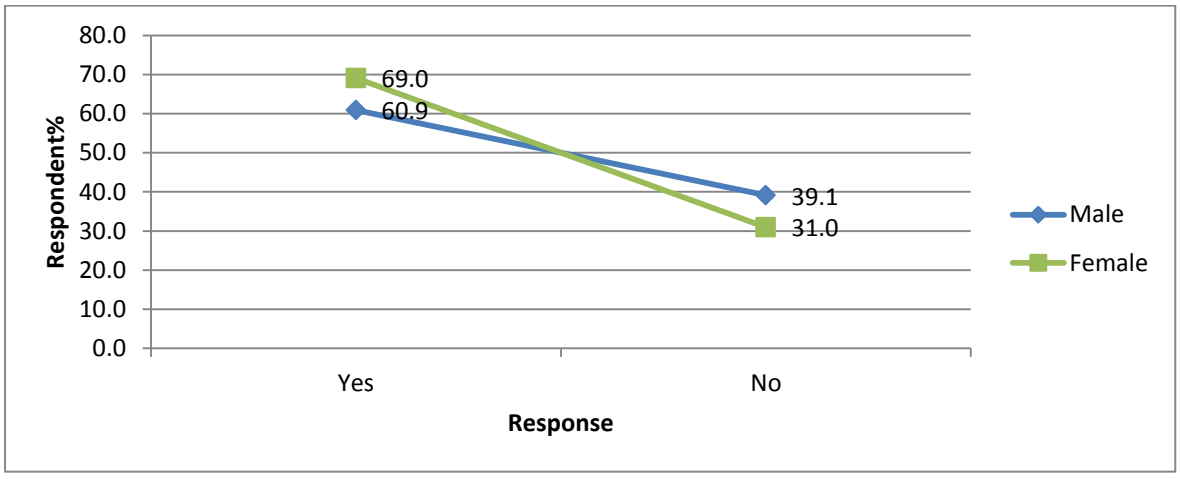
Figure 4.42: Consumer Awareness on Kitchen Gardening



4.43 Consumers Opting to Adopt Kitchen/Rooftop Gardening

On explaining about the concept and asking whether they would like to adopt kitchen/rooftop gardening, 64.4 percent consumers reported that they would like to do the same for self-consumption. Female consumers were somewhat more willing to adopt kitchen gardening for self-consumption (Figure 4.43).

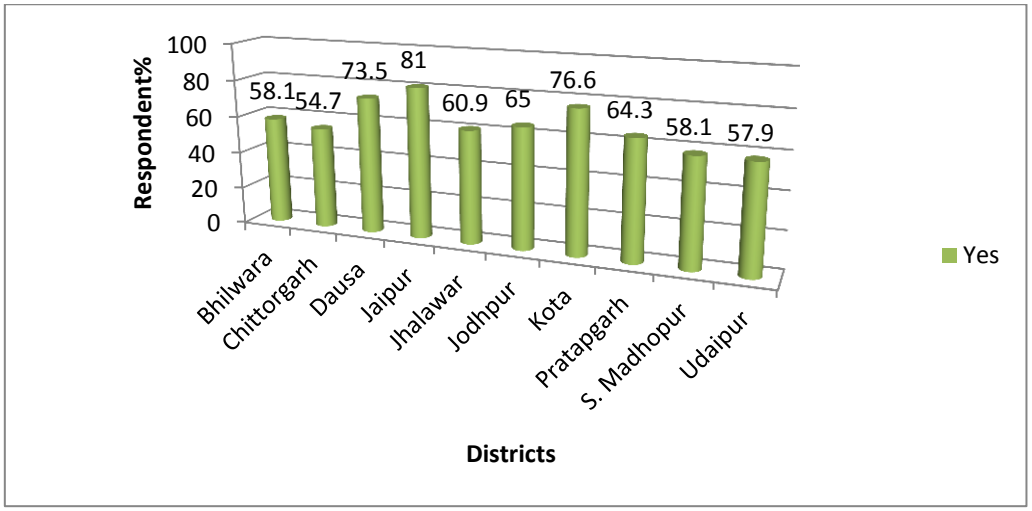
Figure 4.43: Consumers Opting Kitchen Gardening for Self Consumption (N=587)



4.44 District wise Consumer Responses on Adopting Kitchen Gardening

Consumers willing to adopt kitchen farming for self-consumption were found to be maximum (81 percent) in Jaipur district, whereas minimum (54.7 percent) were reported in Chittorgarh district (Figure 4.44).

Figure: 4.44 Responses on Adopting Kitchen Gardening for Self-Consumption



4.45 Consumers Adopting Kitchen Gardening for Self-Consumption

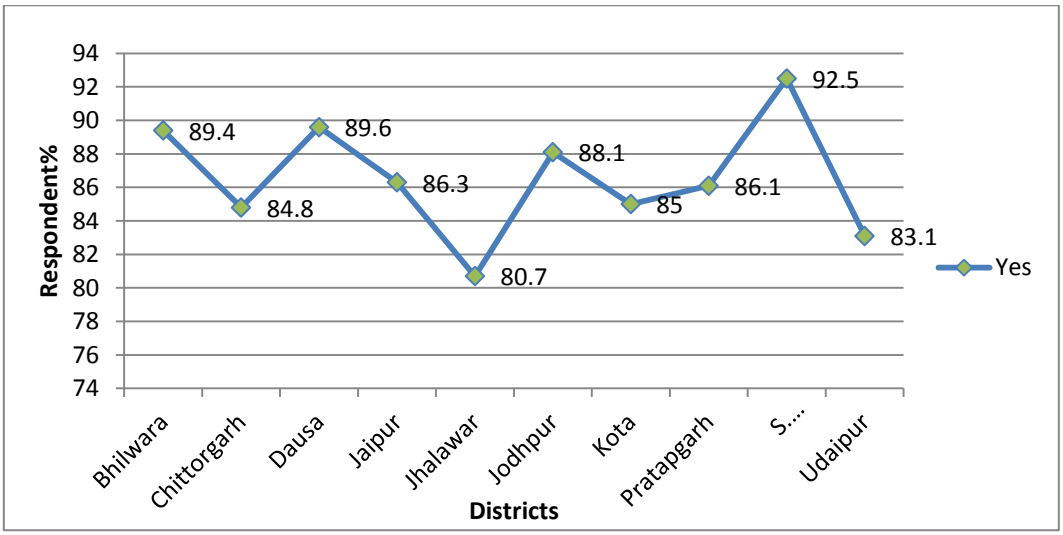
Considering willingness to adopt kitchen gardening for self-consumption *viz-a-viz* consumer employment status it was observed that the willingness was highest among the retired consumers followed by those who were engaged in household jobs. This might be due to the fact that they had more time for such activities in comparison to others. (Figure 4.45)

Figure 4.45: Consumers Adopting Kitchen Gardening for Self-Consumption (N=587) w.r.t Employment

4.46 Organic Products' Contribution in Local Economy Growth

More than 86 percent consumers believed that organic products contribute significantly in the growth of local economy. Such consumers were found maximum in Sawai Madhopur while minimum in Jhalawar (Figure 4.46).

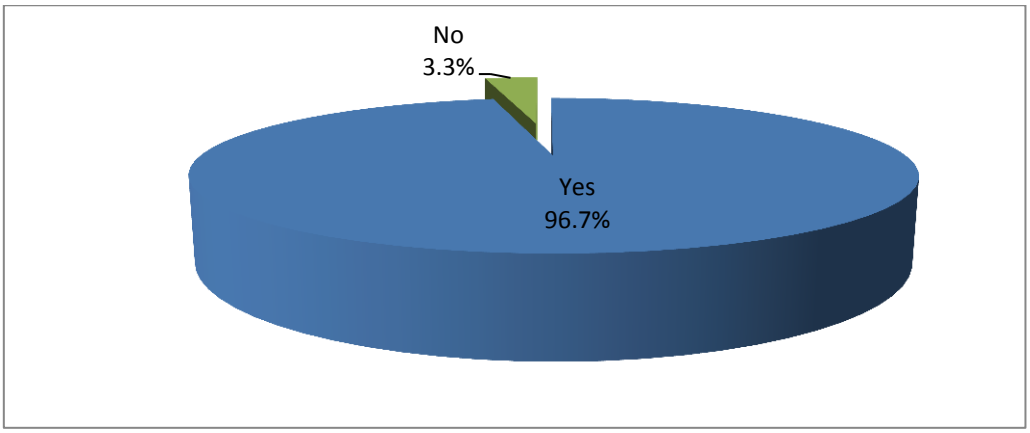
Figure 4.46: Responses on Organic Products' Contribution to Local Economy



4.47 Responses Buying Organic Products are more Environment-friendly

Most of the consumers interviewed were of the opinion that buying organic products was more environmentally responsible. The response was almost similar in all the study districts (Figure 4.47).

Figure 4.47: Responses on Buying Organic Products being more Environment-friendly



Consumers Education Regarding Organic Products

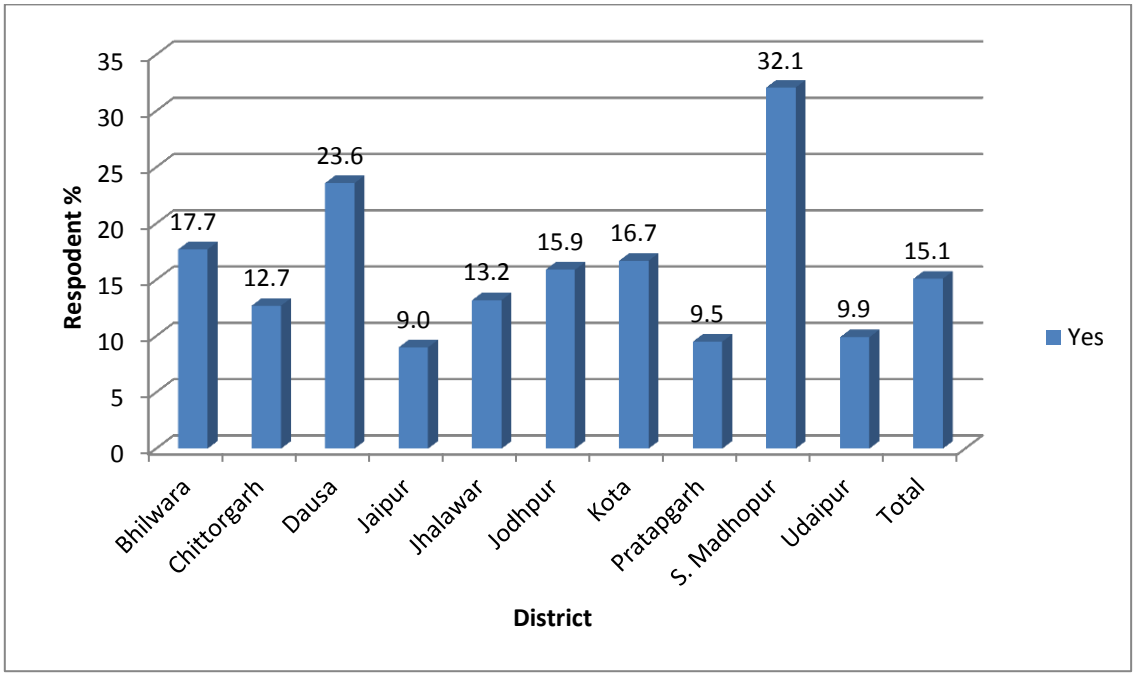
The consumers should be educated on the following main issues:

- Awareness, motivation and Training on organic products should be provided to the consumers on the need to consume organic products.
- Promotion of organic products through the medium of films and education on identifying organic products, their use, assessment their quality and the benefits associated.
- Organic products are pure, good and nutritious for body health, with this view consumers should be asked to adopt organic kitchen gardening
- Consumers should be asked in which area they reside, they should eat organic products available there
- To improve living status, consumers should be taught about organic products
- Consumers should be asked to use only organic as much as possible in order to keep the environment clean and make available healthy products
- Promotion of organic products should be there and prices should be brought down
- Consumers should produce organic products for self-consumption as these are good and nutritious
- Consumers should purchase organic products only if they are available in the market in order to promote these
- Using organic products is a positive attitude as these products do not pollute the environment
- Organic products are nutritious; farmers should grow them.
- Farmers' meetings and trainings, demonstrations through films and street plays should be organised on organic manure, inputs and insecticides etc.
- In education curriculum organic consumption should be included
- Should work on availability on organic inputs, farmers should be made aware on the shops for organic inputs

4.48 Consumer Awareness on Sustainable Consumption

It was found that there was very low awareness among consumers on sustainable consumption issue. Only 15 percent of the consumer respondents were found to be aware on this issue. This awareness was found to be maximum (32.1 percent) in Sawai Madhopur while minimum in Jaipur (Figure 4.48).

Figure 4.48: Consumer Awareness on Sustainable Consumption



Furthermore, efforts were made to explore how organic production and consumption can contribute in achieving the defined goal of sustainable consumption. Consumers' response to this question is as following:

- Organic produce is beneficial for health hence it should be promoted in the long run
- Organic produce is nutritious and less disease prone, it will thereby promote sustainable consumption
- Chemical input-based farm produce being harmful for health so should be banned to promote sustainable consumption
- Production and consumption of organic produce is environment-friendly and does not harm soil and air thus are helpful in promoting sustainable consumption

Moreover, consumers on being queried about the products/services used/accessed by them, which were causing harm to the environment and were not promoting sustainable consumption, the identified products found to be are as following:

- Chemical fertilisers mainly Urea and DAP
- Plastic/polythene carry bags

- Deforestation
- Disposable plastic items
- Hazardous emissions from motor vehicles
- Chemical-based products and insecticides
- Emissions from factories
- Petroleum products
- Extensive use of motor vehicles causing sound and air pollution
- Loudspeakers
- Polluting water/ponds
- Open defecation
- Adulteration in food products
    - Pest control in homes
    - Use of smoke emitting machines/equipment

The noted changes that consumers envisage in their lifestyle for promoting cause of sustainable consumption are as following:

- Using organic products for consumption
- Changing attitude towards pollution in environment
- Preferring clay vessels over plastic vessels
- Initiating plantation
- Avoiding use of chemical-based products
- Preventing use of polluting vehicles
- Stopping plastic carry bags
- Preventing using pesticide and insecticides at home
- Changing lifestyles to use environment-friendly products

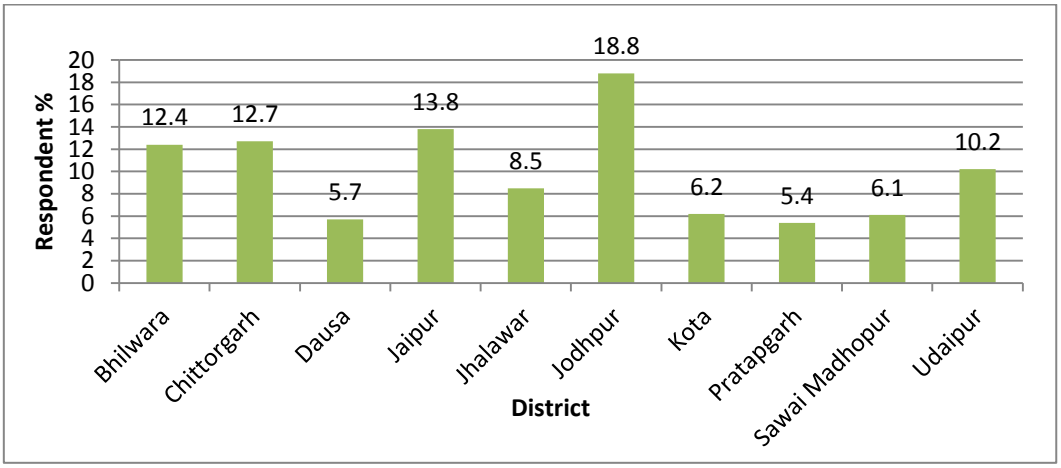
Furthermore, it was explored that consumers strongly believed that there was a need to change by taking initiatives from the grassroots to switch to organic products for consumption, and generate more awareness in this regard. Besides, the consumers showed interest in plantation, animal rearing and promoting bio products. In addition, they were determined to prevent the use of chemical-based products.

Part B: Farmers' Perspective

4.49 District-wise Distribution of Respondents

A total of 644 farmer respondents were interviewed for the study. District-wise percentage of respondents is as provided in the below Figure. As the number of blocks was not uniform in a particular district, number of respondents might seem to be uneven. However, block wise distribution of respondents was almost the same (Figure 4.49).

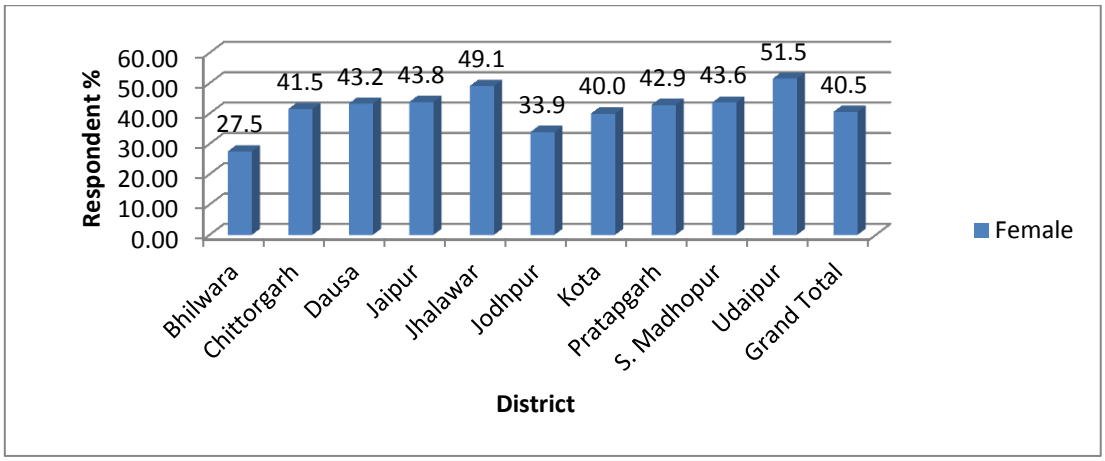
Figure 4.49: District wise Representation of Farmer Respondents



4.50 Gender-wise Distribution of Farmer Respondents

Out of the total 644 farmer respondents, 261 were female, which accounts for 40.5 respondents. If we look at gender-wise distribution in different districts, it was found that female respondent in Bhilwara are only 27.5 percent while in Udaipur they account for more than half (51.5 percent) of the respondents (Figure 4.50).

