

**ASSESSMENT OF TRAINING NEEDS OF FARM
WOMEN WITH REFERENCE TO RICE PRODUCTION
TECHNOLOGY IN KORBA DISTRICT OF CHHATTISGARH**

M.Sc. (Ag.) THESIS

by

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**DEPARTMENT OF AGRICULTURAL EXTENSION
COLLEGE OF AGRICULTURE
FACULTY OF AGRICULTURE
INDIRA GANDHI KRISHI VISHWAVIDYALAYA
RAIPUR (C.G.)
2016**

**ASSESSMENT OF TRAINING NEEDS OF FARM
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TECHNOLOGY IN KORBA DISTRICT OF CHHATTISGARH**

Thesis

Submitted to the

Indira Gandhi Krishi Vishwavidyalaya, Raipur

by

Neelam Jaiswal

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF**

**Master of Science
in
Agriculture
(Agricultural Extension)**

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CERTIFICATE – I

This is to certify that the thesis entitled “**Assessment of Training Needs of farm women With Reference to Rice Production Technology in Korba District of Chhattisgarh**” submitted in partial fulfillment of the requirements for the degree of **Master of Science in Agriculture** of the Indira Gandhi Krishi Vishwavidyalaya, Raipur, is a record of the bonafide research work carried out by **Neelam Jaiswal** under my/our guidance and supervision. The subject of the thesis has been approved by the Student’s Advisory Committee and the Director of Instructions.

No part of the thesis has been submitted for any other degree or diploma or has been published/published part has been fully acknowledged. All the assistance and help received during the course of the investigation have been duly acknowledged by her.


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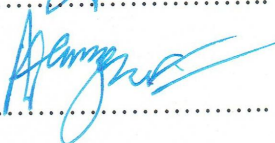
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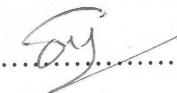
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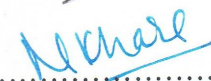
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CERTIFICATE - II

This is to certify that the thesis entitled "Assessment of Training Needs of Farm Women with Reference to Rice Production Technology in Korba District of Chhattisgarh" submitted by **Neelam Jaiswal** to the Indira Gandhi Agricultural University, Raipur (C.G.) in partial fulfillment of the requirements for the degree of **Master of Science in Agriculture** in the Department of Agricultural Extension has been approved by the Student's Advisory Committee after oral examination in Collaboration with the external examiner.

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Head of the Department

Faculty Dean

Approved/ Not approved

Director of Instructions

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Neelam
Neelam Jaiswal

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LIST OF ABBREVIATIONS

Abbreviations	Description
%	
@	At the rate of
a.i	Active ingredient
CD	Critical difference
Cm	Centimeter
DAS	Day after sowing
DMP	Dry matter production
EC	Emulsifiable Concentration
<i>et al.</i>	And others/ co-workers
F	Frequency
fb.	followed by
Fig	Figure
G	Gram
Ha	Hectare
Hr	Hour
HW	Hand weeding
<i>i.e.</i>	That is
Kg	Kilogram
L	Liter
M	Meter
MJ	Mega joule
Mm	Millimeter
No.	Number
NS	Non significant
P	Percentage
PoE	Post- emergence
PE	Production efficiency
Q	Quintal
Re	Rupee
Rs	Rupees
T.V.	Television
MN	Most needed
SN	Somewhat needed
N	Needed
NN	Not needed
SEm±	Standard error of mean
<i>viz.</i>	Namely

THESIS ABSTRACT

- a) Title of the Thesis: "Assessment of Training Needs of Farm Women With reference to Rice Production Technology in Korba District of Chhattisgarh."
- b) Full Name of the student: Neelam Jaiswal
- c) Major Subject: Agricultural Extension
- d) Name and Address of the Major Advisor : Dr. H.K. Awasthi
Professor, Department of Agricultural Extension, IGKV, Raipur
- e) Degree to be Awarded: M.Sc. in Agricultural Extension

Signature of Major Advisor

Signature of the Student

Date: 09/08/2016

Signature of Head of Department

ABSTRACT

The present study entitled "Assessment of Training needs of Farm Women with reference to Rice Production Technology in Korba District of Chhattisgarh" was carried out during the year 2015-16. Out of total 5 blocks of Korba district, two blocks viz. Pali and Katghora were selected randomly. Out of the total villages, six villages were selected randomly, from each block and 10 Farm women from each selected village, were selected randomly for the collection

was carried out during the year 2015-16. Out of total 5 blocks of Korba district, two blocks viz. Pali and Katghora were selected randomly. Out of the total villages, six villages were selected randomly, from each block and 10 Farm women from each selected village, were selected randomly for the collection of data. Thus, total 120 farm women were considered as respondents for the present study. The data were collected personally through pre-tested interview schedule and analyzed by using appropriate statistical methods.

The study revealed that majority of respondents belongs to middle age group (36 to 55 years), educated up to primary school level (6th to 8th class) and resided in nuclear family. Majority of the respondents were member of one organization, having medium farming experience (11-20 years) and 100 per cent respondents were performing agriculture as main occupation.

Maximum number of respondents having marginal size of land holding (up to 1ha) and annual income in between Rs. 50001 to 1lakh. Maximum 50.84 per cent of the respondents acquired credit and 45.83 per cent respondent had taken loan from cooperative society as for short term duration to purchase the fertilizers. Most of the respondents (54.17%) were having always contact with RAEO's. Majority of the respondents (80.00%) had medium level of scientific orientation.

Majority of the (83.34%) respondents had medium level of knowledge of rice production technology, extent of knowledge 57.79 per cent and knowledge gap 42.21 percent were observed. Maximum 54.16% of the respondents had medium level of adoption of rice production technology where as extent of adoption 40.54% and adoption gap 59.46% were found among the respondent. Most of the respondents (91.66%) were having involvement in transplanting practices of rice production technology.

The findings about training needs of farm women in rice production technology in order of importance were found as insect and disease control on Ist priority for training, use of balanced fertilizer ranked IInd, nursery raising III, storage

IV, threshing and winnowing V, Weed control VI, seed treatment VII, harvesting techniques VIII and transplanting IX ranked respectively.


In correlation analysis the finding revealed that out of 13 independent variables, only 7 variables i.e. Age, education, occupation, annual income, credit acquisition, extension contact, adoption level were found positive and significantly correlated with training needs of farm women. Out of these variables only age, education, annual income, credit acquisition, adoption were found correlated at 0.01 level of probability and occupation, extension contact variable were found significant at 0.05 level of probability. The remaining 6 variables were not indicated significant relationship with training needs of farm women.

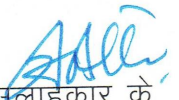
In case of multiple regressions analysis, out of 13 variables, only 5 variables i.e. age, education, occupation, annual income, extension contact were having positive and significant contribution in the training needs of farm women; remaining 8 variables i.e. family type, land holding, farming experience, credit acquisition, social participation, scientific orientation, knowledge and adoption did not indicate any significant contribution in training needs of farm women. However, all the 13 variables fitted in the model show 78.70 per cent contribution in the training needs of farm women.

The problem faced by the respondents in performing improved farm practices of rice production technology like lack of facility for farm implement on hire basis was noted as major problem (75.00%) and lack of information (66.67%) about insect and disease control were reported by the respondents. As regards to suggestion offered by the respondents to remove the problems, 75 percent of the respondents suggested that facility for farm implement on rent basis should be created.

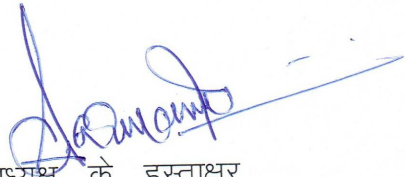
शोध सार

- अ) शोध शीर्षक "छत्तीसगढ़ के कोरबा जिले में धान उत्पादन तकनीक के संदर्भ में महिला कृषकों के लिए प्रशिक्षण की आवश्यकता का आंकलन"
- ब) छात्रा का पूरा नाम नीलम जायसवाल
- स) मुख्य विषय कृषि प्रसार
- द) प्रमुख सलाहकार का नाम डॉ. एच.के.अवस्थी
एवं पता (प्राध्यापक), कृषि प्रसार विभाग,
इं. गां. कृ. वि. रायपुर (छ.ग.)
- इ) प्रादाय की जाने वाली उपाधि एम. एस. सी. (कृषि) प्रसार


छात्रा के हस्ताक्षर


प्रमुख सलाहकार के
हस्ताक्षर

दिनांक 09/08/2016


विभागाध्यक्ष के हस्ताक्षर

सारांश

वर्तमान शोध कार्य 2015 -16 के दौरान छत्तीसगढ़ के कोरबा जिले में धान उत्पादन तकनीक के संदर्भ में महिला कृषकों के लिए प्रशिक्षण की आवश्यकता का आंकलन के लिये किया गया है। कोरबा जिले के पाँच वि.खं. में से पाली एवं कटघोरा वि.खं. का यादृच्छिक रूप से चयन किया गया। इन दोनों वि.खं. के सभी गांवों में से छह-छह गांवों को चयनित किया गया इनमें पाली वि. खं. से मुढाली, पोलमी, पुलालीकला, पोडी, लाफा, सरइपाली एवं कटघोरा

आंकलन के लिये किया गया है। कोरबा जिले के पाँच वि.खं. में से पाली एवं कटघोरा वि.खं. का यादृच्छिक रूप से चयन किया गया। इन दोनों वि.खं. के सभी गांवों में से छह-छह गांवों को चयनित किया गया इनमें पाली वि. खं. से मुढाली , पोलमी , पुलालीकला , पोडी , लाफा , सरइपाली एवं कटघोरा वि. खं. से रंजना , बसंतपुर , झालकछार , लखनपुर , बांकीमोंगरा , कसनिया है। प्रत्येक चयनित गाँव में से दस महिला किसानों का यादृच्छिक रूप से चयन किया गया। इस प्रकार से कुल 120 महिला किसानों को वर्तमान अध्ययन हेतु चुना गया ।

वर्तमान अध्ययन से यह प्रदर्शित होता है, कि मुख्यतः किसान 36-55 वर्ष मध्यम आयु वर्गीय, माध्यमिक शिक्षा स्तर (6-8 वी) के , एकल परिवार के हैं। मुख्यतः किसान एक ही संस्था के सदस्य थे, कृषि अनुभव 11-20 वर्ष एवं सभी किसानों का मुख्य व्यवसाय कृषि था अधिकतम संख्या में सीमांत भूमि धारक 1 हे. एवं उनकी आय सभी स्त्रोतों से पचास हजार से एक लाख के मध्य थी। अधिकतम संख्या में 51 प्रतिशत महिलाएं ऋण सहकारी समिति से 15 महीनों के लिए मुख्यतः उर्वरक खरीदने हेतु लेते थे। लगभग 53.34 प्रतिशत कृषि महिलाएं कृषि विस्तार अधिकारी से हमेशा जानकारी प्राप्त करते थे, एवं उनका वैज्ञानिक दृष्टिकोण मध्यम स्तर पर (80.00 प्रतिशत) पाया गया ।

मुख्यतः किसानों के ज्ञान का स्तर धान उत्पादन तकनीक में मध्यम व ज्ञान की सीमा 57.79 प्रतिशत व ज्ञान में कमी 42.21 प्रतिशत तथा अंगीकरण का स्तर भी धान उत्पादन तकनीक में मध्यम व अंगीकरण की सीमा 40.54 प्रतिशत व अंगीकरण में कमी 59.46 प्रतिशत पाई गई। धान उत्पादन तकनीक में महिला किसानों की भागीदारी रोपाई में सर्वाधिक 91.66 प्रतिशत थी।

धान उत्पादन तकनीक में महिला कृषकों को प्रशिक्षण की आवश्यकता कीट व रोग नियंत्रण में प्रथम, संतुलित उर्वरक उपयोग में द्वितीय, नर्सरी तैयार करना तृतीय, भंडारण में चतुर्थ, ओसाई व मिंजाई पंचम, खरपतावार नियंत्रण में षष्ठम, बीज उपाचर सप्तम, कटाई में अष्टम, व रोपाई में नौवें क्रम पर पाई गई।

सहसंबंध विश्लेषण में यह पाया गया कि 13 स्वतंत्र अस्थिर चरों में से 7 चर अस्थिर धनात्मक सार्थकता वहन किए जो इस प्रकार हैं, आयु, शिक्षा, व्यवसाय, वार्षिक आय, ऋणअधिग्रहण, प्रसार संपर्क, अंगीकरण का स्तर जो कि महिला कृषको की प्रशिक्षण आवश्यकता से 0.01 एवं 0.05 सम्भावित स्तर तक संबंधित है एवं अन्य सभी अस्थिर चर सार्थकता प्रदर्शित नहीं करते हैं । समाश्रयण विश्लेषण के संबंध में केवल 5 जैसे आयु , शिक्षा , व्यवसाय, वार्षिक आय, प्रसार संपर्क अस्थिर सार्थकता प्रदर्शित करते हैं, ।

समाश्रयण विश्लेषण के संबंध में केवल 8 सार्थकता प्रदर्शित नहीं करते हैं, जैसे परिवार का प्रकार, भूमि धारण, खेती का अनुभव, ऋण अधिग्रहण, सामाजिक सहभागिता , वैज्ञानिक दृष्टिकोण, ज्ञान व अंगीकरण का स्तर सार्थकता प्रदर्शित नहीं करते हैं। धान उत्पादन तकनीक के संबंध में किसानों द्वारा विभिन्न बाधाएँ बतायी गईं जैसे 75 प्रतिशत प्रक्षेत्र यंत्रों की किराये पर सुविधा उपलब्ध न होने से व कीट एवं रोग के नियंत्रण के बारे में सूचना का अभाव, और बाधाओं को दूर करने हेतु विभिन्न सुझाव दिए गए जैसे 75 प्रतिशत किसानों ने सुझाव दिया कि प्रक्षेत्र यंत्रों की सुविधा किराये पर उपलब्ध होना चाहिये, कीट व रोगों के नियंत्रण की जानकारी समय पर उपलब्ध होना चाहिये आदि।

CHAPTER –I

INTRODUCTION

Training refers to the “acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relates to specific useful skills” (Wikipedia, 2006) and according to FAO (1993) “Training is extending and developing individual’s capabilities for better performance in their work. It involves the transfer of new knowledge, skills, behaviour and attitude to develop and maintain trainees’ competencies to perform specific roles at their work place”.

In the context of rural women’s training is indeed required especially in case when any formal education is absent. Training programs regarding their practical problems can enhance their efficiency and competency. Training and education will help to make them aware of the current and future problems of the country (Ghayur, 2003). There are certain constraints lies in rural women’s training, firstly they should have a considerable knowledge in training areas but there is a great need to redesigning training and extension interventions to suit the women's requirements.

It means they should be practical, short-term, use audiovisual material and be located at the right time of the day (afternoon) and close to the women's homes. A prerequisite of training is that which have the quality of capacity building to the women in order to create more jobs and maintain food security (Rangnekar, 2003). For years, women farmers have been the pillars of rice production among rice farming communities in Nigeria, producing over 90 per cent of total rice output, (Ijere, 1992). Throughout the world, rural women historically have contributed and played important role in rice farming system.

Their roles and those of men are contributed by several interrelated socioeconomic (including class, ethnicity, age, religion), political and environmental factors and are known as “gender roles”. However, these are dynamic and can change over time depending on changes in other factors, (Hovio, 2007). The different responsibilities of women farmers in agricultural production system include the farming systems, (Rahman, 2008). Women participation in most of the activities is

usually undertaken in post-harvesting processing of the crop (Ogbe, 2009). In almost all rice growing areas men traditionally undertake such activities as land preparation, ploughing, irrigation and field-leveling. Women on the other hand are responsible for sowing, transplanting, weeding and crop processing (FAO, 2005).

Studies conducted in the past have already established the fact that for success of any training endeavour, it has to satisfy the needs of the client. Therefore, need identification commands a pivotal place in training adventure as a whole. It is being observed that farmers need continuous training for improving inadequate the knowledge towards new advances of technologies. Inadequacies to be identified which may become the training needs. Whether such inadequacies exist among farmers with particular reference to rice technology is the present task to be considered.

It is quite imperative that the farmers to be trained in rice crop production technology to keep them aware with the latest innovations available in maintaining its quality and stability. Training plays a vital role in making the farmers more receptive and equips them with new technologies. It is the way of helping others in increasing productivity. Training only can bridge this wider gap between the yields achieved by the scientists and obtained by the farmers. Training of the farmer is a critical input in ascertaining agricultural production on one hand and increase of employment and income of the farming community on the other. The study of determining training needs of the farmer will provide a realistic base of farming community. The present study has been designed to identify training needs of farmers, so that suitable training needs of farmers, so that suitable training programmes may be developed.

Women's role in crop sector is significant from the stone ages. In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84%. Women make up about 33% of cultivators and about 47% of agricultural laborers (Wikipedia 2006). Women are extensively involved in the production of major crops like cotton, rice, pulses and vegetables (Sadaf, 2005). They participate in all operations related to crop production such as sowing, hoeing, transplanting, weeding, harvesting and post harvest operations such as threshing, winnowing, drying, grinding, husking and storage (Jamal, 2005). In the rainfed areas, women contribute to almost all of 22 identified crop tasks with the major contribution to seed

preparation, collection and application of farmyard manure, husking and storage (Freedman and Wai, 1998).

Food processing and storage is an area where women participation is higher than men's. Although rural women devote two third more times than men, they also do more struggles for their survival and economic well being but unfortunately they are considered unpaid labour resulting no economic reforms provided by government. Women had to face a lot of constraints in crop production activities, which also degrade their health and life pattern. Although rural women devote two third more times than men, they also do more struggles for their survival and economic well being but unfortunately they are considered unpaid labour resulting no economic reforms provided by government.

Women had to face a lot of constraints in crop production activities, which also degrade their health and life pattern. Again the need of education, awareness and training has been increasing day by day (FAO, 1996). But still rural women are facing the technological constraints and other problems. Technology can help to reduce time and work load of rural women that is closely inclined with the training of rural women to handle these equipment (Khan *et al.* 2006). It's the time of modern industrialization in all fields of life. There should be some research work for rural women's facilitation in domestic chores (Bolabola 1988). Need to increase the food production and uplift socio- economic status greatly depends upon the technology generation and its subsequent dissemination among the farmers, so that they may avail the advantages of improved technologies for effective use on their farms.

Rice is one of the most important food crops of India in term of area, production and consumer preference. India is the second largest producer and consumer of rice in the world. Rice is the staple food of over half the world's population. Rice provides 20% of the world's dietary energy supply, while wheat supplies 19% and maize (corn) 5%. India could produce an additional 100 million tonnes of rice, enough staple food for about 400 million people every year. Agriculture is counted as the chief economic occupation of the Chhattisgarh state. About 80% of the population of the state is rural and the main livelihood of the villagers is agriculture and agriculture-based small industry. In Chhattisgarh, rice, the main crop, is grown on about 77% of the net sown area. Only about 20% of the area is under

irrigation; the rest depends on rain. The cropping intensity is 119 % with total food grains production of 5 million tonnes. In this region rice is mainly grown through biasi method constituting more than 80 per cent of rice cultivation in the area. Other important systems are transplanting, line sowing and lehi system. (Singh *et al.* 2012)

Keeping this in view, the present study entitled **“Assessment of training needs of farm women with reference to rice production technology in Korba district of Chhattisgarh”** was planned during the year 2015-16 with the following specific objectives:

1. To study the socio –personal and economic profile of the farm womens.
2. To assess the extent of involvement of farm women in various farm practices of rice production technology.
3. To study the extent of knowledge and adoption of improved farm practices of rice production technology.
4. To assess the training needs of farm women with reference of rice production technology.
5. To analyze the relationship between dependent and independent variables.
6. To identify the problem faced by farm women in performing the improved farm practices of rice production technology and to obtain the suggestions to minimize problems.

