

“A STUDY ON VIABILITY OF ORGANIC FARMING IN ODISHA”

(With special reference to Kalahandi & Khurda districts of
Odisha)

By

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Admission no.31ABM/15



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“A STUDY ON VIABILITY OF ORGANIC FARMING IN ODISHA”

(With special reference to Kalahandi & Khurda
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A Thesis submitted to the Orissa University of Agriculture and
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(Agribusiness Management)

BY

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ORISSA UNIVERSITY OF AGRICULTURE

AND TECHNOLOGY

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ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

DEPARTMENT OF AGRIBUSINESS MANAGEMENT

CENTRE FOR POST GRADUATE STUDIES (CPGS)

CERTIFICATE - I

Dr. Samarendra Mahapatra
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This is to certify that the thesis entitled “A Study on Viability of organic farming in Odisha (With special reference to Kalahandi and Khurda districts of Odisha)” submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration in Agribusiness Management to the Orissa University of Agriculture and Technology is a faithful record of bonafide and original research work carried out by Pratigyan Utkalika Das under my guidance and supervision. No part of this thesis has been submitted for any other degree or diploma.

It is further certified that the assistance and help received by him/her from various sources during the course of investigation has been duly acknowledged.

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CENTRE FOR POST GRADUATE STUDIES (CPGS)

CERTIFICATE- II

This is to certify that the thesis entitled “A Study on Viability of organic farming in Odisha (With special reference to Kalahandi and Khurda districts of Odisha)” submitted by Pratigyan Utkalika Das to the Orissa University of Agriculture and Technology, Bhubaneswar in partial fulfillment of the requirements for the degree of Master of Business Administration (Agribusiness Management) has been approved/disapproved by the students’ advisory committee and the external examiner.

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DECLARATION

I hereby declare that this thesis entitled, “A Study On Viability of organic farming in Odisha (With special reference to Kalahandi & Khurda districts of Odisha)” being submitted to the Department of Agribusiness Management, Centre for Post Graduate Studies, Orissa University of Agriculture & Technology, Bhubaneswar, is my own work to the best of my knowledge and belief and it contains no materials previously published or written anywhere for the award of any other degree or diploma of the university or other institute of higher learning, any time before.

Pratigyan Utkalika Das

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ABBREVIATION

APEDA: Agricultural and Processed Food Products Export Development Authority

NPOP: National Programme for Organic Production

USDA: United States Department of Agriculture

FAO: Food and Agriculture Organization

PKVY: Paramparagat KrishiVikasYojana

PGS: Participatory Guarantee System

NER: North Eastern Region

NTB: Non-Tariff Barriers

PIA: Project Implementing Agencies

OSSOPCA: Odisha State Seed and Organic Products Certification Agency

NGO: Non Government Organizations

DSS :Darbar Sahitya Sasthan

HYV: High Yield Variety

ICS: Internal Control System

OSOCA: Odisha State Organic Certification Agency

US: United States

ABSTRACT

Organic farming is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil, good plant nutrition, and sound soil management, produces nutritious food rich in vitality which has resistance to diseases. India produced around 1.24 million metric tons of certified organic products which includes all varieties of food products namely sugarcane, cotton, oil seeds, basmati rice, pulses, spices, tea, fruits, dry fruits, vegetables, coffee and their value added products. India exported 135 organic products during 2013-14 with the total volume of 194088 metric tons including 16322 metric ton organic textile. In Odisha, the development of organic agriculture is receiving increasing attention among farmers, product processors, traders, exporters, consumers due to growing consciousness of health hazards out of possible contamination of produce by use of chemical fertilizers, pesticides etc. Agro-climatic conditions of Odisha with wide agricultural biodiversity are conducive for organic agriculture hence offers tremendous scope for cultivation of a wide range of organic products. Presently in Odisha, the farmers are cultivated in vast pockets of tribal area. The study is based on data collected from two districts i.e. Kalahandi and Khurda taking 117 respondents.

It was observed that majority of farmers prefer to follow some practices of organic farming in addition to the use of conventional practices like use of chemical fertilizers etc. It was found that organic farming is more profitable for farmers, mainly because of low investment costs than that of conventional farming where lot of monetized inputs like chemicals are used and it improves soil fertility and has greater profits in the long run. Most of the farmers are well conscious about the methods and techniques of organic farming. Certification would allow them to potentially sell their produce at a premium price.

Market development for the organic products is highly essential as the farmers are not able to get premium price for their organic products. The study indicated that the organic farmers of Kalahandi district were able to get better price for their products but the same was not possible for the farmers in Khurda district. Farmers indicated that government support services are needed for marketing their products. Government role is highly essential in terms of providing subsidies to the organic farmers in the initial years of adoption of organic farming so as to attract the farmers. Investment on research and development of organic farming is highly necessary. Farmers in the study area adopted organic farming either due to assistance from the government or due to the intervention of

NGOs, so this phenomenon of promoting organic farming should be carried out in a faster pace such that it will motivate more farmers to adopt organic methods of cultivation.

CHAPTER-I
INTRODUCTION

INTRODUCTION

Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, and biological pest control. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio-fertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution free environment. Organic farming is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil, good plant nutrition, and sound soil management, produces nutritious food rich in vitality which has resistance to diseases.

As per the definition of the United States Department of Agriculture (USDA) study team on organic farming “organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection”.

FAO suggested that “Organic agriculture is a unique production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles

and soil biological activity, and this is accomplished by using on-farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs”.

Organic agriculture is developing rapidly and is now practiced in more than 120 countries of the world. Its share of agricultural land and farms continues to grow in many countries. There are 37.5 million hectares of organic agricultural land in world including conversion areas. The regions with the largest areas of organic agricultural



land are in Australia with 12.2 million hectares, Europe with 11.2 million hectares, South America with 6.8 million hectares followed by Africa. The areas of non-agricultural land constitute more than 31 million hectares.

India is bestowed with lots of potentiality to produce all varieties of organic products due to its various agro climatic zones. In several parts of the country, the inherited tradition of organic farming is an added advantage. Currently, India ranks tenth among the top ten countries in terms of cultivable land under organic certification. The certified area includes 15 percent cultivable area with 0.72 million hectares and rest 85 percent (3.99 million hectare) is forest and wild area for collection of minor forest produces. Recent studies reveal that the total area under organic certification is 4.72 million hectare.

The Government of India has implemented the National Programmed for Organic Production (NPOP). The national programmed involves the accreditation programmed for certification bodies, standards for organic production, promotion of organic farming etc. The NPOP standards for production and accreditation system have been recognized by European Commission and Switzerland as equivalent to their country standards. Similarly, USDA has recognized NPOP conformity assessment procedures of accreditation as equivalent to that of US. With these recognitions, Indian organic products duly certified by the accredited certification bodies of India are accepted by the importing countries.

India produced around 1.24 million metric tons of certified organic products which includes all varieties of food products namely sugarcane, cotton, oil seeds, basmati rice, pulses, spices, tea, fruits, dry fruits, vegetables, coffee and their value added products. The production is not limited to the edible sector but also produces organic cotton fiber, functional food products etc. Among all the states, Madhya Pradesh has the largest area under organic certification followed by Himachal Pradesh and Rajasthan.

India exported 135 organic products during 2013-14 with the total volume of 194088 metric tons including 16322 metric ton organic textiles. The organic agri-export realization was around 403 million US \$ including 183 US \$ organic textiles registering a 7.73 percent growth over the previous year. Organic products are

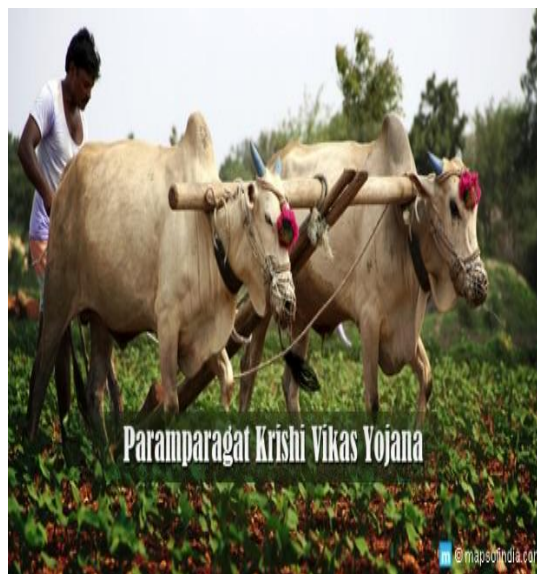
exported to US, European Union, Canada, Switzerland, Australia, New Zealand, South East Asian countries, Middle East, South Africa etc.

Among the organic products exported, oil seeds (mostly soybean) with 70 percent share lead followed by cereals & millets other than Basmati six percent, processed food products five percent, Basmati rice four percent, sugar three percent, tea two percent, pulses and lentils, dry fruits and spices one percent each and others.

In Odisha, the development of organic agriculture is receiving increasing attention among farmers, product processors, traders, exporters, consumers due to growing consciousness of health hazards out of possible contamination of produce by use of chemical fertilizers, pesticides etc. Agro-climatic conditions of Odisha with wide agricultural biodiversity are conducive for organic agriculture hence offers tremendous scope for cultivation of a wide range of organic products. Presently in Odisha, the farmers are cultivated in vast pockets of tribal area. Thus the present study focuses on finding out the benefits received by the farmers on switching to organic farming in their farm land from conventional .Although the motivation and reason for adopting organic farming was not self-generated but it could help the farmers to select the correct form of agriculture.

PKVY (ParamparagatKrishiVikasYojana)

The PKVY, an initiative to promote organic farming in the country, was launched by the NDA government in 2015. In his 2016 budget speech the finance minister, Arun Jaitley came out strongly in support of implementation of the scheme. According to the scheme, each cluster or group must have 50 farmers willing to take up organic farming under the PKVY and possess a total area of at least 50 acres. Each farmer enrolling



in the scheme will be provided INR 20,000 per acre by the government spread over three years' time. This fund can be utilized for obtaining organic seed, harvesting of the crops, and transporting the produce to the local market.

Paramparagat Krishi Vikas Yojana aims promote organic farming and thereby improving soil health. This will encourage farmers to adopt eco-friendly concept of cultivation and reduce their dependence on fertilizes and agricultural chemicals to improve yield.

A SCHEME TO PROMOTE ORGANIC FARMING

Under this scheme organic farming is promoted through adoption of village by cluster approach and participatory guarantee system (PGS) certification. Farmers are mobilized at least 50 or more farmers in a cluster of 50 acre land to take up the organic farming. Target has been set that in the period of 3 years 10,000 clusters will be formed covering 5 lakh acre areas. There will be no liability on farmers for the expenditure of certification. Every farmer will be provided Rs 20,000 for seed to harvesting of crop and transport produce to the market. It will increase domestic production and Certification of organic produce by involving farmers. Rs 300 crore has been allocated to this scheme during the year 2015 – 2016.

Fund Allocation: Allocation of fund of PKVY is based on 40% weight age of cultivable land, 40% for operational holdings of small and marginal farmers, and 10%

for area under certified organic cultivation while 10% for declaration of the state to go organic along with work plan.

Expected Outcome:

The most glittering part of this scheme is that promotion of organic production will be done through PGS. And of course pesticide residue free produce will definitely improve the health of the consumer. It is expected that it will increase the income of farmers and create potential market for traders. It will help in building long term trust with farming community.

Supplements: To increase the outcome of PKYV government has enhanced the subsidy amount from Rs 100 to Rs 300 per hectare to promote the use of organic fertilizers. A special scheme with the allocation of Rs 100 core has been launched in North Eastern Region (NEH) for promotion of organic farming and export of hassle free organic produce. Side benefit of such kind of produce is that no Non-Tariff Barriers (NTB)'s can be imposed on exports.