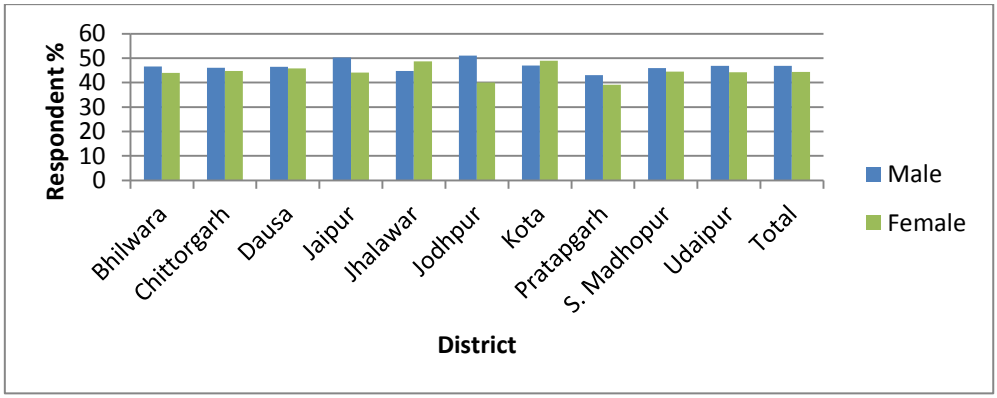
Figure 4.50: Gender Distribution among Farmers



4.51 Respondent Distribution by Average Age

Most of the respondents belong to the active working age. Average age of the farmer respondents was approximately 46 years. District-wise it varied from 41.3 years (Pratapgarh) to 48 years (Kota). Average age for male varied from 43 years (Pratapgarh) to 51 years (Jodhpur), while for female it varied from 39.1 years (Pratapgarh) to 49 years (Kota) (Figure 4.51)

Figure 4.51: Farmer Respondent Distribution by Average Age

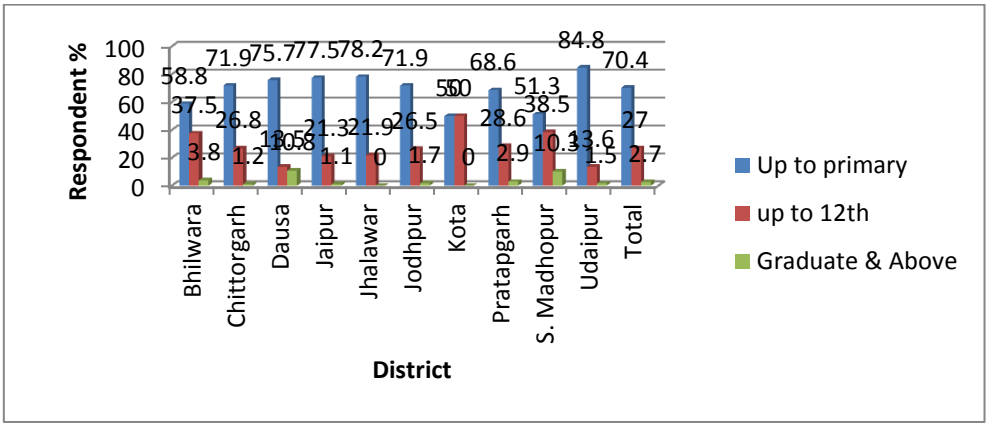


4.52 Educational Profile of Farmer Respondents

Looking at the educational qualification of the respondents it was explored that most of the farmers belonged to low educational background. More than one-third (37.3 percent) of them were illiterate while almost one-third (33.1 percent) were educated up to only V class. Farmers having professional or technical education were only 0.2 percent of the total.

For simplified understanding of educational status of farmer respondent, the respondents were categorised in broader classes. In this way, it was observed that more than 70 percent respondents were educated only up to primary level while only 2.7 percent farmers were educated up to graduation level or above (Figure 4.52).

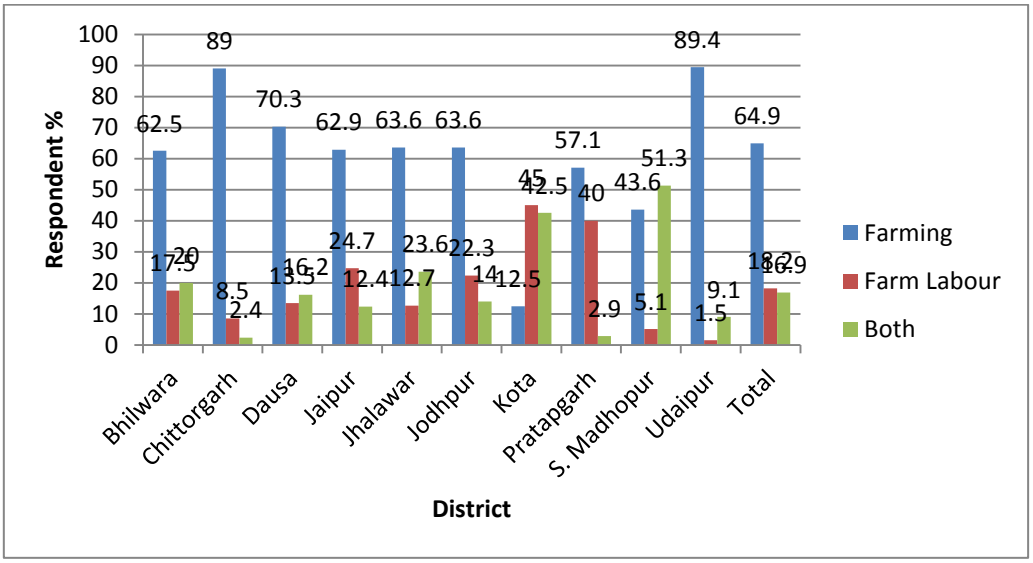
Figure 4.52: Distribution of Farmers on Education Category



4.53 Occupational Profile of Respondents

On observing whether the surveyed farmers were doing farming on own land or working as farm labour, it was found that almost two-third (64.9 percent) respondents were exclusively working on own land, while 16.9 percent had own land as well as working as farm labourers (Figure 4.53).

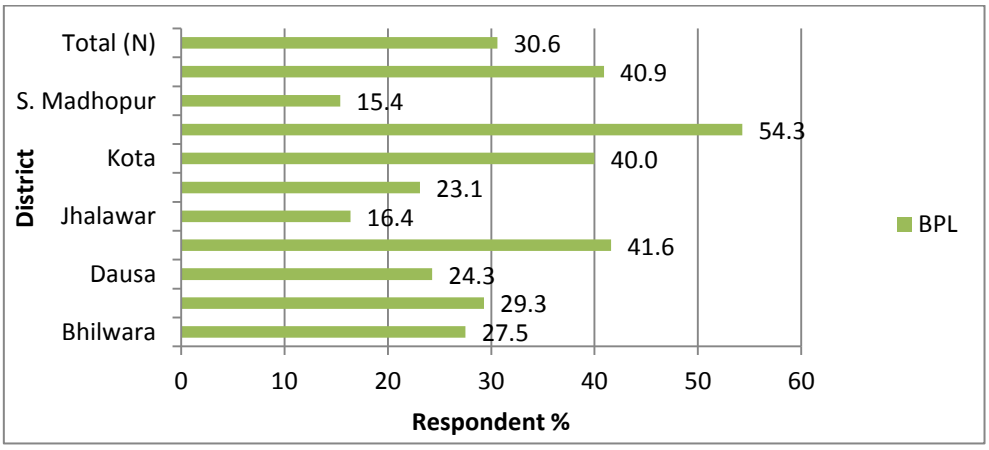
Figure 4.53: Activity wise Distribution of Farmer Respondents



4.54 Respondent Distribution by Economic Category

More than 30 percent of the farmers belong to the below poverty line category. The economic status of respondents varied in different districts.

Figure 4.54: Economic Category of Respondents

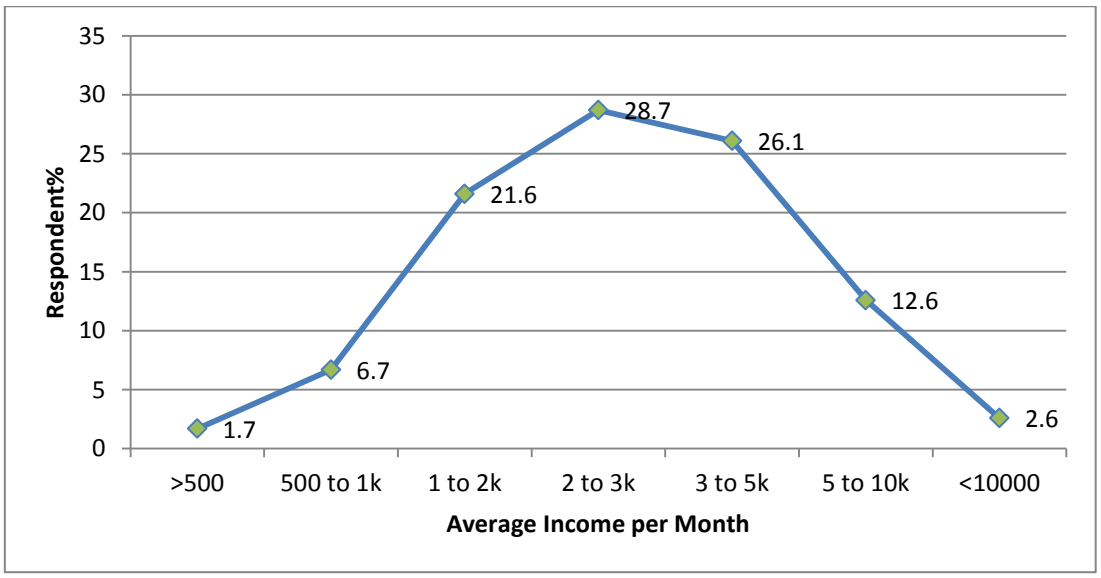


In Sawai Madhopur BPL category farmers comprised 15.4 percent of total, while in Pratapgarh more than half (54.3 percent) of the farmer respondents belonged to BPL category (Figure 4.54).

4.55 Distribution of Respondents on the Basis of Income

More than three-fourth (76.4 percent) of the farmer respondents earned monthly income between Rs 1000-5000. This showed the low economic condition of the farmer respondents. Only 2.6 percent farmer respondents reported a monthly income of more than 10 thousand rupees (Figure 4.55).

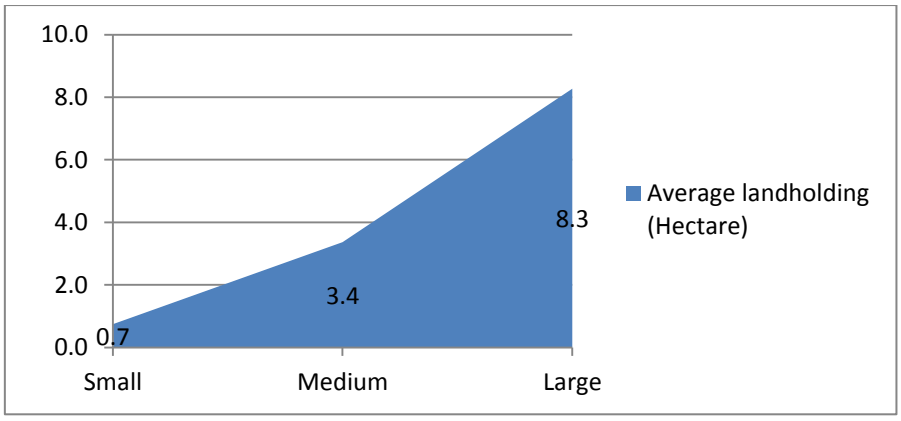
Figure 4.55 Distribution of Respondents on the Basis of Income (N=644)



4.56 Categorisation of Farmers Based on Land Size

It was interesting to note that the average land size of the small and marginal, medium and large farmers remains at 0.7, 3.4 and 8.3 hectare respectively (Figure 4.56).

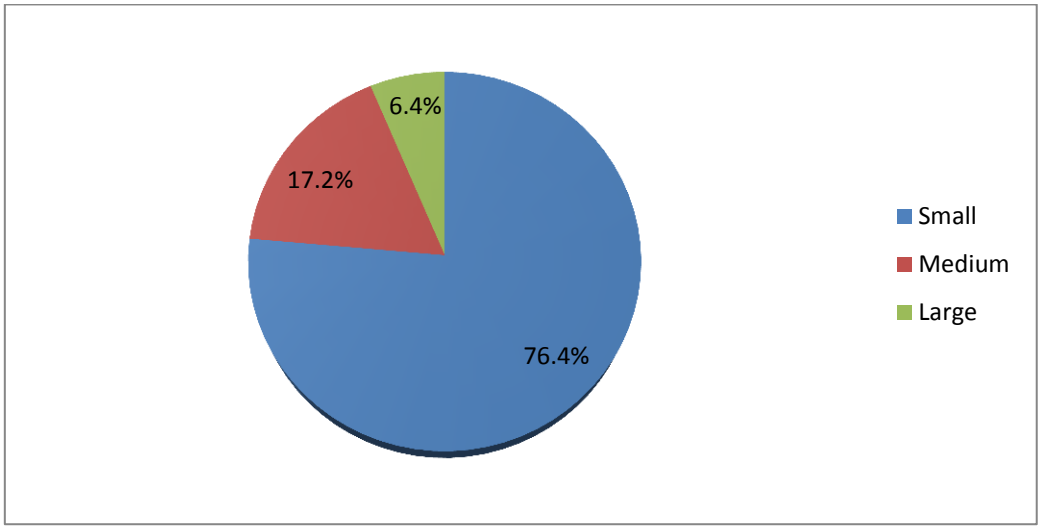
Figure 4.56: Average Landholding as per the Category of Farmers



4.57 Categorisation of Farmers According to Land Size

More than two-third (76.4 percent) of the farmers interviewed belonged to small and marginal category. Proportion of large farmers was found to be only 6.4 percent (Figure 4.57).

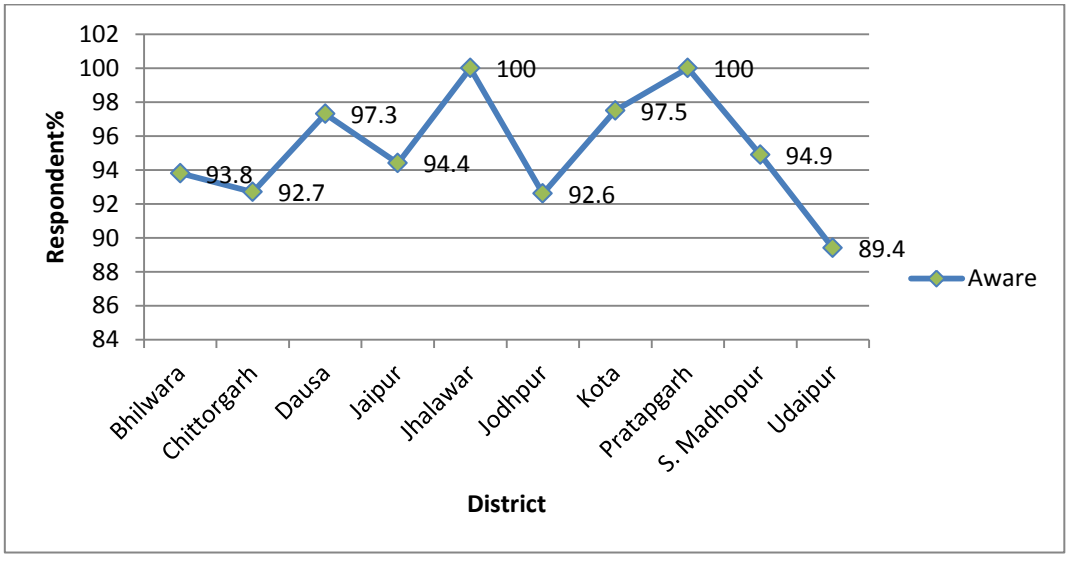
Figure 4.57: Categorisation of Farmers Based on Land Size



4.58 Farmers' Awareness on Adverse Effects of Chemical Based Farming

Respondents were asked whether they were aware about the adverse effects of farming, which was based on chemical inputs in the fields. The awareness level was found to be lowest in Udaipur (89.4 percent) and Chittorgarh (92.7 percent).

Figure 4.58: Respondent Awareness on Adverse Effects of Chemical-based Farming (N=644)

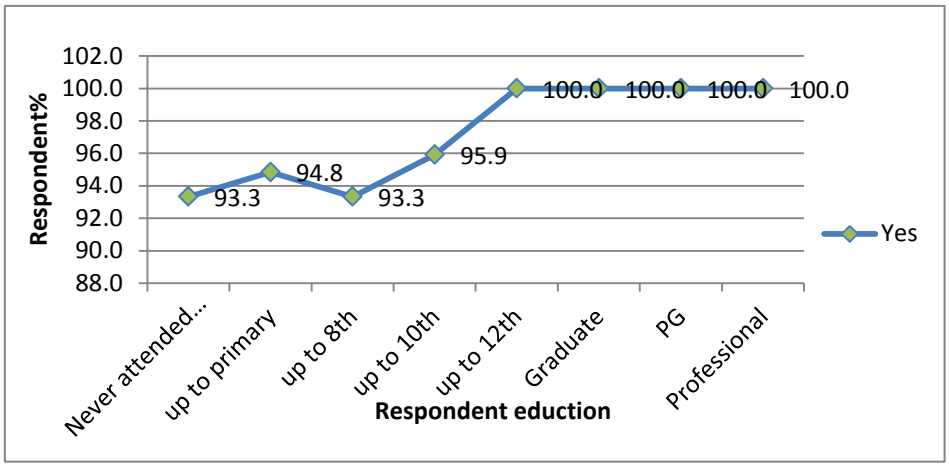


4.59 Awareness on Adverse Effects of Chemical-based Products

It was very encouraging to find that a whopping majority of 94.4 percent farmers said that they were aware about the bad effects of farming based on these inputs (Figure 4.58).

Considering the awareness *viz-a-viz* education of farmers, it was found that although there was high level of awareness among all education levels, 100 percent of the respondents educated up to XII class or more are found to be aware about the ill effects of chemical input-based farming (Figure 4.59).

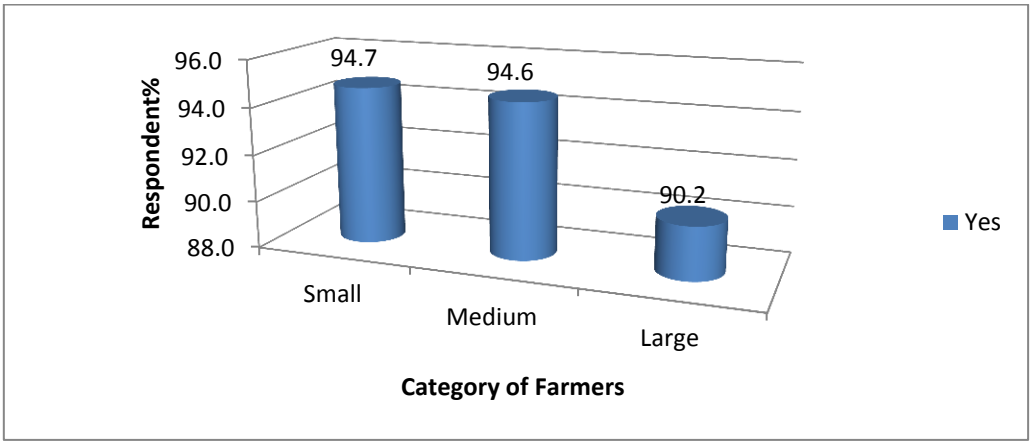
Figure 4.59: Farmers Awareness on Adverse Effects of Chemical Input-based Products w.r.t Education



4.60 Adverse Effects of Chemical Input-based Farming w.r.t. Farmer Category

It was quite surprising to note that the awareness was more among small, marginal and medium level farmers, while it was less among large farmers (Figure 4.60).

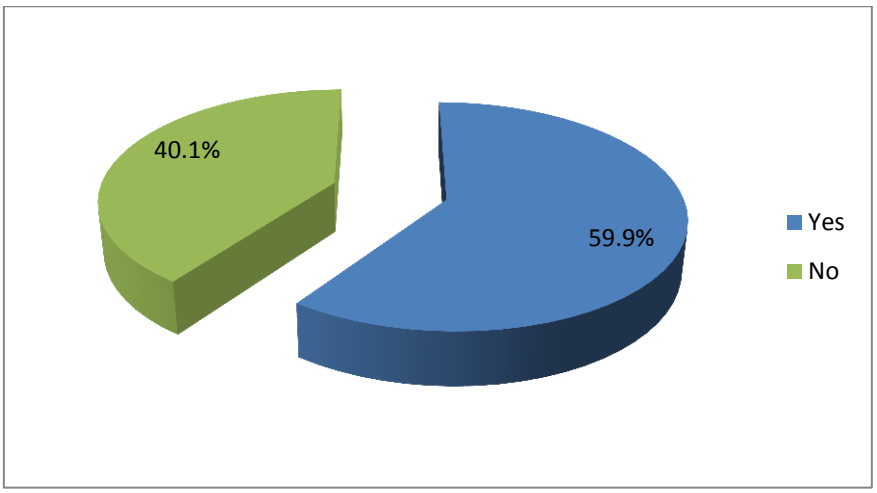
Figure 4.60: Awareness on Adverse Effects of Chemical Input-based Farming w.r.t Farmer Category



4.61 Awareness on other Farmers Adopting Organic Farming

On asking the respondents regarding their awareness on other farmers adopting organic farming, approximately 60 percent respondents mentioned that they were aware about the same. However, more than 40 percent farmers were found to be unaware of this fact (Figure 4.61).