CHAPTER-II

REVIEW OF LITERATURE

In research, a body of literature is a collection of published information and data relevant to a research question. A review of the literature is an essential part of academic research project. The review is a careful examination of a body of literature pointing toward the answer to our research question. Literature reviewed typically includes scholarly journals, scholarly books, authoritative databases and primary sources. Sometimes it includes news papers, magazines, other books, films, and audio and video tapes, and other secondary sources. The main purpose of the review literature is to present some of the findings of research studies, which are related to the seed management pattern among different crops and other relevant works carried out in India and abroad.

A brief account of related studies has been furnished under the following heads:

- 2.1- Socio- personal and economic characteristics
- 2. 2- Knowledge level
- 2. 3- Adoption level
- 2.4- Training needs of farm women
- 2.5 - Involvement

2.1- Socio personal and economic characteristics

1. Age

Oyekale and Idjesa (2009) reported that the 21.3 per cents of the respondents were between the ages 20-39 years, 58 per cent of the respondents were between ages 40-59 years, while 20.7 per cent of the respondents are older than 60 year.

Butt *et al.* (2013) Shows that 51.07% of the respondents fall under the category of 26 to 50 years, followed by 35.47% of below 25 years and only 13.47% of them were above 50 years of age.

Chayal *et al.* (2013) reported that majority (52.50%) of the respondents fell within the middle age group followed by young age (30.83%) and old age (16.67%) group.

Krunal *et al.* (2014) revealed that 73.35 per cent of the respondents were belong to the middle age, i.e. around 31 to 45 years of age group, followed by 20% respondents in young (up to 30) age and 6.25% respondents are old (>45) age group.

Mehar ul *et al.* (2015) reveals that about 32% of respondents were aged up to 30 years, while most of the subjects 53% fell in 31-50 range and just 15% hailed from above 50years of age group.

2. Education

Pal (2007) study shows that 20% of the farmers are illiterate, 50% farmers are elementary education and 30% are secondary education.

Ifrikhar (2009) who found that 56.5 per cent of rural women in agriculture sector were illiterate and only 17.5 per cent had primary education.

Zahoor Aisha *et al.* (2009) Moreover results shows that most of the rural women (57 per cent) were illiterate and (19.8 per cent) had only primary education.

Gummagolmath *et al.* (2012) revealed that the respondents were found to be highly qualified as, more than 95% had an education of graduation and above. Only about 5% of them were matriculates. Among the highly educated, more than 50% were postgraduates and Ph.D. education was found to be positively associated but was not statistically significant ($r=0.028$ and $p=0.350$). this indicated that even though, the level of education increases the need for training increase moderately.

Beshir (2013) found that the education is presupposed to positively affect improved variety adoption since an educated person was expected to seek, analyze and utilize information on a new technology.

Rokonuzzaman *et.al.* (2013) reported their average educational qualification was 3.70 years of schooling and most of them (67.00%) were literate but 43 per cent of them could not exceed primary level, while rest of them were illiterate.

Krunal (2014) implicit that 41.88 per cent of the farm dairy women were educated up to higher secondary level (11th to 12th class), Secondary (8th to 10th) 23.12%, Primary (1st to 7th) 16.25%, Graduate and above 15.00 % and Illiterate 03.75%.

Ahmed A. Mengal (2015) reveals that most (44%) of EFS (Extension field staff) holding master in agriculture discipline followed by 28% of EFS had received education in Bachelor (Agric.).

Sharma *et al.* (2015) Sixty per cent of the respondents were having medium level of education followed by 35 per cent with low level of education. Only five per cent of the respondents were in high level of education category. Farmers with higher and medium level of education can be easily motivated for adoption of recommended practices.

Rathod and Damodhar (2015) reported that majority of one third women respondents 29.16% were educated up to junior college followed by one fourth respondents 25% with high school education in MAVIM activities

Sharma *et al.* (2015) revealed that majority of participants (53.33%) and non participants (45.00%) had education in between class V-X.

3 Family type

Chayal and Dhaka (2010) also revealed that majority (60%) of respondents were belonged to nuclear family and followed by (40 %) were from joint family.

Chayal *et al.* (2013) also observed that majority (65.83%) of respondents were belonged to nuclear family and followed by (34.17%) were from joint family.

Pal (2014) reported that sample households based on family type shows that 72% belonged to nuclear families and 28% belonged to joint families.

Panda (2014) reported that 48.33 and 51.67% respondents had joint family and nuclear family respectively had significant relation. Nuclear family is inclined in trend and it may lead to further land fragmentation and attenuation the chances of farm mechanization.

Rathod and Damodhar (2015) reported that great majority of women respondents 85% had nuclear type of family.

4. Farming experience

Zahoor Aisha *et al.* (2009) findings also show that a majority of rural women (25 per cent) had 6-10 years of farm experience and 24 per cent had above 20 years of farm experience.

Alarima *et al.* (2011) reported that mean farmers' years of experience in rice production and sawah production were 32 and 6 years, respectively. This

implied that the respondents had considerable experience in rice production and hence were capable of using sawah technology. Also, farmers' experience in rice production will be of great importance in developing the skills required for sawah rice production.

Gummagolmath *et al.* (2012) revealed that a major proportion of the officers (43.15%) were having experience of less than 3 years. Only, 15.23% of them had an experience of more than 10 years and 22.84% had experience of 3-10 years.

Krunal (2014) 65.63 per cent of the respondents were practicing in dairy farming since from six to 10 years followed 27.50 % respondents were 3 to 5 and 06.87 % respondents were > 10 years.

Dulle and Ngalapaajority (2014) reported that 31.25 % respondent were practicing in rice farming from 10-19 years, and followed by 28.75% respondent were 5-10 year, 26.28 respondent were 20year or above practicing in rice cultivation.

Pauline and Karthikeyan (2015) the results revealed that majority of the respondents had medium (45.20%) and high (41.90%) level of farming experience. Nearly one-tenth of the respondents (12.90%) had low level of farming experience.

5 Social participation

Rajput *et al.* (2010) reported that majority 91.88 per cent of the respondents were having no membership in any organization followed by 5.00 per cent who were members of two organizations and 2.50 per cent were members in one organisations & only 0.63 per cent were members of three organisations. This implied that the social participation of the respondent was low.

Pauline and Karthikeyan (2015) findings revealed that a majority of the respondents (61.30%) had membership in any one of the social organisations in the society. Nearly one-third of respondents had no membership in the social organisations. A meager proportion of the respondents (9.70%) had membership in two social organisations.

Rathod and Damodhar (2015) stated that social participation gives an idea about the respondent's participation in social activities. As regard to social

participation, most of the respondents (65.00%) having membership in one organization followed by (05.00%) of respondents were having no membership in any organization, whereas (30.00%) respondents were having membership in more than one organization.

6. Land holding

Rathod *et al.* (2011) revealed that 33.33 per cent farm women families had marginal land followed by small farmers (28.34 %). It was also observed that 20.83 per cent farm women were landless and 18 per cent were large farmers.

Chayal (2013) Results on land holding revealed that majority (50.84%) of the respondents had medium size land holding followed by small (35.00%) and large (14.16%) size land holding.

Shanmugasundaramt and Helen (2014) reported that majority of the farmers (59.00%) are marginal farmers followed by small farmers (27.50%) and large farmers (13.50%).

Jaganathan and Nagaraja (2015) revealed that land holding size, 75.6 per cent of the respondents possessed area up to 1 ha (marginal), 17.8 per cent between 1-2 ha (small) and 6.7 per cent had between 2.1-4 ha (medium) under areca nut cultivation.

Rathod and Damodhar (2015) reported that maximum respondent's family (45.00%) possess marginal land holding followed by small (27.50%) and semi medium (20.00%) land holding.

7. Occupation

Rathod *et al.* (2011) reported that agriculture (52.50%) was the major occupation of the family followed by laborers (28.33%). The remaining farm women included home makers (15%) and government job holders (04.17%)

Panda (2014) reported that for 20% respondents' agriculture was sole option of livelihood. Whereas livelihood agriculture and animal husbandry as livelihood for 25% respondents, but more diversified farming i.e. agriculture, fisheries and animal husbandry as livelihood for 16.67% farmers. Least percentage representation of respondents to the livelihood as agriculture and business, and it was 4.17%.

Pauline and Karthikeyan (2015) revealed that nearly two-third of the respondents (67.74%) had agriculture as their major occupation followed by

agriculture + allied activities (16.10%). A meager proportion of the respondents worked in agriculture + service sector (6.50%) and agriculture + business (9.66%).

Rathod and Damodhar (2015) reported that half of the respondents 56.66% were engaged in farming as a family occupation and 21.66% of them had allied business in addition to agriculture.

8. Annual income

Chayal and Dhaka (2010) revealed that annual income shows that majority (44.5 %) of respondents were belongs to income group Rs. 60000-90000 followed by (27.5 %) income group below Rs. 30000, (25%) income group Rs. 30000-60000 and (3%) income group above Rs. 90000 annually.

Kanwat and Singh (2014) revealed that annual income had shown negatively significant relationship at 0.05 per cent level with technological needs in dairying.

Biswarup (2015) result presented that around 60 per cent of the fishers had medium income level between Rs. 8,000 to Rs. 57, 000/- from fish sale per annum. Around 19 per cent of the fishers had low income up to Rs. 7,100/- annually from fish sale.

Shruti *et al.* (2015) revealed that annual income, majority of the respondents (75.33%) were between Rs. 8600-23373 followed by 14 per cent had an income of less than Rs. 86100, while a mere 10.67 per cent had an income of more than Rs. 23373.

9. Credit Acquisition

Kushwaha (2005) found that majority of the respondents (62.50%) had not acquired the credit, whereas, only 37.50 per cent respondents had acquired credit. Out of total credit acquired, the majority (82.22%) had taken short-term credit followed by mid-term credit (11.11%) and long-term credit (6.67%).

Shrivastava (2005) indicated that the 60.62 per cent of the respondents were taken loan from Co-operative Bank, followed by 49.38 per cent of the respondents were taken loan from Regional rural Bank. About 43.75 per cent of the respondents were taken loan from Commercial bank, about 1.88 per cent of the respondents were taken loan from their relatives and no one of the respondents had taken loan from money lenders.

Verma (2009) revealed that majority of the respondents (95.83%) acquired their credit from various agencies, whereas, only 04.17 per cent respondents had not acquired the credit facilities from the agencies providing the credit. Out of those respondents who had acquired credit, the majority of the respondents (93.50%) had taken short- term credit followed by mid term credit (06.50%) and none of the respondents had taken long –term credit.

Lakra (2011) indicated that the majority of the respondents (65.63%) had acquired credit for agriculture. Out of total credit acquired farmers (105), it is further noted that 61.90 per cent respondent had preferred to take the short term loan credit (6 m credit (6 - 18 months) and only 13.33 per cent of the respondents had taken long term credit (6 months – 5 years) followed by 24.77 per cent of respondents had taken medium term loan .

Shori (2011) found that 70.62 per cent of the respondents had taken loan from Co-operative society, followed by 24.37 per cent of the respondents had taken loan from Regional Rural Bank, 6.25 per cent of the respondents had taken loan from Nationalized Bank, whereas 5.00 per cent of the respondents had taken loan from relative and only 4.37 per cent of the respondents had taken loan from money lenders.

Narbaria (2013) observed that the majority of respondents (93.65%) had acquired credit for rice cultivation and only 6.35 per cent of respondents had not acquired credit. Out of total credit acquired respondents, the majority of the respondents (97.46%) had taken credit from cooperative society and only 2.54 per cent of respondents had taken credit from nationalized bank. As regards to duration of credit, the majority of the respondents (97.46%) had taken loan duration up to 6 month and only 2.54 per cent of respondents had taken loan for 6-12 month of duration. Amount of credit in cash, most of the respondents (57.52%) obtained credit up to Rs. 20,000/-. While credit in the range of Rs. 20,001-40,000/- and above Rs. 40,000/- were taken by 27.43 and 15.05 per cent, respectively. Regarding amount of credit in commodities, most of the respondents (46.96%) obtained up to Rs. 10,000/- while commodity in the range of Rs. 10,001-20,000/- and above Rs. 20,000/- were taken by 32.18 and 20.86 per cent respondents, respectively. According to their purpose of obtaining credit, majority of the

respondents (96.61%) had used their credit for purchasing of fertilizers for their crops, and only 3.39 per cent of the respondents had used their credit for purchasing of pesticides and herbicides. As regards to mode of repayment of loan, majority of the respondents (97.46) had repaid their credit in kind, by selling their produce to cooperative society like paddy and only 2.54 per cent of respondents had repaid their credit in cash.

10. Extension contact

Lakra (2011) revealed that the distribution of respondents with respect to their frequency of contact with extension personnel separately. The majority (50.00%) of the respondents made contact with Rural Agricultural Extension Officer (RAEOs) regularly followed by 28.12 per cent respondents who often contacted RAEOs, 18.12 per cent respondents contacted rarely, while only 3.76 per cent of the respondents had never contacted them. With regards to Agricultural Development Officer (ADOs), the research findings shows that maximum 47.50 per cent respondents had contact with them rarely followed by 38.12 per cent respondents never contacted, 14.38 per cent respondents who often contacted ADOs and none of the respondents contacted with ADOs regularly.

Singh (2011) revealed that extension contact is not-significant correlated with adoption of mungbean production technology.

Gour *et al.* (2015) reported that majority of the respondents (84.67%) gave first preference to relatives, followed by neighbor (62.67%), gram sevaks (34.67%), veterinary doctors (15.33%), radio (11.33%), newspaper (8.00%) and television (6.00%), respectively.

Sharma *et al.* (a) (2015) reported that extension contact of majority respondents (68.33%) was in medium category followed by about 18% of the respondents with low level of extension contact.

Sharma *et al.* (b) (2015) reported that weekly contact with extension agencies such as VLEW, KVK, ADOs, and NGO personnel were observed for majority of respondents in both group of respondents.

11 Scientific orientation

Raghuwanshi (2005) revealed that majority of the respondents (58.75%) had medium degree of scientific orientation. The rice growers therefore found to be willing to accept the use of scientific ways and techniques in their farm and home in general and scientific practices of control measures of various insect pests in rice crop, While 21.87 per cent of the rice growers were found to be with high degree of scientific orientation and only 19.38 per cent of the respondents were found to be with low degree of scientific orientation.

Shrivastava (2005) revealed that 65.63 per cent of the respondents had medium level of scientific orientation followed by 19.37 per cent of respondents had low level of scientific orientation, while 15.00 per cent respondents belonged to high level of scientific orientation category regarding control measure practices of various rice diseases.

Rajput *et al.* (2007) scientific orientation similar findings reported correlation coefficient “r” values show positive significant farmers training needs on BT cotton technology.

Patel *et al.* (2008) showed that 66.00 per cent of the respondents had medium level of scientific orientation, followed by 20.67 per cent who had low level of scientific orientation, while 13.33 per cent of respondents had high level of scientific orientation regarding soybean production technology

Shakhya *et al.* (2008) revealed that scientific orientation was the important factors which have direct and indirect effect on knowledge of chickpea growers. Coefficient of correlation and regression coefficient “b” analysis show positive significant with knowledge level of chickpea growers.

Verma (2009) showed that 70.83 per cent of the respondents had medium level of scientific orientation, followed by 26.67 per cent respondents who had low level of scientific orientation and 02.50 per cent respondents had high level of scientific orientation regarding organic farming practices.

Singh and Varshney (2010) revealed that the scientific contributed orientations negatively contributing to the adoption of rice production technology.

Lakra (2011) showed that majority of the respondents (73.75%) had medium level of scientific–orientation, followed by 20.00 per cent of the

respondents who had high level of scientific–orientation while only 6.25 per cent of respondents had low level of scientific–orientation.

Singh (2011) observed that non-significant correlation of scientific motivation with adoption of mung bean production technology in arid zone of Rajasthan.

12 Knowledge level

Kirar and Mehta (2009) that maximum number of the contact tribal farmers (51.67%) had medium knowledge level of recommended rice production technology, 33.33 per cent and 15.00 per cent of the farmers had low and high knowledge level of recommended rice technology, respectively. Whereas, the majority of non-contact tribal farmers (49.58%) had medium knowledge level of rice production technology, followed by low level (42.08%) and high knowledge level (8.33%) of rice production technology.

Verma (2009) indicated that the majority of the respondents (60.00%) had medium level of knowledge regarding organic farming practices, whereas, 29.17 and 10.83 per cent of respondents were having low and high level of knowledge, respectively. It can be said that, most of the respondents surveyed (60.00%) had medium level knowledge regarding organic farming practices in paddy.

Chuhan (2012) revealed that over all knowledge of chickpea indicated that the low, medium and high level of knowledge before contact with KVK was 78.00, 16.00 & 6.00%, respectively and it was changed up to 08.00, 10.00 and 82.00%, respectively after contact with KVK.

Sharma *et al.* (2013) revealed that majority, (i.e., 72.50 per cent) of Trainee Farm-Women (TFW) were having medium level of knowledge regarding FVP technology, followed by those (20.00 per cent and 7.50 per cent) having high and low level of knowledge, respectively. Whereas, in case of Non-trainee farmwomen, all of them had low level of knowledge regarding FVP technologies.

13 Adoption level

Singh and Varshney (2010) reported that Majority of the respondents (44.17 per cent) were found to be medium adopters, followed by low (37.50 per cent) and high (18.33 per cent) adopters.

Sharma *et al.* (2013) revealed that adoption scores of Trainee Farm-women revealed that (79.50 per cent) of TFW had medium level of adoption, followed by those having high level of adoption (20.50 per cent) and low level of adoption (18.50 per cent) of FVP technologies, while in case of Non-Trainee Farm-women, all of them were having low level adoption. This indicates that there has been significant difference between the trainees & non-trainees with regard to their Knowledge and Adoption of fruit and vegetables preservation.

Borthakur *et al.* (2015) reported that seed rate in nursery bed was also partially adopted by majority (88.61%) of the respondents followed by 10.00 per cent 'no adopters' and 1.38 per cent 'full adopters'. This shows that most of the farmers were unaware of the correct seed rate recommended for nursery beds. The reason behind this may be the traditional mindset of the farmers which prevents them from going for accurate seed rates.

Sharma *et al.* (2015) that majority of participants (43.33%) had medium followed by high level of adoption of demonstrated technologies while for majority non participants farmers (80.00%) had low level followed by medium level of adoption (18.33).

14 Training needs of farm women

Nikam *et al.* (1992) who found that tribal paddy cultivators training needs mainly focus on plant protection measures, weed control, seed treatment, improved varieties, drying of paddy, marketing, storages, nursery raising, transplanting, soil testing, water management and fertilizer are most essential aspects.

Urmila and Verma (2009) reported that the storage and harvesting were found the most needed and interested training area by farm women with the highest rank of 2.58 and 2.34 mean square, respectively while the medium rank was found for weeding, transplanting, nursery raising, insect-pest management and manure and fertilizer application. The lowest rank of 1.50 average squares was found for land preparation and irrigation. Farm women reported their need and interest for farming in rice cultivation. In case of sugarcane growing area most needed interesting training area was harvesting with mean square 2.29 followed by weeding (M.S. 2.29) and storage (M. S. 2.23). Therefore, need-based trainings for farm women should be organized in order to update their knowledge and skills and

thereby change in their attitude for cultivation of rice and sugarcane crop more effectively.