SCOPE OF ORGANIC FARMING IN ODISHA:

As per the national statistics, consumption of chemical fertilizers and pesticides are low in Odisha compared to the national average. The farmers in Odisha have traditionally been the custodian of rice genetic diversity. Traditional farming is still in practice in the inland no irrigated pockets of the state. This has placed Odisha in an advantageous position to resort to Organic farming, as the lands are virgin and less-contaminated; however as per the requirement and international demand, value can be added by way of its certification.

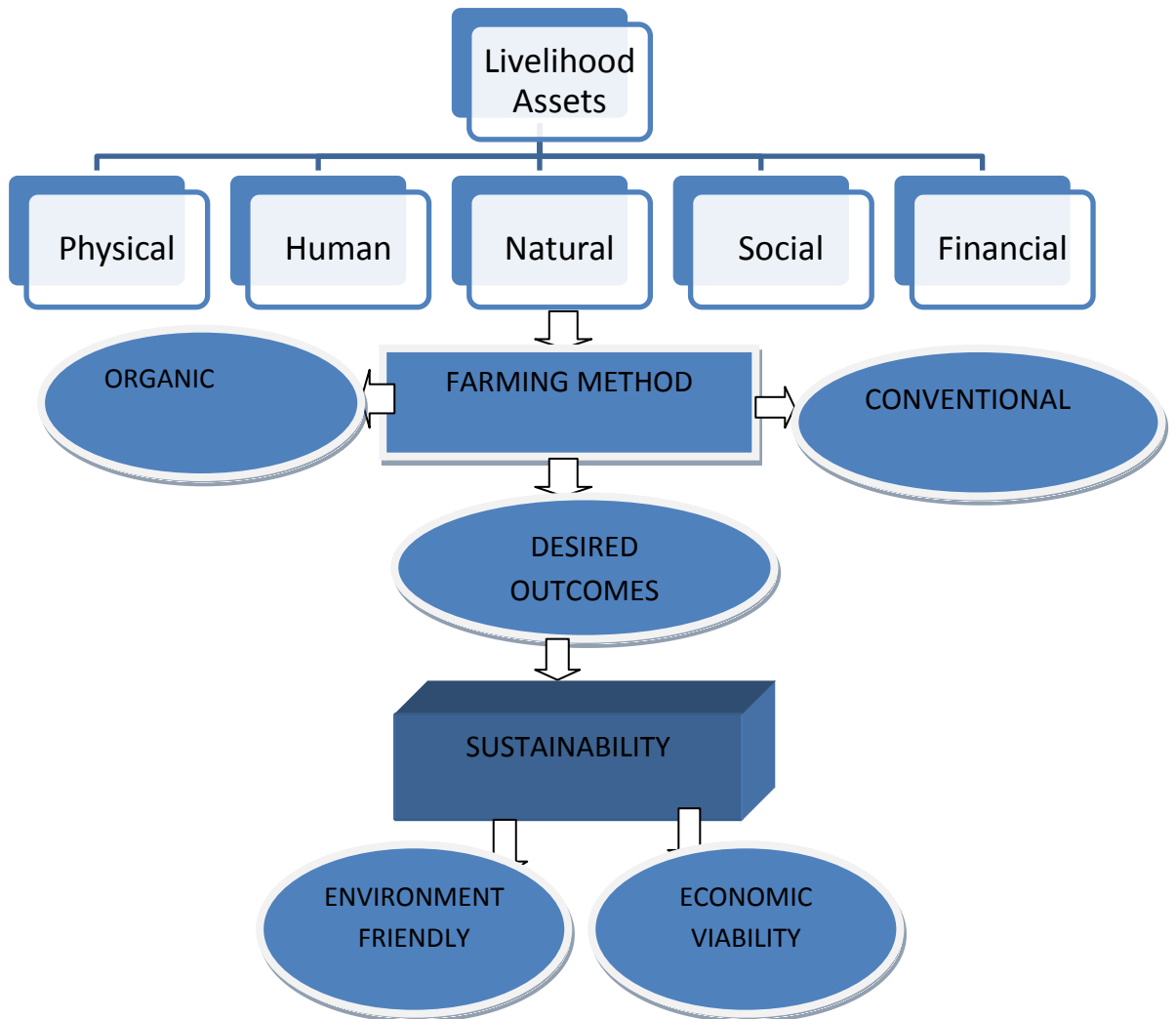
The emerging scenario is offering ample opportunities for Odisha farmers to reap the harvests of growing market. A range of organic products like cotton, turmeric, pulses, and scented varieties of rice are in high demand domestically as well internationally. A recent study by ASSOCHAM suggests that Odisha has an export potential of Rs.600 core from organic farming produce in next five years. The study reports further reveals that organic farming can create 80 lakh additional jobs both in-farm and non-farm sectors.

The State thus enjoys a natural comparative advantage for Agriculture with possibilities for growing organically certified crops, spices, tubers etc. whose

potential has not been fully exploited, so as to enhance the sustainability of production system without compromising the productivity and profitability. Ensuring **increase in productivity and profitability on sustained basis with due regard to conservation of natural resources, maintenance of soil health and fertility and promising safe and healthy food to its citizens** is the most challenging policy perspective for the Governments in the days and decades to come. In Odisha long tradition of ecological agriculture, in many different forms are still being rooted in farmer's approaches. It is for this reason that the farmers and organizations are taking the lead in understanding the competitive advantages of organic agriculture. World over, organic is today rated among the sunrise industries. Where unlocking the nature's capital is the aim, organic serves the best tool for that. It is only later that when the potential benefits of organic agriculture are becoming clearer, one for positioning Indian agricultural exports with advantage and two for bringing benefits to small and marginal farmers, the government agencies are participating more actively in this movement.

ANALYTICAL FRAME WORK

FIGURE: 1



Sustainability is widely viewed from the perspective of social economic and environmental dimension. From my visit to the districts of Khurda and Kalahandi with reference to it alamode is proposed which includes contain terms which are explained. The livelihood assets of Khurda and Kalahandi can be prospectively divided and drawn according to five majors -Physical (such as distance to nearest agro vet and market), social (group membership), financial (farm & non-farm income), natural (livestock holding, farm size, crop diversity), and human (education, primary occupation, farm experience, Labor availability, training).where the adaptation decision depends on the two types of farming that is organic and conventional.

Hence this depend on the type of farming of a farmer will adapt whether organic or conventional .Costly the right decision will lead to proper sustainability, for which it will give support to all the five livelihood assets economically by upgrading it .

The analytical framework for this study is provided in the above Figure. Where more than 80% of rural people live in households that are involved in agriculture, improving poor farmers' livelihoods is central for addressing rural development. Many studies have suggested that 'organic' agriculture could contribute substantially to farmers' food security and improve farmers' livelihoods. Organic agriculture was developed as a farming system that is specifically aimed at producing food in a more environmentally friendly approach. On a productivity basis, organic agriculture has been shown to have several environmental benefits compared to conventional agriculture.

CHAPTER-II
OBJECTIVE OF THE STUDY

OBJECTIVE OF THE STUDY

This study has undergone with the following objectives:

1. To find out the extent of farmers involved in organic farming.
2. To access the degree of interest and perfection among the farmers in practicing organic farming
3. To evaluate the benefits and constraints of the organic farming faced by the farmers
4. To examine the involvement of these farmers in certification process
5. To examine the status of organic farming in the study area.
6. To explore the problems and solutions for organic farming in the study area.
7. To suggest remedial measures to promote organic farming

This study has initiated some of the scopes for future references and can be outlined as given.

1. This research will help the certification agencies to approach the farmers for organic certification.
2. This study can be helpful for various stake holders to have access to these farmers
3. This project can be beneficial for people interested in exploring their plan on organic farming practices

Restrictions

The following are the limitations of the study:

1. Data collected are solely dependent upon respondents answer and accuracy of information.
2. Due to time constraints, the number of respondents for the study was limited to 117.
3. Getting actual information was difficult.
4. According to sample size, the findings may be suggestive but not conclusive.

CHAPTER-III
REVIEW OF LITERATURES

REVIEW OF LITERATURES

Yadav and Babu (2013) added that Organic farming can provide quality food without adversely affecting the soil health and the environment. There is need to identify suitable crops or products on regional basis for organic production that has international market demands. The whole country as such cannot afford to go for organic at a time because of its commitments to insure food and nutritional security. Organic farming will provide ample opportunity for employment and bring prosperity and peace in the region.

Sudheer (2013) discussed that the farmers perception of organic farming reveals that electronic media is the prime motivator for adopting this method. Organic farmers believed that organic farming improves soil fertility and their profits in the long run. They expressed the view that the certification process is very difficult and expensive. Certification would allow them to potentially sell their produce at a premium price. Organic farmers indicated that government support services are needed for marketing their produce through special markets.

Ponti and Rijk (2012) explained that role of organic agriculture will be determined by whether it can be or become economically competitive with conventional agriculture. This depends on productivity of organic agriculture; demand for its products, and on the extent to which consumer prices reflect costs of externalities. Feeding the world with organic agriculture may require more land than with conventional agriculture and hence the area of natural and semi natural ecosystems may be lower, whereas the quality of biodiversity on and around agricultural land may be higher. As global food security has become a primary concern the productivity of organic agriculture and thus the contribution that it can make to feed the world is an important factor.

Kukreja and Meredith (2011) suggested that biodiversity must be conserved and enhanced in order to deliver the ecosystem services that we need for our food security. Organic farmland is rich in biodiversity and it bears 30 percent more species than conventional farmland, contributing to the maintenance of ecosystem services from pollination and nutrient recycling to clean water and air.

It was pointed out by Shiva (2011) that nutrition produced per acre gives an insight and a glimpse of the impact that organic mixed cropping method can have on the health of the population. Till now India has focused primarily on the yield per acre. Looking at agriculture and health in terms of yield per acre makes an important assumption that maximizing yield of specific food items would solve the under nutrition crisis. However, a few food items produced abundantly cannot ensure an ideal blend of nutrients supplied to every person in the society because any single food item is not the adequate source of all nutrients needed by human body. To ensure proper nutrition we need dietary diversification and to ensure dietary diversification, we need to diversify our farmlands.

D.KumaraCharyulu and Subho Biswas (2010) described that entire agricultural community is trying to find out an alternative sustainable farming system, which is ecologically sound, economically and socially acceptable. Traditional agricultural practices, which are, based on natural and organic methods of farming offer several effective, feasible and cost effective solutions to most of the basic problems being faced in conventional farming system. There is a need to conserve our traditional seed, some of which have drought resistant properties and resistant to different pest and diseases.

It was predicted by Guruswamy and Gurunathan (2010) that organic farming has positive impact on soil, human health improvements, conservation and water use efficiency demonstrating substantial potential for sustenance of soil and water resources. The need for organic farming is important and found to be fit in all respect in agriculture. Organic farming is to be encouraged for growth immediately in India by all stakeholders.

Khanal (2009) mentioned that organic agriculture enables ecosystems to better adjust to the effects of climate change and has a major potential for reducing agricultural greenhouse gas emissions. Agricultural genetic resources including insects and microorganisms have all been shown to increase when land is farmed organically. Organic agriculture offers vast food resources and shelter for beneficial arthropods and birds, thus contributing to natural pest control.

Badgley (2006) added that there is scope for increased production on organic farms, since most agricultural research of the past 50 years has focused on conventional

methods. Comparable efforts focused on organic practices would lead to further improvements in yields as well as in soil fertility and pest management. Production per unit area is greater on small farms than on large farms in both developed and developing countries thus, an increase in the number of small farms would also enhance food production.