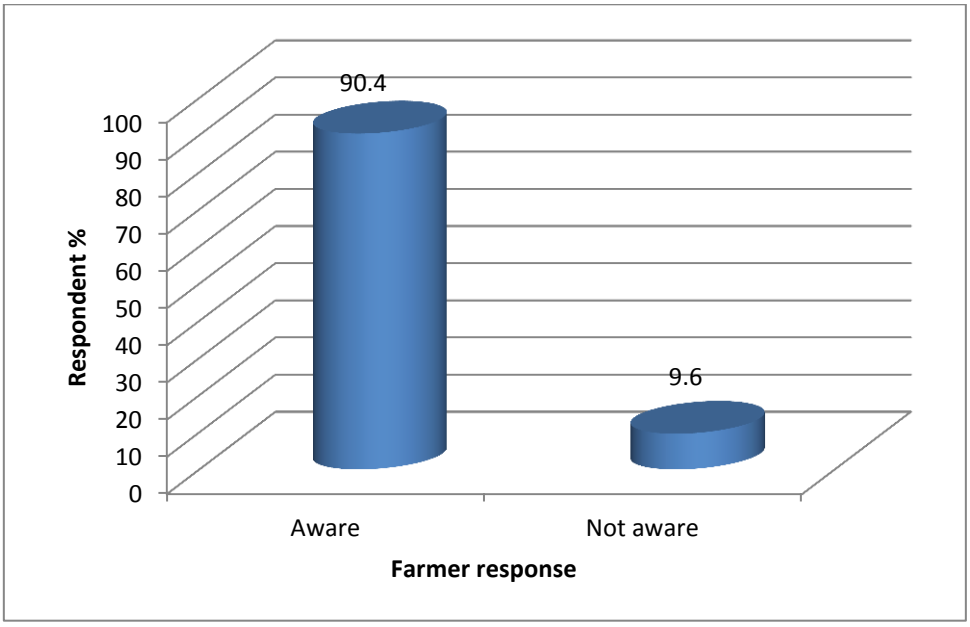
Figure 4.61: Awareness about other Farmers Adopting Organic Farming(N=644)



4.62 Considering Organic Food Healthier than Chemical-based Food

Majority of farmers (90.4 percent) were aware that organic food is healthier than the food produced, with the help of chemical-based inputs (Figure 4.62).

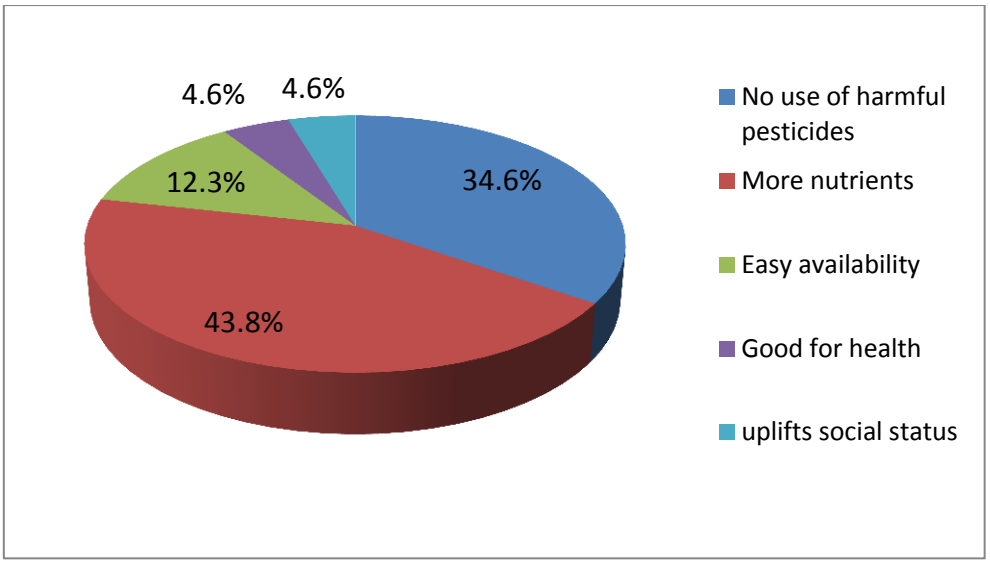
Figure 4.62: Awareness on Organic Food being Healthier than Chemical Input-based Food (N=644)



4.63 Considering Organic Products Better

Respondents cited no use of harmful pesticides and existence of more nutrient as major reasons for considering organic products better (Figure 4.63).

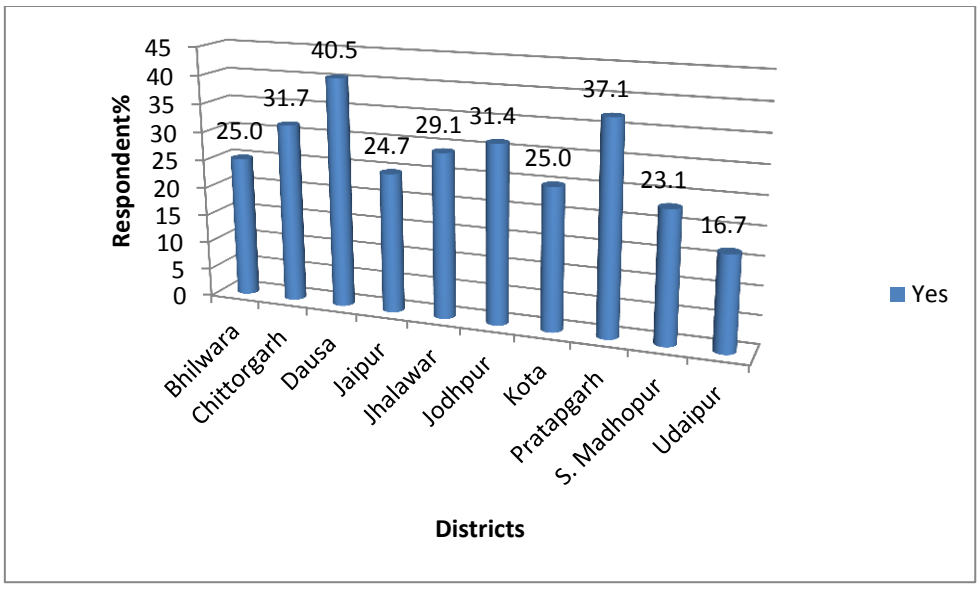
Figure 4.63: Farmers' Perception for Considering Organic Products Being Better



4.64 Respondent Awareness on Seed Bank

There was wide spread unawareness about the concept of seed bank as only 28 percent respondents stated that they were aware about the same, while 72 percent were found to be unaware. The awareness was found to be maximum in Dausa and minimum in Udaipur (Figure 4.64).

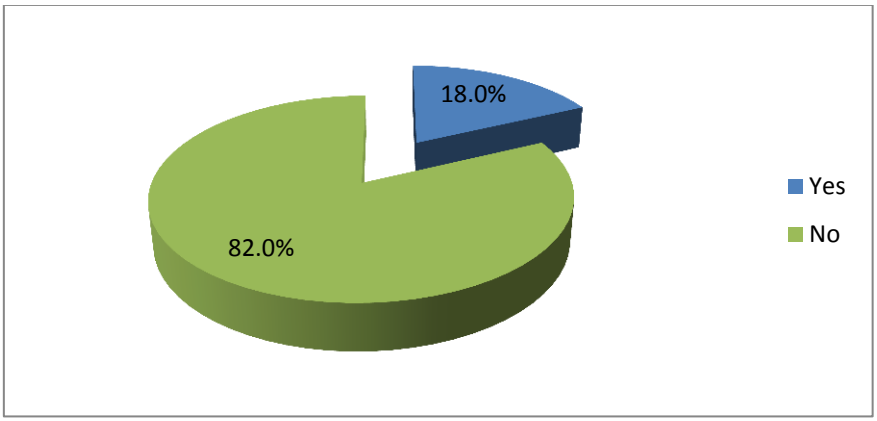
Figure 4.64: Farmer Respondents Awareness on Seed Bank



4.65 Availability of Seed Bank in Village

On asking about the awareness of farmers regarding the availability of a seed bank in the village, 18 percent farmers responded positively (Figure 4.65).

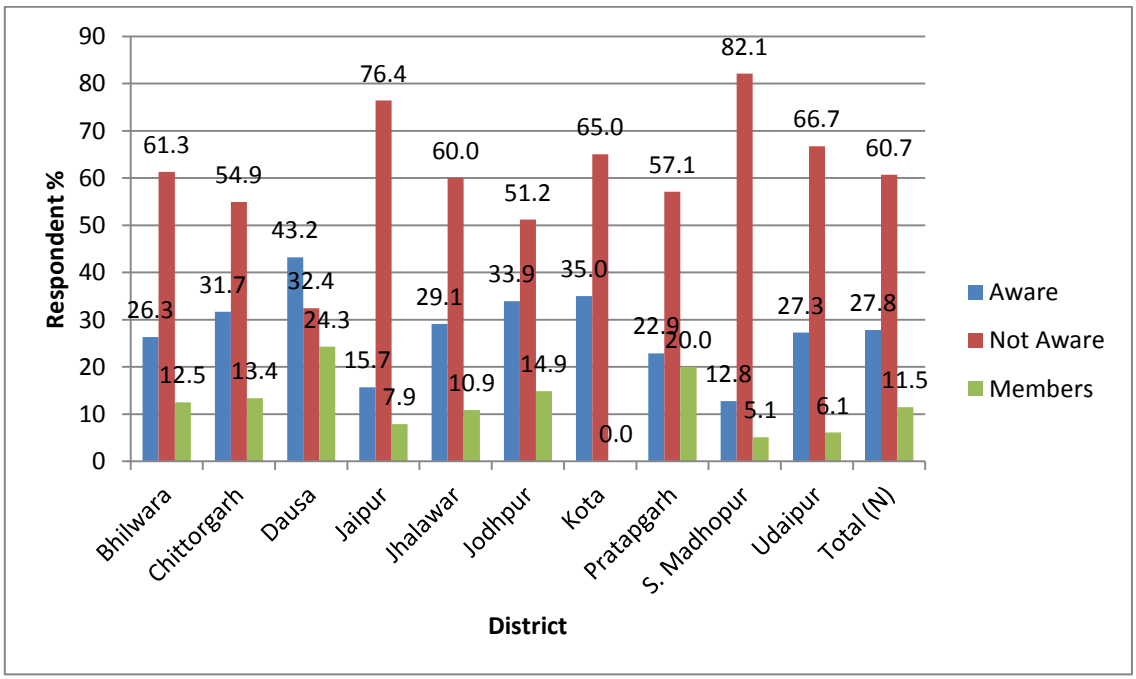
Figure 4.65: Farmers' Awareness on Availability of Seed Bank(N=644)



4.66 Awareness and Membership of Farmer Clubs

About 27.8 percent farmers were found to be aware about a Farmer Club, but they were not the members of any such club. However, 11.5 percent farmers were found to be associated with the Farmers' Clubs in the village. Nearly 60.7 percent farmers were not at all aware about existence of any such club (Figure 4.66).

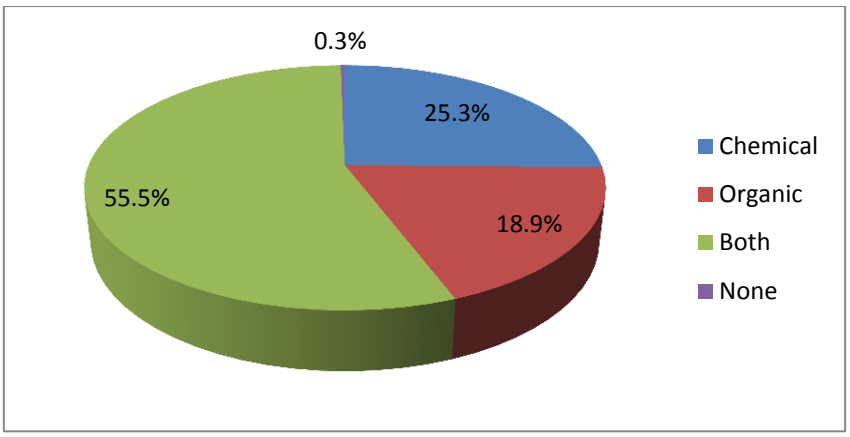
Figure 4.66: Farmers Awareness of Farmer Clubs



4.67 Responses on Type of Inputs Used by Farmers

More than half (55.5 percent) of the farmers were found to be using chemicals as well as organic inputs. Nearly 25.3 percent farmers reported using exclusively chemical-based inputs, while 18.9 percent farmers were using only organic inputs (Figure 4.67).

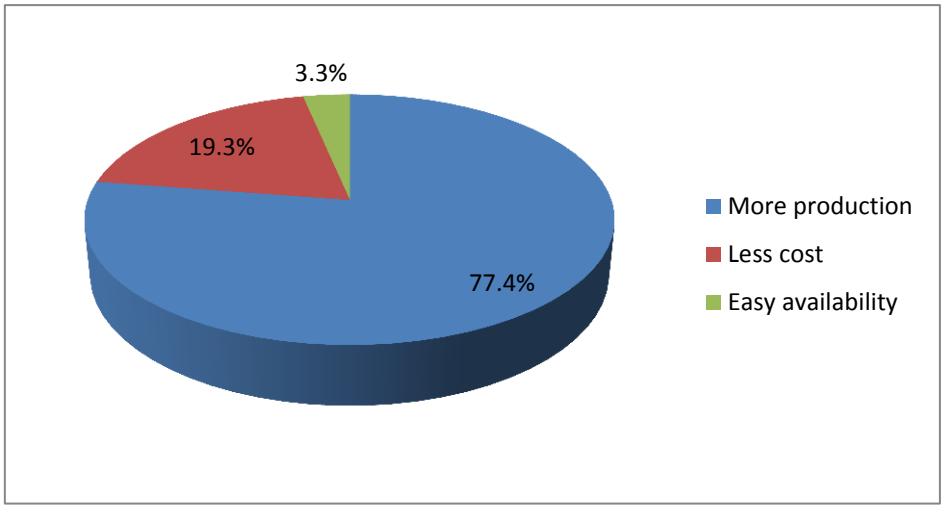
Figure 4.67: Farmers Responses on Type of Inputs Used(N=641)



4.68 Reasons for Farmers Using Chemical Inputs

More than three-fourth of the farmers cited more production as the reason for using chemical-based inputs in their farm (Figure 4.68).

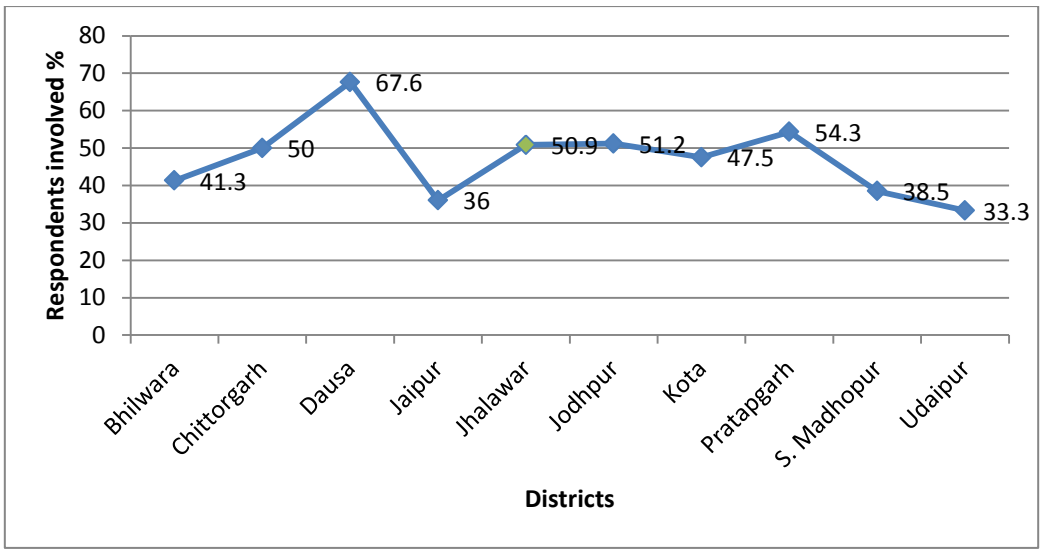
Figure 4.68: Reasons for Farmers Using Chemical Inputs



4.69 Farmer Involvement in Organic Farming

46 percent farmers indicated that they were involved in the organic farming in some or the other way, whereas 54 percent respondents reported that they were not involved in any kind of organic farming (Figure 4.69).

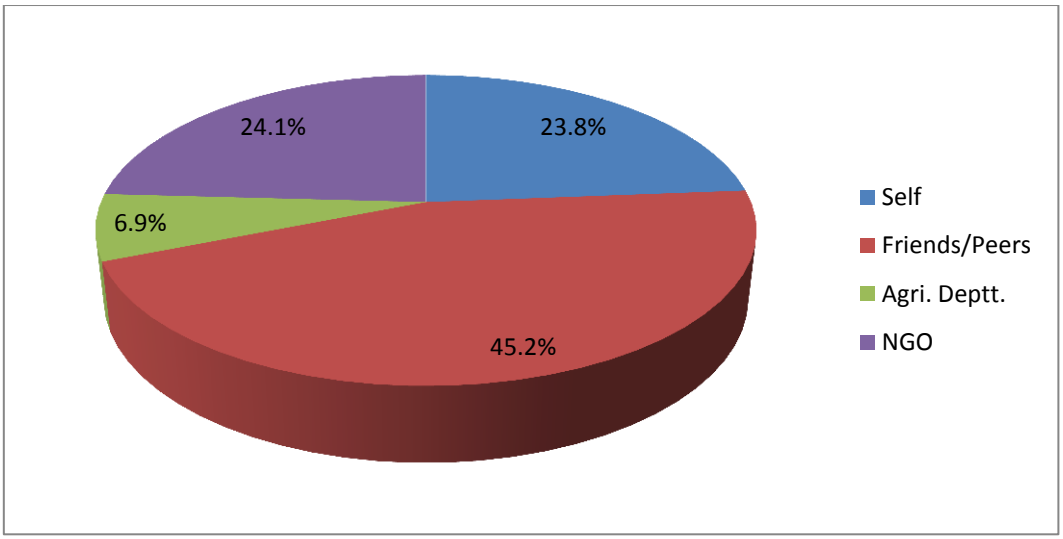
Figure 4.69: Farmers Involvement with Organic Farming(N=644)



4.70 Source of Motivation for Organic Farming

The farmers who were involved in organic farming were asked about their source of motivation for the same. The main source behind this motivation was found to be their friends/peers. Besides, NGOs and self-motivation contributed to almost equal proportion of the respondents (Figure 4.70).