Iftikhar and Naveed (2010) revealed that the majority of the women were involved in crop production activities such as cotton picking, wheat harvesting and drying of agriculture produce at the ordering of 1st, 2nd and 3rd respectively. In livestock sector, activities like whey making, milking, milk storage are the top three activities performed by women. The study also depicted an encouraging response against gender bias in fields like education and training. Most of the women (i.e., 375) selected daily training format for their skill enhancement. Instead of sociological constraints of the area, the dire need of the women is training and education in crop production activities, livestock management, poultry production and drying of fruits and vegetables.

Chauhan and Kshirsagar (2012) revealed that marketing of produce attained the top most priority in assessing training needs (76 per cent), followed by plant protection (66 per cent) and manures and fertilizers (61 per cent). Vermicompost, its preparation and application methods accorded highest response (87 per cent) from the members followed by ITKs (81 per cent) being used in organic farming. Poultry farming ranked first (78 per cent) followed by agro-processing units (71 per cent) in the assessment of training needs.

Kavitha and Rajkumar (2014) revealed that 20 per cent of the farm women perceived Disease Prevention as the most important training need with respect to healthcare and manage mental practices followed by deworming schedule and procedures for the animals (16.66%), care and management of sick animals (15%), information on infectious diseases (13.33%), care and management of milking animals (11.66%), care and management of pregnant animals at the time of parturition (10%), first aid measures to be taken during emergency (8.33%) and care and management of new born calves (5%).

15 Involvement

Mishra (2009) reveals that rural women involvement in larger numbers in the practices like nursery management (63.5%), seed storage (52.5%), and transplantation (41.5%), weeding (40.5%), grading (40.5%).

Chayal and Dhaka (a) (2010) reveals that cutting, picking, cleaning of grains, drying of grains, storage and processing are the major farm operations wherein women participation was 100 per cent.

Chayal and Dhaka (b) (2010) That winnowing, weeding, gap filling, grading, shifting produce to threshing floor and cleaning of field farm operations in which the participation of women was more than 75 per cent. The tasks in which women participation was varied between 50-75 per cent were thrashing, raising nursery for seedlings and thinning.

Rathod *et al.* (2011) revealed that 80.83 per cent of women involved in activities like fodder collection while 75 per cent women performed chaffing of fodder for animals. The women also looked after storage of feed and fodder (77.5 %) in the form of hay making. The act of preparing feed i.e. mixing of concentrates with roughages or fodder was performed by 67.5 per cent of rural women.

Moktan (2012) the level and extent of participation of sample farm women for all three sub-divisions and for both the farming categories against sixteen selected Agricultural activities. In some of these activities such as, seed preservation, seed selection, seed preparation, Seed treatment, nursery bed raising, manure and fertilizer application, top dressing of fertilizer and plant protection, less than 50% of the marginal farm women were found to have participated.

Sharma (2014) revealed that more number of farm women were found to have overall high level of participation in agricultural operations i.e. (47.50%) followed by medium participation with (33.33%) and low participation of (19.17%) respectively.

Mehar ul *et al.* (2015) indicates that the maximum involvement of rural women was observed in cotton picking (93%), followed by vegetable production (92%), collection of farm yard manure (88.3%), wheat harvesting (85%), thinning (83%), seed sowing at ridge and nursery (80%), weeding (80%), picking and packing of fruits (70%), transplantation and harvesting of paddy (83%), Gurr making (40%), hoeing (35%), collection and binding of cotton stick (35%), crushing of sugar cane (24%) land preparation (20%) respectively.

CHAPTER-III

RESEARCH METHODOLOGY

The chapter covers precise method and procedure followed during the course of research work as well as preparation of manuscript. The blueprint used in carrying out investigation has been outlined in this chapter. The bifurcation of research methodology adopted is given under following heads:

3.1 Location of the study area

3.2 Sample and sampling procedure

3.3 Variables of the study

3.3.1 Independent variables

3.3.2 Dependent variables

3.4 Operationalization of independent variables and their measurement

3.5 Operationalization of dependent variables and their measurement

3.6 Type of data

3.7 Developing the interview schedule

3.7.1 Validity

3.7.2 Reliability

3.8 Method of data collection

3.9 Statistical analysis

3.1 Location of the study area:-

Chhattisgarh state is divided into three agro climatic zones viz. northern hills, Baster plateau, Chhattisgarh plains. The study was conducted during the year 2015-2016 in Chhattisgarh plain agro climatic zone of Chhattisgarh state. Chhattisgarh state is divided into 27 districts i.e., Sarguja, Korba, Bilaspur, Korba, Jashpur, Kawardha (Kabirdham), Durg, Raipur, Baloda Bazar, Janjgir-Champa, Raigarh, Rajnandgaon, Dhamtari, Mahasamund, Kanker, Bastar, Dantewada, Narayanpur, Bijapur, Bemetara, Surajpur, Balarampur, Balod, Koandagoan, Mungeli, Gariyaband and Sukma. Out of which, only Korba district was selected for this study.

In Chhattisgarh plains Korba is located between 22°01 to 23°01 north latitudes and between 82°07 to 83°07 east longitudes. Korba District falls under the hot temperate climate zone and hence the district experiences very hot and dry. Summer season starts from April to mid June. Rainy season due to the South-West Monsoon is from mid June till the end of September.

Table 3.1 Area and respondents for the study

Sl. No.	District	Selected block	Selected village	Selected no. of respondents
1.	Korba	Pali	Mudhali	10
			Polmi	10
			Pulalikala	10
			Podhi	10
			Saraipali	10
			Lapha	10
		Katghora	Ranjana	10
			Basantpur	10
			Jhalkchar	10
			Lakhanpur	10
			Bakimongra	10
			Kasania	10

3.2 Sample and sampling procedure

3.2.1 Selection of blocks

Korba district is having 5 blocks viz. Kartla, Katghora, Korba, Pali and Podiuproda out of which two blocks were selected randomly for the study.

3.2.2 Selection of villages

Six villages were selected randomly from each selected block. Thus the total 12 villages ($6 \times 2 = 12$) were selected for the study. (Table 3.1)

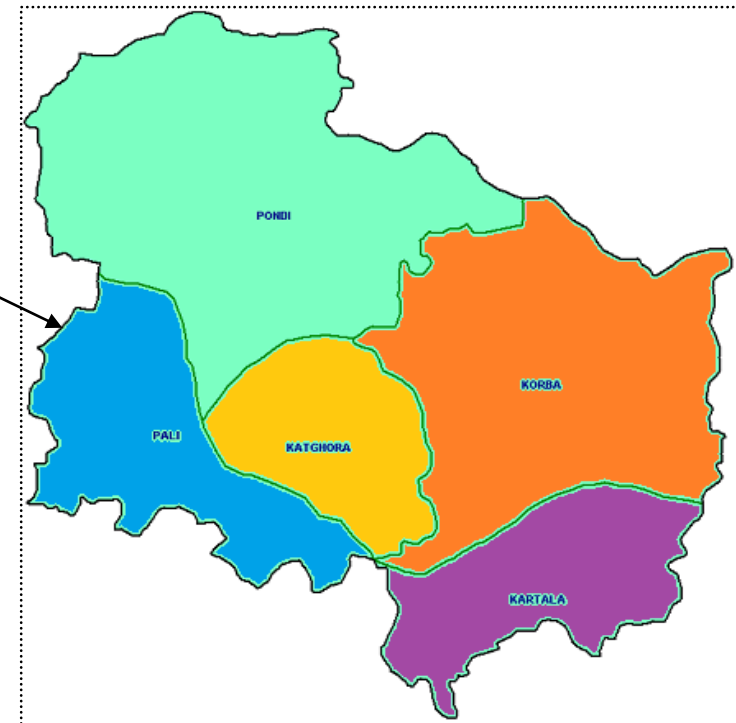


Fig. 1 Location of the study area

3.2.3 Selection of respondents:-

From each selected village, 10 farm women were selected randomly as respondents. In this way total 120 farm women ($12 \times 10 = 120$) were selected as respondents for the study.

3.2.4 Collection of data

The data was collected personally through pre-tested structured interview schedule.

3.2.5 Statistical method

Collected data was tabulated and analyzed by using appropriate statistical tools.

3.3 Variables of the study:-

3.3.1 Independent variables

- Age
- Education
- Family type
- Occupation
- Annual income
- Land holding
- Farming experience
- Credit acquisition
- Social participation
- Extension contact
- Scientific orientation
- Extent of knowledge of Rice Production Technology.
- Extent of adoption of Rice Production Technology.

3.3.2 Dependent variable - Training needs of farm women.

3.4 Operationalization of independent variables and their measurement

3.4.1 Socio-personal and economic profile of the respondents

3.4.1.1 Age

The age of the respondent as informed by them during personal interview was recorded in terms of year. The procedure as followed by Dhruw (2014) was used and categorized as follows:

Sl.No.	Categories	Score
1.	Young (up to 35 years)	1
2.	Middle (36-55 years)	2
3.	Old (more than 55 years)	3

3.4.1.2 Education

The reading and writing capability acquired by the respondents was considered as their education status. The procedure followed by Somasundram (1995) and Annodaraja (1990) was used in quantification with slight modification as given below.

Sl. No.	Categories	Score
1.	Illiterate	1
2.	Primary (Up to 5th class)	2
3.	Middle (6th to 8th class)	3
4.	High School (9th to 10th class)	4
5.	Higher Secondary (11th to 12th class)	5
6.	Graduate and above	6

3.4.1.3 Family type

Traditionally the families are divided into two categories, namely, joint and nuclear. The procedure followed by Rizwana (2001) was used to score to these categories as follow.

Sl.No.	Categories	Score
1.	Joint	1
2.	Nuclear	2

3.4.1.4 Farming experience

The experience of respondents was categorized on the basis of years spent in the farming activities. The procedure followed by Painkra (2014) was used to measure this variable as categorized in following manner:-

Sl. No.	Categories	Score
1.	Less experienced (up to 10 years)	1
2.	Medium Experienced(11-20 years)	2
3.	High experienced (above 20 years)	3

3.4.1. 5 Social participation

The social participation of respondent may influence their adoption behavior. Through social participation, farmer may get an opportunity for more learning/exposure towards new ideas and may be motivated for adoption. The term social participation in this study refers to the degree of involvement of the respondents in formal/informal organizations as member or executive/office bearer or both. A social participation score was computed for each respondent on the basis of their membership(s) and position in various formal/informal organizations. The procedure as followed by Supe (2007) with slight modification was used and categorized as under:

Sl. No.	Category	Score
1.	No member in any organization	1
2.	Member in one organization	2
3.	Member of more than one organization	3
4.	Executive / office bearer	4

3.4. 1.6 Extension contact

Extension contact is operationalised as the awareness of the respondent about various extension agencies and their regularity of contact with the same to acquire

information or advice to agriculture in general. The procedure followed by Nirban (2004) was used to measure this variable and it categorized as under:

Sl. No.	Item / responses	Score
1.	Awareness	
	Yes	1
	No	0
2.	Extent of contact	
	Always	4
	Occasionally	2
	Never	0

Further the respondents were categorized in to three category on the basis of mean and S.d. as given under low, Medium and high.

Sl.No.	Category	Score
1	Low (< 8 score)	1
2	Medium (8-17 score)	2
3	High (> 17 score)	3

3.4.1. 7Land holding

Land holding of the respondent's family was considered as an important factor influencing process of the adoption. The number of hectares used for cultivation by the respondents at the time of interview was considered depending on the size of land holdings respondents were categorized by using the procedure followed by Markad (1996) as follows.

Sl. No.	Categories	Score
1.	Marginal (up to 1 ha.)	1
2.	Small (1.1 – 2 ha.)	2
3.	Medium (2.1 – 4 ha.)	3
4.	High (> 4ha.)	4

3.4.1.8 Occupation

The occupation held by the respondents such as Agriculture, Animal husbandry, Services and other, business etc. was included in the study. The procedure followed by Hadole and Tawade (2005) with slight modification was used to quantify these variables as under:

Sl. No.	Categories	Score
1.	Agriculture	5
2.	Wage earner	1
3.	Services	4
4.	Business	6
5.	Animal husbandry	3
6.	Other (back yard poultry)	2

3.4.1.9 Annual income

In this study, total annual income from all the available sources of the respondents family were obtained and categorized under the following heads on the basis of procedure followed by Sori (2014):

Sl. No.	Categories	Score
1.	Low (<50000)	1
2.	Medium (50001 to 1lakh)	2
3.	High (100001to 1.5lakh)	3
4.	Very high (>1.5lakh)	4

3.4.1.10 Credit acquisition

The availability of credit is essential to purchase the required inputs which may influence the extent of adoption among farmers. The adoption of improved agricultural technology requires more capital investment in farming to purchase the inputs like fertilizer, pesticides, and implements etc. Source, purpose and duration of credit were recorded and the responses were presented in terms of frequency and per centage. Further duration of credit was measured on the basis of procedure followed by Pandey (2015) as follows.

Sl. No.	Categories	Score
	Short term	1
	Medium term	2
	Long term	3

3.4.1.11 Scientific orientation

The scientific orientation scale developed by Supe (1975) was used for the measurement of these variables. Statements of the original scale were suitably modified to measure the scientific orientation of the respondents. The scale has six items. Out of these six items, number 1, 3, 4, 5, 6, were positive items and number 2 was a negative item. The score for positive item were 5,4,3,2,1 and for negative item scores were 1,2,3,4,5 for the response categories strongly agree, agree, undecided, disagree, respectively. The sums of scores of all the six statement were worked out. The respondents were categorized into following groups:

Sl. No.	Categories	Criteria
1.	Low (less than 14 score)	$(< \bar{X} - S.D.)$
2.	Medium (14 - 20 score)	$(\text{in between } \bar{X} \pm S.D.)$
3	High level (more than 20 score)	$(> \bar{X} + S.D.)$

3.4.1.12 Extent of knowledge of rice production technology

Knowledge about innovation may be an important factor affecting the adoption behavior of farmers. Bloom (1979) defined knowledge as those behavior and best situation which emphasized the remembering either by recognition or recall of ideas, materials or phenomenon. Operationally knowledge was used in this study as actual knowledge of farmers regarding selected practices of rice production technology.

A set of 10 farm practices of rice production technology was used to get the response of respondents were recorded on three point continuum scale i.e. Full, Partial, and Nil with score of 2, 1, and 0, respectively. The maximum score of

an individual could score 20. The raw knowledge score was converted into knowledge index. This variable is measured with the help of procedure followed by Pandey (2015).

$$K.I. = \frac{O}{S} \times 100$$

Where, KI = knowledge index of respondents

O = Total obtained score by respondents

S = Total obtainable score

The respondents were then categorized into 3 categories on the basis using following formula.

Sl. No.	Categories	Criteria
1	Low (less than 9 score)	(< Mean – S.D.)
2	Medium (9-14 score)	(in between Mean \pm S.D.)
3	High (more than 14 score)	(> Mean + S.D.)

3.4.1.13 Extent of Adoption of rice production technology

A set of 10 farm practices of rice production technology was used to get the response of respondents were recorded on three point continuum scale i.e. high, medium, and low with score of 2, 1, and 0, respectively. The maximum score of an individual could score 20. The raw adoption score was converted into adoption index. This variable is measured with the help of procedure followed by Sharma (2015).

Adoption index was worked out by using the following formula:

$$A.I. = \frac{O}{S} \times 100$$

Where,

AI = Adoption index of respondents

O = Total obtained score by respondents

S = Total obtainable score

On the basis of adoption index, respondents were categorized as follows:

Sl.No.	Categories	Score
1	Low (less than 3 score)	(< Mean – S.D.)
2	Medium (3-13 score)	(in between Mean \pm S.D.)
3	High (more than 13 score)	(> Mean + S.D.)

3. 4. 1.14 Extent of involvement of respondents in various farm practices of rice production technology

To know the involvement in various farm practices, responses of the farm women were recorded and score 1 for “Yes” and 0 for “No” response. A set of 13 farm practices of rice production technology was introduced to get the responses of farm women and thus the maximum score of an individual could be 13. Further for assessment of extent of involvement of farm women in various practices, practice wise extent of involvement was assessed on the basis of total obtainable score by all the respondents and thus for each practice maximum score could be 120. The procedure followed by Rizwana (2001) was used with slight modification.

The Involvement index was worked out by using the following formula.

$$I. I. = \frac{O}{S} \times 100$$

Where,

I. I. = Involvement index of respondents

O = Total obtained score by respondents

S = Total obtainable score by respondents

On the basis of involvement index respondents were categorized as follows:

Sl.No.	Categories	Score
1	Low (less than 5 score)	(< Mean – S.D.)
2	Medium (5-8 score)	(in between Mean \pm S.D.)
3	High (more than 8 score)	(> Mean + S.D.)

3.5 Operationalization of dependent variables and their measurement

3.4.5.1 Training needs of farm women

The training needs of farm women in rice production as perceived by the respondents were measured using a three point rating scale in first choice, second choice and third choice and it was qualified by assigning scores of 2, 1, and 0 respectively and the respondents were asked to respond in specific items on a three point continuum and frequency of responses was multiplied with the corresponding score and added. Then it was divided with the number of continuum which gave the average choice score.

Analysis of rating

On the basis of the respondents based on priorities the I, II, and III, choice was tabulated to find out within the group variability in ranking training needs. Following this average choice score (ACS) was calculated by the following formula as suggested by Singh (1980) and the procedure followed by Vinod Kumar (2000).

$$ACS = (CI \times 2) + (CII \times 1) + (CIII \times 0)$$

Where, CI = is the first choice

CII = is the Second choice

CIII = is the Third choice

After calculating the totals scores and mean scores of each item. The rank values were assigned and for preference of training in a particular area the below mentioned scale was adopted: The procedure was followed by Patel (2000).

Most needed	(MN)	1.50 – 2.00	Mean score
Needed	(N)	1.00 – 1.49	Mean score
Somewhat needed	(SN)	0.50 – 0.99	Mean score
Not needed	(NN)	0.00- 0.49	Mean score

3.6 Problem faced of respondents in rice production technology

Simple ranking technique was applied to measure the problem faced by the respondents in performing the farm practices of rice production technology. Each respondent was asked to mention his problems in recommended rice production technology in order of degree of difficulties. The response was calculated and presented on the basis of frequency and per centage.

3.7 Suggestions given by respondents to minimizing the constraints

Respondent were asked to give their valuable suggestions to overcome the problems faced by them in rice production technology. The suggestions offered were summarized on the basis of number and per cent of respondents.

3.8 Type of data

The following types of the data were obtained from the respondent in view of the objectives of the study:

1. Data pertaining to the regarding their socio-personal characteristics
2. Data regarding extent of involvement in various farm practices
3. Data regarding extent of knowledge of improved farm practices
4. Data regarding extent of adoption of improved farm practices
5. Data regarding training needs of farm women
6. Data regarding problems and suggestion as perceived by the respondents on relating to rice production technology.

3.9 Developing the interview schedule

The interview schedule was designed on the basis of objectives and independent and dependent variables in the present investigation. To facilitate the respondents, the interview schedule was framed in “Hindi”. Each question was thoroughly examined and discussed with the experts before finalizing the interview schedule. Adequate precautions and care were taken into consideration to

formulate the questions in a manner that they were well understood by the respondents and would find it easier to respond.

The prepared interview schedule was used in the study area for collecting the data. On the basis of experience gained in pre-testing, the necessary modifications and suggestions were incorporated before giving a final touch to interview schedule.