According to Narayanan (2005), market development for the organic products is a crucial factor to promote domestic sales. Supplies do not match the demand for organic products in the country and the absence of proper links between the two has been pointed out for the delayed growth of organic farming in the country. An important role of the government in this direction is giving various supports to the producer and consumer associations to market the products.

It was mentioned by Stolze (2000) that biological activity is an important indicator of the decomposition of soil organic matter within the soil. High biological activity promotes metabolism between soil and plants and is an essential part of sustainable plant production and fertilizer management. He also indicated that organic farming provides more positive effects on wildlife conservation and landscape than conventional farming systems on a per area unit of land used for agriculture.

Mac Kerron and Duncan (1999) mentioned that scientific base is essential to make best use of the available measures for production and control of problems in conventional agriculture, and even more in organic agriculture.

CHAPTER-IV
MATERIALS & METHODS

MATERIALS & METHODS

The study was focused on examining the prospective of organic farming in Odisha. The survey was conducted in Khurda & Kalahandi districts of Odisha where a number of farmers were involved in organic farming. The survey region included villages of Balipatna blocks of khurda Districts. In kalahandi districts the survey region included villages of Bhawanipatna & kesinga blocks.

Approach and purpose of the study

The approach of the project was pragmatic, means both qualitative and quantitative. The purpose of the project was both explanatory and descriptive in nature.

Population and sampling technique

The size of the sample was based on convenience sampling and purposive sampling method in which elements were chosen based on purpose of the study and then the samples were being drawn systematically. The total size of sample was 117.

In khurda districts the total size of sample was 44 in number in five villages across one block in districts...

Village name	Sample no
Mahapatrasahi	13
Bhapur	6
Guapur	19
Bramhanakhandi	1
Sidhakotilo	5
Total	44

In Kalahandi district the total size of sample was 73 in number in five villages across two blocks in districts.

Village name	Sample no
Tentulipada	9
Mading	18
Pastipada	10
Lebed	16
Saringpatar	20
Total	73

The survey areas were selected based on the concentration of organic farming.

Data collection

For the completion of this project, data were collected from both primary as well as secondary sources. Primary source were farmers, personal observation and Project Implementing Agencies (PIA) promoting organic farming. Secondary data were collected from journals, literatures, internet, etc

Procedures and Methodology

Procedure and methodology may be classified by their nature, where procedure is characterized by the course of the thesis from the start to the end and methodology is meant by the systematic, theoretical analysis of the body of the methods and principles associated with a field of study or branch of knowledge.

Many qualitative and quantitative techniques have been applied during this research. Methods like survey method, interview methods, etc. were applied.

Methodology applied may be outlined as below.

- Identifying the theme for which the project was to be done
- Setting up questionnaires for the personal interviews of respondents
- Conducting field visits to the organic farms
- Collecting the primary and secondary data
- Interpreting the results with the hypothesis made
- Drafting the project

Initially the respondents were approached by the list of organic farmers inspected for certification under Odisha State Seed and Organic Products Certification Agency (OSSOPCA) and then farmers were selected for survey from other sources like Project Implementing Agencies (PIA), Non-Government Organizations (NGO), etc. A set of questionnaire was prepared and pretested before the onset of the final

canvassing. The understanding for proper organic farming practices was closely observed among the farmers. Some focused group discussions and farmer meetings were also organized and the information collected was interpreted.

Data analysis

Few statistical tools were used for the project like averages, percentages, making charts and diagrams using Microsoft office software, etc. After data collection, an in-depth analysis was made by interpreting the data in the Microsoft software. The results thereof were being checked whether those are matching with the preset objectives. The correctness and completeness of the project were also examined thoroughly and then interpretation was made.

CHAPTER-V
ANALYSIS AND INTERPRETATION

ANALYSIS AND INTERPRETATION

KHURDA DISTRICT

Profile of the Respondents:

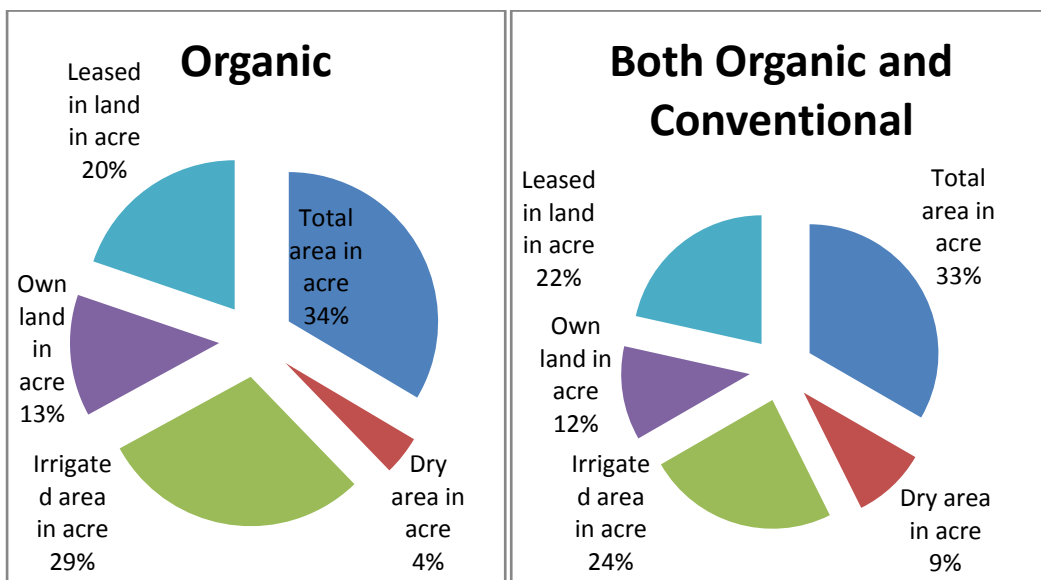
Interpretation: from the survey it was observed that, educational Qualification in the family of the farmers is very poor. All the members of the family are mainly devoted towards the farming. They do not hire labor is the no. of family members are in majority.

Table no: 5.1

Land holding by farmers:

Types of farming	Total area in acre	Dry area in acre	Irrigated area in acre	Own land in acre	Leased in land in acre
Organic	18.14	2.3	15.84	7.14	10.7
Both organic & Conventional	75.16	20.98	54.18	26.64	48.52

Figure:2



Observation: from the above table shows that, in 18.14 acre area farmers were doing only organic farming and in about 75.16 acre area a mix of organic & conventional farming practices were followed. In that case, in organic farming and both organic and conventional farming, the farmers have (2.3, 20.98 acre) area in dry land and

(15.84, 54.18 acre) area in irrigated land, whereas the own land by farmers in (7.14, 26.64acre) in area and (10.7, 48.52) acre area leased in by the farmers.

Interpretation: Majority of the farmers was marginal and small and their primary occupation is agriculture but the other members of their family are engaged in some other income generating activities.

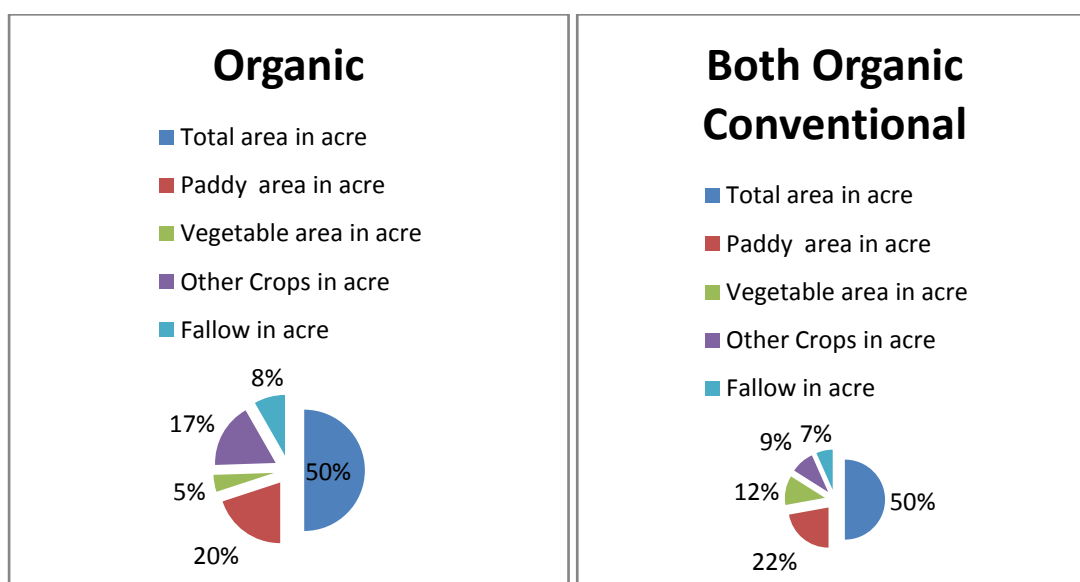
As organic farming gives very low yield in the first year of conversion, most of the farmers did not bring their entire cultivated land into organic cultivation. They implemented organic farming in a small patch of land and then they gradually increased the area under it on the basis of their own capabilities.

Cropping pattern:

Table no: 5.2

Types of farming	Total area in acre	Paddy area in acre	Vegetable area in acre	Other Crops in acre	Fallow in acre
Organic	18.14	7.24	1.64	6.26	3
Both organic & Conventional	75.16	33.28	17.77	14.11	10

Figure:3



Observation: from the above table, in organic about the total area the paddy cultivation is 7.24 acre, and vegetable cultivation is 1.64 acre land holding by farmers, whereas both organic and conventional farming paddy cultivation is 33.28 acre, for vegetable cultivation is 17.77 acre in area by farmers. And in organic farming doing other crops is 6.26 acre, where as fallow land is 3 acre by the farmers, whereas both organic & conventional farming doing other crops 14.11 acre, and fallow land is 10 acre by the farmers.

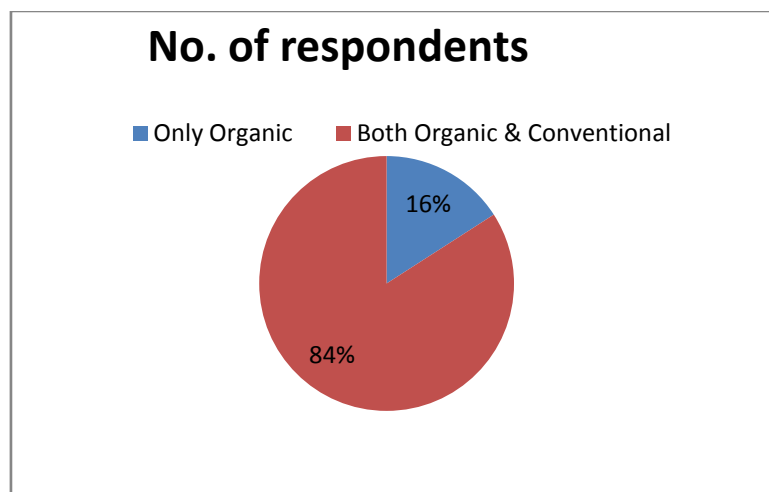
Interpretation: From that survey, it was observed that paddy and vegetable are major crops in this region. Even after farming of paddy and vegetable in the field there remain certain space & the farmers utilized this area by focusing in other varieties of pulses (black gram, green gram).