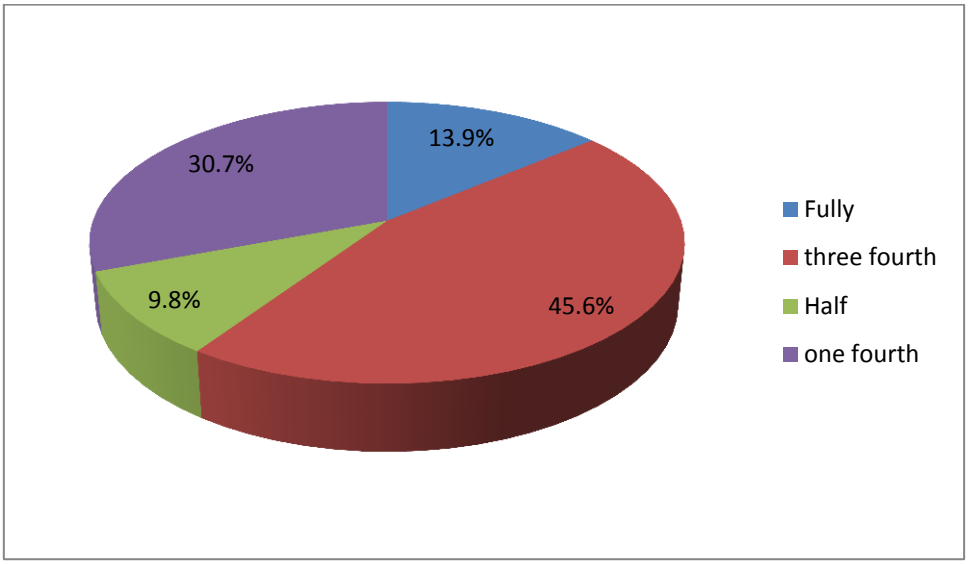
Figure 4.70: Source of Motivation for Organic Farming



4.71 Response on Proportion of Farmers Engaged in Organic in Farming

Out of those farmers (who are somehow involved in organic farming) on being asked about the organic proportion of their farming, it was found that 13.9 percent of these farmers were adopting fully organic modes, while 45.6 percent were found to adopting 75 percent of their farming through organic means (Figure 4.71).

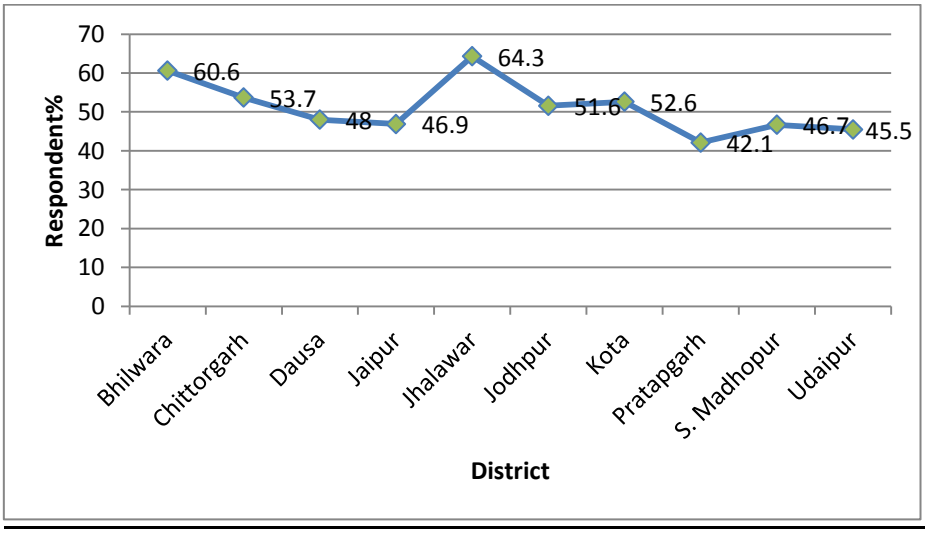
Figure 4.71: Response on Organic Proportion of Farming (N=296)



4.72 Setting up Vermi Compost Unit

More than half (52 percent) of the farmers were found to be involved with organic farming and had established vermi compost unit. This showed that vermin compost was popular among farmers involved in organic farming (Figure 4.72).

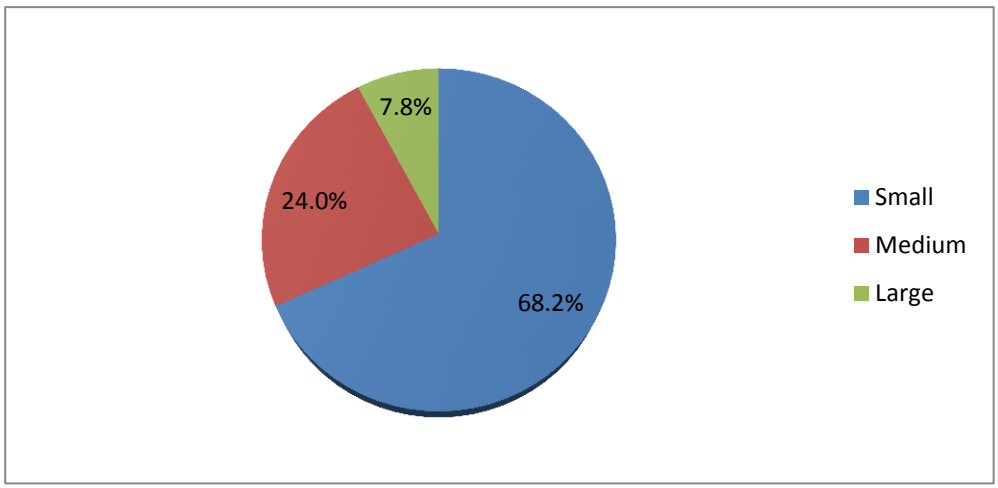
Figure 4.72: Response on Setting up Vermi Compost Unit (N=296)



4.73 Farmers' Category having Vermi Compost Units

On having a close look at the category of farmers having set up vermi compost units, it was observed that farmers involved in vermin composting were mostly small and marginal farmer constituting 68.2 percent (Figure 4.73).

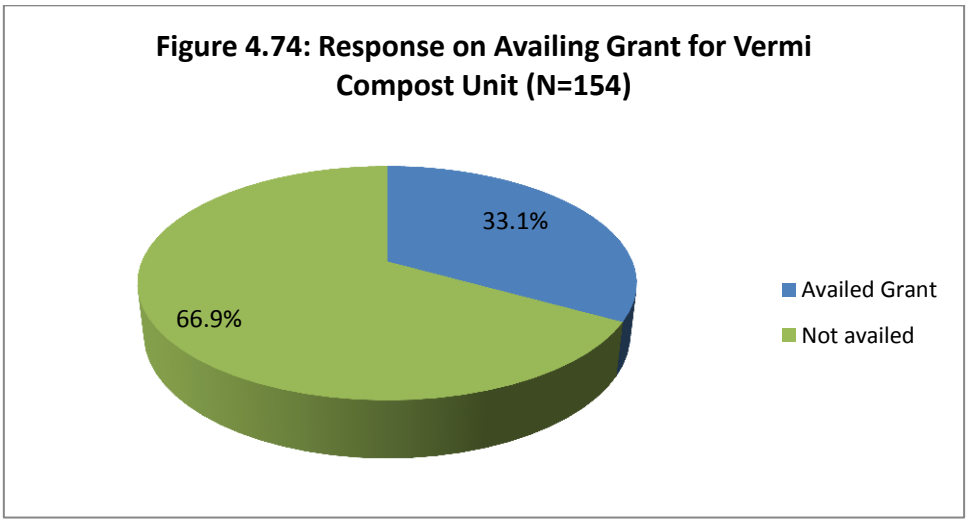
Figure 4.73: Category of Farmers having Vermi Compost Units



4.74 Response on Availing Grant for Vermi Compost Unit

More than two-third of the farmers setting up vermin compost units did not avail any grant for the same (Figure 4.74).

Figure 4.74: Response on Availing Grant for Vermi Compost Unit (N=154)



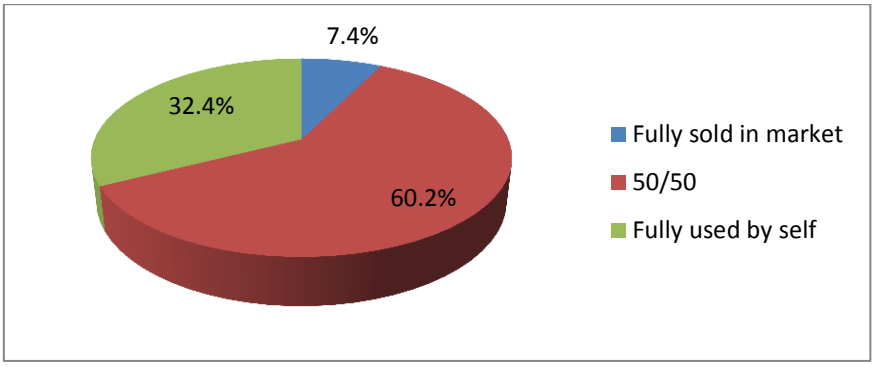
Agency-wise Support/Subsidy Received

As per the responses received from farmers, the support was received in the tune of Rs 5,000-20,000/. Major agencies/banks providing this support were Central Bank of India, NABARD, Regional Rural Banks, United Commercial Bank (UCO) and Primary Agriculture Cooperative Societies (PACS).

4.75 Farmer Selling or Consuming their Organic Produce

Farmers who were involved in organic farming were asked whether they used the organic produce for self-consumption or sold it in the market. It was reported that more than 60 percent of these farmers were consuming and selling their produce. There were only 7.4 percent farmers selling their organic produce completely (Figure 4.75).

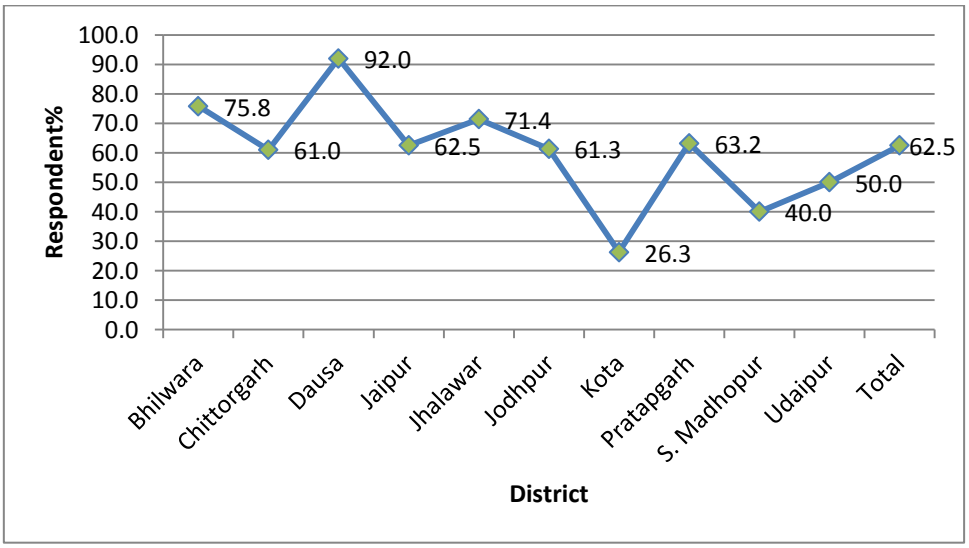
Figure 4.75: Farmer Selling or Consuming their Organic Produce(N=296)



4.76 Perception on Increasing Demand of Organic Products

Farmers were asked about their perception on whether demand of organic produce was increasing. Nearly 62.5 percent of farmers responded that the demand of such products had been increasing (Figure 4.76).

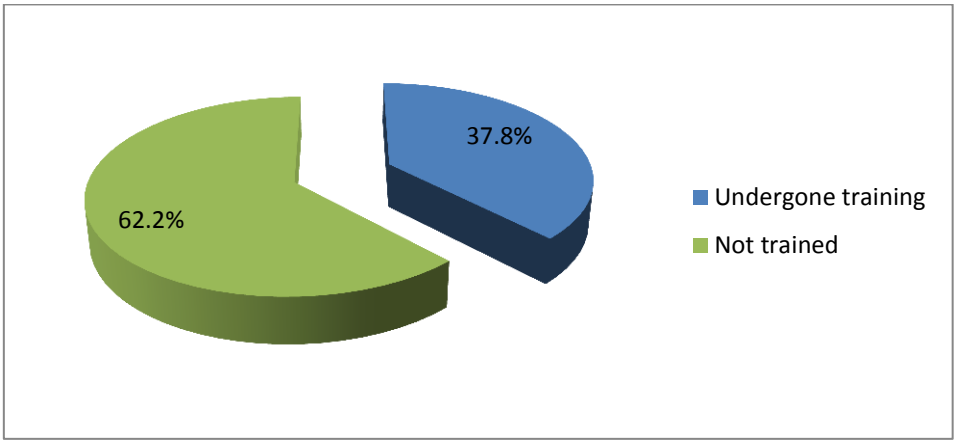
Figure 4.76: Farmers' Response on Increasing Demand of Organic Products (N=296)



4.77 Training on Organic Farming

Out of the farmers involved in organic farming, only 37.8 percent admitted of taking training on issues related to organic farming. About 62.2 percent farmers did not receive any such training. The number of farmers trained on organic farming was found to be maximum in Dausa (60 percent) while minimum in Jhalawar (14.3 percent) (Figure 4.77

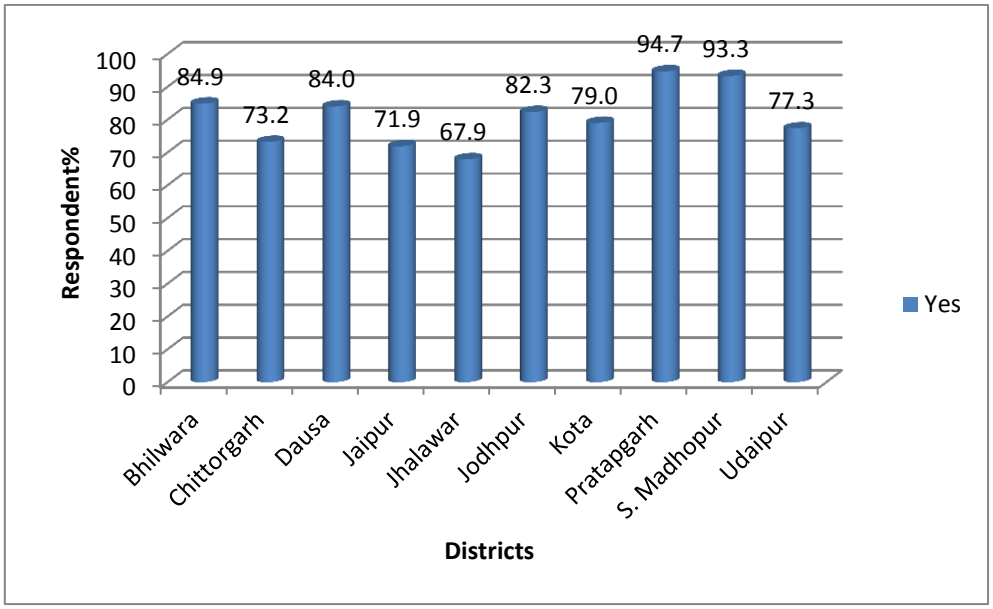
Figure 4.77: Farmers Trained on Organic Farming (N=296)



4.78 Plans for Organic Inputs

Approximately, 80 percent of the farmers involved in organic farming admitted that they were using organic inputs prepared on farm itself. Only 20.27 percent farmers were using the bought organic inputs (Figure 4.78).

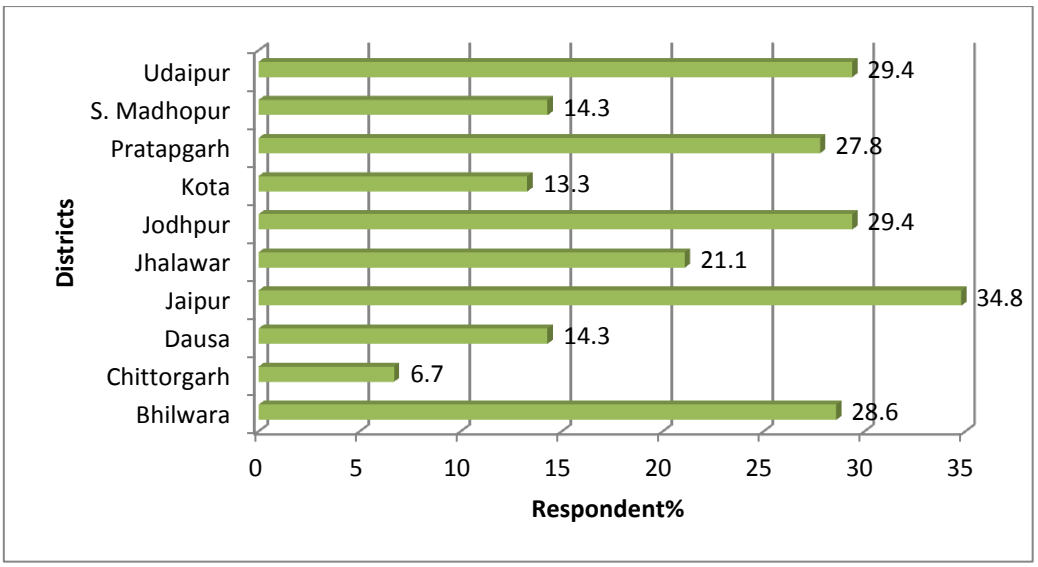
Figure 4.78: Farmers Preparing Organic Inputs in their Field (N=296)



4.79 Selling Organic Inputs

Only 22.6 percent (of farmers preparing organic inputs in their field) were found selling their produce. However, rest of the 77.1 percent used these inputs only in their own fields (Figure 4.79).

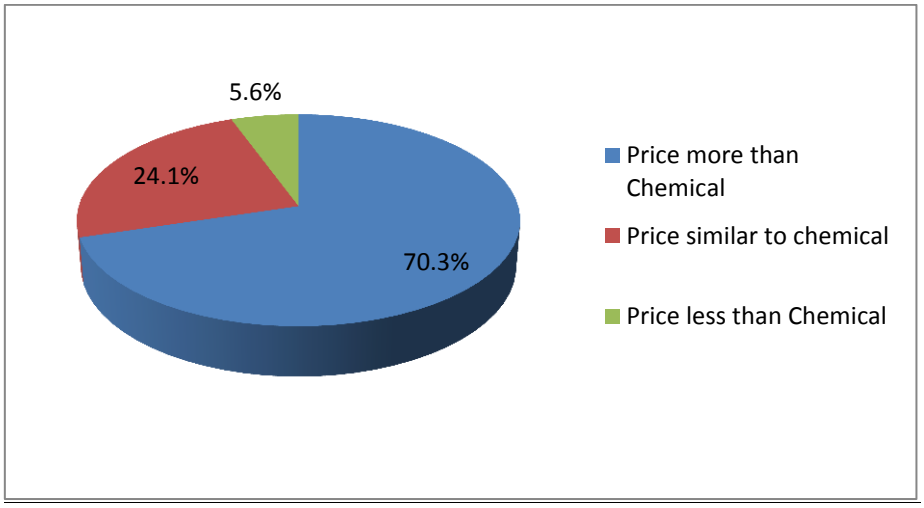
Figure 4.79: Selling Organic Inputs (N=236)



4.80 Price Comparison of Sold Organic-based Products with the Chemical-based Ones

More than 70 percent (of farmers who had sold organic inputs) reported that prices of organic inputs sold were more than the prices of chemical-based inputs (Figure 4.80).

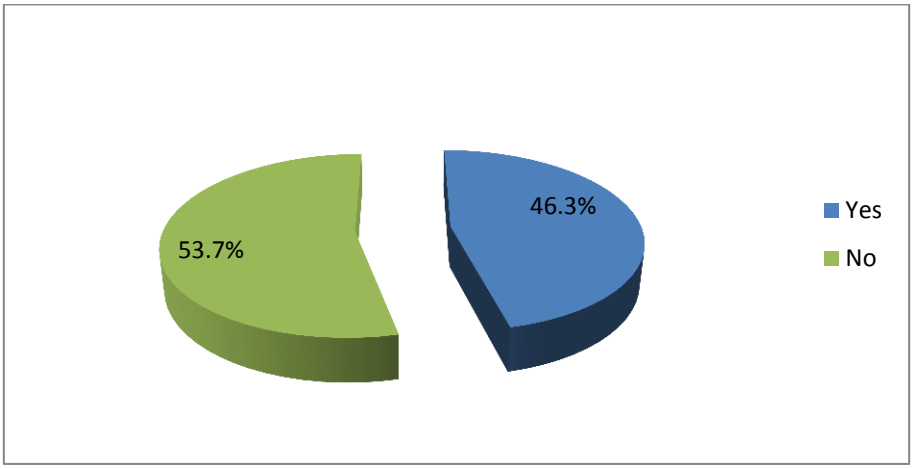
Figure 4.80: Response on Price Comparison of Organic-based Inputs (N=54)



4.81 Getting Support for Organic Farming

More than half (53.7 percent) of farmers reported that they have not received any support (inputs like seeds, insecticides, training support, subsidies, counselling etc.) for organic farming. Farmers receiving support for organic farming were found maximum (68.2 percent) in Udaipur, while in Jhalawar minimum farmers (32.1 percent) received support (Figure 4.81).