3.9.1 Validity

Validity refers to “The degree to which the data collection instruments measures what it is supposed to measure rather than something else”. The validity of interview schedule used for this study was maximized by taking following steps:

1. The interview schedule was thoroughly discussed with the concerned scientists and member of advisory committee and their suggestions were incorporated.
2. Pre-testing of interview schedule provided an additional check for improving the instrument.
3. The relevancy of each question in terms of objectives of study, their logical order and wordings of each question was checked carefully.

3.9.2 Reliability

Reliability of an interview schedule refers to “Its consistency or stability in obtaining information from respondents”.

The test-retest method of estimating reliability of an interview schedule was followed in this study. Thirty respondents of the study area were randomly selected and interviewed and they were re-interviewed after 2 to 3 weeks by using the same interview schedule followed at the time of first interview. Since same responses were observed, the reliability of the interview schedule was ensured.

3.10 Method of data collection

Respondents were interviewed through personal interview. Prior to interview, respondents were taken into confidence by revealing the actual purpose of the study and also full care was taken to develop good rapport with them. They were assured that the information given by them would be kept confidential. The

interview was conducted in the most formal and friendly atmosphere without any complications.

3.11 Statistical analysis

The data collected during the course of investigation was tabulated into the coding sheet and then appropriate analysis of data was made according to objectives as suggested by Cochran and Cox (1957). The statistics techniques were applied in the form of frequency, per centage, mean, standard deviation, coefficient of correlation, etc.

CHAPTER-IV

RESULT AND DISCUSSION

This chapter deals with the results obtained on various aspects of the study and supported with suitable discussion on findings. The data were collected from 120 respondents through the interview schedule on the basis of objectives of the study. The data collected were classified, tabulated, analyzed, presented, interpreted and discussed systematically.

The results are discussed in light of independent and dependent variables and presented in following heads:

4.1 Independent variable

4.1.1 Socio-personal and economic characteristics

4.2 Extent of involvement of farm women in various farm practices of rice production technology

4.3 Extent of knowledge of rice production technology

4.4 Extent of adoption of rice production technology

4.5 Dependent variable- Training needs of farm womens

4.6 Correlation analysis of independent variables with training needs of respondents.

4.7 Regression analysis of independent variables with training needs of respondents

4.8 Problem faced by the farm women in improved farm practices of rice production technology and obtain the Suggestions to minimize the problems.

4.1 Independent variable

4.1.1 Socio –personal and economic characteristics:-

The Socio – personal and economic characteristics i.e. - age, education, family size, farming experience, social participation, Land holding, annual income, occupation, credit acquisition of the respondents and results are presented.

4.1.1.1 Age of the respondent

The findings on age of the respondents are presented in Table 1. The data revealed that majority (59.17%) of the respondents belonged to the middle age group (between 36 to 55 years). However, 24.17 per cent of the respondents were of young age group (up to 35 years) and only 16.66 per cent respondents belonged to old age group (above 55 years).

Table 1 Distribution of the respondent according to their age

(n=120)

Sl.No.	Age	Frequency	Per centage
1.	Young (up to 35 years)	29	24.17
2.	Middle (36 to 55 years)	71	59.17
3.	Old (above 55 years)	20	16.66

The findings indicated that the maximum of the respondent in the study area belonged to the middle age group followed by young age group and old age group. These findings are similar to Oyekale and Idjesa (2009) as they reported that the 21.3 per cents of the respondents were between the ages 20-39 years, 58 per cent of the respondents were between ages 40-59 years, while 20.7 per cent of the respondents are older than 60 year. Butt *et al.* (2013) Shows that 51.07% of the respondents fall under the category of 26 to 50 years, followed by 35.47% of below 25 years and only 13.47% of them were above 50 years of age.

4.1.1.2 Education of the respondents

About education, the data presented in table 2. and fig. 2. Revealed that 30.84per cent of respondents had education up to primary school, 30.00per cent respondents had middle level of education, and 12.50per cent of them found illiterate. While 10.83per cent having education up to high school, 8.33per cent up to higher secondary and 7.50per cent respondents were found graduate and above education level respectively. Similar findings by Sharma, et al. (2015) also reported similar findings; in 60 per cent of the respondents were having medium level of education followed by 35 per cent with low level of education. Only five per cent of the respondents were in high level of education category. Farmers with higher and medium level of education can be easily motivated for adoption of recommended practices.

Table 2 Distribution of the respondents according to their education

(n=120)

Sl.No.	Education	Frequency	Percentage
1.	Illiterate	15	12.50
2.	Primary (up to 5 th class)	37	30.84
3.	Middle (6 th to 8 th class)	36	30.00
4.	High school (9 th to 10 th class)	13	10.83
5.	Higher Secondary (11 th to 12 th class)	10	8.33
6.	Graduate and above	9	7.50

4.1.1.3 Family type of the respondents

Family means a group consisting of two parents and their children living together as a unit. Nuclear family is a group consisting of a pair of adults and their children, joint family composed of parents their children and the children's spouse and offspring in one house hold. The findings on the family type of the respondent are presented in table 3. The data revealed that 57.50per cent of the respondents were living in nuclear families and 42.50per cent of the respondents were living in joint families. Similar findings were also reported by Chayal and Dhaka (2010) who revealed that majority (60%) of respondents were belonged to nuclear family and

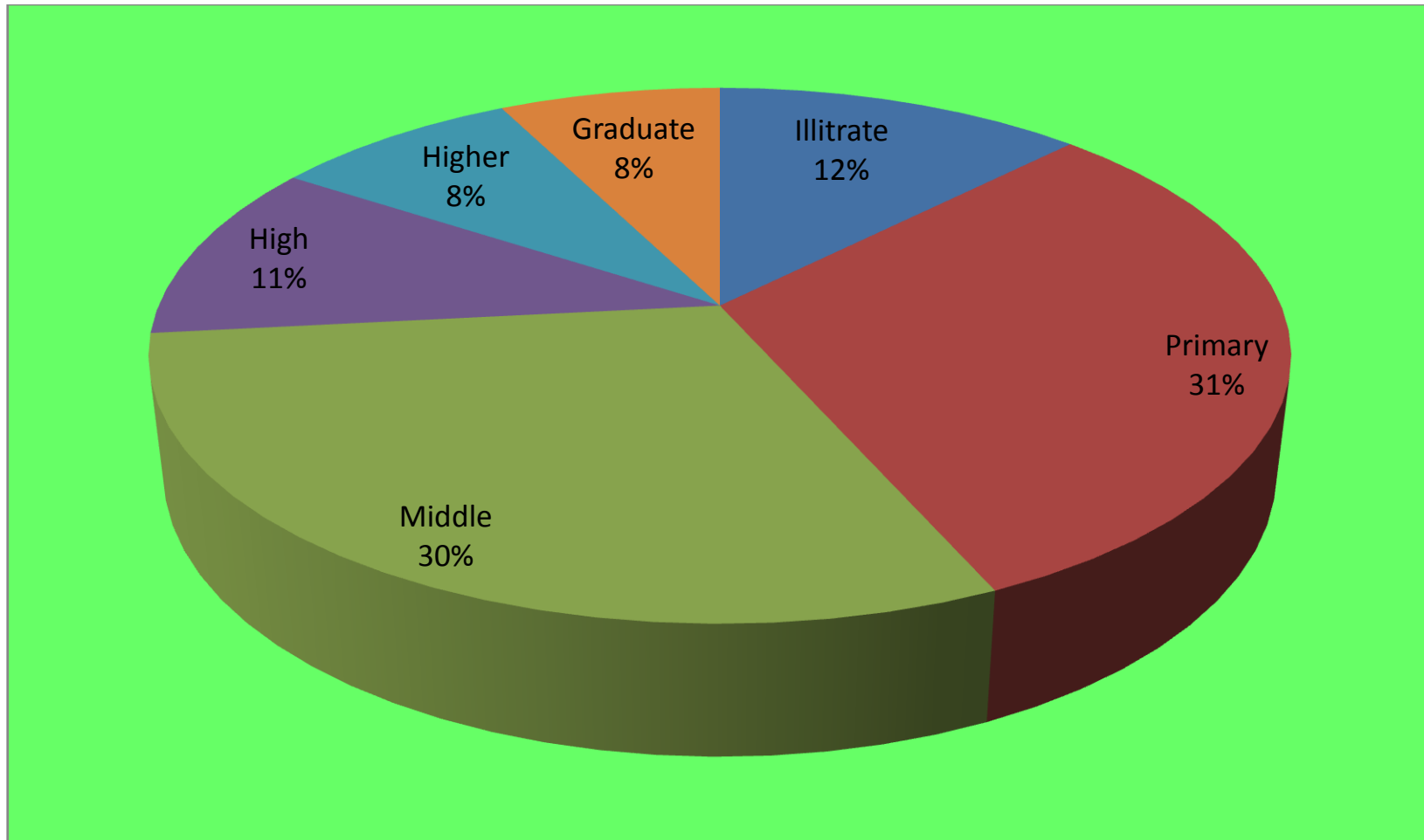


Fig 2. distribution of the respondents according to their education

followed by (40 %) were from joint family. Panda (2014) reported that 48.33% and 51.67% respondents had joint family and nuclear family respectively had significant relation. Pal (2014) reported that sample households based on family type shows that 72% belonged to nuclear families and 28% belonged to joint families.

Table 3 Distribution of the respondents according to their family type
(n= 120)

Sl.No	Family type	Frequency	Percentage
1.	Joint family	51	42.50
2.	Nuclear family	69	57.50

4.1.1.4 Farming Experience of the respondents

The findings on the farming experience of the respondents are presented in table 4. The data revealed that maximum 50.83per cent of respondents were having medium level of experience 11 to 20 years, 28.34per cent were having above 20 years of farming experience and 20.83per cent were having up to 10 years of farming experience found under high and low level of category of experience respectively. Similar findings were reported by Zahoor Aisha *et al.* (2009) that a majority of rural women (25 per cent) had 6-10 years of farm experience and 24 per cent had above 20 years of farm experience. Alarima *et al.* (2011) reported that mean farmers' years of experience in rice production and sawah production were 32 and 6 years, respectively. This implied that the respondents had considerable experience in rice production and hence were capable of using sawah technology. Also, farmers' experience in rice production will be of great importance in developing the skills required for sawah rice production.

Table 4 Distribution of the respondents according to their farming experience
(n=120)

Sl.No.	Farming experience	Frequency	Percentage
1.	Less experience (up to 10 years)	25	20.83
2.	Medium Experience (11 to 20 years)	61	50.83
3.	High Experienced (above 20 years)	34	28.34

4.1.1.5 Social participation of the respondents

The findings on the social participation of the respondents are presented in table 5. and fig. 3 The data revealed that maximum (42.50%) of the respondents were member of one organization, followed by (28.34%) of the respondents had member of more than one organization, whereas (27.50%) of the respondents were having no membership in any organization, and 1.66per cent of respondents were executive or office bearer of organization. Social participation gives an idea about the respondent participation in social activities in society.

Table 5 Distribution of the respondents according to their social participation
(n=120)

Sl. No.	Social Participation	Frequency	Percentage
1.	No member in any organization	33	27.50
2.	Member of one organization	51	42.50
3.	Member of more than one organization	34	28.34
4.	Executive / office bearer	2	1.66

Similar findings also reported by Pauline and Karthikeyan (2015) as their findings revealed that a majority of the respondents (61.30%) had membership in any one of the social organisations in the society. Nearly one-third of respondents had no membership in the social organisations. A meager proportion of the respondents (9.70%) had membership in two social organisations. Rathod and Damodhar (2015) stated that social participation gives an idea about the respondent's participation in social activities. As regard to social participation, most of the respondents (65.00%) having membership in one organization followed by (05.00%) of respondents were having no membership in any organization, whereas (30.00%) respondents were having membership in more than one organization.

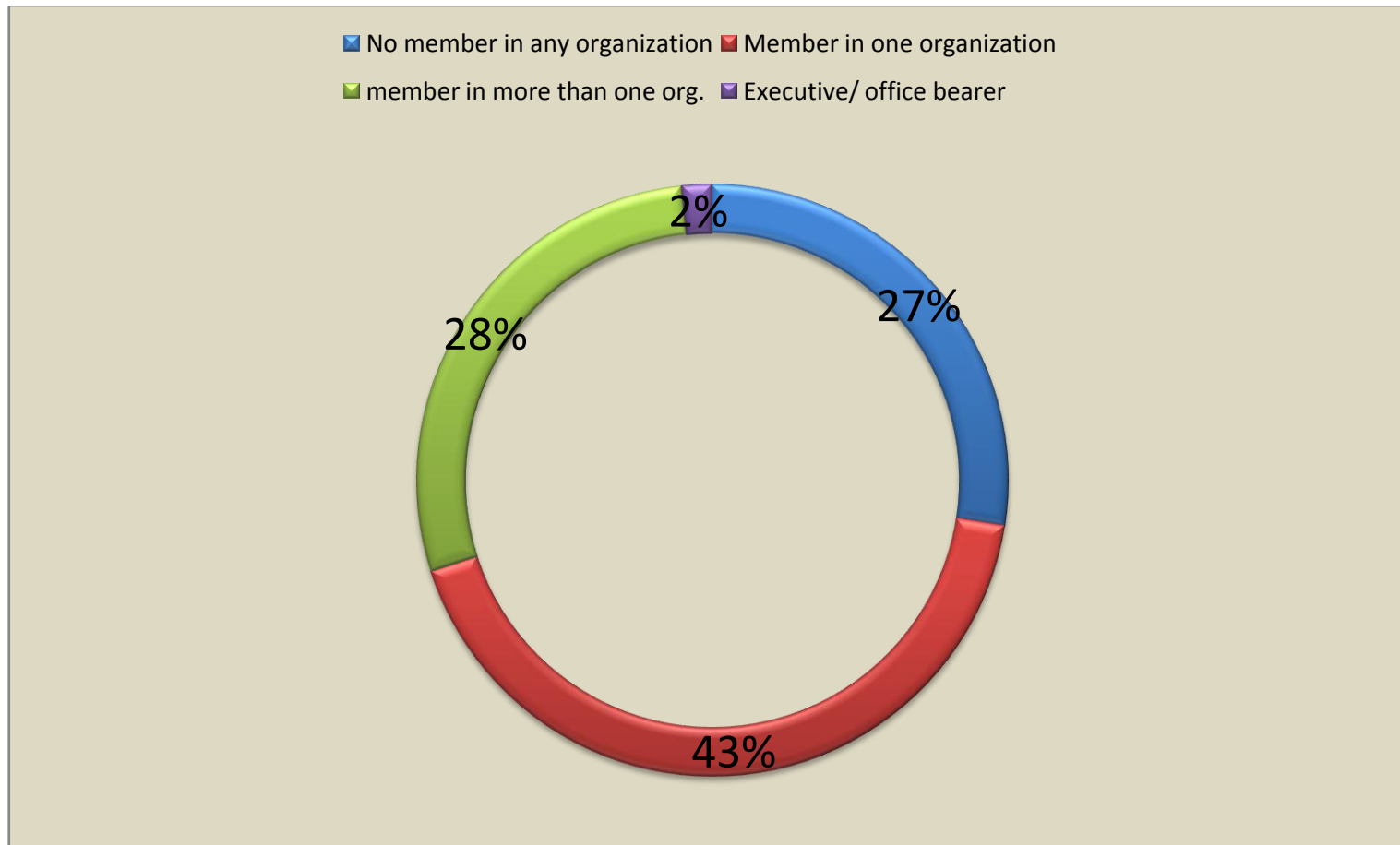


Fig.3 distribution of the respondents according to their social participation

4.1.1.6 Land holding of the respondent

The distribution of the respondents according to their land holdings are presented in the table 6.and fig.4 The data regarding land holdings indicated that 56.67per cent of the respondents had up to 1 ha of land holdings (marginal farmers) followed by 36.67per cent of the respondents had 1.1 to 2 ha of land holdings (small farmers), 5.00per cent of the respondents had 2.1 to 4 ha of land holdings (medium farmers) and while only 1.66per cent of respondents had above 4 ha of land holding.

Table 6 Distribution of the respondents according to their land holdings

(n=120)

Sl. no.	Land holding	Frequency	Percentage
1.	Marginal farmers (up to1 ha)	68	56.67
2.	Small farmers (1.1 to 2 ha)	44	36.67
3.	Medium farmers (2.1 to 4 ha)	6	5.00
4.	Large farmers (above 4 ha)	2	1.66

Similar findings were reported by Rathod *et al.* (2011) who revealed that 33.33 per cent farm women families had marginal land followed by small farmers (28.34 %). It was also observed that 20.83 per cent farm women were landless and 18 per cent were large farmers. Jaganathan and Nagaraja (2015) as they revealed that land holding size, 75.6 per cent of the respondents possessed area up to 1 ha (marginal), 17.8 per cent between 1-2 ha (small) and 6.7 per cent had between 2.1-4 ha (medium) under areca nut cultivation. Rathod and Damodhar (2015) reported that maximum respondent's family (45.00%) possess marginal land holding followed by small (27.50%) and semi medium (20.00%) land holding. Shanmugasundaramt and Helen (2014) reported that majority of the farmers (59.00%) are marginal farmers followed by small farmers (27.50%) and large farmers (13.50%).