Type of farming obtained by the farmers

TABLE NO.5.3

Type of farming	No. of respondents
Only Organic	7
Both Organic & Conventional	37

FIGURE: 4



INTERPRETATION: There were 7 farmers who were solely practicing organic farming and rests were engaged in both organic and conventional farming. 1 Farmers who was already under organic certification, had taken up organic farming in the entire patch of land. Though farmer was under the conversion phase-III of organic certification process and was involved in marketing their organic products in the markets. Rest of the farmers were cultivating organically for their own family

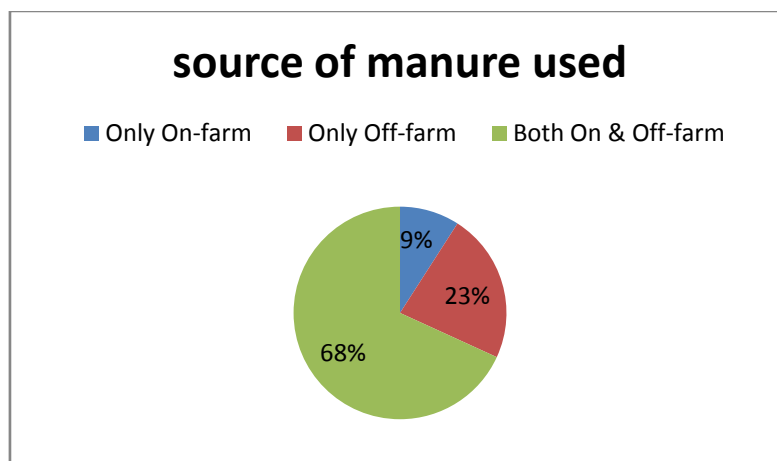
consumption only. They were not interested in selling their organic products as the organic products did not fetch them higher premium in the local market and also the production was not in bulk quantity that they could enter into the local supply chain with the tag of organic cultivation. But they sell their organic products if some quantity is left out after meeting their family consumption but hardly with any price premium.

Source of manure used in farm

Table no 5.4

Source of Manure	No. of Respondents
Only On-farm	4
Only Off-farm	10
Both On & Off-farm	30

FIGURE: 5



Observation: It was observed that, 68% farmers have used in only on-farm manure, 23% farmers have used in off- farm manure. and 9% farmers have used both on & off farm manure.

INTERPRETATION: Most of the farmers used both on-farm and off-farm manure in their farm as they could not produce enough vermin-compost in their own farm and due to low cattle herds owned by the, they could not arrange enough cow dung and urine for the entire farm. For better soil nutrient management, farmers also used bio-fertilizers available in the market. Some farmers who had enough cattle population or very small patch of land. Some farmers those who did not had any cattle with them

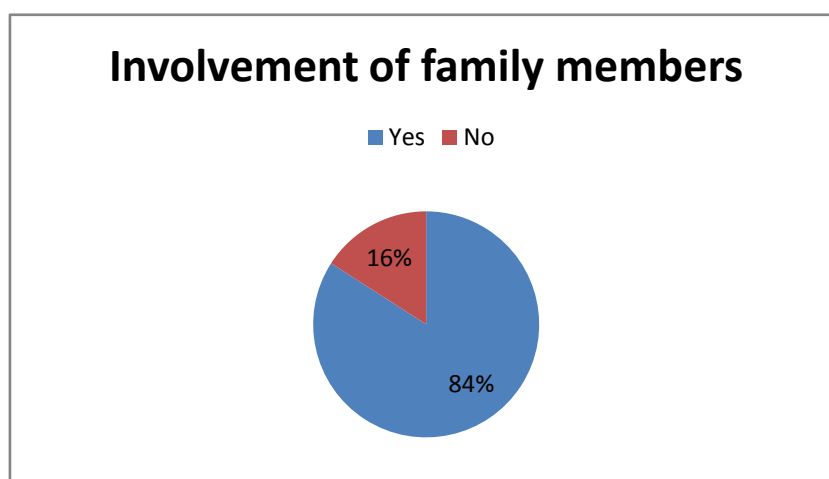
were completely dependent on the off-farm manure and also purchased farm yard manure from fellow farmers in and around nearby villages.

Involvement of family

Table No: 5.5

Family engaged	No. of respondents
Yes	37
No	7

FIGURE: 6



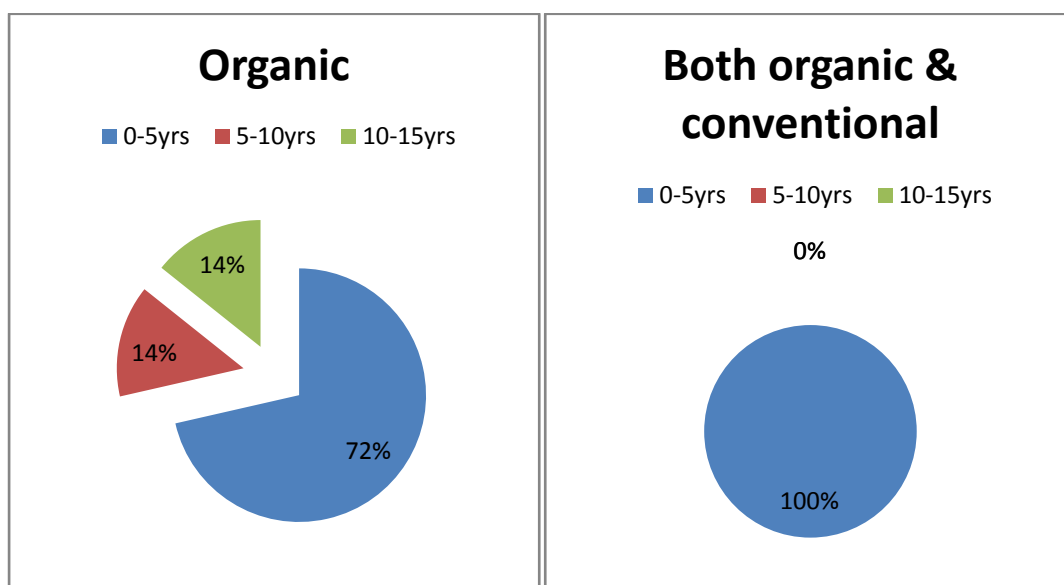
INTERPRETATION: Involvement of the family members in the farming activities was a common phenomenon found in case of farmers practicing organic farming. Very few farmers were found who did not involve their family members in the farming activities. But all the farmers used to hire some laborers during the peak season for some of the activities like transplanting, weeding, intercultural operation, harvesting, threshing, etc. The expenditure on farming activities was more in case of farmers who did not involve their family members. Although the demand for organic products was low in these regions but still it was found to be a profitable way of farming as farmers could save their money by not using chemical pesticide, insecticides and fertilizers.

Years of practicing organic farming

Table no: 5.6

Types of farming	0-5yrs	5-10yrs	10-15yrs
Organic	5	1	1
Both organic & conventional	37	0	0

Figure:7



Observation: In that table shows that, in organic farming there are 5 farmers practicing organic farming from 0-5years, whereas 1 farmer practicing this farming simultaneously from 5 -10yrs & 10-15 years. In both organic & conventional farming 37 farmers practicing organic farming 0-5 years.

Interpretation: The benefits of organic farming over conventional farming can be observed in transparency. It can be seen that farmers are genuinely adopting organic methods of farming because of its eco-friendly beneficially.

Details of Livestock:

Table no: 5.7

Types of farming	Cow	Goat	More than animals
Organic	6	1	0
Both organic & conventional	2	20	15

Observation: In that table shows that, 6 organic farmers have cow as livestock, simultaneously 1 farmer has goats as livestock. In case of both organic & conventional farmers, 2 farmers have cow, 20 farmers have goat & 15 farmers have more than animals as livestock.

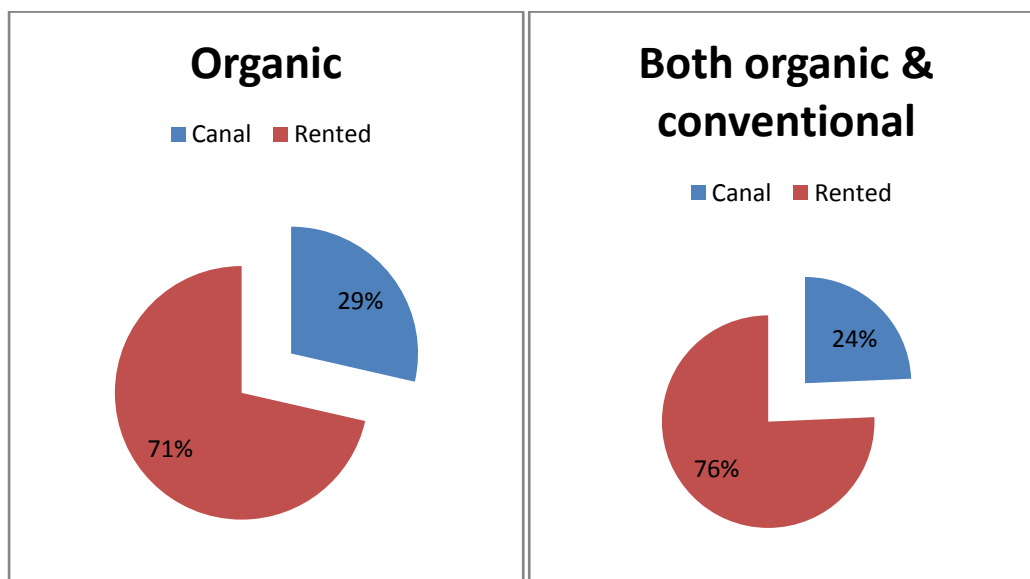
Interpretation: From that survey the farmers could not arrange enough cow dung and urine for the entire farm. They don't claim any cattle farming so, the cow dung which is as use main element for the organic farming is brought from other neighboring villages.

Irrigation sources:

Table no: 5.8

Types of farming	Canal	Rented
Organic	2	5
Both organic & conventional	9	28

Figure :8



Observation: In that table shows that 2 farmers have used canal, 5 farmers have hired the irrigation sources for organic. Whereas for both organic & conventional, 9 farmers have used canal & 28 farmers have hired various irrigation resources.

Interpretation: from the survey, it observed that the irrigation facility in this region is not properly developed, the farmers bore wells waters on the basic of time from other farmers to have proper water supply.

Fertilizer usage:

Table no: 5.9

	Paddy		Vegetable	
Types of farming	Quantity (q)	cost In (Rs)	Quantity(q)	cost(in Rs)
Organic	12(FYM=10q)	1130	11.26(FYM=10q)	1300
Both conventional & organic	0.75	1990	1	3010

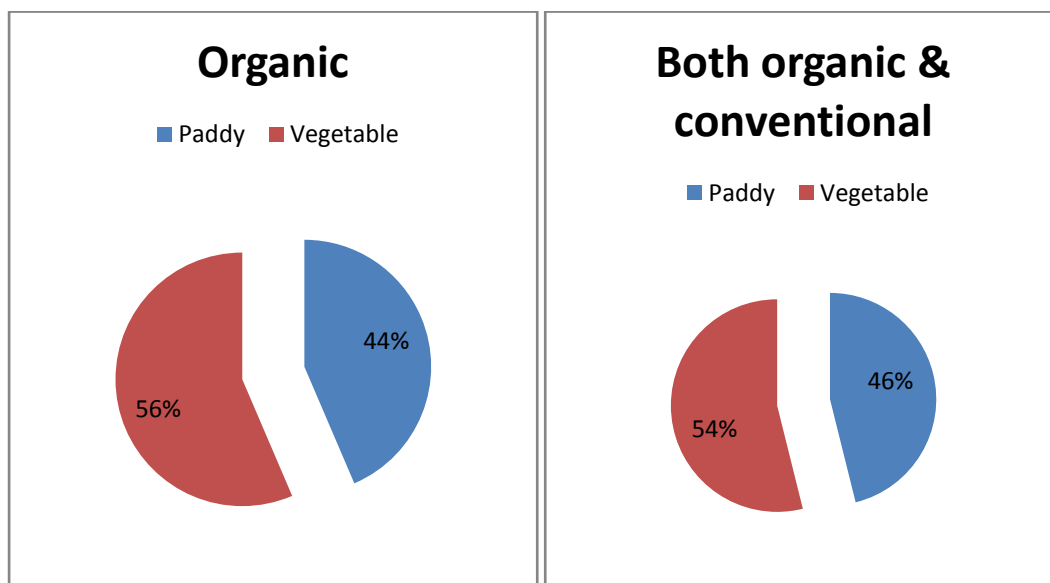
Observation: In that table shows that, in organic farming for paddy the expenditure of fertilizer is in (Rs.1130), simultaneously for vegetable is (Rs.1300).whereas in both organic& conventional farming, for paddy the expenditure of fertilizer is (Rs.1990), simultaneously for vegetable is (Rs.3010)

Interpretation: It founds that, the chemical fertilizers have more market value than organic so that in spite of using more organic fertilizers cost less to farmers as compare to chemical fertilizers.