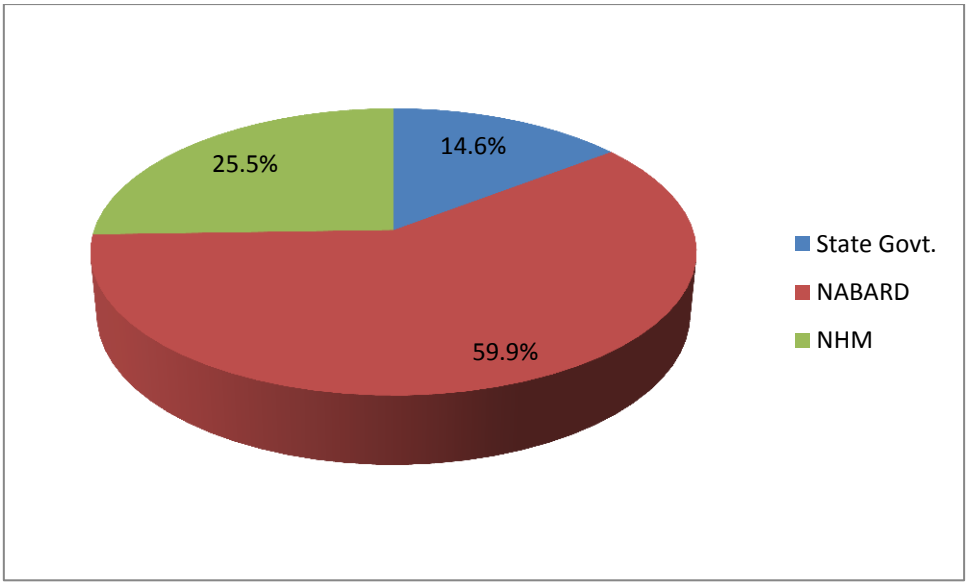
Figure 4.81: Farmers Getting Support for Organic Farming (N=296)



4.82 Agencies Providing Support

NABARD was found to be the most popular agency for support (inputs like seeds, insecticides, training support, subsidy, counselling etc.) for receiving organic farming. National Horticulture Mission was the second agency with almost one-fourth of the farmers receiving the support (Figure 4.82).

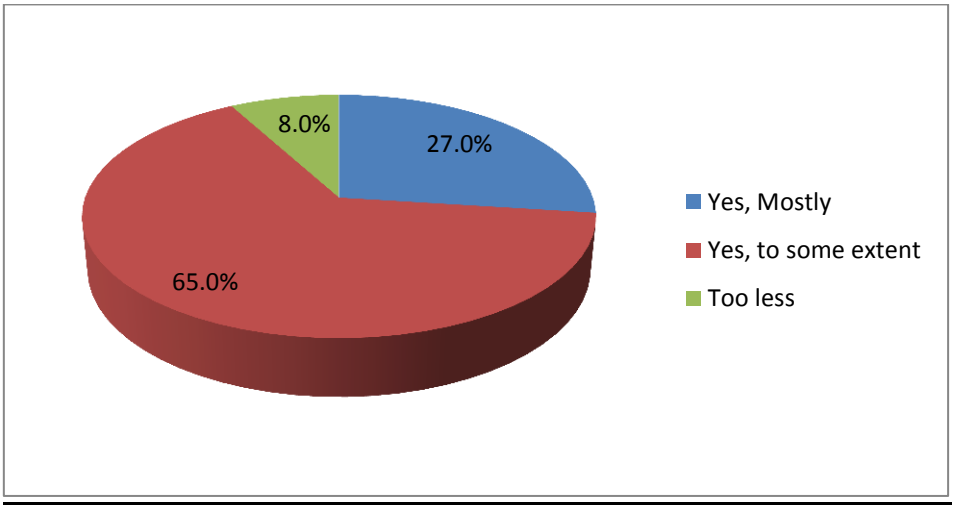
Figure 4.82: Agency Supporting the Farmers(N=137)



4.83 Response on Extent of Support Received for Organic Farming

About 27 percent of the farmer respondents receiving support for organic farming felt that the support received is sufficient to cover most of the additional costs of organic farming, however, almost two-third of them realised that grant received was sufficient to some extent (Figure 4.83).

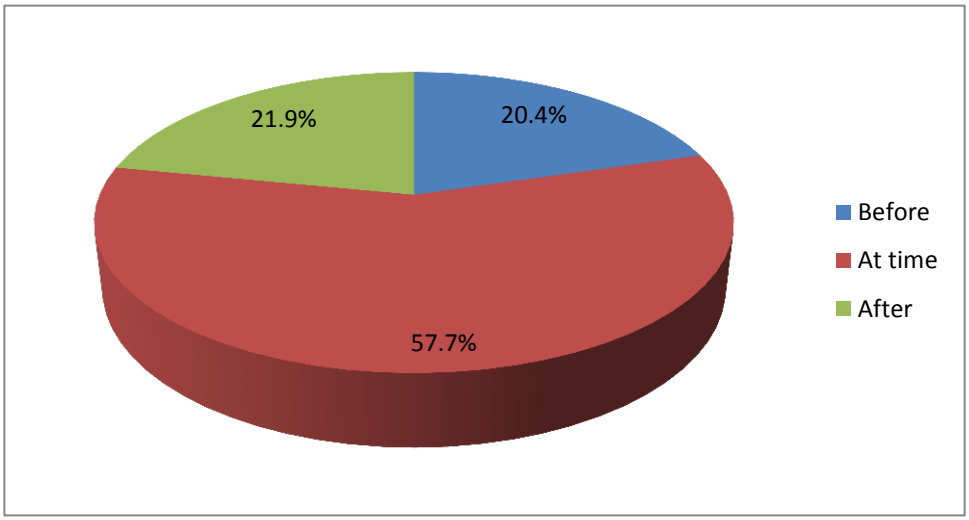
Figure 4.83: Response on Extent of Support Acquired for Organic Farming (N=137)



4.84 Timely Support for Organic Farming

About 57.7 percent of the farmers receiving support for organic farmers believed that they received timely support, while more than 20 percent received support before time (Figure 4.84).

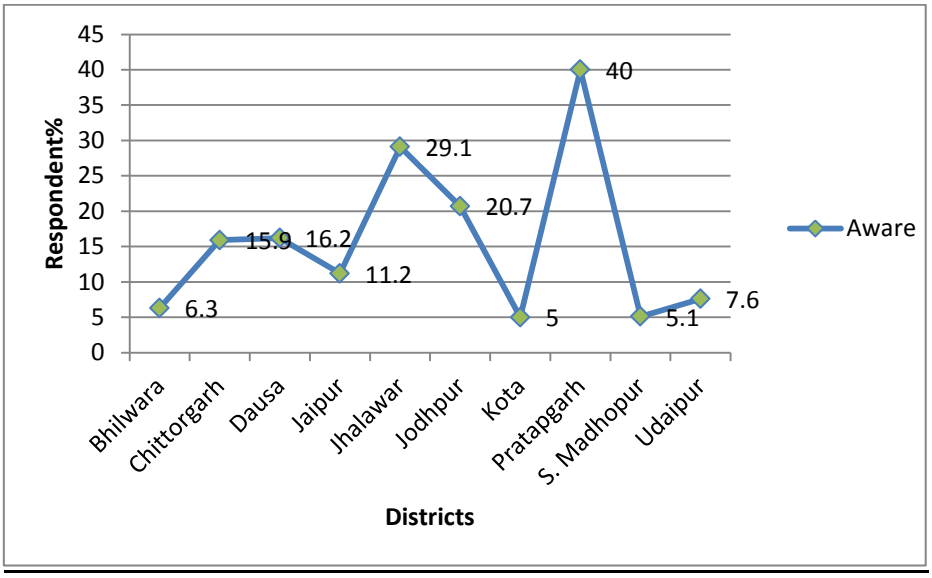
Figure 4.84: Response on Getting Timing Support for Organic Farming (N=137)



4.85 Awareness on Organic Certification Process

Out of the total farmer respondents only 15.2 percent were found to be aware on organic certification process. This shows that there was widespread unawareness regarding organic certification process (Figure 4.85).

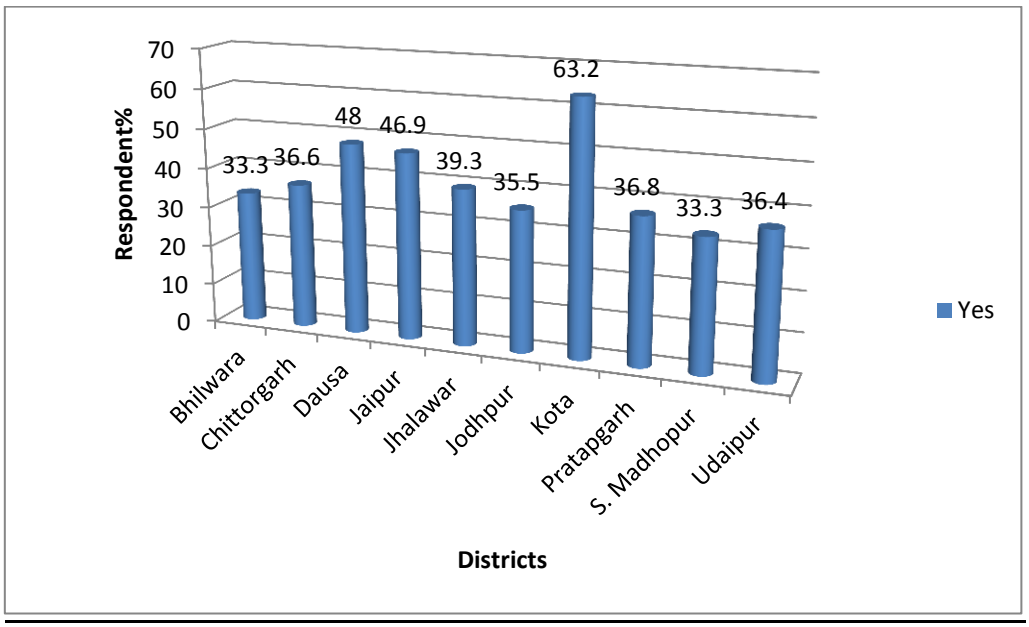
Figure 4.85: Farmers' Awareness on Organic Certification Process(N=644)



4.86 Using Organic Produce for Self-Consumption

Approximately, 40 percent of farmers involved in organic farming reported that they themselves were using organic products for their families. (Figure 4.86)

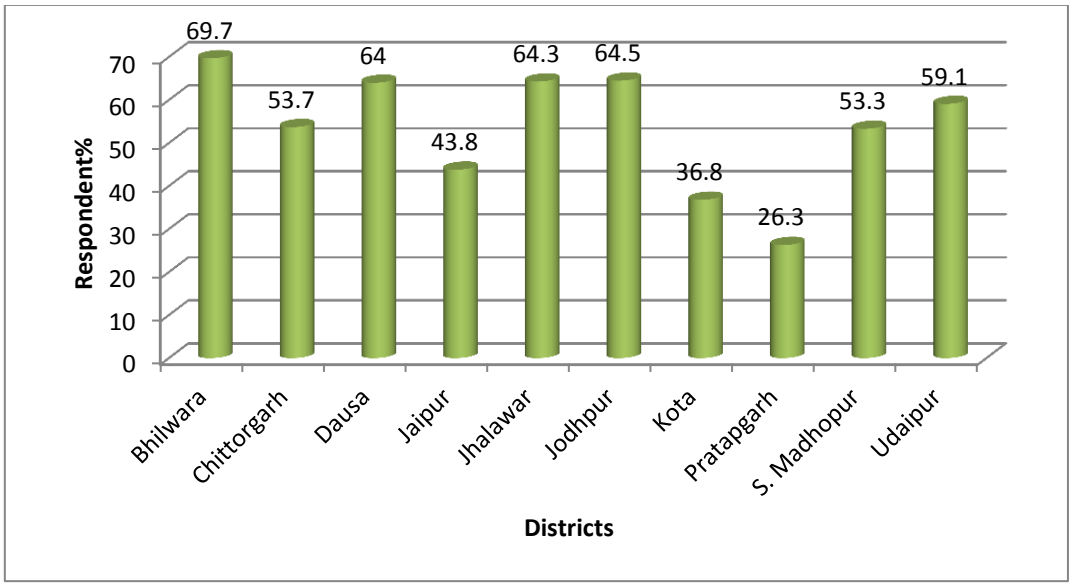
Figure 4.86: Use of Organic Produce for Self-Consumption (N=296)



4.87 Difficulty in Selling Organic Produce

More than half (56.1 percent) farmer respondents indicated that they faced difficulty in selling their organic produce (Figure 4.87).

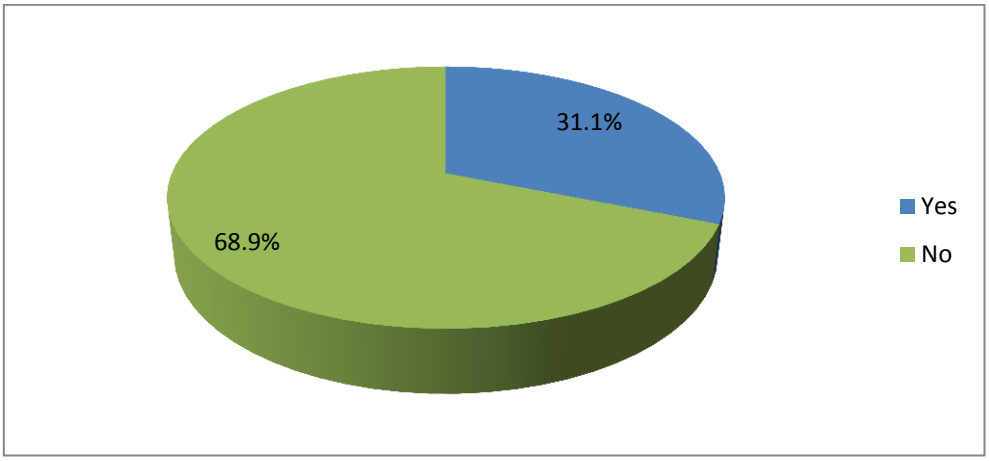
Figure 4.87: Farmers Facing Difficulty in Selling Organic Produce (N=296)



4.88 Farmers Getting More Price for Organic Produce

More than two-third farmers (68.9 percent) responded indicating that they were not getting higher price for their organic produce, although 31.1 percent farmers admitted of getting higher price for their produce (Figure 4.88).

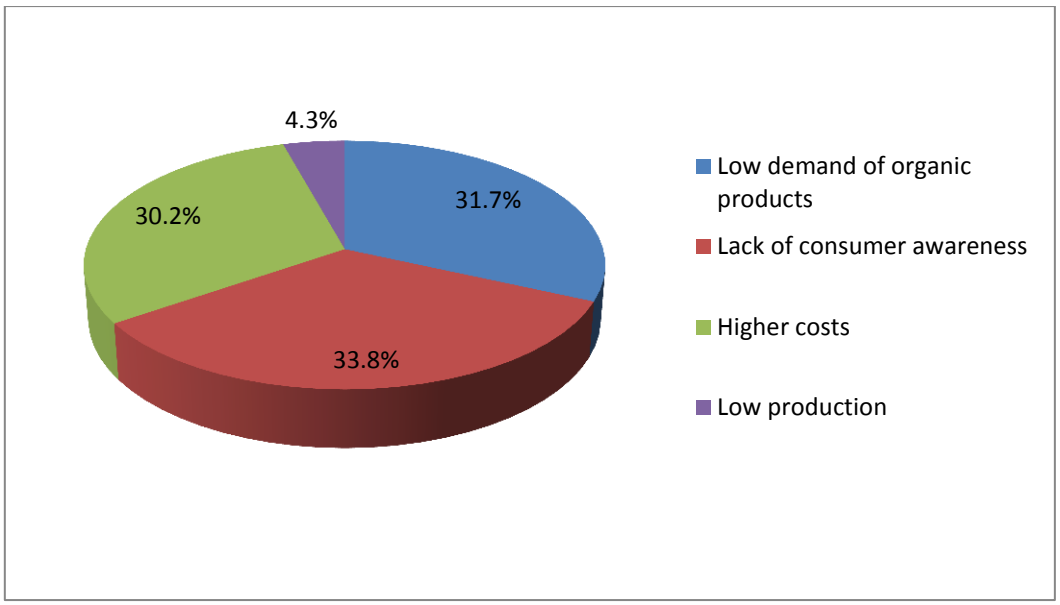
Figure 4.88: Farmers Getting More Price for Organic Produce(N=296)



4.89 Reasons for not Getting Higher Market Prices

Farmers cited lack of consumer awareness followed by low demand of organic products and higher cost inputs as the reasons for not getting higher prices in market (Figure 4.89).

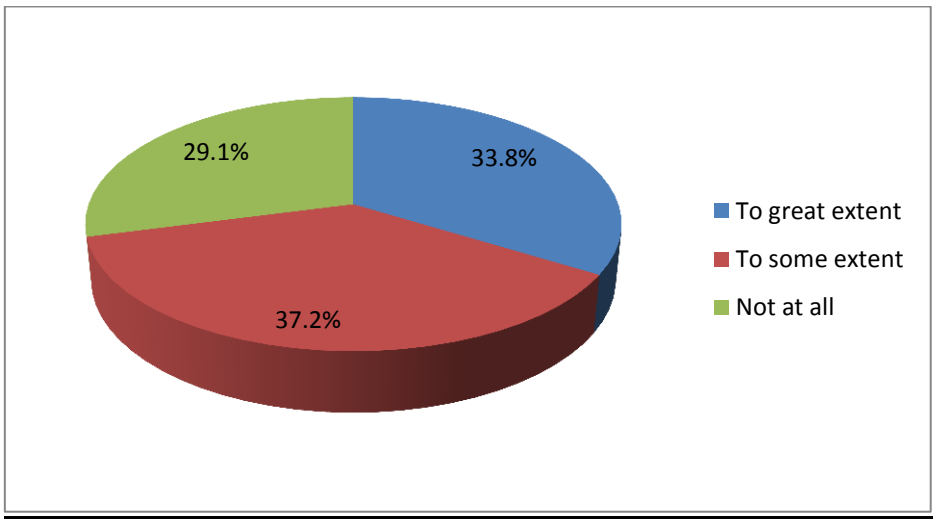
Figure 4.89: Farmers' Response on Reasons for not Getting Higher Market Prices



4.90 Satisfaction with the Quality of the Produce

About 33.8 percent of the farmers involved in organic farming were found to be satisfied with the quality of their organic produce to a great extent whereas 37.2 percent were found satisfied to some extent (Figure 4.90).