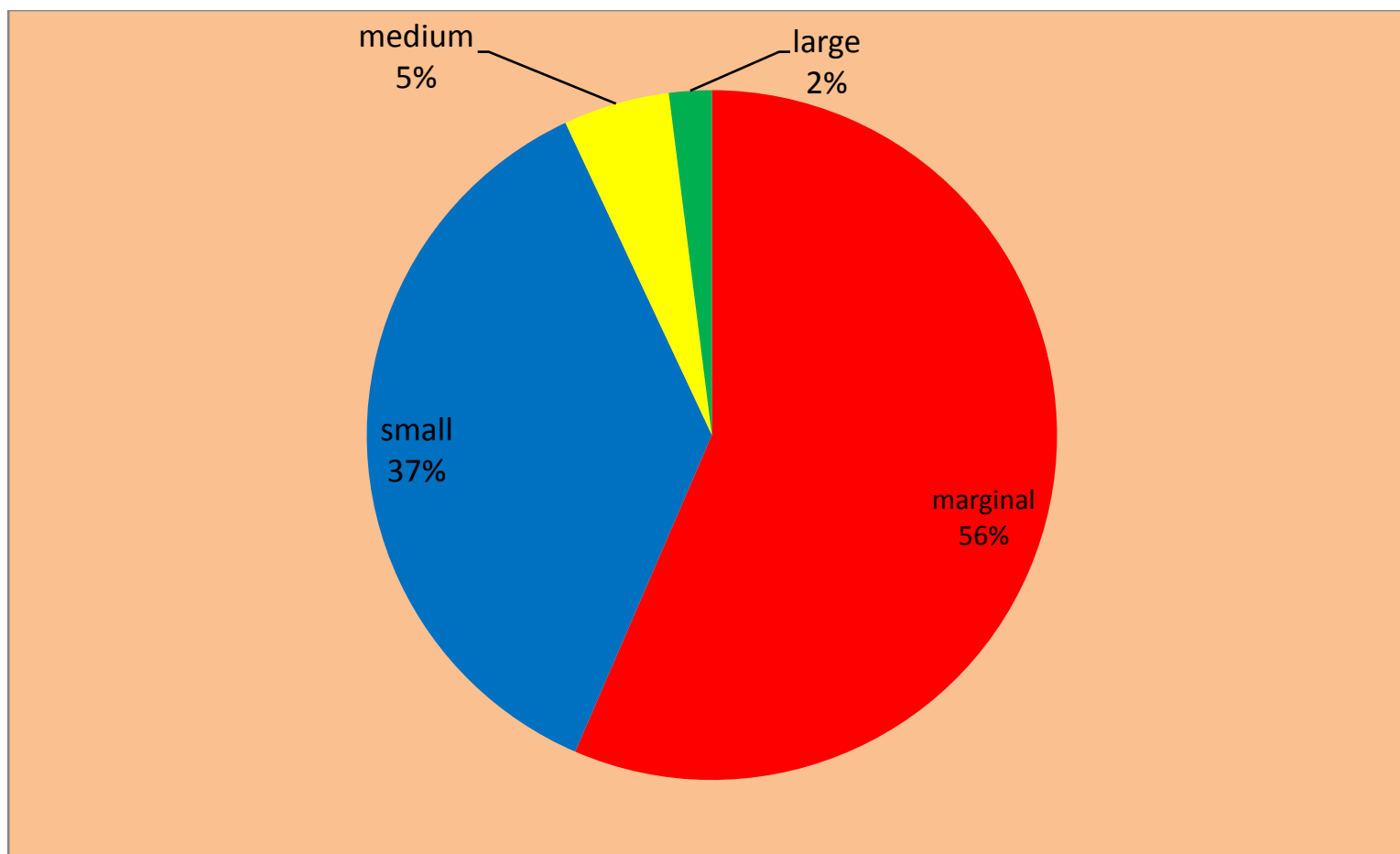


Fig. 4 distribution of the respondents according to their land holding

4.1.1.7 Occupation of the respondents

Table 7 Distribution of the respondents according to their involvement in various Occupations

(n = 120)

Sl.No.	Occupation	Main occupation		Subsidiary occupation	
		No.	%	No.	%
1.	Agriculture	120	100.00		
2.	Labour			58	48.34
3	Service			14	11.66
4.	Business			22	18.34
5.	Animal husbandry			17	14.16
6.	Other (back yard poultry)			9	7.50

The data regarding their involvement in different occupation are given in the table 7. The data revealed that all the respondents (100%) were having agriculture as a main occupation. As far as subsidiary is concerned, 48.34per cent of the respondents were involved in labour, 18.34 per cent in business, 14.16 per cent of them in animal husbandry, 11.66per cent of the respondents were involved in service as subsidiary occupation. While only 7.50per cent of the respondents were having back yard poultry as subsidiary occupation. Similar findings were reported by Rathod, et.al. (2011) about the occupation, the study found that agriculture (52.50%) was the major occupation of the family followed by laborers (28.33%). The remaining farm women included home makers (15%) and government job holders (04.17%).

4.1.1.8 Annual income of the respondents

As regards to annual income, Table 8. and fig. 5 revealed that the maximum (52.50%) respondents were having their income in the range of Rs. 50001 to Rs. 1, 00000 medium level categories of incomes. Followed by 37.50per cent of respondents had their annual income in the range of Rs.1, 00,001 to 1.50000, while 5.84 per cent of the respondents had income range more than Rs. 1.50000 and only 4.16 per cent of respondents were found under low income group (up to Rs. 50,000).

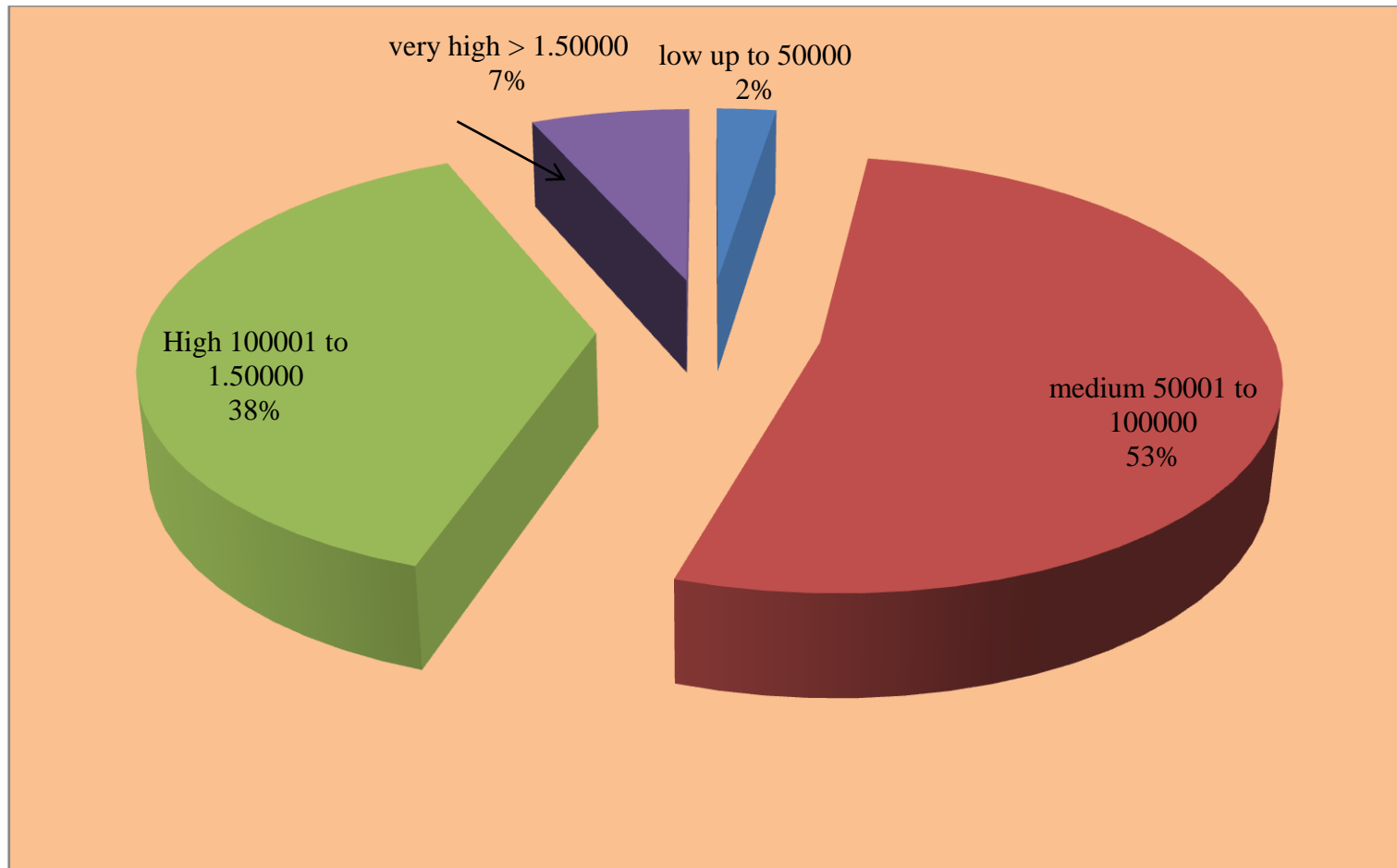


Fig. 5 distribution of the respondents according to their annual income

Table 8 Distribution of the respondents according to their annual income
(n = 120)

Sl. no.	Level of Annual Income	Frequency	Percentage
1.	Low (up to Rs. 50000)	5	4.16
2.	Medium (50001 to 1lakh)	63	52.50
3.	High (100001 to 1.5 lakh)	45	37.50
4.	Very high (above 1.5lakh)	7	5.84

Similar findings reported by Kanwat and Singh (2014) revealed that annual income had shown negatively significant relationship at 0.05 per cent level with technological needs in dairying.

4.1.1.9 Credit acquisition of respondents

The findings regarding credit acquisition are presented in Table 9. The data reveal that the maximum (50.84%) of respondents had acquired credit, and 49.16 per cent of respondents had not acquired credit. Out of all the respondents who acquired credit, 45.84per cent of them had taken credit from cooperative society, and only 5.00per cent respondents had taken credit from relatives/friends.

As regards to duration of credit, the maximum (50.84%) of the respondents had taken loan for the duration of 15 months. According to their purpose of obtaining credit, 45.84per cent respondents had used their credit for purchasing of fertilizers for their crops, while 5.00 per cent of the respondents had used their credit for purchasing of pesticides respectively. Similar findings reported by Verma (2009) revealed that majority of the respondents (95.83%) acquired their credit from various agencies, whereas, only 04.17 per cent respondents had not acquired the credit facilities from the agencies providing the credit. Out of those respondents who had acquired credit, the maximum of the respondents (93.50%) had taken short- term credit followed by mid term credit (06.50%) and none of the respondents had taken long –term credit.

Table 9 Distribution of the respondents according to their credit acquisition
(n=120)

Sl.No.	Particulars	Frequency	Percentage
1.	Credit Acquisition		
	• Acquired	61	50.84
	• Not acquired	59	49.16
2.	Source of credit (n=61)		
	• Cooperative society	55	45.84
	• Relatives	6	5.00
3.	Purpose of credit (n=61)		
	• Fertilizer	55	45.84
	• Pesticide	6	5.00
4.	Duration of credit (n=61)		
	• Short term (15 months)	61	50.84
	• Medium term (15 months to 5 years)	0	00.00
	• Long term (>5 years)	0	0.00

4.1.1.10 Extension contact

The data regarding extension contact are presented in table 10 and 11. The data revealed that in study area, maximum (54.17%) respondents were having always contact with the Rural Agriculture Extension Officer (RAEO), followed by 50.00per cent respondent had always contact with progressive farmer, 30.83per cent respondent had always contact with the cooperative society employee.

Regarding occasionally contact, 56.67per cent respondents had contact occasionally with the cooperative society employee, 49.16per cent KVK Scientist / SMS, 32.50per cent with the ADO's, and 28.34per cent respondents had contact occasionally with the private agency employee.

Most of the (71.66%) reported that they have never contacted with the private agency employee, While (70.00%) respondents had never contact with ADO's and (50.84%) respondents had never contact with KVK scientist / SMS, while 35.00 and 33.33per cent respondents were found under the category of

never contact with progressive farmer and RAE0 respectively only 12.50 per cent had never contact with cooperative society employee.

Table 10 Distribution of respondents according to their extension contact
(n=120)

Sl. No.	Extension contact	Extent of contact					
		Always		Occasionally		Never	
		F	%	F	%	F	%
1	RAEO	65	54.17	15	12.50	40	33.33
2	ADO	0	0.00	39	32.50	81	67.50
3	KVK scientist / SMS	0	0.00	59	49.16	61	50.84
4	Progressive farmer	60	50.00	22	18.34	38	31.66
5	Cooperative Society employee	37	30.83	68	56.67	15	12.50
6	Private agency employee	0	0.00	34	28.34	86	71.66

*Data are based on multiple responses

Table 11 Distribution of the respondents according to their overall extension contact
(n= 120)

Sl.No.	Category	Frequency	Percentage
1.	Low (less than 7 score)	14	11.67
2.	Medium (7-17 score)	97	80.83
3.	High (more than 17 score)	9	7.50
Mean = 11.73			S.D.= 4.87

Table 11. Revealed that majority of respondents (80.83%) had medium level of contact with extension personnel, followed by 11.67 per cent of them had low contact, while only 7.50 per cent of respondents had high contact with extension personnel. Similar findings reported by Singh (2011) revealed that

extension contact is not-significant correlated with adoption of mungbean production technology. Gour *et al.* (2015) reported that majority of the respondents (84.67%) gave first preference to relatives, followed by neighbor (62.67%), gram sevaks (34.67%), veterinary doctors (15.33%), radio (11.33%), newspaper (8.00%) and television (6.00%), respectively.

4.1.1.11 Scientific orientation

Regarding scientific orientation among the respondents, data compiled in Table 12. Shows that 80.00per cent respondents were having medium level (14 to 20 score) of scientific orientation, followed by 13.33per cent respondents had low level (less than 14 score) of scientific orientation and only about 6.67 per cent respondents were high Level (more than 20 score) of scientific orientation.

Table 12 Distribution of the respondents according to their Scientific Orientation

(n =120)

Sl. No.	Scientific orientation	Frequency	Percentage
1.	Low (< 14 score)	16	13.33
2.	Medium (14 to 20 score)	96	80.00
3.	High (> 20 score)	8	6.67
Mean = 16.83			S.D. = 3.03

Similar findings reported by Shrivastava (2005) revealed that 65.63 per cent of the respondents had medium level of scientific orientation followed by 19.37 per cent of respondents had low level of scientific orientation, while 15.00 per cent respondents belonged to high level of scientific orientation category regarding control measure practices of various rice diseases. Verma (2009) showed that 70.83 per cent of the respondents had medium level of scientific orientation, followed by 26.67per cent respondents who had low level

of scientific orientation and 02.50per cent respondents had high level of scientific orientation regarding organic farming

4.1.1.12Extent of knowledge about rice production technology

Table 13 Distribution of the respondents according to their level of knowledge about rice production technology

(n = 120)

Sl. No.	Farm practices	Level of knowledge		
		Full (f) (%)	Partial (f) (%)	Nil(f) (%)
1.	Field preparation	84 (70.00)	23 (19.17)	13 (10.83)
2.	Use of improved variety	19 (15.83)	51 (42.50)	50 (41.67)
3.	Seed treatment	35 (29.17)	65 (54.16)	20 (16.67)
4.	Seed rate and sowing method	50 (41.66)	45 (37.50)	25 (20.83)
5.	Use of balanced fertilizer	10 (8.33)	79 (65.83)	31 (25.84)
6.	Weed control	26 (21.67)	50 (41.66)	44 (36.67)
7.	Insect and disease control	30 (25.00)	55 (45.83)	35 (29.17)
8.	Harvesting	75 (62.50)	25 (20.83)	20 (16.67)
9.	Threshing and winnowing	68 (56.66)	30 (25.00)	22 (18.33)
10.	Storage practices	70 (58.33)	30 (25.00)	20 (16.67)

The knowledge of the respondents regarding rice production technology is presented in Table 13 the data reveals that the respondents had high level of knowledge regarding selected practices of rice production technology i.e. field preparation (70.00%), harvesting (62.50%), storage practices (58.33%), threshing and winnowing (56.66%), seed rate and sowing method (41.66%),

seed treatment (29.17%), insect and disease control (25.00%), weed control (21.67%), use of improved variety (15.83%), and use of balanced fertilizer (8.33%).

Whereas, the medium level of knowledge is regarding rice production technology, 65.83per cent respondents were having knowledge of use of balanced fertilizer, 54.16per cent knowledge of seed treatment, 45.83per cent knowledge of insect and disease control. 42.50per cent, 41.66per cent and 37.50per cent respondent were found under the category of medium level of knowledge regarding use of improved variety, weed control and seed rate and sowing method, while few of them 25.00per cent, 20.83per cent and 19.17per cent were having medium level of knowledge regarding threshing and winnowing & storage practices, harvesting and field preparation respectively.

While in case of low level knowledge regarding rice production technology 41.67per cent, 36.67per cent and 29.17per cent respondents were found under the low level of knowledge category regarding use of improved variety, weed control, insect and disease control respectively. Similarly low level of knowledge was possessed regarding (25.84%) use of balance fertilizer, (20.83%) seed rate and sowing method, (18.33%) threshing and winnowing by the respondent. Only, (16.67%) and 10.83 per cent respondent had low level of knowledge in seed treatment, harvesting and storage practices, field preparation respectively.

Table 14 Distribution of respondents according to their overall knowledge about rice production technology

(n= 120)

Sl.No.	Level of knowledge	Frequency	Percentage
1.	Low (less than 9 score)	16	13.33
2.	Medium (9 – 14 score)	100	83.34
3.	High (> 14 score)	4	3.33
Mean = 11.76			S.D. = 2.17

Data in Table 14 represent the overall level of knowledge about rice production technology in which more (83.34%) belonged to medium level of knowledge, while 13.33 per cent belonged low and only 3.33 per cent are belonged to high level of knowledge.

Table 15 Extent of knowledge of rice production technology

(n =120)

Sl. No.	Farm practice	Total obtainable score	Total Obtained score	Extent of Knowledge	Knowledge gap (%)
1.	Field preparation	240	191	79.58	20.42
2.	Use of improved variety	240	89	37.08	62.92
3.	Seed treatment	240	135	56.25	43.75
4.	Seed rate and sowing method	240	145	60.41	39.59
5.	Used of balanced fertilizer	240	99	41.25	58.75
6.	Weed control	240	102	42.50	57.50
7.	Insect and disease control	240	115	47.91	52.09
8.	Harvesting	240	175	72.91	27.09
9.	Threshing and Winnowing	240	166	69.17	30.83
10.	Storage practices	240	170	70.84	29.16
Overall average		2160	1387	57.79	42.21

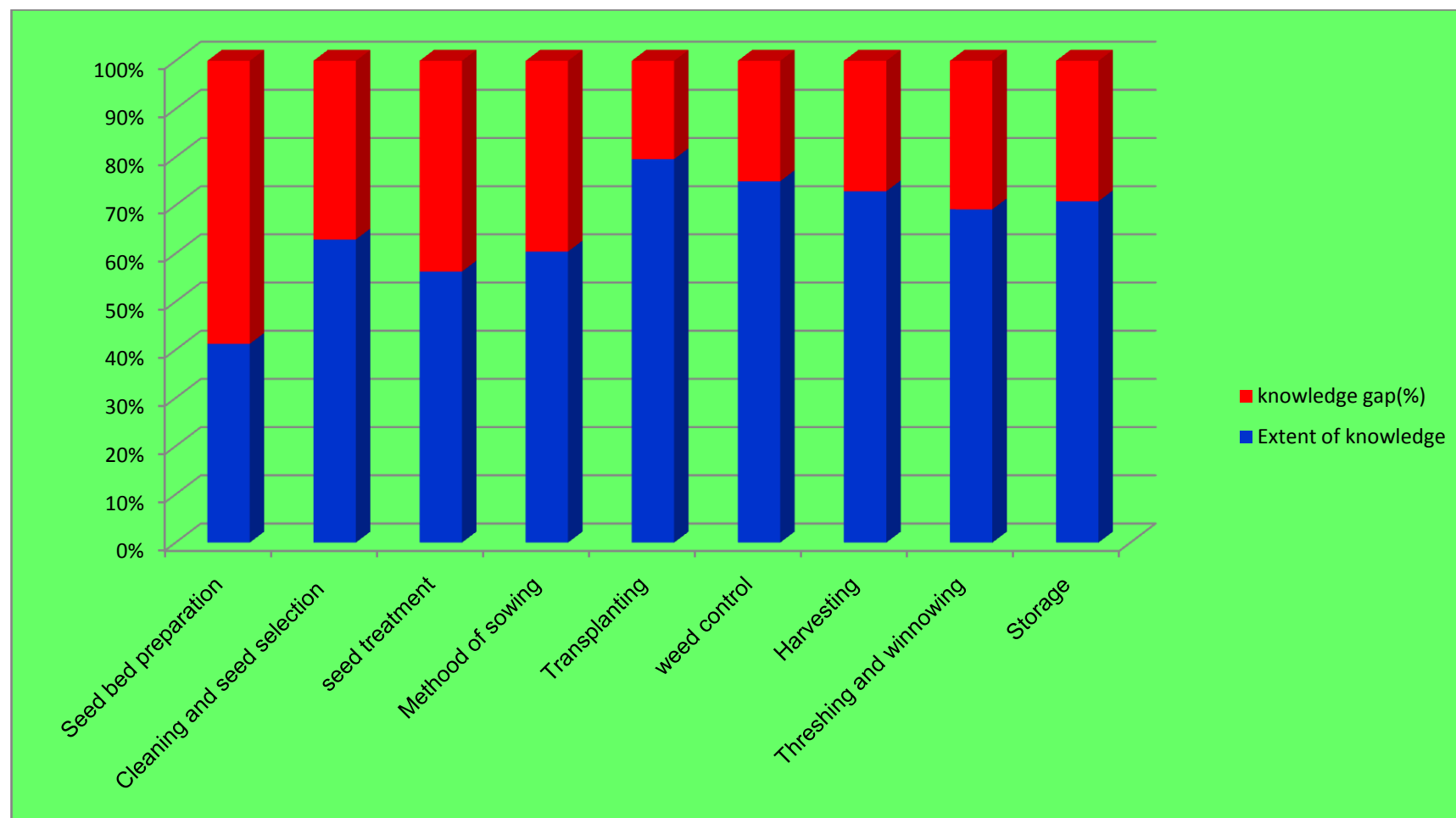


Fig 6. Extent of knowledge of rice production technology

The extent of knowledge regarding rice production technologies is presented in Table 15 and Fig 6. The data reveals that the 79.58% extent of knowledge in field preparation practices, (72.91%) in harvesting, (70.84%) in storage practices, (69.17%) in threshing and winnowing and (60.41%) seed rate and sowing method were found among the respondent. In case of seed treatment, insect and disease control, weed control, and use of balanced fertilizer the extent of knowledge, were observed as 56.25per cent, 47.91per cent, 42.50per cent, 41.25per cent, respectively. Only (37.08%) was found among the respondent incase of improved variety. The overall extent of knowledge 57.79 per cent and gap of knowledge 42.21 per cent were found among the respondent. Similar findings reported by Sharma et al. (2013) who revealed that majority, (i.e., 72.50 per cent) of Trainee Farm-Women (TFW) were having medium level of knowledge regarding FVP technology, followed by those (20.00 per cent and 7.50per cent) having high and low level of knowledge, respectively. Whereas in case of Non-trainee farmwomen, all of them had low level of knowledge regarding FVP technologies.