Table no: 5.10

Per Acre Net Income from cultivation (Rs.)		
Types of farming	Paddy	Vegetable
Organic	14640	18970
Both organic & conventional	18502	21619

Figure:9



Observation: In case of vegetable cultivation, the income for organic farming is (18970), which is higher than the income for conventional farming is (21619).

In case of Paddy cultivation, the income of organic farming is (14640), which is higher than the income for conventional farming (18502).

Interpretation: in case of vegetable & paddy cultivation, in that table shows that, due to the use of chemical fertilizers, in both organic and conventional farming the income is more than compare in organic farming because due to the traditional way where previously farmers were using chemical fertilizers so the soil can't adopt organic fertilizer.

COST BENEFIT ANALYSIS

YIELD COMPARISION

Table no: 5.11

For paddy

Component	Area in acre	Production in (q)	Value of Production in (Rs.)	Consumption in (q)	Value of Consumption in (Rs.)	Total labor & inputs	Benefits	Benefit s ratio
Organic	7.24	130	188500	26.6	149930	43933	105997	2.41
Both organic &conventional	33.28	594	861300	97.7	719635	103879	615756	5.92

For vegetable

Components of yield	Area in acre	Production in (q)	Production in Rs.	Consumption in (q)	Value of Consumption in (Rs.)	Total labor& inputs (Rs.)	Benefits (Rs.)	B-C Ratio
Organic	1.64	22	55000	2	50000	18889	31111	1.64
Conventional	17.77	209.2	523000	22.1	467750	138816	384184	2.76

Observation

- In case of Paddy cultivation, in area 7.24 acre, the benefit cost ratio of organic farming is 2.41, which is, in 33.28 acre in area, the benefit cost ratio for conventional farming (5.92).
- In case of vegetable cultivation, in 1.64 acre in area, the benefit cost ratio for organic farming is 1.64, in area 17.77 acre area, the benefit cost ratio for conventional farming (2.76).

Interpretation:

Analyzing the table it can be assured that indifferent samples of area, organic and conventional methods of farming were adopted. It can be observed that the production in quantities differ where in conventional method of farming it is additional when compared to organic method of farming. Coming to the production in monetary terms

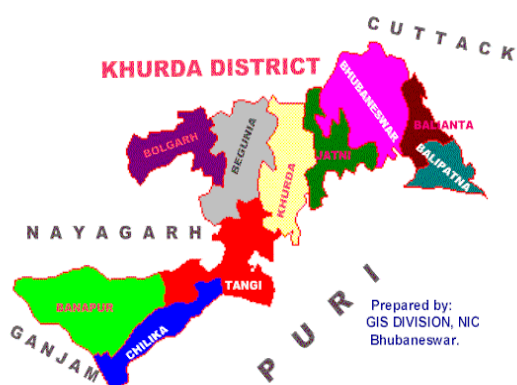
the benefits conventional method remains higher than organic. But the labor requirement in case of organic farming is less than that of conventional method of farming. However, due to the low sample size for organic farming it cannot be definitely deduced that organic farming is less viable than inorganic farming.

Benefits of organic farming over conventional are more for:

- Chemical farming minimizes chemical usage whereas conventional method of farming requires fertilizers, pesticides etc.
- Soil health is not affected in case of organic farming whereas conventional methods require unnatural farming methods.
- Organic use never hampers the health of life but the use of pesticide in conventional method of farming can affect the health of the consumer.
- Organic farming promotes biodiversity.

Discussion

The scenario of organic farming was a bit different in the Balipatna block of khurda district as most of the farmers in this block were involved in both organic as well as conventional farming. They cultivated organic products only for the purpose of own consumption and the products of conventional farming were being sold in the market. The farmers in this block have practiced organic farming for the last five year. The Non-Government Organization named DSS (Darbar Sahitya Sasthan) was involved in motivating farmers to adopt organic farming. Initially some of the farmers practiced organic farming on a trial basis and then gradually increased area under organic farming. Most of the farmers failed to convert their entire land into organic as they could not able to produce enough vermin-compost and availability of cow dung and cow urine was very low due to low cattle population. Major crops of these regions are paddy, black gram, and vegetable. Although farmers raised both organic and conventional products, the use of pesticides in the conventional farm was low.



Organic farming was being done in a patch of land which was kept free from use of chemical inputs and rest of the land was cultivated in a conventional way with use of chemical fertilizers and very low use of pesticides. The investment cost involved in organic farming were cost of engaging hired labor, purchase of bio fertilizers, neem oil, etc. Organic farmers of this region followed a technique of soil fertility plan i.e., instead of dumping farm yard manure in the farm, they use to tie cattle herds in the farm itself. Due to absence of enough cattle population, the farmers request the cattle hard owners from the nearby villages to tie them in the firm land itself so that the dung and urine produced through the whole night would be helpful for making the soil fertile. This phenomenon is followed by the farmer a few days before sowing of seeds in the farm. After keeping the cattle herds for an overnight, the next day morning the land is being well dressed by mixing the cow dung with soil evenly throughout of the farm. Training and issue regarding organic farming was taken care by the NGO itself and also some of the farmers had undergone training at DSS. The farmers in this block had lift irrigation facilities in the form of bore wells being set up in different location of the village. Pump sets have been installed with the bore wells and the farmers could use it for irrigation purpose to their respective farms with the payment of electricity charges. In this region farmers were less interested to sell their organic products as they hardly get any premium for the organic products and the quantity of organic products produced by individual farmers were low and entire amount produced was kept for home consumption.

Due to presence of conventional farms beside the organic patch of land, the risk of contamination was high for some of the farmers. To avoid the risk, farmers made some necessary arrangement and isolated their organic patch of land such that the water from other conventional farm will not enter into their farms. A certified farmer was involved in organic farming in the of khurda block. These farmers had the experience of practicing organic cultivation for more than four years. There were one farmer in this certified group and they had enough knowledge on the organic farming techniques. The farmers of this group also used both on-farm and off-farm source of manure .They collectively purchased huge amount of off farm manures like bio-fertilizers and farm yard manure from nearby villages and distributed among them in order to reduce the transportation cost. Their farms are being irrigated with the help of

pump sets and the source of water was bore well. Seeds used for the various crops were of local and high yield varieties being stored by the farmers.

During the survey in Balipatna block of khurda district it is ascertained Farmers had adopted organic farming as it involved low investment and they could get better quality products that had good taste. The investment in organic farming was low because the expenditure on farm input, pest and disease management was very low. Some of the farmers who had large size land holding and had better yield, they could sell their organic products and could gain some profit out of it. The demand for organic products was high in comparison to other conventional products but very few farmers were able to sell them at a high premium to the customers.

KALAHANDI DISTRICT ANALYSIS AND INTERPRETATION

Profile of the Respondents:

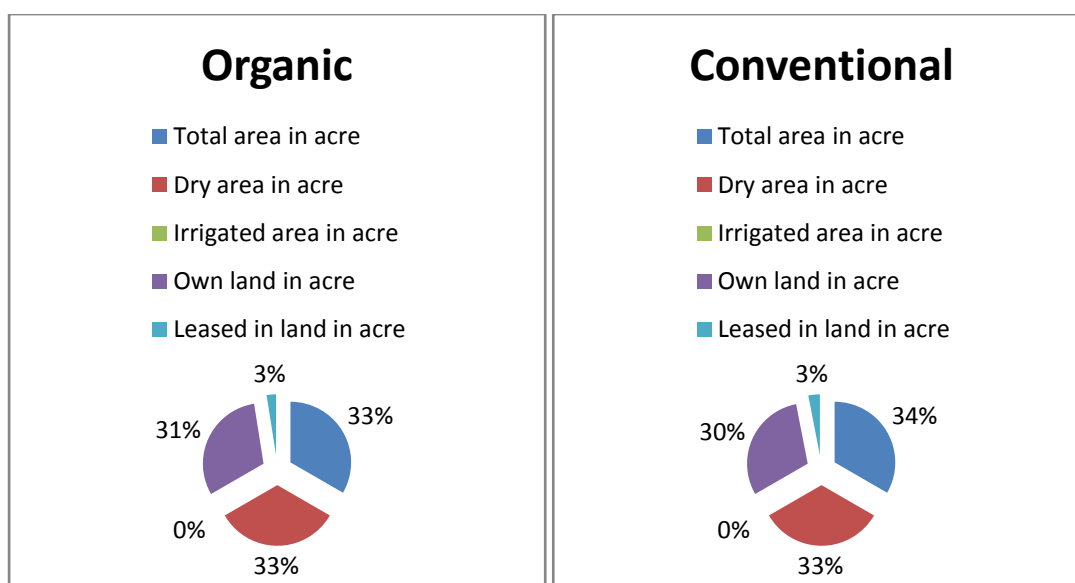
It was observed that, educational qualification in the family of the farmers is very poor. All the members of the family are mainly devoted towards the farming. They do use not hired labor and mostly use family members.

Land holding by farmers:

Table no: 5.12

Types of farming	Total area in acre	Dry area in acre	Irrigated area in acre	Own land in acre	Leased in land in acre
Organic	139.87	139.87	0	129.37	10.50
Conventional	76	76	0	69	7

Figure:10



Observation: From the above table shows that, in 139.87acre area farmers were doing only organic farming and in about 76 acre area farmers doing conventional farming practices were followed. In that case, in organic farming and both organic and conventional farming, the farmers have (139.87, 76 acre) area in dry land and (0 acre) area in irrigated land, whereas the own land by farmers in (129.37, 69acre) in area and (10.5, 7) acre area leased in by the farmers.