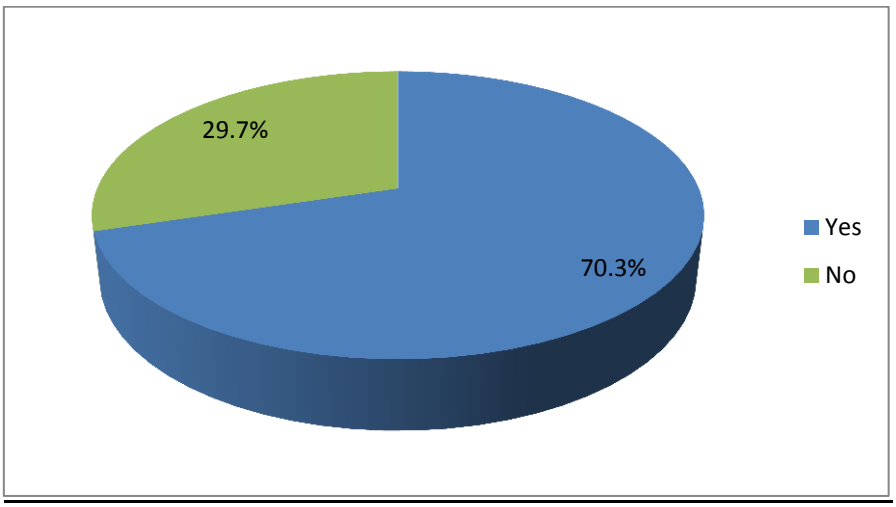
Figure 4.90: Satisfaction Level with the Quality of the Produce(N=296)



4.91 Is the Organic Produce More Environmental Friendly?

More than 70 percent farmers felt that organic produce was more environment-friendly. In Kota, farmers believing this were maximum (89.5 percent), while in Sawai Madhopur it was found to be only 60 percent (Figure 4.91).

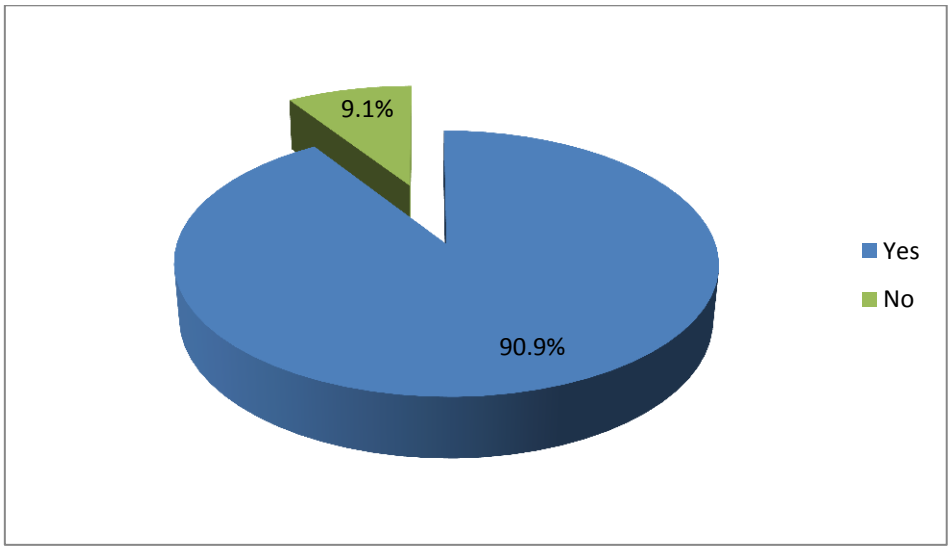
Figure 4.91: Farmers Response on Are Organic Products More Environment-friendly?



4.92 Farmers Motivating others for Organic Farming

Farmers involved in organic farming were asked if they would like to motivate other farmers for organic farming. More than 90 percent of them were found to be motivating others for organic farming (Figure 4.92).

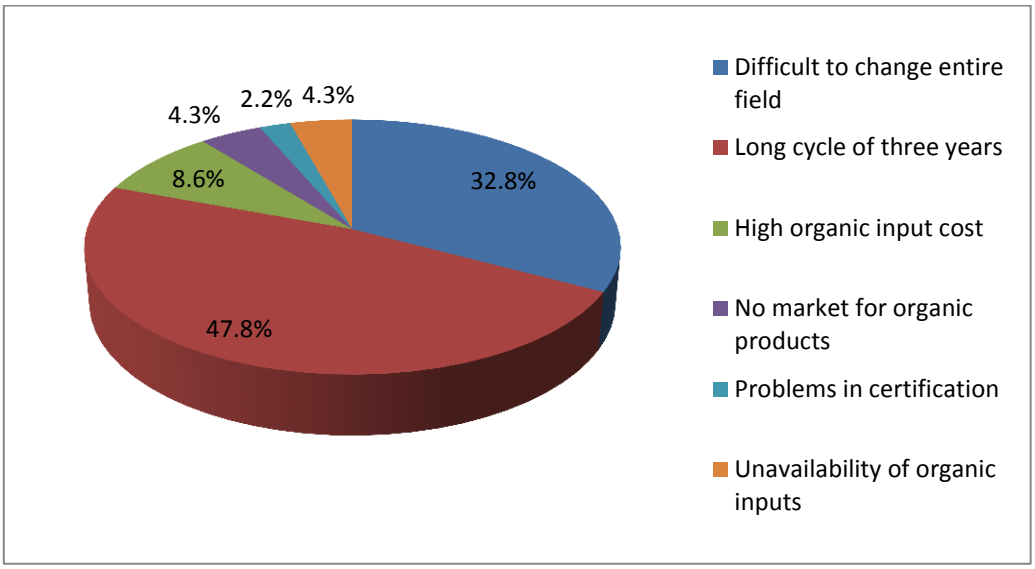
Figure 4.92: Farmers motivating others for Organic Farming (N=296)



4.93 Barriers in Adopting Organic Farming

Around 47.8 percent farmers cited long cycle of three years as the main hurdle in adopting organic farming. It was followed by the requirement for changing the entire field (Figure 4.93)

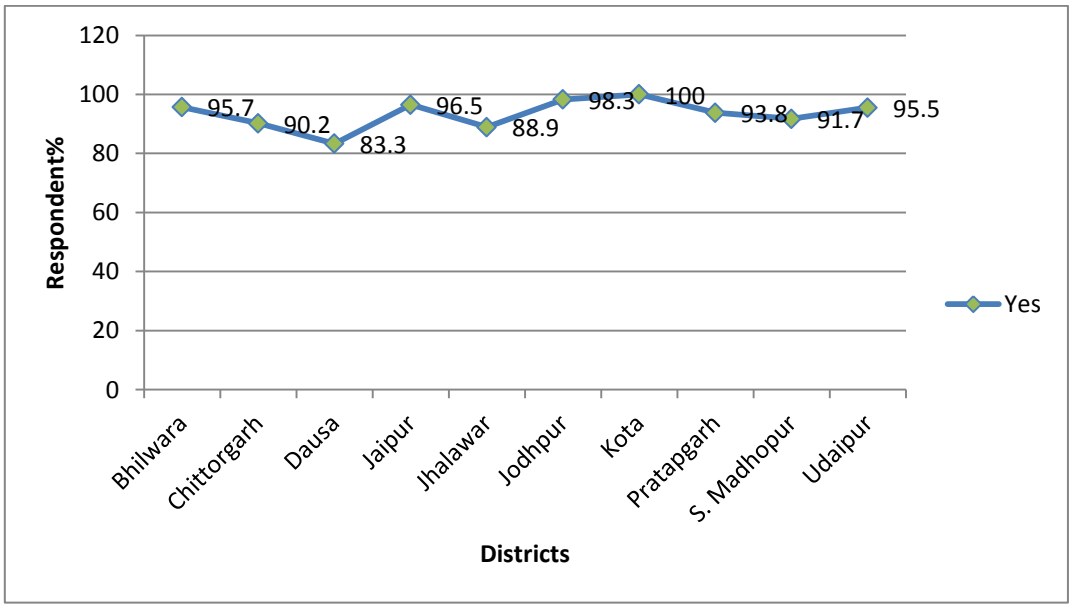
Figure 4.93: Hurdles in Adopting Organic Farming



4.94 Adopting Organic Farming if Supported

A majority of 94.5 percent farmers (not engaged in organic farming earlier) mentioned that they would like to adopt organic farming only if they are given required support (Figure 4.94).

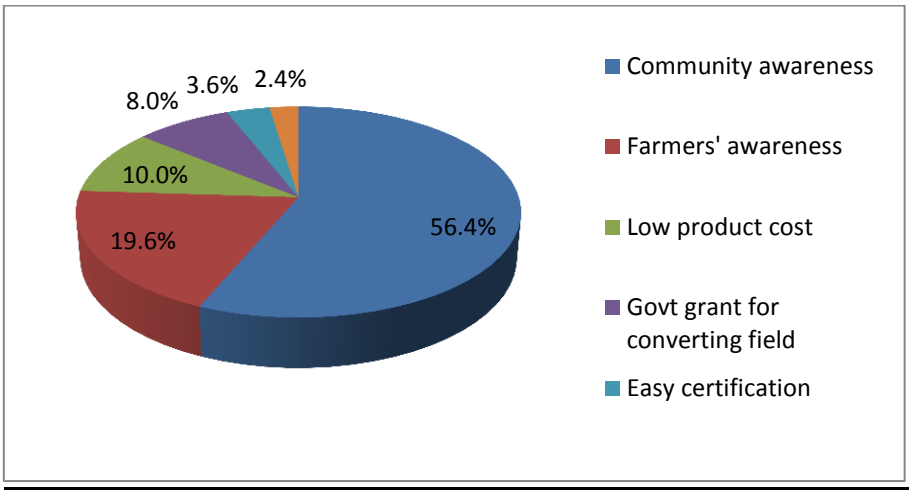
Figure 4.94: Response on Adopting Organic Farming if Supported (N=348)



4.95 Suggestions to Promote Organic Farming

More than half of the farmer respondents suggested making community aware on organic products to promote organic farming. Moreover, there were suggestions to make the farmers aware on this issue (Figure 4.95).

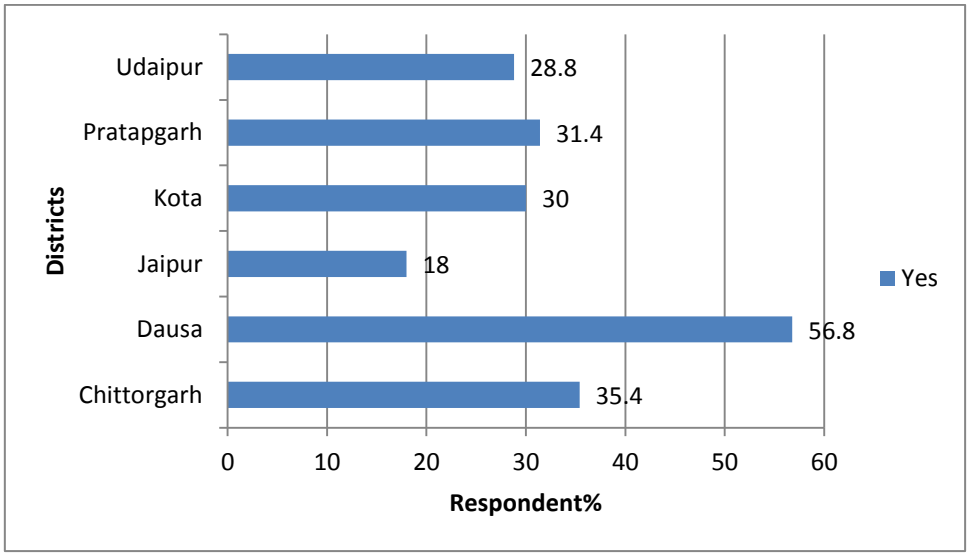
Figure 4.95: Suggestions to Promote Organic Farming among Farmers



4.96 Participation in CUTS ProOrganic I Meetings

CUTS had implemented the phase I of Pro-Organic project in e six districts of the state. In these districts, the respondents were asked whether they had participated in any of the meetings organised under the project. More than 30 percent of the respondents admitted of participating in such meetings (Figure 4.96).

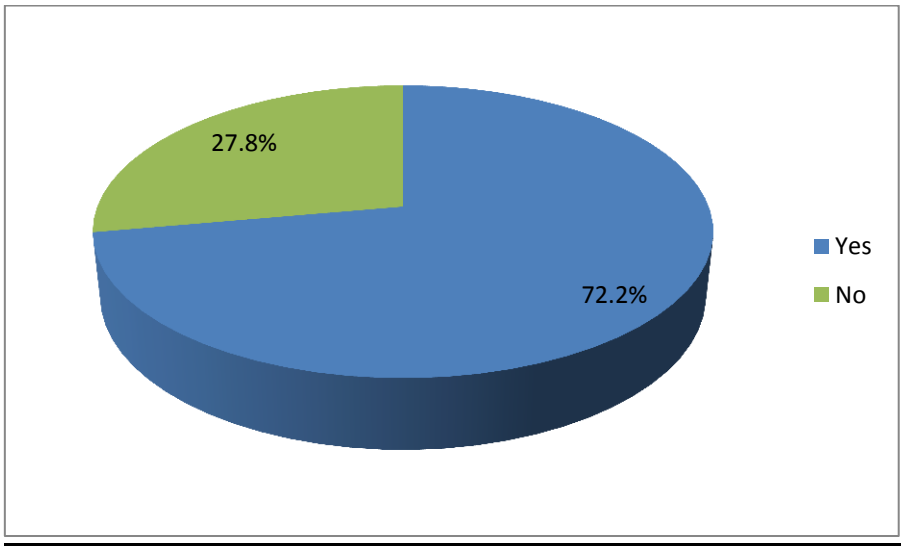
Figure 4.96: Participation in CUTS ProOrganic Meetings(N=349)



4.97 Benefits from CUTS ProOrganic Meetings

In six old districts, farmers who had participated in any of the ProOrganic-I meetings were asked whether they have been benefited from the meetings. About 72.2 percent farmers admitted acquiring benefits from the meetings (Figure 4.97).

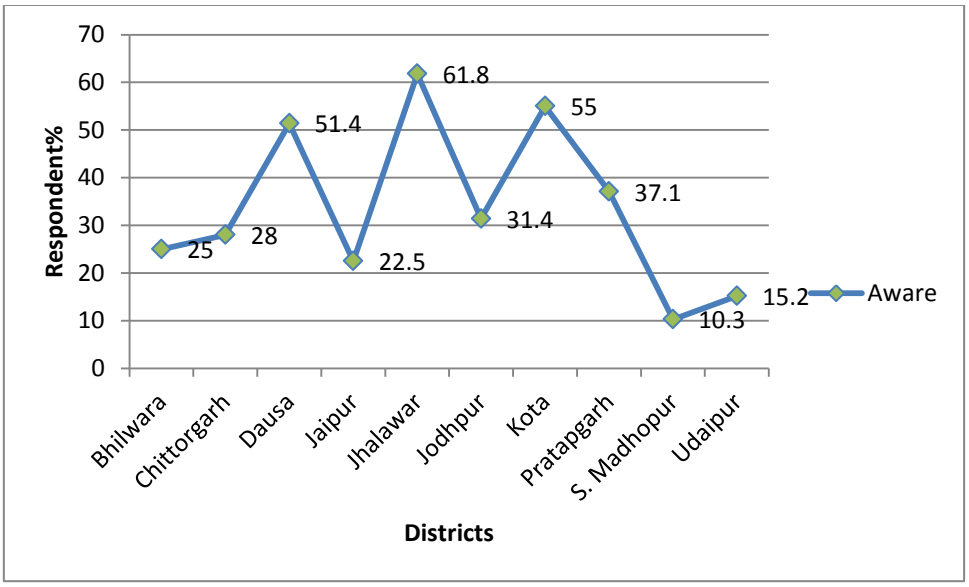
Figure 4.97: Benefits from Participation in ProOrganic Meetings (N=108)



4.98 Awareness on Sustainable Farming and Consumption

Ignorance on the concept of Sustainable farming and consumption was found to be wide spread. More than two-third (68.5 percent) respondents were not aware of such method (Figure 4.98).

Figure 4.98: Awareness on Sustainable Farming and Consumption (N=644)



Moreover, it was found that the farmers realised that by adopting organic farming, the farms will be more productive, production will increase and the expenditure will get reduced. Organic production and consumption will contribute in changing their lifestyles and will help in achieving sustainable consumption. The target should be to save the nature, animal rearing and producing safer food products. Consequently, this will reduce the number of diseases.

Furthermore, it was observed that the causes of products/services used by farmers harming the environment and not promoting sustainable consumption were:

- Use of chemical-based vegetables/ food products
- Animals polluting pond water
- Dead animals disposed in open
- Excessive use of chemical fertilisers like Urea and DAP
- Forestation
- Use of disposable plastic products
- Use of Hazardous pesticides and insecticides
- Excessive use of motor vehicles
- Use of plastic carry bags
- Chemical emissions from factories and chimney
- Chemicals used in getting rid of dirt
- Use of firewood for cooking
- Open defecation

Besides, the farmers proposed the following changes in their lifestyles for promoting sustainable consumption:

- Using organic manures
- Preventing adulterated food products
- Reducing use of motor vehicles
- Using clay vessels
- Preventing use of chemical-based products
- Planting more trees
- Using vermin compost
- Reducing use of plastic products
- Using traditional agriculture techniques
- Reducing use of smoke emitting equipment

The farmers' recommendations for inculcating a culture of sustainable consumption are as following:

- Initiating organic farming
- Avoiding using products that are harmful for environment.

- Changing attitude
- Changing in social beliefs and make the people aware
- Introducing effective implementation of schemes by the government to promote organic farming and provide required grants
- Using organic manure and other inputs
- Encouraging cow/animal rearing
- Planting more trees
- Contributing in keeping the environment clean

Part C: Qualitative Interviews

1. In -depth Interviews of Policymakers/Government Officials

Agencies Promoting Organic Farming and Consumption

There are a number of government departments and agencies working in the state to promote organic farming and consumption. These include National Bank for Agriculture and Rural Development (NABARD), Directorate of Horticulture, Rajasthan State Seed and Organic Production Certification Agency (RSSOPCA), National Horticulture Mission (NHM) Rajasthan Organic Certification Agency (ROCA) and Directorate of Organic Certification.

Controlling Hazardous Effects of Chemical-based Inputs

Agriculture and Horticulture Departments and various Directorates under the Departments are providing training to the farmers, spreading awareness, preparing and distributing organic inputs and conducting research on agriculture aspects.

Agriculture Department is working hard for introducing new technologies among farmers by training and by demonstrations of crops, and giving subsidies on for irrigation equipment, and for promoting their use in agriculture. Government executes *Paramparagat Krishi Vikas Yojana* (PKVY) and *Paramparagat* Guarantee Scheme (PGS) for promotion and certification of organic products.

PKVY is being implemented in the selected districts for promoting organic farming. Main activities are organising farmers' training/demonstrations in farmers' fields and provide assistance to farmers to start new technologies developed by agriculture scientists at research stations. Field Level Demonstrations (FLD) have been planned in PKVY. Organic fairs have also been proposed in the PKVY scheme. It also promotes integrated farming system. Along with PKVY, Chief Minister's Organic Block Development Scheme is also being implemented in selected blocks of few districts.

Under PKVY in the year 2015-16, 30 clusters of 1500 farmers were planned to be developed in Jodhpur district. Subsidies have been proposed for doing organic farming in 0.4 hectare land. Maximum farmers proposed are 100 in two clusters. Subsidies include benefit of Rs 500 for seed material, exposure visit, subsidy of Rs 1500/ for *Dhaincha* crop, Rs 5000 for vermi bed, RS 2500/ for equipment etc. In the year 2015-16, 35000 farmers were involved in the scheme. During the new phase in 2016-17, 25,000 farmers have been added.

Rajasthan State Seed and Organic Production Certification Agency (RSSOPCA) have been set up by the Government of Rajasthan. Rajasthan Organic Certification Agency (ROCA) has been set up under RSSOPCA. The agency is the authorised agent of Government to provide certification and assistance for organic products. Rajasthan Seed Certification Agency is doing Certification and research of seeds and conducting awareness camps for certification of organic seeds in consultation with various Line Departments.

NABARD is providing support to organic farmers in many ways. The most well-known support is for preparing vermin pit**.** Banks are providing rural finance and credit to SHGs and farmers in various districts for preparation of organic inputs and other agricultural activities.