4.1.1.13 Extent of adoption about rice production technologies

The adoption of the respondents regarding rice production technology is presented in Table 16 the data reveals that the respondents had high level of adoption regarding selected practices of rice production technology i.e. (41.66%) harvesting, (31.66%) field preparation, (28.33%) storage, (24.16%) threshing, (20.00%) seed rate and sowing method, (15.83%) seed treatment, (12.00%) weed control, (11.67%) insect and disease control, (8.34%) improved variety, (5.83%) use of balanced fertilizer.

Whereas the respondents had medium level of adoption is regarding rice production technology, 50.00per cent respondents were having adoption of use of improved variety & threshing and winnowing, 45.84per cent adoption of seed rate and sowing method, 43.34per cent adoption of seed treatment. 41.66per cent, 40.83per cent, 40.00per cent respondent were found under the category of medium level of adoption regarding weed control, storage and field

preparation, while few of them 37.50per cent, 33.34per cent and 33.33per cent were having medium level of adoption regarding insect and disease control, use of balance fertilizer and harvesting respectively.

Table 16 Distribution of the respondents according to their level of adoption about rice production technology

(n =120)

Sl.No.	Farm practice	Level of Adoption		
		High (f) (%)	Medium (f) (%)	Low (f) (%)
1.	Field preparation	38 (31.66)	48 (40.00)	34 (28.34)
2.	Use of improved Variety	10 (8.34)	60 (50.00)	50 (41.67)
3.	Seed treatment	19 (15.83)	52 (43.34)	49 (40.83)
4.	Seed rate and sowing method	24 (20.00)	55 (45.84)	41 (34.16)
5.	Use of balanced Fertilizer	7 (5.83)	40 (33.34)	73 (60.83)
6.	Weed control	12 (10.00)	50 (41.66)	58 (48.34)
7.	Insect and disease Control	14 (11.67)	45 (37.50)	61 (50.83)
8.	Harvesting	50 (41.66)	40 (33.33)	30 (25.00)
9.	Threshing and Winnowing	29 (24.16)	60 (50.00)	31 (25.83)
10.	Storage practices	34 (28.33)	49 (40.83)	37 (30.83)

While in case of low level of adoption in rice production technologies 60.83per cent, 48.34per cent and 41.67per cent respondents were found under the low level of adoption category regarding use of balance fertilizer & insect and disease control, weed control, use of improved variety respectively. Similarly low level of adoption was passed regarding (40.83%) seed treatment, (34.16%) seed rate and sowing method, (30.83%) storage practices, (28.34%) field preparation by the respondent. Only, 25.83per cent and 25.00per cent respondent had low level of adoption in threshing and winnowing & harvesting respectively.

Table 17 Distribution of respondents according to their overall adoption of rice production technology (n=120)

Sl. No.	Level of adoption	Frequency	Percentage
1.	Low adoption (< 3score)	31	25.83
2.	Medium adoption (3-13 score)	65	54.16
3.	High adoption (>13 score)	24	20.00
Mean = 8.10		S.D. = 5.45	

Data in Table 17 represent the overall level adoption about rice production technology in which more (54.16%) belonged to medium level of adoption, while 25.83 per cent belonged low and only 20.00 per cent are belonged to high level of adoption.

Table 18 Extent of adoption of rice production technology

(n =120)

Sl. No.	Farm practice	Total obtainable Score	Total Obtained score	Extent of Adoption	Adoption gap (%)
1.	Field preparation	240	124	51.66	48.34
2.	Use of improved variety	240	80	33.33	66.67
3.	Seed treatment	240	90	37.50	62.50
4.	Seed rate and sowing method	240	103	42.91	57.09
5.	Use of balanced Fertilizer	240	54	22.50	77.50
6.	Weed control	240	74	30.83	69.17
7.	Insect and disease control	240	73	30.41	69.59
8.	Harvesting	240	140	58.33	41.67
9.	Threshing and winnowing	240	118	49.16	50.84
10.	Storage	240	117	48.75	51.25
Overall average		2160	973	40.54	59.46

The extent of adoption regarding rice production technologies is presented in Table 18 and Fig 7. The data reveals that the 58.33per cent extents of adoption in harvesting practices, (51.66%) in field preparation, (49.16%) in threshing were found among the respondent. In case of storage practices, seed rate and sowing method, seed treatment, use of improved variety, weed control, insect and disease control the extent of adoption, were observed as 48.75per cent,

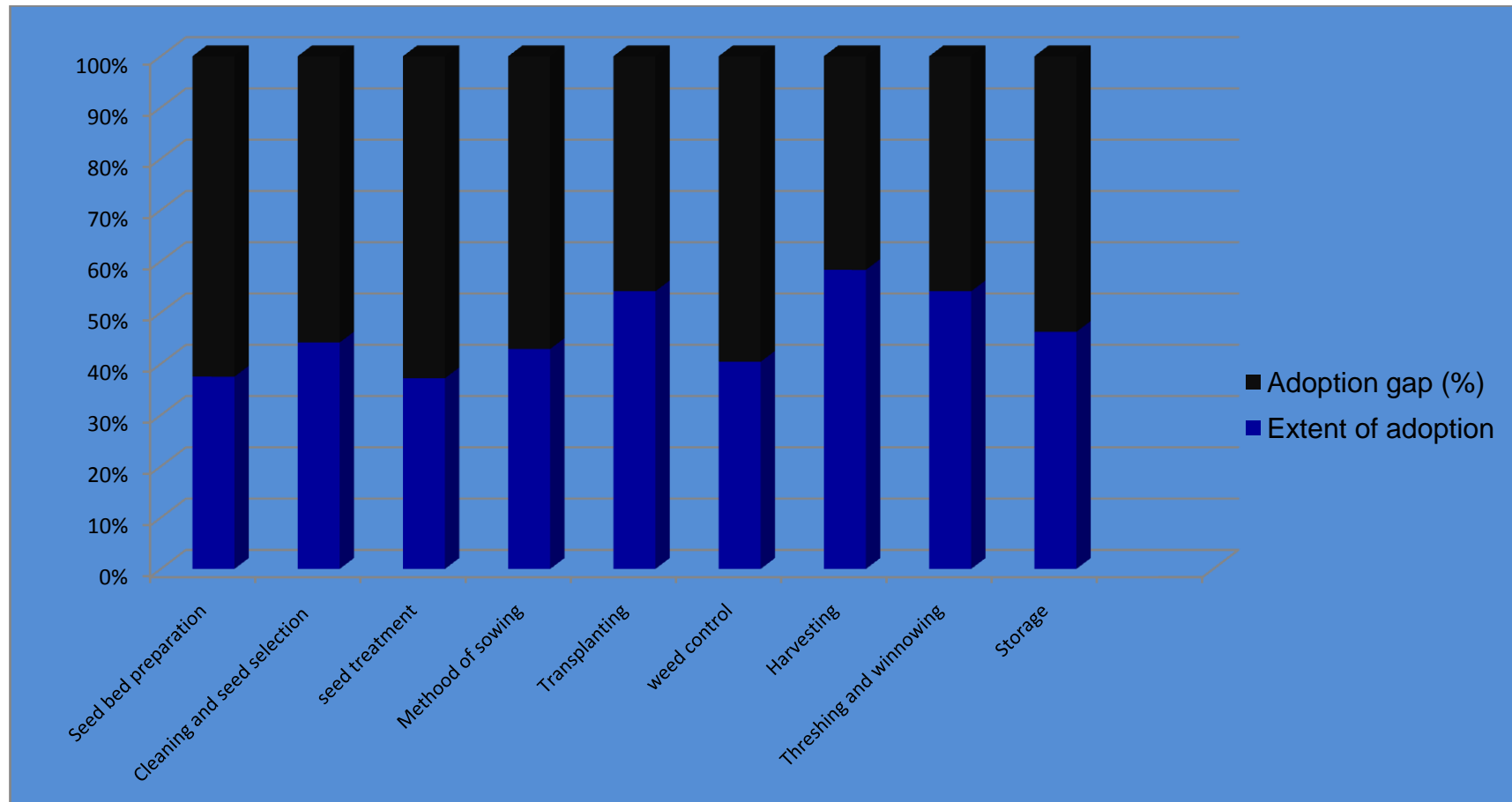


Fig 7. Extent of adoption of rice production technology

42.91per cent, 37.50per cent, 33.33per cent, 30.83per cent, 30.41per cent, respectively. Only (22.50%) was found among the respondent incase of use of balanced fertilizer respectively. The overall extent of adoption 40.54 per cent and gap of adoption 59.46 per cent were found among the respondent. Similar findings reported by S.M. Sharma, (2015) who that majority of participants (43.33%) had medium followed by high level of adoption of demonstrated technologies while for majority non participants farmers (80.00%) had low level followed by medium level of adoption (18.33%).

4.2 Extent of involvement of respondent in various farm practices of rice production technology

Table 4.2.1 Distribution of the respondents according to their involvement in various farm practices of rice production technology

(n=120)

Sl. No.	Farm practices	Involvement			
		Yes (f)	(%)	No (f)	(%)
1	Field preparation	0	0.00	120	100.00
2	Improved variety	22	18.33	98	81.67
3	Seed treatment	12	10.00	108	90.00
4	Sowing	35	29.17	85	70.83
5	Cleaning and seed selection	42	35.00	78	65.00
6	Balanced fertilizer	0	0.00	120	100.00
7	Transplanting	110	91.66	10	8.34
8	Weeding	102	85.00	18	15.00
9	Insect and disease Control	0	0.00	120	100.00
10	Harvesting	92	76.66	28	23.34
11	Threshing	80	66.66	40	33.34
12	Winnowing	75	62.50	45	37.50
13	Storage practices	85	70.83	35	29.17

The involvement of respondent in various farm practices of rice production technology is presented in Table 4.2.1. The data revealed that majority of the respondents were involved 91.66per cent in transplanting, 85.00per cent in weeding, 76.66per cent in harvesting, 70.83per cent in storage and 66.66per cent of them in threshing activities of farm. While the activites found after threshing, 62.50 per cent respondents in winnowing, 35.00per cent in cleaning and seed selection,

29.16per cent in sowing, where found involved in this farm activities. Only and 18.33 and 10.00per cent were found involved in improved variety and seed treatment activites respectively. The farm activities like field preparation, balanced fertilizer & insect and disease control in which none of the respondent where found involved.

Table 4.2.2 Distribution of the respondents according to their overall of involvement in various farm practices of rice production technology
(n=120)

Sl. No.	Category	Frequency	Per centage
1.	Low (< 5 score)	8	6.67
2.	Medium (5-8 score)	100	83.33
3.	High (> 8 score)	12	10.00
Mean = 6.74		S.d. = 1.44	

Data presented in Table 4.2.2 represent the overall level of involvement of the respondent in various farm practices of rice production technology. Most of the respondent (83.33%) belonged to medium level of involvement, while (10.00%) high level and only (6.67%) where belonged to low level of involvement.

Table 4.2.3 Distribution of the respondents according to their extent of involvement in various farm practices of rice production technology
(n=120)

Sl. No.	Farm practices	Obtainable score	Obtained score	Extent of involvement (%)
1.	Field preparation	120	0	0.00
2.	Improved variety	120	22	18.33
3.	Seed treatment	120	12	10.00
4.	Sowing	120	35	29.16
5.	Cleaning and seed selection	120	42	35.00
6.	Balanced fertilizer	120	0	0.00
7.	Transplanting	120	110	91.66
8.	Weeding	120	102	85.00
9.	Insect and disease Control	120	0	0.00
10.	Harvesting	120	92	76.66
11.	Threshing	120	80	66.67
12.	Winnowing	120	75	62.50
13.	Storage practices	120	85	70.83
Overall		1560	655	41.98

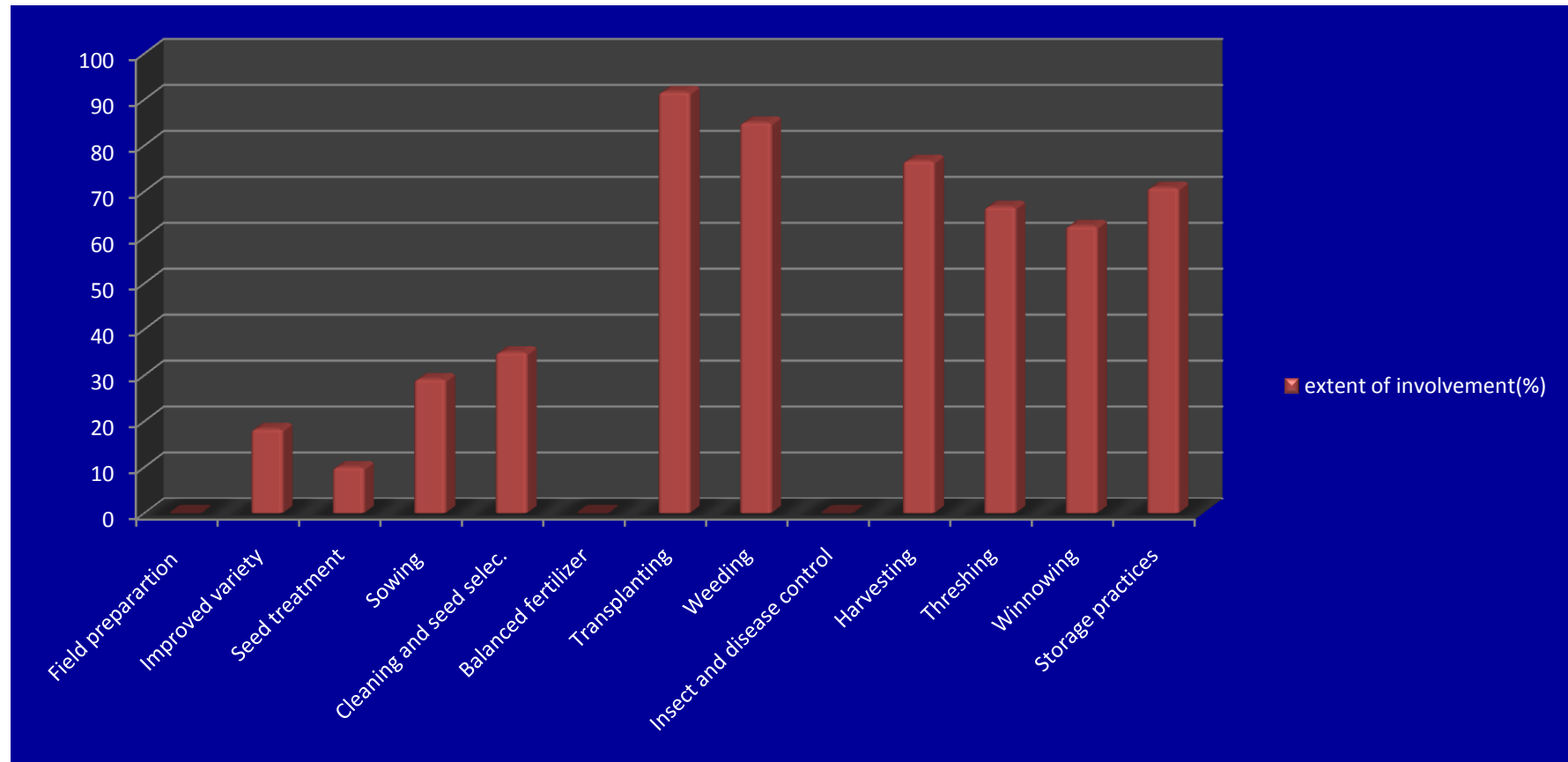


Fig 8 Extent of involvement in various farm practices of rice production technology

As far as extent of involvement of the respondent in various farm practices of rice production technology is concerned, maximum involvement of the respondent table 4.2.3 and fig.8 revealed that maximum number of the respondent 91.66per cent in transplanting, 85.00per cent in weeding, 76.66per cent in harvesting, 70.83per cent in storage practices, where observed while 66.67, 62.50 and 35.00per cent extent of involvement was found in threshing, winnowing, cleaning and selection of seed activities of farm among the respondent. Only 29.16, 18.33 and 10.00per cent extent of involvement was reported by the respondent in farm practices like sowing, improved variety, and seed treatment respectively.

4.3. Participation of farm women in earlier participation in training programme on rice production technology

Table 4.3.1 Distribution of the respondents according to their participation in training programme on rice production technology
(n=120)

Sl.No.	Type of respondents	Frequency	Percentage
1.	Participated	50	41.66
2.	Not participated	70	58.34

The data in table 4.3.1 shows that majority of the respondents (58.34%) had not participated in any training programme, whereas, 41.66% respondent had participated in training programme in earlier organized rice production technology.

Table 4.3.2 Distribution of the respondents according to their earlier participation in various training programmes on rice production technology
(n=50)

Sl.No.	Training on	Frequency	Percentage
1.	Improved varieties, Seed selection and treatment	10	20.00
2.	Nursery raising and transplanting techniques	4	8.00
3.	Fertilizer, manure and doses of application	9	18.00
4.	Insect, pest and disease control	20	40.00
5.	Storage structures and method	7	14.00

The data in table 4.3.2. reveals that distribution of the respondents according to their earlier participation in training programme on rice production

technology. 40.00, 20.00 and 18.00% respondent had participated in training programmes on rice production technology insect, pest and disease control, improved varieties, seed selection and treatment and fertilizer, manure and doses of application respectively. A few of them (14.00%) respondent participated in trainings on storage, structure and method and only 8.00 per cent participated in nursery raising and transplanting techniques.