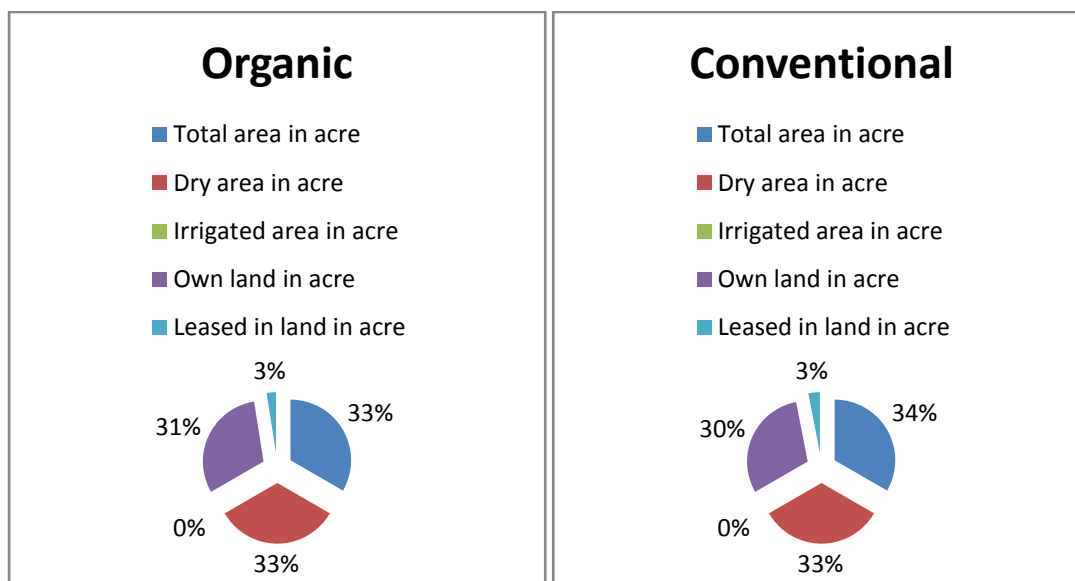
Interpretation: In that survey, the farmers were totally depended on rain-fed. They are not going for any type of irrigation.

Cropping pattern:

Table no: 5.13

Types of farming	Total area in acre	Cotton area in acre
Organic	139.87	139.87
Conventional	76	76

Figure:11



Observation::from the above table, in organic about the total area of cotton cultivation is 139.87 acre land holding by farmers, whereas both organic and conventional farming cotton cultivation is 76 acre in area by farmers.

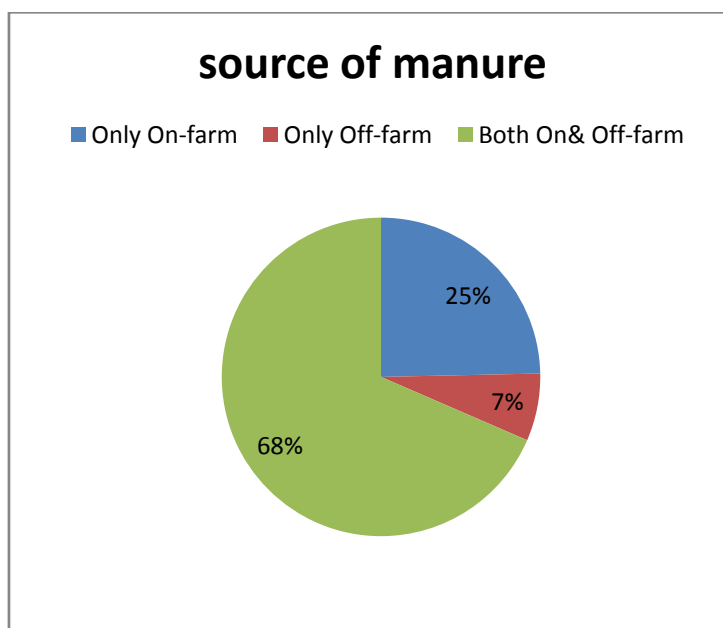
Interpretation: From that survey, it was observed that cotton is the major crops in this region. Even after farming cotton in the field there remain certain space & the farmers utilized this area by mainly focusing in other varieties of Paddy and intercropping. They use Paddy for only consumption.

Sources of manure used in farm

Table No: 5.14

Source of Manure	No. of Respondents
Only On-farm	18
Only Off-farm	5
Both On& Off-farm	50

FIGURE:12



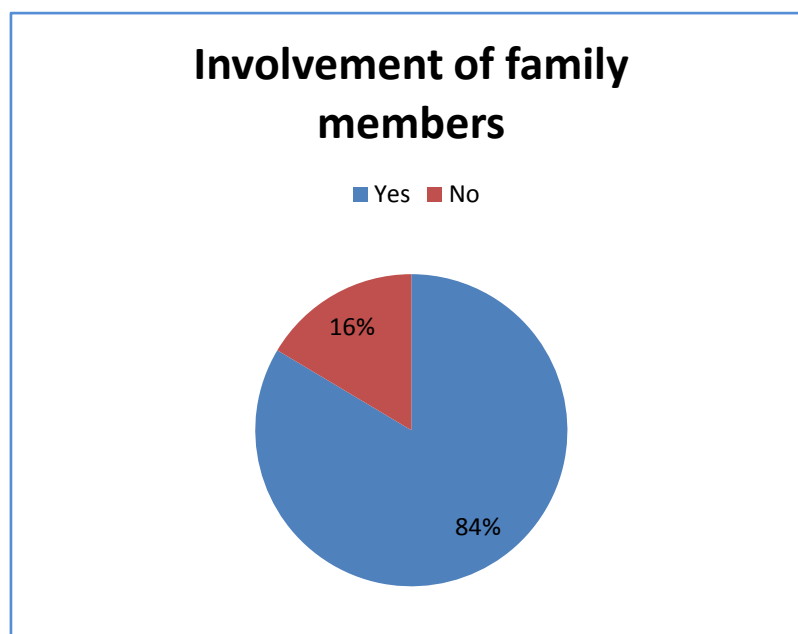
INTERPRETATION: Most of the farmers used on-farm and both on farm & off-farm manure in their farm, as they could not produce enough vermin-compost in their own farm and due to enough cattle herds owned by the, so They are taking vermin compost from society. For better soil nutrient management, farmers also used bio-fertilizers available in the market. They were completely dependent on the off-farm manure. Although organic farming includes low investment but the expenses for engaging more labor increases the cost of cultivation.

Involvement of family

Table No: 5.15

Family engaged	No of respondents
Yes	61
No	12

FIGURE: 13



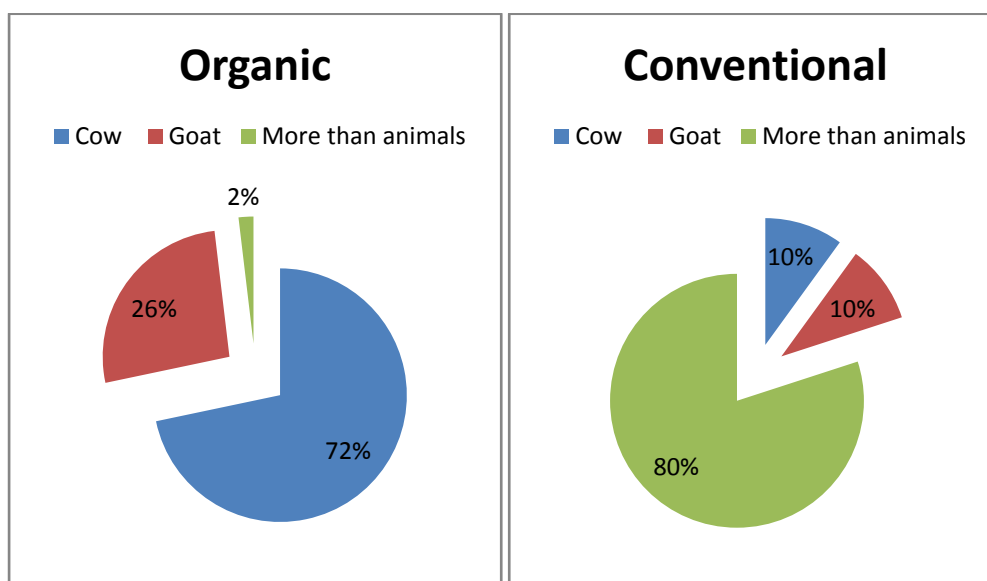
INTERPRETATION; Involvement of the family members in the farming activities was a common phenomenon found in case of farmers practicing organic farming. Very few farmers were found who did not involve their family members in the farming activities. But all the farmers used to hire some laborers during the peak season for some of the activities like transplanting, weeding, intercultural operation, harvesting, threshing, etc. The expenditure on farming activities was more in case of farmers who did not involve their family members.

Details of Livestock Population

Table no: 5.16

Types of farming	Cow	Goat	More than animals
Organic	38	14	1
Conventional	2	2	16

Figure:14



Observation: In that table shows that, 38 organic farmers have cow as livestock, simultaneously 14 farmers have goats as livestock & 1 farmers has more than animals as livestock .In case of conventional farming, 2 farmers have cow, 2farmers have goat &16 farmers have more than animals as livestock.

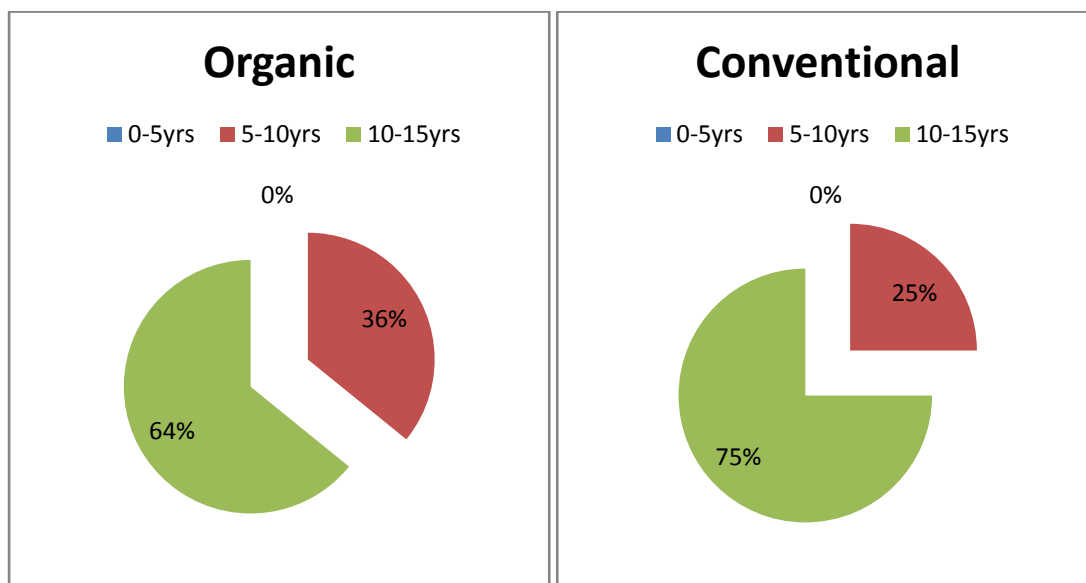
Interpretation: It may be said that the farmers could arrange enough cow dung and urine for the entire farm. The cow dung which is as use main element for the organic farming and to get easily take to the farm.

Years of practicing farming:

Table no: 5.17

Types of farming	0-5yrs	5-10yrs	10-15yrs
Organic	0	19	34
Conventional	0	5	15

Figure:15



Observation: In that table shows that, in organic farming there are 34 farmers practicing organic farming from 10-15years and 19 farmers practicing 5-10 years for farming, whereas in conventional farming, 15 farmers practicing farming.

Interpretation: The benefits of organic farming over conventional farming can be observed in transparency. It can be seen that farmers are genuinely adopting organic methods of farming because of its eco-friendly beneficially.