Under the Mitigating Poverty in Western Rajasthan (MPOWER**)** project, Agriculture practices improvement have been initiated, Integrated farming, buy back of produce and Vermin compost support for organic farming have been provided, although there is no specific component for organic farming under the project.

In State Institute of Agriculture Management (SIAM), training of only agriculture department officials are being conducted. Farmer trainings are being provided by the two training centres established in Kota and Tonk. Training calendar of SIAM is prepared by the department and is approved by the Additional Director-Extension. SIAM only organises the trainings, resource persons are hired. National Institute of Agricultural Extension Management (MANAGE), Hyderabad is supporting the agency is drafting the training calendar and providing content support.

Organic Farming/Consumption in District/State Level Planning and Stakeholder Engagement

In Rajasthan new Organic Policy has been announced by the state government in the year 2017. There are various provisions made under the policy. Presently, it is believed that the government agencies will initiate new schemes and components in the existing schemes specifically targeted for promoting organic farming.

Organic farming and consumption is emerging as one of the important policy aspects in government planning and interventions. However, there is still a lot to do as it is evident that organic farming and consumption is still not figuring out in important programmes, trainings organised and schemes like SIAM, RACP and MPOWER.

NABARD and some other agencies have related components in their plans; however, much focus is required in implementation and stakeholder engagement. At present, only few farmers are involved in organic production and consumer's demand for organic is not observed.

Under various schemes information is being provided about the harmful effects of chemical-based farming and awareness is being created about organic farming and

consumption. Demonstrations are being carried out and thousands of farmers have been involved in organic farming since e last few years. These farmers have also been provided with organic fertilisers, seeds etc.

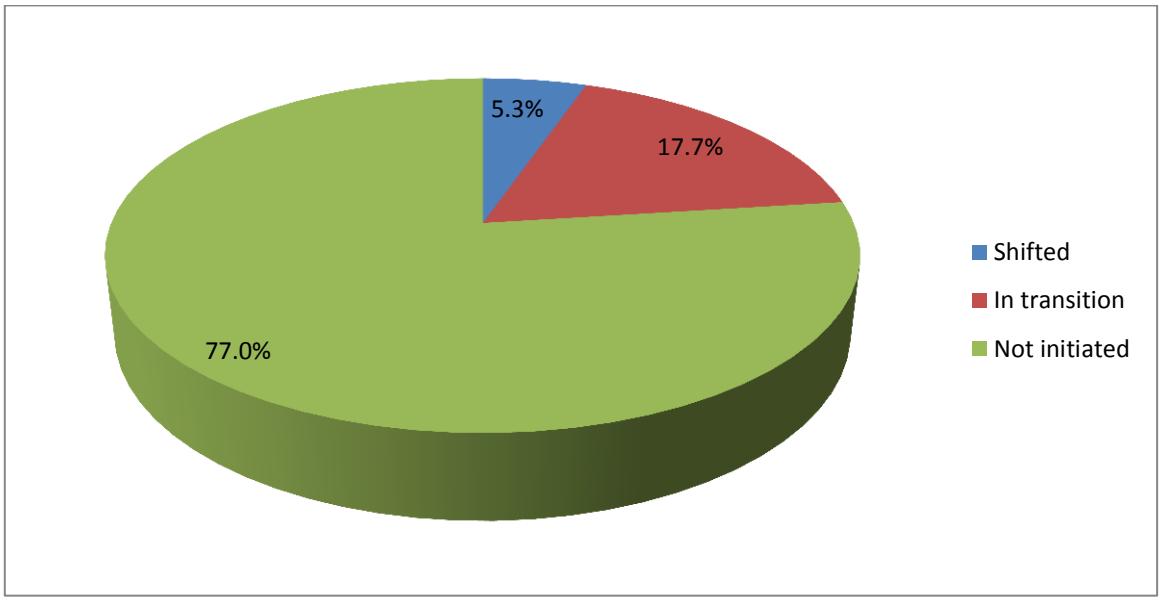
Farmers being Receptive to the Organic Farming and the Reasons for the same

The perceptions and experiences on this issue are divided. Some agencies/experts feel that farmers are less receptive due to lack of knowledge and awareness, while others feel that farmers are receptive as they know that demand of organic products is increasing day-by-day not only in India but also abroad. They also know that the prices of organic products are higher than the products produced with chemical-based inputs. Apart from this, many farmers have adopted organic farming for self-consumption as they know the harmful effects of chemical-based farming.

Percentage of Farmers/Shifting Farming Areas /Covered under Organic Farming

It was the popular perception that approximately 2 to 10 percent (state-wise average was estimated at around 5.3 percent) in view of the feedback received) of farmers were engaged in organic farming. However, a good fraction of farmers used organic inputs along with chemical inputs. These farmers in transition are estimated at round 17.7 percent based on the expert opinions. Besides, there was a majority, which needs to be encouraged for organic farming (Figure 4.99).

Figure: 4.99: Farmers Shifted to Organic Farming



Organic farming is gaining momentum slowly, although it is still in primary stage. A considerable number of farmers have started organic cultivation for their own consumption as they are aware of adverse effects of inorganic inputs and outputs, although they use chemical-based inputs for commercial purpose farming.

Challenges in Promoting Organic Farming and Consumption

According to the experts interviewed, the biggest problem in assessment is that the adoption of organic farming cannot be measured as not adopted completely by the farmers. Under PKVY, one block each of 11 districts is to be made organic. It is believed that here chemicals will not be used. In 2015-16 35000 farmers were targeted under the scheme and in 2016-17, 25,000 new farmers were added. If the programme succeeds, it can set a landmark in the assessing the extent of organic farming.

Another challenge is development of Package of Practice (P.O.P.) for organic farming. It is coupled by the ensuring providing marketing facilities and ensuring organic seeds/fertilisers/pesticides as without these promoting organic farming is very difficult.

One of the important findings is that there are certain crops, such as *Moong*, *Gwar, Jwar, Til* (oil seeds), which are by default organic as there is very low content of chemical inputs used in these crops. However, there is a need for sustained efforts to protect them from use of chemicals and certify the fields by adopting the desired processes.

Another challenge is the low productivity in first year and initial few years as by adopting organic farming initially farmer will get less production. Farmers need good profit. Problems in availability and marketing of organic input materials in the market are major challenges in organic farming.

High cost is yet another challenge. Most of the farmers practise this, with the support of government schemes only due to the cost factors. If they receive subsidies they are prone to adopt this. For consumers' organic products and for farmer's input, such as vermi compost being comparatively expensive, and is not available easily in local markets. Hence, this is a big challenge for promoting organic farming and consumption.

Some farmers are aware but they do not practise this because of the time taken. Absence of special price-driven market, lack of government/institutional support in form of subsidy and consistence promotion of inorganic input in farming by government is also a challenge.

Suggestions for Government/Policymakers

There is a need to create mass awareness policy and implement it in mission mode in particular areas. Creation of some model organic farming villages should be undertaken. Government should identify such places and ban chemical fertiliser seeds and pesticides and promote organic in that specific area. Further, this area should be expanded

regularly. There should be complete ban on chemical-based fertilisers and seeds in some areas while limited ban in other areas.

The government should play more stringent role in promoting organic farming schemes. Animal husbandry should be promoted, for cattle feed Azola production should be promoted. NGOs have good networks in rural areas so they can link farmers with organic farming. These farmers are still involved in organic farming as NGOs are continuously associated with them. The government should make similar efforts.

Organic farming can provide pure and harmless products, promote animal husbandry, making land safe from effects of harmful chemicals. Besides, there is less consumption of water in organic farming. Moreover, vegetable promotion related activities should be promoted.

Organic farming can be achieved in the state if awareness activities are undertaken and related schemes are implemented effectively. The entire programme creates an Integrated Natural Resource Management (INM) approach.

Phase-wise reduction in supply of chemical inputs for agriculture and phase-wise increase of organic production should be undertaken. In various exhibitions, big retail shops and other marketing platforms, compulsorily space should be provided to the organic products. Continuous exposure visits to organic fields should be organised, which can motivate other farmers to adopt organic farming.

There should be allocation of more funds for production of organic inputs so that supply can meet the demand. Subsidies should be provided on sales and production of organic inputs, so that it becomes inexpensive for farmers and they might also start producing and selling.

Government agencies should emphasise on purchasing of organic food for army, mid-day meal and at their respective canteens, NGOs/institutions should engage the farmers in promoting animal husbandry, plantation, grazing land and developing market place. Along with provision of subsidy, the government can also relax certification process of organic farming. It was also recommended that the government should buy organic products from farmers through a government agency.

Involvement in ProOrganic Project and Feedback for its Phase II

Most of the selected respondents for in-depth interviews in six old districts shared that they are aware about the ProOrganic project supported by CUTS. The officials suggested that in the II phase of the project, convergence/collaboration with government programmes should be explored to have wider impact.

Respondents shared that the project should be extended to other *gram panchayats* as this will have a wider impact. Project should create a model in selected district of

Rajasthan and should showcase the model among farmers. There should be a focal point for sale of organic products, especially vegetables. Besides, awareness should be spread among farmers about the schemes and services available through various government agencies for promoting organic farming.

The project should provide platform for farmers where they can sell organic products. In the long run, the project should develop organic market with special price to farmers. Gradually, this movement should be spread in all the districts across the state.

2. In-depth Interviews of Representatives from Organisations Involved in Organic Farming

Agencies Promoting Organic Farming/Consumption

There are various institutes and organisations working on organic farming and consumption issues in the state. These include KVKs, Research Institutes, such as Central Arid Zone Research Institute (CAZRI), departments or various universities and various NGOs.

Promoting Organic Farming and Consumption

KVKs are doing awareness and training programmes for reducing /controlling ill effects of chemicals in farming and for promoting production of organic products. They are also doing development and monitoring of farmer's groups and model *panchayats.* KVKs are providing training and technical assistance and provide equipment on subsidised cost. Training of Local Resource Persons (LRPs) for promoting organic farming have been organised in various KVKs.

One of the main functions of KVKs is transfer of technology. To reduce harmful effects of chemicals/pesticides KVKs have been organising FLDs and extension activities. *Kisan mela*, awareness camps, orientation trainings, vocational training, etc. are being regularly organised.

KVKs along with some non-government agencies are guiding farmers for regular soil and insecticide checking and informing the concerned departments for intervention. Besides, they are also creating awareness for adoption of organic farming, promotion of solar energy among farmers and are linking farmers with government schemes.

KVKs are doing Research on crops/agriculture and animals for improvement in quality and quantity of crops, safe and effective control over insects and weeds, suggesting measures to improve soil and water conservation and research on agriculture, animal husbandry and horticulture.

KVKs are continually trying to promote organic farming. Farmers willing to adopt organic farming are being encouraged. Seeds and equipment are also being provided to farmers. Farmers are also being trained for treatment of seeds with cow dung and cow urine. Farmers have been provided training on using seeds of *Dhatura* and leaves of *Neem* and *Kathal* as insecticides. Besides, training on preparing organic and vermi compost from waste weeds is also being imparted.

Central Arid Zone Research Institute (CAZRI) based in Jodhpur is premier institute working on agriculture issues. Certified organic farms have been developed in CAZRI and other institutes. In CAZRI, approximately 1000 farmers visit every year. PoP has been developed by scientists for some of the organic crops, such as *Til* (oil seed) and *Moong* while it is in progress for *Jira and Isabgol*.

Various NGOs/agencies are involved in implementation of various awareness programmes, research, education, promotion of socio-economic balance, promoting organic production and consumption through art and culture, formation of demonstration groups/sites on various issues dealing with reducing chemical-based inputs, promoting traditional and organic farming and promoting sustainable consumption and lifestyle. Vermi wash is being promoted by some of the research institutes and NGOs.

Strategy for organic farming is being prepared from time to time. Suggestions have been provided to farmers and consumers to prepare suitable environment for developing complete chain of organic products. Marketing outlets and retail stores have also been established by some private agencies.

In some districts, NGO are also involved in waste management. They are preparing organic manure from the kitchen waste collected by them under *Swatch Bharat Abhiyan*. Organic compost is being made by NGOs from kitchen and green wastes. About 50,000 kg organic compost was made in last three years by SRIJAN in Pratapgarh. They have also made the farmers aware through KVK about compost made by NGO and organised three days' awareness programme in *Krishi Mandi*.

Gramin Vigyan Sewa Sansthan is running programmes related to environment; promoting agro-biodiversity, water harvesting and organic agriculture. The organisation is supported by United Nations Development Programme (UNDP) for awareness of farmers about organic farming and adverse effects of chemical farming on soil productivity and human health.

Experts opine that from nutrition point of view there is no difference in the nutrient value in organic products, however, due to absence of harmful substances, organic produce is recommended.

Challenge in Promoting Organic Farming Production/Certification/ Marketing and Consumption

Experts have cited lack of organic seeds/fertilisers/other inputs and also lack of organic PoP literature and marketing platforms as the challenges in promoting organic farming. It is suggested that the government should provide complete PoP and other books for major crops, marketing facilities and should also decide Minimum Support Price (MSP) for major crops so that producers feel safe and secure.

The government should make full advertisement/publicity of related schemes especially in remote areas and should also provide safe marketing facilities or buy back guarantee schemes. Apart from this organic certification in multiple cropping systems especially continuous process of three years is a big challenge. Unavailability of FYM and cost of produce is high.

One of the main problems of farmers is plant disease. *Trichoderma* in injectable form should be made available to counter the same. Cow urine along with *Ankda dhatura* and *Jivamrit* are being used as insecticides, however, there is no specific process adopted as these are used mainly on the inadequate knowledge acquired by the farmers.

The biggest challenge in organic farming is more efforts and less profit due to which farmers avoid doing it. The government should focus on organic certification. To promote organic farming, the government has initiated PKVY in 2015-16, but even after passing of one year the scheme is not yet fully implemented. Further, the government should focus on speedy initiation and implementation of such schemes. From consumer point of view, high cost of organic products is a challenge.

Lack of coordination among various Line Departments like watershed, agriculture, seed certification along with NGOs, NABARD and KVK is also a challenge. There is no market for the farmers and proper support and follow up should be given to the farmers for adopting organic in each district of Rajasthan.

NGOs have assisted in farmers getting subsidised loans to farmers for making vermin compost pits through NABARD assistance. This should be promoted and loans should be provided to the farmers for mechanisation of farming.

Unavailability of market for farmers as well as consumers, lack of interest among farmers and absence of knowledge for preparation of organic inputs have been cited as challenges. Absence of organic inputs for farmers, lack of willingness to put hard labour and confusion prevailing among farmers related to organic production. No premium price and lack of market for organic products demotes farmers.

Absence of animal husbandry was found to be the most challenging phase of animal and labour oriented organic farming activity. Today, most of the farmers do not have enough

cattle in accordance to agricultural land size and no technological support have been invented for preparing organic inputs.

Suggestions for Government/Policymakers/Farmer Organisations

Farmers are found receptive to the organic farming but there is lack of incentives for organic inputs and marketing platforms. It is also essential to reduce subsidy on chemical-based inputs in order to reduce their consumption and bring their cost at par with the organic inputs.

Farmers are aware that organic farming is good for health and soil and on contrary the chemical-based inputs are hazardous for human and soil health. However, lack of organic inputs prevents farmers from adopting organic farming. Market costs of organic inputs are also higher in comparison with chemical inputs.

For sustainable farming and consumption, backyard gardening has been suggested as one of the effective measures. Backyard farming has been adopted in many places, however, there is no specific data available for this. In backyard gardening mainly organic inputs are being used by farmers as the produce is mainly for self-consumption.

In various districts, for organic farming different type of activities, such as vermi compost, *nadep* compost pit are being adopted. *Neem* and its produce and *Chach* are being used as insecticides. Such efforts should be promoted for sustainable indigenous farming.

Involvement in ProOrganic I Project and Feedback for the Phase II

Representatives from some agencies have participated in one or more meetings organised by CUTS under the phase I of the ProOrganic project. Most of them shared that as resource person or participant they have participated in one or more of the programmes. Some of them have participated in *gram panchayat* level training/ meeting under Pro-Organic project and motivated farmers/consumers to adopt it.

These experts/resource persons have sensitised the farmers to stop practicing traditional form of agriculture and the consumer to use organic produce. Respondents shared that the project was good and successful and stressed on the need to continue such interventions. It was also suggested to support in providing organic inputs within the cost of chemical inputs and/or providing technical assistance for preparing it.

It was also suggested that the project should develop model producers/pockets and markets. Organisations should also advocate for ban on use of chemical inputs in agriculture in a phased manner.

Besides, representatives from various organisations suggested to organise more activities, such as exposure visits to various organic farming areas and opening marketing outlets should also be included. Project team should work with farmers in identifying the gaps to plan the interventions, so that farmers can become more receptive to such programmes.

Chapter 5: Findings and Outcomes

1. Assessment of Consumers

Socio-Economic Profile of Consumers

During the quantitative field survey, about 1795 consumers were covered for interviews. Out of the above, 41.5 percent respondents were female. Considering gender distribution district-wise, it was found that Jodhpur had a minimum (33 percent), while Jhalawar had the maximum (56 percent) female consumers.

Most of the consumers fall in the active working age. While the average age of consumer respondents was found to be 42 years, it varied from an average of 37 years in Jhalawar to 48 years in Bhilwara. For male respondents, it varied from 37 in Chittorgarh to 49 in Bhilwara, while for females it varied from 36 (Jhalawar) to Dausa (48).

Looking at the education of consumer respondents it was observed that more than half of the consumers (57 percent) were educated up to primary level only, while there were only 5 percent consumers who were educated up to graduation or above.

On the basis of economic category, 31 percent of the consumers belong to the BPL category. The low economic background was further reflected in the expenditure pattern of the consumers as 72 percent consumers spent of 1000 to 5000 thousand per month. Only 1.6 percent consumers were spending more than 10,000per month.

Knowledge and Attitude

Regarding the knowledge and attitude of consumers, it was found that most of the consumers (86 percent) were aware of the fact that chemical input-based food products were harmful for health. Similarly, 84 percent consumers reported that they were aware about the organic products. An almost equal proportion of consumers (86 percent) reported awareness regarding farmers producing organic products.

Further it was found that only 41 percent consumers were aware on availability of organic products in the market. Only 34 percent of consumer respondents were found to be aware on specific store/shops selling organic products. Considering the trust on organic products, it was found that 40 percent of consumers trusted the sellers regarding organic products. Nearly 89 percent of the consumers believed that organic products were better than chemical-based products.

Behaviour and Practices

It was found that the most popular reason for buying organic products was their being better for health. More than 60 percent consumers reported that they buy food products from standalone shops although 30 percent bought from multiple sources including PDS shops. More than 80 percent consumers bought fruits and vegetables from local *haat* or local vendor cumulatively.

Only 39 percent of consumer respondents reported buying organic products ever. More than half of the consumers responded that prices of organic products were higher although 31 percent consumers felt that the prices were almost similar. Consumers not buying organic products cited the higher price and unavailability as the major reasons for not buying the same.

Challenges and Suggestions

About 83 percent consumers reported that they would like to purchase organic products if they were available at proper price. 68 percent consumers reported facing difficulty in finding organic products. Consumers were divided equally on the reasons for non-availability of organic products at high price, less demand and lack of consumer awareness. More than 50 percent respondents suggested that the farmers should be made aware for organic farming, although only 30 percent emphasised on community awareness.

Regarding satisfaction with the organic products purchased 56 percent consumers reported that they were satisfied with the quality of organic produce while 34 percent were somewhat satisfied. Most of the consumers trust words of seller when the quality of organic produce was the concern. About .86 percent consumers felt that certification should be mandatory. Nearly 86 percent opined they were willing to motivate other consumers to buy organic produce.

In six old districts, wherein the first phase of the project was implemented, 17 percent of the consumer respondents admitted participating in the CUTS ProOrganic meetings. 82 percent of those participating found the meetings to be useful.