Table 4.3.2 Distribution of the respondents according to their suggestions to make training programme more effective on rice production technology

(n=50)

Suggestions	Frequency	Percentage
Venue		
• At village level	20	40.00
• At agriculture block office	12	24.00
• KVK	18	36.00
Trainer		
• Agriculture Scientist /SMS	30	60.00
• Agriculture Development officer	20	40.00
Methods of training		
• Lecture cum Demonstration	29	58.00
• Group discussion/ meeting	21	42.00
Number of trainees		
• < 20	10	20.00
• 20- 50	25	50.00
• >50	15	30.00
Duration of training		
• Upto1days	6	12.00
• 2-3 days	29	58.00
• 3-5 days	5	10.00
• >5	10	20.00
Time of training		
• Before season	11	22.00
• During season	33	66.00
• After season	6	12.00
Facility of training		
• Lodging and boarding	17	34.00
• Stypend	10	20.00
• Transport	11	22.00
• Field visit	7	14.00
• Use of audio visual aids	5	10.00
Language		
• Local	30	60.00
• Hindi	20	40.00

Data in table 4.3.2 revealed that respondents according to their suggestion training 58.00 per cent 2-3 days, 20.00per cent more than 5 days, 12.00 per cent for 1 days, and only Table 4.5.3 shows that respondents according to their suggestions to make training programme more effective on rice production technology, about venue 40.00 per cent respondents suggested at village level, 36.00 per cent at KVK, 24.00 per cent at agriculture block office. About trainer 60.00 per cent respondents suggested for Agriculture Scientist /SMS and 40.00 per cent respondents suggested for Agriculture Development officer. In case of methods of training 58.00 per cent respondents suggested Lecture cum Demonstration and 42.00 per cent for group discussion / meeting. About number of trainees (50.00%) respondent suggested 20-50, (30.00 %) more than 50 and 20.00per cent suggested less than 20. About Duration of training 58 per cent 2-3 days, 20 per cent more than 5 days, 12 per cent up to 1 days, 10.00 per cent 3-5 days. About time of training 66.00 per cent suggested that the training should be organized during season, 22.00 per cent before season, 12.00% of them suggested after season. About facility of training 35.00 per cent respondent suggested for lodging and boarding facility, 22.00 per cent transport, 20.00per cent stipend, 14.00per cent field visit and only 10.00 per cent use of audio visual aids. About language 60.00per cent suggested local language and 40.00 per cent wanted in Hindi language.

4.4 Dependent variable: Training needs of farm women

4.4.1 Training needs of farm women in rice production technology

Data presented in Table 4.4.1 and Fig.9 reveals regarding training needs of farm women on various training aspect in terms of most needed ,needed and not needed and on the basis of their preference. Data revealed that control that training need aspect insect and disease was found on first priority among the respondent, use of balance fertilizer ranked II nd, nursery raising III, storage IV, threshing and winnowing V, weed control VI, seed treatment VII, harvesting techniques VIII and transplanting techniques IX rank respectively.

Table 4.4.1 Training needs of farm women in rice production technology

(n=120)

Subject	Training needs			Total score	Mean score	Rank	Category of preference
	Most needed	Needed	Not needed				
Improved variety, seed selection & treatment	16	25	79	57	0.47	VII	SN
Nursery raising techniques	62	30	18	154	1.28	III	N
Transplanting method	10	15	95	35	0.29	IX	NN
Use of balance fertilizer	68	41	11	177	1.47	II	N
Weed control	37	32	51	106	0.88	VI	SN
Insects/disease Control	75	33	12	183	1.52	I	MN
Harvesting techniques	15	20	85	50	0.41	VIII	NN
Threshing/ winnowing	38	44	38	120	1.00	V	N
Storage structure and method	48	49	23	145	1.20	IV	N

Where, MN = most needed, N= needed, SN = somewhat needed, NN= not needed

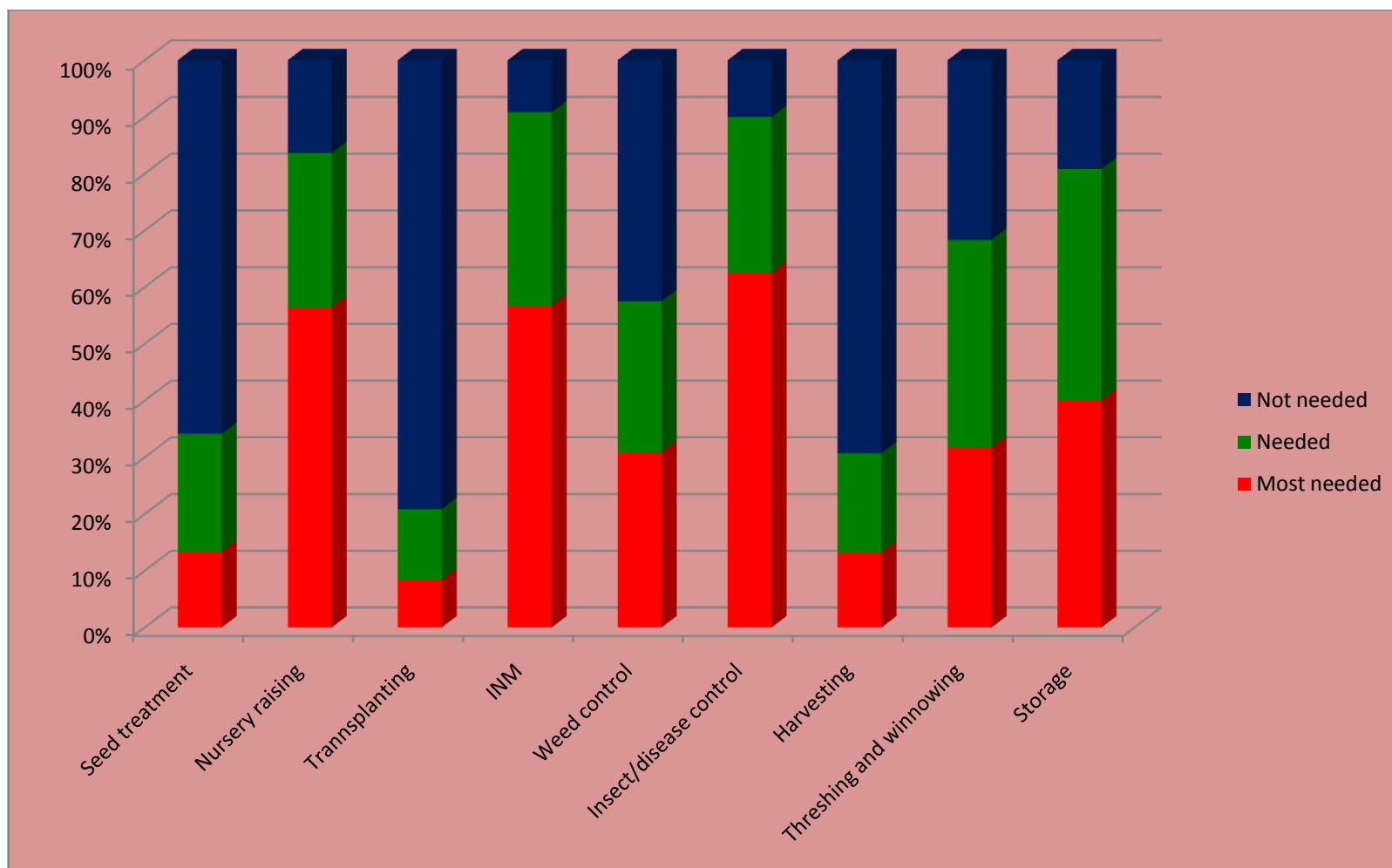


Fig. 9 Training needs of farm women

4.5 Correlation and multiple regression analysis of independent variables with training needs of farm womens

Correlation and multiple regression analysis was workout to determine the relationship among the variables and to find out the contribution of various independent variables in Training needs of farm women. The results are presented in Table 4.5.1 The finding revealed that out of 13 independent variables, only 7 variables i.e. Age, education, occupation, annual income, credit acquisition, extension contact, adoption level were found positive and significantly correlated with training needs of farm women, out of these variables only age, education, annual income, credit acquisition, adoption were found correlated at 0.01 level of probability and occupation, extension contact variable were found significant at 0.05 level of probability. The remaining 6 variables were not indicated significant relationship with training needs of farm women.

Table 4.5.1 Coefficient of correlation and multiple regression analysis independent variables with the dependent variable

Sl. No.	Variables	Coefficient of correlation	Regression coefficient	
		"r" value	"t" value	"b" value
1.	Age	-0.374**	-0.093	-0.517**
2.	Education	-0.340**	0.041	0.482**
3.	Family type	0.003 NS	0.288	1.436NS
4.	Occupation	0.204*	-0.067	-1.980*
5.	Annual income	-0.693**	-0.272	-0.881**
6.	Land holding	0.037 NS	-0.034	-0.221NS
7.	Farming experience	0.088 NS	0.018	1.224NS
8.	Credit acquisition	0.783**	1.216	3.106 NS
9.	Social participation	0.125 NS	0.015	0.210NS
10.	Extension contact	0.208*	0.018	0.910**
11.	Scientific orientation	-0.105 NS	-0.041	-1.064NS
12.	Knowledge	0.165 NS	-0.340	-5.165NS
13.	Adoption	0.785**	0.293	5.687NS

** Significant at 0.01 level of probability, *Significant at 0.05 level of Probability, NS=Non significant, R² = 0.78796

In case of multiple regressions analysis out of 13 variables, only 5 variables i.e. age, education, occupation, annual income, extension contact, positive and significant contribution in the training needs of farm women, remaining 8 variables i.e. family type, land holding, farming experience, credit acquisition, social participation, scientific orientation, knowledge and adoption did not indicate any significant contribution in training needs of farm women. However, all the 13 variables fitted in the model show 78.7 per cent contribution in the training needs of farm women.

4. 6 Problem faced by the respondents in performing improved farm practices of rice production technology

Table 4.6.1 Problem faced by the respondents in performing improved farm practices of rice production technology

Sl.No.	Problem	Frequency	Percentage
1.	Lack of facility for farm implement on hire basis	90	75.00
2.	Lack of sufficient information about sowing method	60	50.00
3.	Lack of skill to seed treatment method	57	47.50
4.	Lack of knowledge about fertilizer and its accurate quantity and time for application	55	45.83
5.	Non availability of fertilizer at appropriate time	64	53.33
6.	Lack of information about control of insect and disease	80	66.67
7.	Lack of knowledge about application of herbicides	68	56.66
8.	Unavailability of labour	73	60.83

Multiple responses were taken to ascertain the problem faced by the respondents in performing improved farm practices of rice production

technology. Various problems are presented in Table 4.9 which indicated that majority (75.00%) of respondents faced problem of lack of facility for farm implement on hire basis, followed by (66.67%) of respondents faced problem of lack of sufficient information about control of insect and disease, (60.83%) of respondents faced problem of unavailability of labour, about (56.66%) respondents had faced problem lack of knowledge about and application of herbicides, about (50.00%) lack of sufficient information about sowing method, about (47.50%) lack of skill to seed treatment method, about (45.83%) lack of knowledge about fertilizer and its accurate quantity and time for application.

4.6.2 Suggestions given by the respondents to minimize the problems

Table 4.6.2 Suggestions given by the respondents to minimize the problems

Sl.No.	Suggestions	Frequency	Percentage
1.	Provision for availability of farm implement on rent basis	90	75.00
2.	Information about sowing method should be available for proper time	60	50.00
3.	Provision for training programmes on various aspects of rice production technology	57	47.50
4.	Provision for information on method quantity and application of fertilizer	55	45.83
5.	Provision for availability of fertilizer on right time	64	53.33
6.	Information about insect and disease control should be provided at proper time	80	66.67
7.	Provision for information on right method to application of herbicide	68	56.66
8.	Alternative technology should be develop for reducing labour cost	73	60.83

Multiple responses were taken to ascertain the suggestions given by respondents to minimize the problems. Various suggestion are presented in Table 4.9.2 which indicated that majority of (75.00%) respondents suggested,

provision for availability of farm implement on hire basis, followed by (66.67%) respondents suggested regards to information about insect and disease control should be provide at proper time, (60.83%) respondents suggested regards to provision for training programme and develop new technology for reducing labour, about (56.66%) respondents suggested right method to application of herbicide, about (53.33%) respondents suggested fertilizer should be available right time, about (50.00%) respondents suggested information about sowing method should be proper time, about (47.50%) provision for training programme in rice production technology, about (45.83%) provision for right method about quantity and application of fertilizer.

CHAPTER -V

SUMMARY AND CONCLUSIONS

The main purpose of this chapter is to summarize the results and to state the conclusions on the basis of the fore going analysis and to indicate some of their implications for actions.

The present research entitled **“Assessment of training needs of farm women with reference to rice production technology in Korba district of Chhattisgarh”** was carried out during 2015 in the Indira Gandhi Krishi Vishvavidyalaya, Raipur (C.G.) with following objectives:

1. To study the socio –personal and economic profile of the farm womens.
2. To assess the extent of involvement of farm women in various farm practices of Rice Production Technology.
3. To study the extent of knowledge and adoption of improved farm practices of Rice Production Technology.
4. To assess the training needs of farm women with reference of Rice Production Technology.
5. To analyze the relationship between dependent and independent variables.
6. To identify the problem faced by farm women in performing the improved farm practices of Rice Production Technology and to obtain the suggestions to minimize problems.

Rice is one of the most important food crops of India in term of area, production and consumer preference. India is the second largest producer and consumer of rice in the world. Rice is the staple food of over half the world's population. Rice provides 20% of the world’s dietary energy supply, while wheat supplies 19% and maize (corn) 5%. India could produce an additional 100 million tonnes of rice, enough staple food for about 400 million people every year. Agriculture is counted as the chief economic occupation of the Chhattisgarh state.

About 80% of the population of the state is rural and the main livelihood of the villagers is agriculture and agriculture-based small industry. In Chhattisgarh, rice, the main crop, is grown on about 77% of the net sown area. Only about 20%

of the area is under irrigation; the rest depends on rain. The cropping intensity is 119 % with total food grains production of 5 million tonnes. In this region rice is mainly grown through biasi method constituting more than 80 per cent of rice cultivation in the area. Other important systems are transplanting, line sowing and lehi system. (Singh *et al.* 2012)

The present study was conducted in Korba district for this study as it comes under the C.G. plain agro climatic zone of Chhattisgarh state. Out of total blocks of the district, only two blocks were selected randomly. Out of total villages, only six villages were selected randomly for this study. From each selected villages, 10 farm women were selected. Thus total 120 (6×10) farmers were considered as respondents for the present study. The data were collected with the help of well structured pretested interview schedule through personal interview.

The independent variables included in the study were socio- personal and economic (age, education, family type, farming experience, social participation, land holding, occupation, annual income, credit acquisition) and communicational (extension contact) , psychological (scientific orientation), extent of knowledge of rice production technology, extent of adoption of rice production technology, extent of involvement of farm women . Training needs of farm womens was considered as dependent variable for the study. The data were collected through personal interview and analyzed with appropriate statistical methods.

The major findings of this study are summarized as follows:

Independent variables

Socio-personal characteristics of the respondents indicated that the most of the respondents (59.17%) belonged to middle age group (36 to 55 years) and maximum (30.84%) had up to primary level of education. Maximum (57.50%) of the respondents were living in Nuclear families. Maximum (50.83%) of respondents had medium level farming experienced. Maximum (42.50%) of respondents had member of one organization.

The studies indicated that most of the (56.67%) respondents were belonged to marginal farmers (up to 1 ha) category. In the study area, 100 per cent respondents were involved in agriculture as a main occupation. Regarding annual

income, majority (52.50%) of the respondents had medium annual income Rs 50001 to 1lakh. Regarding credit acquisition, majority of the respondents (50.84%) acquired credit and 45.84 per cent acquired from the cooperative society of 15 month of duration for the purchasing of fertilizers and pesticides.

Majority of respondents (80.83%) had medium level of contact with extension person. In the study area, majority (80.00%) of the respondents had medium level of scientific orientation.

The overall level of knowledge about rice production technology in which more (83.34%) belongs to medium level of knowledge, while extent of knowledge about 65.36 per cent and 34.64 per cent knowledge gap.

The overall level adoption about rice production technology in which more (54.16%) belongs to medium level of adoption, while extent of adoption about 45.55 per cent and only 54.44 per cent adoption gap.

Extent of involvement of farm women in various practices of rice production technology in which more number of (91.66%) respondents are involved in transplanting practices.

Dependent variable

The findings reveal that respondents to their participation in training programme on rice production technology viz. (58.34%) respondents had not participated and (41.66%) respondents had participated in training programme. the training needs of farm women in rice production technology in order to their importance were: insect and disease control Ist , use of balanced fertilizer ranked IInd, nursery raising III, storage IV, threshing and winnowing V, Weed control VI, seed treatment VII, harvesting VIII and transplanting IX rank respectively.

Correlation and multiple regression analysis

Correlation and multiple regression analysis was workout to determine the relationship among the variables and to find out the contribution of various independent variables in Training needs of farm women. The results are presented in Table 4.7. The finding revealed that out of 13 independent variables, only 7 variables i.e. Age, education, occupation, annual income, credit acquisition,

extension contact, adoption level were found positive and significantly correlated with training needs of farm women, out of these variables only age, education, annual income, credit acquisition, adoption were found correlated at 0.01 level of probability and occupation, extension contact variable were found significant at 0.05 level of probability. The remaining 6 variables were not indicated significant relationship with training needs of farm women.

In case of multiple regressions analysis out of 13 variables, only 5 variables i.e. age, education, occupation, annual income, extension contact, positive and significant contribution in the training needs of farm women, remaining 8 variables i.e. family type, land holding, farming experience, credit acquisition, social participation, scientific orientation, knowledge and adoption did not indicate any significant contribution in training needs of farm women. However, all the 13 variables fitted in the model show 78.70 per cent contribution in the training needs of farm women.

The problem faced by the farm women in rice production technology and Suggestions to minimize their problem

The majority of faced by problem in rice production technology viz. (75.00%) respondents had no facility for farm implement on hire basis, (66.67%) respondents had lack of information about insect and disease control, (60.83%) respondents had unavailability of labour, (56.66%) respondents had lack of knowledge about accurate quantity and application of herbicide. Other problem were i.e. non availability of fertilizer at appropriate time, lack of information about sowing method, lack of skill to seed treatment, lack of knowledge about fertilizer and its accurate quantity and time for application.

In order to minimize their problems, the suggestions given by 75 per cent of the respondents the provision for availability of farm implement on hire basis, (66.67%) respondents had provide information about insect and disease control, 60.83 per cent respondents had provision for training programme and develop new techniques for reducing labour requirement, Provision for right method about quantity and application of fertilizer, Fertilizer should be available at right time,

information about sowing method should be available on proper time, Provision for training programme in rice production technology etc.