Irrigation sources:

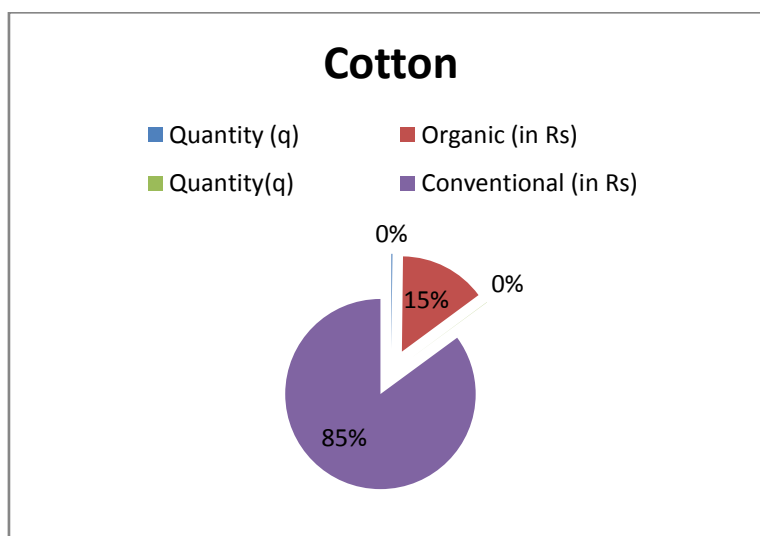
Interpretation: From the survey, it observed that the irrigation facility in this region is not properly developed, the farmers solely depended on the monsoon for 5there their farming.

Fertilizer usages:

Table no: 5.18

Crop	Quantity (q)	Organic (in Rs)	Quantity(q)	Conventional (in Rs)
Cotton	21	1630	4	9437

Figure:16



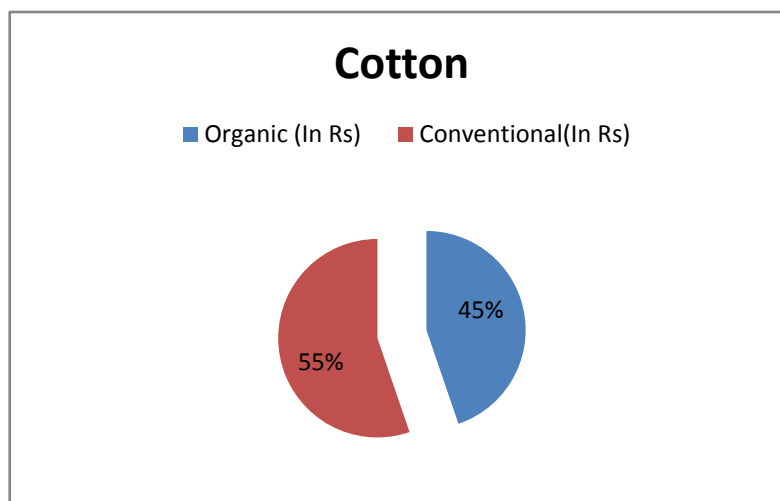
Observation: In that table shows that, in organic farming for cotton the expenditure of fertilizer is (1630 in Rs).whereas in conventional farming, for cotton the expenditure of fertilizer is (9437in Rs).

Interpretation: It founds that, the chemical fertilizers have more market value than organic so that in spite of using more organic fertilizers cost less to farmers as compare to chemical fertilizers.

Table no: 5.19

Per Acre Net Income from cultivation (Rs.)		
Crop	Organic (In Rs)	Conventional(In Rs)
Cotton	21793	26900

Figure:17



Observation: In case of cotton cultivation, the organic samples are 73, and conventional sample is 20 so that, the income for organic farming is (21793), which is higher than the income for conventional farming are (26900).

Interpretation: it is founds that, the production is less because due to the traditional way where previously farmers were using chemical fertilizers so the soil can't adopt organic fertilizer.

COST BENEFIT ANALYSIS (FOR COTTON)

Yield comparison

Table No: 5.20

Components of yield	Area in acre	Production in (q)	Value of Production in Rs.	Total labor& inputs Rs.	Benefits	B-Cratio
Organic	139.87	939.14	4050798	1002540	3048258	3.04
Conventional	76	622	2795000	750555	2044445	2.72

Observation: In case of cotton cultivation, the benefit cost ratio for organic farming is (3.04), which is higher than the benefit cost ratio for conventional farming (2.72).

Interpretation: comparing the organic method of cotton cultivation with conventional, it is found that conventional method provides more production compared to organic methods of farming. The production of acre remains same and production of quantities of organic farming remains less than that of conventional. But the inputs used in that of organic farming are less than that of conventional and the ratio benefits in this case is 3.04:2.72.

Benefits of organic farming over conventional are more for:

- Chemical farming minimizes chemical usage whereas conventional method of farming requires fertilizers, pesticides etc.
- Soil health is not affected in case of organic farming whereas conventional methods require unnatural farming methods.
- Organic use never hampers the health of life but the use of pesticide in conventional method of farming can affect the health of the consumer.
- Organic farming promotes biodiversity.

DISCUSSION

From the above analytical interpretation from the district of kalahandi, it can be ensure that the data's are particular. Through my field survey, I had visited 73 farmers (organic-53, conventional-20) in the respective villages (Pastipada, Mading, Lebed, Tentulipada, and Saringpatar).

It was observed that cotton is the main crop the farmers grow in this particular region.

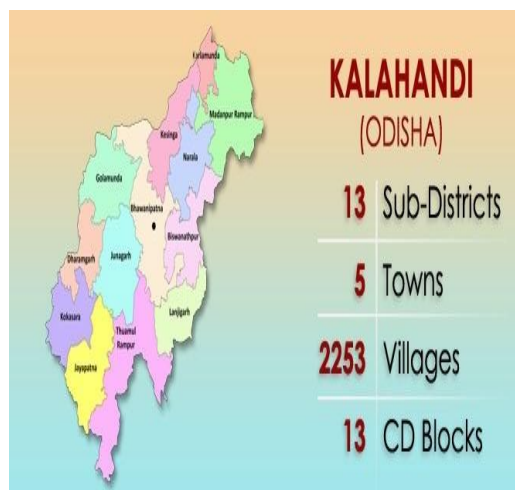
Simultaneously observed that they are taking cotton as they primary crops. Intercropping in this region is highly appreciated meeting the farmers. The farmers completely depend on monsoon.

There is no such irrigation facility in this region. Chetna organic serves major role in providing organic facility to the farmer & motivating them to use the same. The credit facility of the farmers are through loan from respective institution, Chetna -organic also provided credit facility, the farmers also take credit from other farmers & some of the farmers use their domestic value.

The farmers prepared their own organic manure & also help the other farmers to do so. Minority of the farmers leased in land and majority of the farmers are inclined in renting of farm machinery from other farmers. Throughout the process of farming the whole family get involved hint minimizing the cost of labor. Farmers practicing organic farming of this block used both HYV as well as traditional variety of seeds.

From the above analysis, it was observed that organic farming highly eco-friendly which does not affect to fall topography. It is the profit maximization type of farming. The farmers get enough income, comparatively where input is less where as to get higher output. But at the same time in the conventional type of farming the input is more and quantity produced is more than the input.

Throughout the process it was analyze that the organic farming is better than the conventional farming. in the aspects of organic being eco-friendly and conventional, even though providing larger output assets the soil topography is not eco-friendly, consume the lots of water and grieve the soil hence, the farmers should be suggested & advices to adopted organic farming



CHAPTER-VI
PROSPECT AND CONSTRAINTS

PROSPECTS OF ORGANIC FARMING

A. Consumer Acceptance:

Consumers are now turning to organic food because they believe it to be tastier, as well as healthier, both for themselves and environment. Summarized the published literature on differences between organic and other management systems and found out that, of the seven studies comparing taste of crop produced with organic management versus conventional management. Despite the higher cost for Organic products, consumers are willing to pay for their preference. Economically, organic fruit growing is comparatively healthy, but depends on a higher farm gate price for product. Another reason for Organic products prominence is the opposition to genetically modified food.

B. Environmental Friendly.

Pest- control

Organic farming is environmentally friendly. This is because it is well known that chemicals have destroyed many beneficial insect species and have caused environmental degradation. For instance, Korean researchers had reported that avoiding pesticides in paddy fields encourages the muddy loach fish, which effectively control mosquitoes that spread malaria and Japanese encephalitis. The ever-increasing threat to ground water pollution from inefficient and indiscriminate use of fertilizers and pesticides respectively, demand much concern. These threats are eliminated in organic farming systems since natural pest control is practiced. It is confirmed in California that Organic tomato production without synthetic insecticides does not lead to increase crop losses as a result forest damage. In-fact, Organic farmers' primary strategy in controlling pests and diseases is with the use of prevention method.

Higher biodiversity

Organic farming also provides energy for microbial activity and this has been suggested as an indicator of change for soil properties because the size and activity of the microbial quotient is directly related to the amount and quality of carbon available. Therefore, increase in microbial quotient. Organic farms, often explores biodiversity than conventional farms because it is usually with more trees, a wider

diversity of crops and many different natural predators, which control pests and help prevent disease.

Better Soils

Increasing soil organic matter by organic farming has the added benefit of improving soil quality and thereby enhancing the long-term sustainability of agriculture. Organic agriculture also help to conserve and improve precious resource-the topsoil, compaction, nutrient loss and erosion, organic farmers use trees, shrubs, leguminous plants to stabilize and feed soil, dung and compost to provide nutrients, and terracing which prevent erosion and conserve ground water.

CONSTRAINTS FACED BY FARMERS

- In that survey, already producing a wide range of Organic products and many are bore well and dependence on the rain fed. However, most of them are often faced by a number of constraints, such as lack of technical know-how, for example organic farming practices and production methods, and lack of market information, for example which products to grow, which markets and distribution channels to choose, competition, market accessed. With producers in developed countries, is that of certification, which possess not only a technical problem but adds considerable costs to the product, which have to be borne by the consumer in one way or another. Nevertheless, importers, food manufacturers, retail organizations and consumers need a guarantee of Organic origin. Another impediment is that, Organic products are expensive presently. Due to lack of government support, the courage needed to convert inorganic land into organic land is missing also there is absence of globally recognized consultancy for timely guidance to farmers. Thus, huge support from states and the Centre is required.
- Key problems faced by organic farmers during the transition phase are non-realization of premium.



CHAPTER-VII
SUCCESS STORY OF THE FARMERS

SUCCESS STORY OF THE FARMERS

Mr. Khetrabasi Bhoi is a farmer of Pastipada village of Bhawanipatana Block aged 49 with son and daughter living in one-acre farmland with their parents and grandparents. He got high school education. The family owns one acre of areca cotton in kalahandi districts, which provides the main income for their livelihoods. The cotton is a popular cash crop in the Bhawanipatna block of kalahandi districts. Its harvesting time is once a year around November to December, they managed with family labor but during peak agricultural season hired labor utilized. If the prices in the market are stable, the family earns around 42 quintals in 6 acre of kalahandi, out of which they have to pay the wages for the laborers. He got help from the chetna-organic and also invested his own money. They not getting any support from the government and they do not have irrigation facilities in their farm.

Some of the snaps taken during the study period



CHAPTER-VIII
SUMMARY AND SUGGESTIONS

SUMMARY AND SUGGESTIONS

Organic agriculture is gaining momentum as an alternative method to the modern system. Many farmers in Odisha have started converting their farms into organic farming. The demand for organic products is growing fast. There is a need to increase food production in a sustainable way so as to halt the degradation of ecosystems, loss of natural resources and biodiversity. Global consciousness of food safety, health and environmental issues has stimulated interest in alternative agricultural systems like organic farming.

The Impacts of a shift to organic production on the different types of production, on incomes and on the quality of the lives of marginal farmers. These issues have been analyzed through a set of case studies of marginal farmer that have been successful in adopting organic technologies and in marketing their organic products.