Only 33 percent consumers reported of their awareness on kitchen/rooftop gardening, however, when explained, 64 percent expressed willingness to adopt kitchen/rooftop gardening for self-consumption. A majority of consumer respondents (86 percent) felt organic products contribute to local economy. Around 97 percent consumers believed that buying organic products was more environmentally-friendly. There was widespread awareness regarding awareness on sustainable consumption as only 15 percent consumers were found to be aware about this.

2. Assessment of Farmers

Socio-Economic Profiling

about 644 farmers were covered during the field survey. Out of these 40.5 percent were female respondents. Looking at gender representation district-wise it was observed that Udaipur covered maximum proportion of female respondents (51.52 percent) while Bhilwara had the minimum (27.50 percent). Average age of respondents varied from 43 years (Pratapgarh) to 51 years (Jodhpur) for male and from 39 years (Pratapgarh) to 49 years (Kota) for female.

More than 30 percent of respondents belong to the Below Poverty Line category. More than 70 farmer respondents were from low educational background (educated up to primary level), while only 2.6 percent respondents were educated up to graduation or above.

Around 65 percent were involved in their own farming, 18 percent involved into farm labour. Nearly 17 percent were having their own farm land as well as doing farm labour. More than 75 percent belong to household income between Rs 1,000 to 5,000 per month. Around 15 percent were having more than 10,000 per month.

Knowledge and Attitude

About 94 percent farmers reported that they were aware of the ill effects of farming based on chemical inputs. A significant proportion of farmers (40 percent) reported that they were not aware about the other farmers adopting organic farming. Nearly 90 percent farmer respondents considered that organic food healthier than the food produced with chemical inputs. Moreover, 72 percent farmers reported that they were unaware of the seed bank. Further, 18 percent farmers stated that they were aware of the seed bank in the village. Around 60 percent farmers reported unawareness about the existence of Farmers' Club, while 11.5 percent were found to be associated with the Club.

Behaviour and Practices

Nearly 18.9 percent farmers reported they were using only organic inputs while more than 55 percent reported of using a mix of chemical and organic inputs. About 77 percent of farmer respondents cited more production as the reason for usage of chemical-based inputs, while 19 percent referred to less cost as the reason. Further, 46 percent farmers reported that they were somehow involved in organic farming. Only 13.85 percent of the above reported that they were doing 100 percent organic farming.

Around 52 percent of the farmers involved in organic farming were reported of setting up vermi composting units. 33 percent of farmers who had established vermi compost units had availed government support. Only 7 percent of farmers involved in organic

farming were selling their whole produce in the open market. However, 60 percent of the farmers were partly using the same for self-consumption.

Furthermore, 62 percent of farmers opined that the demand of organic products is increasing. Nearly 38 percent of the ones doing organic farming have taken trainings. Around 80 percent of the farmers involved in organic farming were preparing organic inputs in their own fields. 23 percent of farmers preparing organic inputs sold these inputs at some point of time.

Furthermore, 70 percent of respondents selling organic inputs reported that they found prices of organic inputs more than those of chemical-based inputs. 46 percent farmers reported of receiving support for organic farming. In addition, 60 percent got support from NABARD, 25 percent from NHM. 65 percent respondents were of the view that the support received was sufficient to some extent. About 15 percent of the respondents reported that they were aware of the Organic Certification Process.

Challenges and Suggestions

Nearly 28 percent of the farmers interviewed reported difficulty in selling their organic produce. Only 32 percent reported of receiving higher price for their produce. Farmers were almost equally divided on the reason for not getting higher prices among less demand, high cost input and less awareness among consumers. In addition, 25 percent farmers were not satisfied with the quality of produce while 37 percent were satisfied to some extent.

About 70 percent of farmers felt that producing organic inputs was environment-friendly. Moreover, 91 percent admitted they would like to motivate others for adopting organic farming. Most of the respondents (more than 80 percent) cited changing entire field and long duration of three cycles as the major hurdle in going organic.

Moreover, 95 percent of those not adopting organic were willing to adopt the same only if provided support. Majority of the respondents suggested community awareness for increasing demand of organic products. Nearly 31 percent of respondents in old districts admitted participating in CUTS ProOrganic meetings. Besides, 72 percent of those participating in the meetings felt that such events were quite useful. Nearly 32 percent farmers were found to be aware on sustainable consumption.

Chapter 6: Recommendations

The Baseline survey concludes that there is considerable need to promote and adopt organic farming in the state and appropriate actions/measures should be taken by the concerned government departments/agencies to enhance organic farming.

The recommendations based on the findings of the survey are as following:

- It was observed that there is hardly any data available on the extent of organic farming and consumption in the state. The efforts should be made to capture the data and make the reliable data available, so that it can be used for programme planning and implementation by different agencies.
- PoP for organic farming is available only for very few crops. Standard PoP and other content/books should be developed for all major crops.
- The government should also decide Minimum Support Price (MSP) for major crops so that producers feel safe and secure.
- Special price-driven markets for organic products should be developed in order to provide premium price for farmers. In the long run organic market should be developed, which will provide special price to farmers. It should start working with selected farmers for fulfilling the market demand and spread the movement in all the districts across the state of Rajasthan. In various exhibitions, big retail shops and other marketing platforms, compulsorily space should be provided to the organic products. Besides, the government should provide platform/make a focal point for sale of organic products, especially vegetables.
- Ensuring availability and marketing of inputs materials, such as organic seeds/fertilisers/pesticides in the market and providing knowledge for preparation of organic inputs to the farmers as without these promoting organic farming is very difficult. The government/institutional support in form of subsidy should be provided.
- NGOs/institutions should engage the farmers in promoting animal husbandry, plantation and developing grazing land. NGOs have good networks in rural areas; they link farmers with organic farming and keep regular touch with them. These farmers are still involved in organic farming as NGOs are continuously guiding them. The government should make similar efforts. NGOs have assisted farmers in getting subsidised loans to farmers for making vermin compost pits through NABARD assistance. This needs to be promoted and loans should be provided to the farmers for mechanisation of farming. NGOs should advocate for ban on use of chemical inputs in agriculture in a phased manner.

- Absence of animal husbandry is the most challenging phase of animal and labour oriented organic farming activity. Today, most of the farmers do not have enough cattle in accordance to agricultural land size and no technological support have been invented for preparing organic inputs. Animal husbandry should be promoted as it is prerequisite for promoting organic farming. For cattle feed *Azola* production should be promoted.

- It is also essential to reduce subsidy on chemical-based inputs to reduce their consumption and bring their cost at par with the organic inputs. Consistent promotion of inorganic products should be reduced in a phased manner. Phase wise reduction in supply of chemical inputs for agriculture and phase wise increase of organic production should be undertaken.

- In the arid zone, there are certain crops, such as *Moong, Month, Gwar, Jwar, Til* (oil seed), which are by default organic as there is very low content of chemical inputs used in these crops. Sustained efforts should be made to protect them from use of chemicals and certify the fields by adopting the desired processes. Organic farming can provide pure and harmless products, land will be safe from effects of harmful chemicals and less water is required in organic farming.

- Efforts should be made to enhance productivity in organic fields, especially in the initial few years as lack of it deters the farmer from adopting organic farming.

- Currently, the input cost for organic farming is much more than chemical-based farming. Due to this the farmers use this activity with support of government schemes only. To counter this there should be provisions of subsidy on the organic inputs. Apart from costing, availability of organic inputs is also an issue. These inputs are not available in the market easily. Efforts should be made to enhance the availability and increase visibility in the market. It is also recommended to support in providing organic inputs within the cost of chemical inputs and/or providing technical assistance for preparing it. Farmers were aware of the fact that organic farming is good for health and soil and on contrary the chemical-based inputs are hazardous for human and soil health. However, lack of organic inputs prevents farmers from adopting organic farming.

- From consumers' point of view prices of organic products are much higher due to which lower and middle income groups are hesitant in purchasing the same. Efforts should be made to bring the prices of these products down. Reduction in or waiver of applicable taxes may be undertaken for this purpose.

- There is a need to create mass awareness policy and implement it in mission mode in particular areas. Creation of some model organic farming villages may be undertaken in selected district of Rajasthan and should showcase the model among farmers. The government should identify the places and ban chemical fertilisers seeds and pesticides in that particular area and promote there. Thereafter this area

should be expanded regularly. There should be complete ban on chemical-based fertilisers and seeds in some areas while limited ban in other areas.

- Continuous exposure visits to organic fields should be organised, which can motivate other farmers to adopt organic farming. It is also recommended to spread awareness among farmers about the schemes and services available through various government agencies for promoting organic farming.

- There should be allocation of more funds for production of organic inputs, so that supply can meet the demand. Moreover, subsidies should be provided on sales and production of organic inputs. This is because it is inexpensive for farmers and they might also start producing and selling. Along with the provision of subsidy the government can also relax certification process of organic farming.

- It is recommended that the government should buy organic products from farmers though a government agency. Government agencies should emphasise on purchasing of organic food for army, mid-day meal and at their respective canteens,

- To counter prevalent plant diseases *Trichoderma* in injectable form should be made available. Cow urine along with *Ankda dhatura* and *Jivamrit* are being used as insecticides. However, there is no specific process adopted as these are mainly used on the basis of partial knowledge gained by farmers. Hence, knowledge base of the farmers should be enhanced.

- To promote organic farming, the government has initiated PKVY in 2015-16, but even after passing of one year the scheme is not yet fully implemented. The government should focus on speedy initiation and implementation of such schemes. It should publicise related schemes, especially in remote areas, and should also provide safe marketing facilities or buy back guarantee schemes. Apart from this organic certification in multiple cropping systems should be simplified as continuous process of three years is a big challenge.

- Coordination among various Line Departments like watershed, agriculture, seed certification along with NGOs, NABARD and KVK should be enhanced. The government should also work with farmers in identifying the gaps to plan the interventions, so that farmers can become more receptive to such programmes.

- For sustainable farming and consumption, backyard gardening should be promoted. Backyard farming has been adopted in many places; however, there is no specific data available for this. In backyard gardening, mainly organic inputs are being used by the farmers as the produce is mainly for self-consumption. In various districts, activities like vermi compost, *nadep* compost pit are being adopted. *Neem* and its produce, *Chach(Buttermilk)* are being used as insecticides. In this manner, efforts should be made to promote sustainable indigenous farming.

Annexure 1

Respondents for Qualitative Interviews

S. No.	Name of the Respondent	Designation of the Respondent	District
1	Dr. Arun Kumar Sharma	Senior Scientist, Central Arid Zone Research Institute (CAZRI)	Jodhpur
2	Dr. S R Kumhar	ZDR, Agriculture Research Station, Mandore	Jodhpur
3	Dr. R.L. Bhardwaj	Incharge, Department of Horticulture	Jodhpur
4	Manendra Kumar Sain	Senior Research Fellow, Agriculture Research Station, Mandore	Jodhpur
5	Dharm Pal	FA, ARS, Mandore	Jodhpur
6	Rajendra Bana	Senior Research Fellow, Agriculture Research Station, Mandore	Jodhpur
7	Rakesh Jat	Senior Research Fellow, Agriculture Research Station, Mandore	Jodhpur
8	Hemant Kumar Ametha	Senior Research Fellow, Agriculture Research Station, Mandore	Jodhpur
9	Dinesh Kumar	FA , Agriculture Research Station, Mandore	Jodhpur
10	Gajendra Kumar Vyas	Nodal Officer, In-charge, MPOWER	Jodhpur
11	Dr. Malu Ram	Agronomist	Jodhpur
12	Nema Ram	Agriculture Research Officer, Agriculture Department	Jodhpur
13	Incharge	*Krishi Vigyan Kendra*	Jodhpur
14	Dr. V S Yadav	Head of the Department	Jaipur
15	Dr. Kanika Verma	Associate Professor, Dept. of Home Science, Rajasthan University	Jaipur
16	K C Meena	Joint Director, Horticulture, Pant Krishi Bhawan	Jaipur
17	Dr. S K Hudda	Joint Director (ATC), Pant Krishi Bhawan	Jaipur
18	Abhishek Prakash	Team Leader, Reliance Foundation	Jaipur
19	Dr. Neetu Pareek	Agriculture Officer, State Institute of Agriculture Management	Jaipur
20	Manoj Agrawal	Specialist, Environment & Sustainability, RGAVP, Jaipur	Jaipur
21	Varun Sharma	Programme Coordinator, ARAVALI, Jaipur	Jaipur
22	Kedar Prasad Shrimal	Secretary, *Gramodaya Samajik Sansthan*, Chaksu, Jaipur	Jaipur
23	Akhilesh Sharma	District Project Manager, National Rural Health Mission, Jaipur	Jaipur
24	Lalit Tripathi	Consultant, National Rural Health Mission,	Jaipur

S. No.	Name of the Respondent	Designation of the Respondent	District
		Jaipur	
25	Vishnu Sakuniya	Secretary, Bharatiya Vikas Sanstha, Jaipur	Jaipur
26	Mohit Gupta	Department of Agriculture, Jaipur	Jaipur
27	Sheopal Meena	Senior Manager, Bank of Baroda	Jaipur
28	Shankar Lal Choudhary	Agriculture Officer, Agriculture Department, Shahpura	Jaipur
29	Sardar Singh	Assistant Director, Agriculture Department, Jaipur	Jaipur
30	Subhash Choudhary	Assistant Agriculture Officer, Chaksu	Jaipur
31	Omkar Mal Yadav	Agriculture Observer, Agriculture Department	Jaipur
32	Kamaluddin Khan	Shri Dev *Gou Seva GraminVikas Sansthan*,	Jaipur
33	Radheshyam	Manager, Durgapura Gaushala,	Jaipur
34	Dr. Amolak Chand Mehta	President, Durgapura Gaushala	Jaipur
35	Dr. K R C Rao	Officer, Organic Seed Certification	Jaipur
36	Dr. S K Agrawal	Programme Coordinator/Senior Scientist, KVK , Chittorgarh	Chittorgarh
37	Dr. Ratan Lal Solanki	Scientist, KVK , Chittorgarh	Chittorgarh
38	Dr. Suresh Jonagar	Scientist, KVK , Chittorgarh	Chittorgarh
39	Dr. Rajesh Jalvaniya	Scientist, KVK , Chittorgarh	Chittorgarh
40	Dr. Hemraj Meena	Agriculture Specialist, Agriculture Department	Chittorgarh
41	Dr. PuspendraChoudhary	District Coordinator , RACP, Horticulture	Chittorgarh
42	Dr. Babu Khan	Assistant Director Agriculture (Extension) officer , Begun	Chittorgarh
43	Dr. Ajay Singh Sikhawat	Assistant Director, Horticulture	Chittorgarh
44	Chandrakant Rajoriya	Center Manager, NMS Enterprises	Chittorgarh
45	Shri Dal Singh Garasiya	Agriculture Officer, Assistant Director-Extension	Pratapgarh
46	Dr. Yogesh Kanojia	Senior Scientist & Head, Krishi Vigyan Kendra	Pratapgarh
47	Dr. B S Badhala	Scientist (Ext.), Krishi Vigyan Kendra	Pratapgarh
48	Shweta Vyas Dabhi	Head, Srijan Sewa Sansthan	Pratapgarh
49	Jeetmal Nagar	Project Coordinator	Pratapgarh
50	Jitendra Chaudhary	Unit Head, Reliance,	Pratapgarh

S. No.	Name of the Respondent	Designation of the Respondent	District
51	Suneel Tiwari	Project Manager, RGAVP	Pratapgarh
52	MadanChoudhary	Chief Horticulture	Pratapgarh
53	Dr PrakashPanwar	Programme Coordinator, KVK	Pratapgarh
54	Dr. Balbir Singh Baghala	Coordinator, KVK	Pratapgarh
55	Hira Lal Solanki	Samagra Jagrati evam Vikas Sansthan	Pratapgarh
56	Kailash Meena	Deputy Director	Jhalawar
57	Jitendra Jangid	Assistant Agriculture Officer	Jhalawar
58	Ram Raj Meena	Scientist (Horticulture), Krishi Vigyan Kendra	Jhalawar
59	Anil Kotmere	District Development Manager, NABARD	Jhalawar
60	Madhusudan Acharya	Agriculture Expert, Former Dean,	Jhalawar
61	Khushi Ram Teli	Agriculture Supervisor, Junakheda	Jhalawar
62	Yadram Meena	Agriculture Supervisor, Lavasal	Jhalawar
63	Hari Singh Charan	Sansthan, District Coordinator	Jhalawar
64	Dr. Ram Raj Meena	Assistant Professor, Horticulture, KVK	Jhalawar
65	Radhakrishna Sharma	Agriculture Officer	Kota
66	Dr. Mahendra Kumar Garg	Scientist, Animal Husbandry	Kota
67	Dr. Mukesh Kumar Goyal	Agriculture Extension Scientist	Kota
68	Dr. Mahendra Singh	Program Coordinator, KVK	Kota
69	Dr. L K Dadheech	Social Worker, Ex-Scientist, VC	Kota
70	MamtaTiwari	Associate Professor, Agriculture College	Kota
71	Dr. N N Tripathi	Associate Professor (Training), Agriculture College,	Kota
72	Rajeshwari Nama	Rajeshwari Kala Kendra Sanstha	Kota
73	BanwariLal Sharma	Jan Kalyan Swasthya Shikshan Prashikshan Samiti	Kota
74	Anil Agrawal	Agriculture Research Officer, Agriculture Department	Kota
75	Moti Singh Rathore	Programme Coordinator, KVK	Udaipur
76	Anand Singh Jodha	Krishi Vigyan Kendra	Udaipur
77	Kamlendra Singh	Samarthak Samiti	Udaipur
78	Kishore Sant	Ubeshwar Vikas Mandal	Udaipur

S. No.	Name of the Respondent	Designation of the Respondent	District
79	Brij Mohan Dixit	Scientist, Rajasthan Kisan Ayog	Udaipur
80	BhagwatiLal Purohit	Jaagran Jan Vikas Samiti	Udaipur
81	Chandu Ram Garasiya	Adivasi Vikas Manch	Udaipur
82	Smt.Lalita Ameta,	Coordinator, CECOEDECON	Udaipur
83	Gunmala Chelawat,	Secretary, Manu Sewa Sansthan,	Udaipur
84	Dr R M Sharma	Programme Coordinator, Krishi Vigyan Kendra	Dausa
85	Anil Sharma	Agriculture Officer	Dausa
86	Dr Raghunandan Sharma	Krishi Vigyan Kendra	Dausa
87	Dr Fateh Lal Saini	Assistant Director, Horticulture	Dausa
88	Niranjan Sharma	Field Extension Officer	Dausa
89	Bhagwan Verma	Field Extension Officer	Dausa
90	Vijay Jain	Agriculture Supervisor, Agriculture Department	Sawai Madhopur
91	Bharat Lal Meena	Assistant Professor, Krishi Vigyan Kendra	Sawai Madhopur
92	K P Singh	Ranthambhor Art & Wild Life Conservation Society	Sawai Madhopur
93	Ramesh Sharma	Gayanodaya Gramin Vikas Evam Shikshan Prashikshan Sansthan	Sawai Madhopur
94	Mahohar Bairwa	Dalit Vikas Sahayata Samiti, Bajaria	Sawai Madhopur
95	Ram Gopal Nayak	Joint Director, Agriculture	Bhilwara
96	G L Chawla	Deputy Director, Agriculture	Bhilwara
97	Indra Singh Sancheti	Project Director, ATMA	Bhilwara
98	Mukesh Verma	Assistant Director, Agriculture	Bhilwara
99	Anant Dadhich	Manager, Bandhan Bank	Bhilwara

CUTS International

Consumer Unity & Trust Society

D-217, Bhaskar Marg, Bani Park, Jaipur 302016, India

Ph: 91.141.228 2821, Fx: 91.141.228 2485, Email: cuts@cuts.org, Web: www.cuts-international.org

Also at Delhi, Calcutta and Chittorgarh (India); Lusaka (Zambia); Nairobi (Kenya); Accra (Ghana); Hanoi (Vietnam); and Geneva (Switzerland).