CONCLUSION

- Maximum number of the respondents (59.17%) belonged to middle age group (36 to 55 years) and (37.84%) educated up to primary level of (up to 5th class). Maximum (57.50%) of the respondents were living in Nuclear families. Maximum (50.83%) of respondents had medium level farming experienced. Maximum (42.50%) of respondents had member of one organization. (56.67%) respondents were belonged to marginal farmers (up to 1 ha) category. 100 per cent respondents were involved in agriculture as a main occupation and maximum (52.50%) of the respondents had medium annual income Rs 50001 to 1lack. Regarding credit acquisition, maximum respondents (50.84%) acquired credit and 45.83 per cent acquired from the cooperative society of 15 month of duration for the purchasing of fertilizers and other instruments or inputs.
- Majority of respondents (80.83%) had medium level of contact with extension person. In the study area, majority (80.00%) of the respondents had medium level of scientific orientation.
- The overall level of knowledge about rice production technology in which more (83.34%) belongs to medium level of knowledge, while extent of knowledge about 57.79 per cent and 42.21 per cent knowledge gap.
- The overall level adoption about rice production technology in which more (54.16%) belongs to medium level of adoption, while extent of adoption about 40.54 per cent and only 59.46 per cent adoption gap.
- Extent of involvement of farm women in various practices of rice production technology in which more number of (91.66%) respondents are involved in transplanting practices.
- Correlation and multiple regression analysis was workout to determine the relationship among the variables and to find out the contribution of various independent variables in Training needs of farm women. The results are presented in Table 4.7. The finding revealed that out of 13 independent variables, only 7 variables i.e. Age, education, occupation, annual income,

credit acquisition, extension contact, adoption level were found positive and significantly correlated with training needs of farm women, out of these variables only age, education, annual income, credit acquisition, adoption were found correlated at 0.01 level of probability and occupation, extension contact variable were found significant at 0.05 level of probability. The remaining 6 variables were not indicated significant relationship with training needs of farm women. In case of multiple regression analysis out of 13 variables, only 5 variables i.e. age, education, occupation, annual income, extension contact, positive and significant contribution in the training needs of farm women. However all the 13 variables fitted in the model show 78.70 per cent contribution in the training needs of farm women.

SUGGESTIONS FOR FUTURE WORKS

On the basis of the observations and results obtained after completion of this investigation, to the following points are suggested for future studies.

1. The similar studies should be conducted in different locations of Chhattisgarh region to generalize the recommendations.
2. Some studies should also be framed out to determine the training need of farm women in other crops.
3. Study should be framed out to determine the training needs of farm women in like horticultural crops, animal husbandry etc.
4. To determine the training need of farm women more accurately, the views of extension personnel's, SMS, and Scientists etc. also be included

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APPENDIX –A

कृषि महाविद्यालय

इं. गां. कृ. वि. वि. रायपुर छ.ग.

छत्तीसगढ़ के कोरबा जिले में धान उत्पादन तकनीक के संदर्भ में महिला कृषकों के लिए
प्रशिक्षण की आवश्यकता का आंकलन

शोध साक्षात्कार प्रश्नावली

परामर्शदाता

डॉ.एच.के.अवस्थी

प्राध्यापक, कृषि विस्तार विभाग

नीलम जायसवाल

एम.एस.सी. कृषि अंतिम वर्ष

कृषि विस्तार विभाग

प्रश्नावली क्रं :

1. महिला कृषक का नाम: 2. गांव का नाम :

.

3. आयु : 4. विकासखंड :

.

5. मोबाइल नं.

6. शिक्षा:-

आपकी शैक्षणिक स्थिति क्या है -

1 अशिक्षित

2 प्राथमिक शिक्षा

3 माध्यमिक शिक्षा

4 उच्च माध्यमिक शिक्षा

5 उच्चतर माध्यमिक शिक्षा

6 स्नातक या अधिक

7. परिवार में कुल सदस्यों की संख्या - पुरुष महिला.....

.....

बच्चे: बालक बालिका योग

.....

8. परिवार का प्रकार - 1 एकल 2 संयुक्त.....

9. आपके परिवार का मुख्य व्यवसाय क्या है ? इसके अलावा कोई सहायक व्यवसाय है तो जानकारी दीजिए ?

क्रमांक	व्यवसाय	व्यवसाय का प्रकार		वर्षिक आय
		मुख्य व्यवसाय	सहायक व्यवसाय	

1.	कृषि			
2.	कृषि मजदूरी			
3.	मजदूरी			
4.	नौकरी			
5.	व्यवसाय (नाम)			
6.	पशुपालन			
7.	अन्य			
			
			
			
	कुल वार्षिक आय			

10. आपके परिवार के पास कितनी भूमि है? ()

क्रमांक	भूमि	सिंचित	सिंचाई के स्रोत	असिंचित	कुल भूमि (एकड़)
1.	स्वयं की कुल भूमि				
2.	अधिया में ली गई				
3.	अधिया में दी गई				
4.	कुल कृषि योग्य भूमि				

10. आपको धान की खेती का अनुभव कितने वर्षों से है कृपया जानकारी दें
... वर्ष में।

11. आप अपने खेतों में कौन कौन सी फसल लगाते हैं उन फसलों एवं उनकी किस्मों की जानकारी दें।

क्रमांक	मौसम	फसल का नाम	किस्म	क्षेत्र एकड़ में	कुल उपज
1.	खरीफ	1.			
		2.			
		3.			
2.	रबी	1.			
		2.			

		3.			
3.	जायद	1.			
		2.			
		3.			

12. क्या आप खेती के लिए ऋण लेते हैं (हां/नहीं) यदि हां तो कृपया ऋण संबंधित जानकारी दीजिए।

क्रं.	स्त्रोत	ऋण का प्रकार		ऋण का उद्देश्य	ऋण की अवधि
		नगद	सामग्री		
1.	राष्ट्रीयकृत बैंक				
2.	सहकारी समिति				
3.	दुकानदार				
4.	साहूकार				
5.	दोस्त				
6.	अशासकीय संगठन				
7.	रिश्तेदार				
8.	अन्य 1..... 2.....				

1. खाद खरीदने हेतु 2. दवा खरीदने हेतु 3. यंत्र खरीदने हेतु 4. जमीन खरीदने

13. ग्राम में कार्यरत संस्थाएँ एवं उनमें सहभागिता

क्रं.	संस्थाएँ	भागीदारी	वर्ष	सदस्य	पदाधिकारी
1.	ग्रामपंचायत				
2.	सहकारी समिति				
3.	महिला मंडल				
4.	युवा मंडल				
5.	भजन मंडल				
6.	कृषक मंडल				
7.	आंगनबाड़ी				

8.	स्व-सहायता समुह				
9.	स्कूल				
10.	अन्य				

14. आपको धान उत्पादन तकनीकी से संबंधित जानकारी कहां से प्राप्त होती है ?

क्र.	स्रोत	प्राप्त होती है		स्रोत की विश्वसनीयता		
		हां	नहीं	अधिक	कम	बिल्कुल नहीं
1.	ग्रा. कृ. वि. अधिकारी					
2.	कृषि विकास अधिकारी					
3.	कृषि वैज्ञानिक/विषय वस्तु विशेषज्ञ					
4.	उन्नत किसान					
5.	सहकारी संस्थान					
6.	निजी संस्था					

15. वैज्ञानिक दृष्टिकोण

क्र.	टिप्पणी	पूर्णतः सहमत	सहमत	कुछ कह नहीं सकते	असहमत	पूर्णतः असहमत
1.	धान की अनुशंसित वैज्ञानिक उत्पादन तकनीकी को अपनाने से परंपरागत खेती की अपेक्षा ज्यादा लाभ प्राप्त होता है।					
2.	धान उत्पादन की परंपरागत तकनीकी आज के अनुशंसित धान उत्पादन तकनीक से अच्छी है।					
3.	धान की अनुशंसित वैज्ञानिक उत्पादन तकनीक को अपनाना आज की मांग है।					

4.	अनुशंसित धान उत्पादन तकनीक के बारे में हमें जानना ही है चाहे हम इसका उत्पादन करें या न करें।					
5.	उन्नत किसान वही है जो धान की अनुशंसित उत्पादन तकनीक को अपनाता है					
6.	जीवन स्तर सुधारने हेतु आपको धान की अनुशंसित वैज्ञानिक उत्पादन तकनीक को अपनाना चाहिये।					

16. धान उत्पादन तकनीक के बारे में जानकारी एवं अंगीकरण का स्तर

क्रमांक	जानकारी	जानकारी का स्तर			अंगीकरण का स्तर		
		पूर्ण	आंशिक	निम्न	पूर्ण	आंशिक	निरंक
1.	क्या आपको धान की फसल के लिये उपयुक्त भूमि के चुनाव संबंधी जानकारी है। (हां/नहीं) यदि हां तो विवरण दें 1. 2. 3.						
2.	क्या आप धान की फसल के लिये भूमि की तैयारी से अवगत है। (हां/नहीं) यदि हां तो विवरण दें 1. 2. 3.						
3.	क्या आप धान की फसल के लिये अनुशंसित की गई बीजशैया के निर्माण को अपनाते हैं (हां/नहीं) विवरण दें।						

	1. 2. 3.						
4.	क्या आपको धान की फसल के बीज चयन संबंधी जानकारी है। (हां/नहीं) यदि हां तो विवरण दें 1. 2. 3.						
5.	आप धान की फसल में बीजोपचार के लिये किन-किन दवाओं का उपयोग करते हैं। क्या आपको इसकी जानकारी है। (हां/नहीं) यदि हां तो विवरण दें दवाओं के नाम मात्रा 1. 2. 3.						
6.	क्या आपको रोपाई की अनुशंसित तरीको की जानकारी है। (हां/नहीं) विवरण दें। 1. 2.						
7.	क्या आपको धान की फसल के लिये बुवाई पद्धति व बीज दर की जानकारी है। (हां/नहीं) विवरण दें। बुवाई की पद्धति बीज दर 1. 2. 3.						
8.	क्या आपको धान फसल के उन्नत किस्मों की जानकारी है। (हां/नहीं)						

	<p>यदि हां तो विवरण दें।</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 						
9.	<p>क्या आपको मालूम है कि धान की फसल में खाद व उर्वरक की कितनी मात्रा का उपयोग करते हैं। हां/नहीं</p> <p>यदि हां तो विवरण दें</p> <p>खाद (जैविक खाद मात्रा (कि. ग्रा. /एकड)</p> <ol style="list-style-type: none"> 1. 2. 3. <p>उर्वरक मात्रा (कि.ग्रा./एकड)</p> <ol style="list-style-type: none"> 1 2. 3. 						
10.	<p>क्या आपको धान की फसल के लिये आवश्यक व उपयुक्त सिंचाई के समय के बारे में जानकारी है। (हां/नहीं) यदि हां तो विवरण दें।</p> <p>सिंचाई का समय अंतराल (दिन)</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 						
11	<p>क्या आपको धान की फसल में खरपतवार नियंत्रण के बारे में जानकारी है। (हां/नहीं)</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 						

12.	<p>क्या आपको धान फसल में लगने वाले कीट व उनके नियंत्रण के बारे में जानकारी है। (हां/नहीं) यदि हां तो नियंत्रण के उपायो के बारे में बतायें।</p> <p>1.</p> <p>2.</p> <p>3</p>						
13.	<p>आप धान फसल में रोगों व उनके नियंत्रण के बारे में जानकारी है।(हां/नहीं) यदि हां तो नियंत्रण के उपायो के बारे में बतायें।</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p>						
14.	<p>क्या आपको फसल के पकने एवं कटाई के उपयुक्त समय की जानकारी है। यदि हां तो विवरण दें।</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p>						
15.	<p>क्या आपको फसल भंडारण की पद्धति के बारे में जानकारी है।</p> <p>1.</p> <p>2.</p> <p>3.</p>						

16. धान की खेती व अन्य कार्य में आपकी सहभागिता कितनी है हां/नहीं विवरण दें।

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

17. क्या आप धान की खेती करते समय कठिनाइयों का सामना करती है। हां/नहीं विवरण दे।

- 1.
- 2.
- 3.

18. क्या धान की खेती एवं अन्य कार्यों से संबंधित निर्णय लेने में आपकी भूमिका रहती है।

- 1.
- 2.
- 3.
- 4.

18. क्या आपने धान उत्पादन तकनीकी से संबंधित कोई प्रशिक्षण लिया है ? हां/ नहीं
यदि हां तो आपने निम्न क्रियाओं में से किन – किन पर प्रशिक्षण लिया है ?

क्रं.	उत्पादन तकनीकी	अवधि (दिन)	संस्थागत/असंस्थागत	प्रशिक्षण की उपयोगिता			अंगीकरण का स्तर			नहीं अपना ने के कारण
				बहुत	उपयोगी	अनुपयोगी	पूर्ण	आंशिक	निरंक	
1.	उन्नतशील किस्में									
2.	बीज चयन/उपचार									
3.	रोपड़ी लगाना									
4.	रोपा लगाना									
5.	जल प्रबंधन									
6.	उर्वरक उपयोग									
7.	खरपतवार नियंत्रण									
8.	कीट /रोग नियंत्रण									
9.	संग्रहण									

19. निम्न विषयों पर आपको प्रशिक्षण की कितनी आवश्यकता है। कृपया संबंधित कोष्ठक () में सही का निशान लगाइयें।

क्रं.	उत्पादन तकनीकी	प्रशिक्षण आवश्यकता		
		अति आवश्यक	आवश्यक	आवश्यक नहीं
1	2	3	4	5
	उन्नतशील किस्में :-			
	1. उत्पादक क्षेत्र के लिये किस्म की सिफारिश			
	2. सिफारिश की गयी किस्म के लाभ व सीमायें			
	3. सिफारिश की गयी किस्म के लक्षण			
	4. विभिन्न किस्मों की लाभदायकता का अनुपात			
	5. किस्म की कीमत एवं उपलब्धता			
2.	खेत तैयार करना :-			
	1. जुताई, हैरो चलाना और समतलीकरण			
	2. जुताई की गहराई			
	3. सिंचाई एवं जल निकास नालियां बनाना			

	4. मृदा परीक्षण			
3.	बीज चयन / उपचार :-			
	1. स्वस्थ बीज का चुनाव			
	2. बीजोपचार की विधि			
	3. बीजोपचार हेतु आवश्यक रसायन एवं मात्रा			
	4. रोपा विधि			
	5. छिडका व बियासी / उन्नत बियासी विधि			
	6. लेही विधि			
	7. कतार बोनी विधि			
4.	रोपड़ी उगाना :-			
	1. बीज शैया तैयार करना			
	2. रोपड़ी तैयार करना			
	3. रोपड़ी का रखरखाव			
	4. पौध उखाड़ना			
5.	रोपा लगाना :-			
	1. मुख्य खेत की मचाई व समतलीकरण			
	2. पौध लगाने की उपयुक्त विधि व उपयुक्त पौध संख्या			
6	जल प्रबंधन :-			
	1. क्रांतिक अवस्थाओं पर सिंचाई			
	2. फसल वृद्धि की विभिन्न अवस्थाओं में जल स्तर			
	3. खड़ी फसल में खाद देते समय सतही जलनिकास			
7.	उर्वरक उपयोग :-			
	1. उर्वरक उपयोग की दर व समय			
	2. उर्वरक उपयोग करने की विधियां			
	3. जैव उर्वरक का उपयोग			
	4. पोषण व्याधियां के लक्षण व नियंत्रण			
8.	खरपतवार नियंत्रण :-			

	1. अंतरासस्य क्रियायें			
	2. नम भूमीय खरपतवारों का मानवीय व रासायनिक नियंत्रण			
	3. विभिन्न सांद्रताओं का फुहार द्रव तैयार करना व उसका उपयोग			
	4. खरपतवार नाशियों का रखरखाव			
	5. धान के प्रमुख खरपतवारों की पहचान			

9.	कीट /रोग नियंत्रण :-			
	1. प्रमुख कीट/ रोगों की पहचान व नियंत्रण			
	2. कीट /रोगनाशकों की तैयारी एवं उनका प्रयोग			
	3. कीट / रोगनाशकों के उपयोग के समय सावधानियां			
	4. कीट / रोगनाशकों के उपयोग की दर व समय			
	5. कीट / रोगनाशकों का उचित मूल्य व उपलब्धता			
	6. स्प्रेयर एवं डस्टर का उपयोग एवं रखरखाव			
10.	कटाई			
	1. फसल कटाई का उचित समय			
	2. फसल कटाई की उपयुक्त विधि			
	3. फसल कटाई के समय दाने में नमी की मात्रा			
	4. फसल कटाई के उन्नत यंत्र			
11.	मिजाई व ओसाई			
	1. मिजाई के उन्नत यंत्र			
	2. मिजाई की उपयुक्त विधि			
	3. ओसाई के उन्नत यंत्र			
	4. ओसाई की उपयुक्त विधि			
	5. मिजाई व ओसाई के उन्नत यंत्रों का मूल्य एवं उपलब्धता			
12.	संग्रहण			
	1. संग्रहण की वैज्ञानिक विधियां			
	2. संग्रहण के लिये आदर्श भंडार गृह			
	3. संग्रहण के लिये नमी , तापक्रम व आर्द्रता			

21. प्रशिक्षण कार्यक्रम को अधिक प्रभावी बनाने हेतु निम्नलिखित से संबंधित आपके क्या सुझाव है ?

1. स्थान :- 1. प्रदर्शन केन्द्र , 2. ग्राम पंचायत , 3. ब्लॉक मुख्यालय , 4. कृषि महाविद्यालय

5. कृषक प्रशिक्षण केन्द्र , 6. अन्य.....

2. प्रशिक्षक :- 1. कृषि वैज्ञानिक , 2. विषय वस्तु विशेषज्ञ , 3. कृषि विकास अधिकारी , 4. ग्रा. कृ.

वि. अधिकारी, 5. अन्य

3. विधि :- 1. प्रदर्शन , 2. व्याख्यान , 3. समूह चर्चा/संगोष्ठी , 4. दृश्य व श्रव्य साधन , 5. किसान

मेला/प्रदर्शनी, 6. वाद-विवाद , 7. अन्य

4. प्रशिक्षणार्थियों की संख्या : 20 तक / 20-30 / 30-40 / 40-50 / 50 से अधिक

5. प्रशिक्षण अवधि (दिन):- 1/3/5/7/10 व अधिक

6. उपयुक्त मौसम के पूर्व / मौसम के समय / मौसम के पश्चात्

7. वर्ष में प्रशिक्षणों की संख्या:- 1/2/3

8. प्रशिक्षण का प्रकार : 1. व्यवसायिक/2. प्रायोजक/3. स्वयं प्रायोजित/4. अन्य

9. प्रशिक्षण की सुविधाएँ : 1. मुफ्त में रहने की व्यवस्था / 2. वजीफा देना चाहिए/ 3.

परिवहन की सुविधा होना चाहिए/4. आवश्यक भ्रमण होना चाहिए / 5. अध्यापन दृष्ट्य

श्रव्य सामग्री का उपयोग करके कराना चाहिए/6. अन्य

10. प्रशिक्षण देने की भाषा : 1. क्षेत्रीय भाषा/2. हिन्दी/3. अन्य

11. संबंधित समिति : 1. राज्य उद्यानिकीय विभाग/2. कृषि महाविद्यालय/3. एन. जी. ओ.
/4. अन्य

12. प्रशिक्षण संबंधी बाधाएँ

1. प्रशिक्षणार्थी से संबंधित

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.....
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2. प्रशिक्षक से संबंधित

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3. विषय सामग्री से संबंधित

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4. प्रशिक्षण की विधियों से संबंधित

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5. भैतिक सुखसुविधाओं से संबंधित

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.....

.....

6. अन्य बाधाएँ

APPENDIX – B

RESUME

Name : Neelam Jaiswal

Date of birth : 08/06/1991

Present Address : Nagar Panchayat – Pali,
Post- Pali, Thesil- Pali
Korba (C.G.)

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E. mail neelamjaiswal169@gmail.com

Permanent address : Nagar Panchayat – Pali,
Post- Pali, Thesil- Pali
Korba (C.G.)

Academic Qualification :

Degree	Year	University/Institute
10 th	2006	CGBSE
12 th	2008	CGBSE
UG	2014	IGKV

Professional Experience (If any) : RAWE
(Rural Agricultural Work Experience)

Membership of Professional Societies (If any) :

Publications (If any): In numbers only

Signature

RESUME

Name : Neelam Jaiswal
Date of birth : 08/06/1991
Present Address : Nagar Panchayat – Pali,
Post- Pali, Thesil- Pali
Korba (C.G.)

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Signature