The cases include the following: (a) cotton production (b) Paddy production; (c) the production of pulses (d) the production of fresh vegetables. In Khurda districts, the study has covered seven marginal farmers with minimum 5 years' experience in practice of organic farming. There are various motivational factors to adopt organic system. The following motivations were given:

- To improve the fertility of their soil;
- To reduce production costs (especially for fertilizers and pesticides);
- To reduce the risk of production (e.g. due to drought);
- To achieve a better price (premium);
- To be less dependent on loans.

As natural resources become increasingly scarce, the transition to a more resource efficient economy must be a top priority over the coming years. The challenge for agriculture lies in securing sufficient food supply for future generations while reducing resource use and increasing resource recycling. The improvement of organic farming is driven by a number of factors like interest among the farmers for adopting organic farming, increased demand for organic products among consumers, involvement of stake holders to set up a separate marketing channel, etc.

The study broadly concludes that, the growth of organic farming has not reached to its optimum level in Odisha so that the farmers practicing conventional farming could be motivated to adopt organic farming. The basic problem faced by the farmers in

Odisha are that with small land holdings and dependence on agriculture they are not willing to adopt organic farming as they apprehend severe productivity gaps than that of conventional farming. Due to very low market linkage, the farmers are not willing to adopt organic farming on commercial basis.

Market development for the organic products is highly essential as the farmers are not able to get premium price for their organic products. The study indicated that the organic farmers of kalahandi district were able to get better price for their products but the same was not possible for the farmers in khurda district. The reason behind this was that the organic products could fetch better price in urban market but due to low volume of products, it was not feasible on the part of farmers to transport them to the distant urban markets.

The study found that organic farming is more profitable for farmers, mainly because of low investment costs than that of conventional farming where lot of monetized inputs like chemicals are used and it improves soil fertility and has greater profits in the long run. Most of the farmers are well conscious about the methods and techniques of organic farming. Certification would allow them to potentially sell their produce at a premium price.

Farmers indicated that government support services are needed for marketing their products. Government role is highly essential in terms of providing subsidies to the organic farmers in the initial years of adoption of organic farming so as to attract the farmers. Investment on research and development of organic farming is highly necessary.

Farmers in the study area adopted organic farming either due to assistance from the government or due to the intervention of NGOs, so this phenomenon of promoting organic farming should be carried out in a faster pace such that it will motivate more farmers to adopt organic method of cultivation.

This study contributes to the wider body of knowledge in the field of organic farming. It serves as a starting point for further investigation on the topic of potential of organic farming. There is ample scope for increasing the efficiency under organic farms so it is hoped that organic farming will emerge as an important component of sustainable agriculture in years to come.

CHAPTER-IX
CONCLUSION

CONCLUSION

Being an agribusiness student when we extend helping hands to the rural parts of India it becomes a privileged moment. Through this project, we were able to understand the values and ethic of rural people. This would have not been possible without NABARD who gave us a chance to explore the parts of villages and grab the most central part of the problems they are facing. Although my report, I observed that, but apart from this I was also indulged in understanding the problems that are associated with the groups, with their livelihood and to certain extent I tried to make them aware of the marketing scenario all over the two districts. It's difficult to make them understand the fact where the world has reached today because they are somewhat rigid to accept. But it's the duty of the agribusiness students to go that far. Many of the people are illiterate so they prefer any kind of training through audio-visuals rather than any book, notice paper. Saving habits should be encouraged rather than only credit.

NABARD is doing a wonderful job in the interior parts of Odisha. An Organization that is trying its level best to make aware to the rural people, to develop them, to help them in all aspects whether it is related farming or non-farming sectors. They encourage the people to adopt the right way of farming. NABARD has made the people in rural leading a step forward towards literacy and educating them as on their part.

From my journey to Rural I realized the people residing here are satisfied with every small thing. Something that strongly lacks is 'desire'. So this might be a case that the developing rate is slow but not impossible.

CHAPTER-X
REFERENCES AND APPENDIX

REFERENCES

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APPENDIX-I

Questionnaire for the farmers

Research title: Viability of Organic Farming

Name of the investigator:

Date of investigation:

SCHEDULE FOR PRIMARY DATA COLLECTION

1. General information

Socio-economic background of the sample farmer/ household

2. Name of the respondent:- Main occupation:-
3. Age:- Secondary ::Occupation:
4. Sex:-
5. Education:- Village:-
6. Block:-
7. District:-

2. Farm extent (acres) (note: convert parcel area into acres)

Particulars	Dry	Irrigated	Total
Own land (Ac/Dc)			
Leased/ shared in land			
Leased/shared out land			
Total			

3. For how many years have been engaged in organic farming? _____
4. What motivated led you to adopt organic farming?
5. What is the source of manure you use?
 1. on-farm
 - 2.off-farm
6. Is any other conventional farm present near organic farming?
 1. Yes
 - 2.No
7. What was the change in yield in your farm compared to previous year?
 1. Increased
 2. Decreased
8. How are the organic products being marketed?
 1. To customer directly,
 2. Through local market
 3. To the wholesalers,
 4. Through distance farmers market
 6. To the retailers
 7. To the commission agents

9. Details of Livestock, Farm Machinery, Implements

Animal population-_____

Equipment/machinery_____

Assets of family: television, Furniture, fridge

10 Irrigation sources

a) Open wells b) bore wells c) canal irrigation d) river lift e) any others

11. Marketing Aspects

Name/ type of CROPS	Organi c/conve ntional	Area under CROP S	Productio n(in qt/ Kg)	Own consumptio n (kg)	Availabl e for marketi ng(kg)	Expe nditu re	Selling price	Cost of cultivat ion/pro fit

12. Seed details:

Name of the crops	Type of seed	Price	Purchase from

13...What are the different methods of organic farming practice followed in your farm?

Application	Qt /ac	Cost per Qt/ac	Source
Farm yard manure			
Jibanamitra			
Vermin compost			
Neem pesticides			
Others, if any			

14. Generally from whom do you take suggestions on organic farming issues?

(a)Self acquired knowledge (b) Friends/relative (c) Agricultural experts (d) Extension officials

(e) Progressive farmers (f) Scientist from university/research institute

15. Media exposure and training: Sources of information

Agency / Institution	Respons e (Mark ✓)	Continuity maintained by agency		
		Always	Sometim es	Rarel y

Agriculture Department official				
Agricultural Universities				
NGO (Specify).....				
Neighbouring farmer				
Farmers from outside village				
Other sources (Specify)				

16. Do you sell your organic produce at a higher price compared to other conventional produce available in market?

1. Yes 2. No

17. Whether soil test has been done in last two years? If yes whether the advisory has been followed:

1. YES 2. NO

18. Is organic farming profitable way of farming?

1. Yes 2. no

19. Do you apply chemical fertilizers/pesticides/herbicides etc.?

Inputs	Uses in kgs/acres	Price in kgs/acres
Urea		
D.A.P		
M.O.P		

20. Credit details:-

A) Own fund) Bank loan c) Moneylender d) Details of Insurance

21. Cropping pattern

Season	Area (Ac/ Dc)	variety	Cost of cultivation	Qt/rs
			Labor wage	
			Seeds	
			Irrigation charge	
			Fertilize pesticide	
			Organic uses	
			Machinery hiring	
			Transport & storage	
			Cost of own labor	

APPENDIX-II
KALAHANDI DISTRICT

List of farmers Practicing Organic Farming

Sl. No.	Name	Block	Village	Area (in acre)
1	Sadannd Sa	Bhawanipatna	Tentulipada	2
2	Syamsundar sa	Bhawanipatna	Tentulipada	2
3	Dakamani Majhi	Bhawanipatna	Mading	3
4	Indramani chandan	Bhawanipatna	Mading	2
5	Surya pradhan	Bhawanipatna	Tentulipada	1.37
6	Santosh kumar mishra	Bhawanipatna	Tentulipada	2
7	Susanta ch.sa	Bhawanipatna	Tentulipada	2.10
8	Hrudananda sahu	Bhawanipatna	Tentulipada	4
9	Drubach.Sa	Bhawanipatna	Tentulipada	2
10	Premananda padhar	Bhawanipatna	Tentulipada	1.60
11	Pitambar sa	Bhawanipatna	Tentulipada	3
12	Ranjit Majhi	Bhawanipatna	Mading	1
13	Lachman Majhi	Bhawanipatna	Mading	2
14	Laba majhi	Bhawanipatna	Mading	5
15	Bhakti Majhi	Bhawanipatna	Mading	6
16	Pusparaj Majhi	Bhawanipatna	Mading	3
17	Hari Majhi	Bhawanipatna	Mading	3.65
18	JudhistirMajhi	Bhawanipatna	Mading	2
19	Tumeswar Majhi	Bhawanipatna	Mading	1.7
20	Bhika Majhi	Bhawanipatna	Mading	4
21	Lalit Majhi	Bhawanipatna	Mading	4.5
22	Baikunta Jani	Bhawanipatna	Mading	2
23	Satrughan Majhi	Bhawanipatna	Mading	2
24	Jaya Majhi	Bhawanipatna	Mading	3
25	Bibhaschha Chandan	Bhawanipatna	Mading	3
26	Dakamani Majhi	Bhawanipatna	Mading	3

27	Kshayamasagar majhi	Bhawanipatna	Mading	6
28	Khetrabasi Bhoi	Bhawanipatna	Pastipada	3
29	BibhishanMajhi	Bhawanipatna	Pastipada	1
30	HiraMajhi	Bhawanipatna	Pastipada	1
31	SisuMajhi	Bhawanipatna	Pastipada	2
32	Bada Majhi	Bhawanipatna	Pastipada	2.62
33	Bhagat Majhi	Bhawanipatna	Pastipada	5
34	Dhanpati Bhoi	Bhawanipatna	Pastipada	4.5
35	Malaya Bhoi	Bhawanipatna	Pastipada	4
36	Dingar Bhoi	Bhawanipatna	Pastipada	4.32
37	Ganesh Bhoi	Bhawanipatna	Pastipada	2
38	Kuru Sabar	Bhawanipatna	Lebed	2.31
39	Diba Rana	Bhawanipatna	Lebed	1.91
40	Mantu Majhi	Bhawanipatna	Lebed	1.88
41	Shibashankar Sabar	Bhawanipatna	Lebed	1.88
42	Keshaba Sabar	Bhawanipatna	Lebed	1.91
43	Harishankar Rana	Bhawanipatna	Lebed	2
44	Pareswar Sabar	Bhawanipatna	Lebed	2
45	Pitam Sabar	Bhawanipatna	Lebed	1.93
46	Gouranga sabar	Bhawanipatna	Lebed	2.72
47	Narayana Rana	Bhawanipatna	Lebed	1.85
48	Ayodhya Sona	Bhawanipatna	Lebed	3
49	Mukta sabar	Bhawanipatna	Lebed	2
50	Puspanjali sabar	Bhawanipatna	Lebed	2
51	Jamuna sabar	Bhawanipatna	Lebed	1
52	Sandhya Rana	Bhawanipatna	Lebed	1
53	Laxmi Majhi	Bhawanipatna	Lebed	2

APPENDIX-III
KHURDA DISTRICT

List of farmers Practicing Organic Farming

Sl. No.	Name	Block	Village	Area (in acre)
1	Hariprada Parida	Balipatna	Guapur	4
2	Upendra Ojha	Balipatna	Guapur	1
3	Sukanta Parida	Balipatna	Guapur	2
4	Dakuna Bhoi	Balipatna	Guapur	1
5	Kartika Mallick	Balipatna	Guapur	1
6	Saraswati Mallick	Balipatna	Guapur	0.64
7	Siba Behera	Balipatna	Guapur	1