GENDER INVOLVEMENT IN AGRICULTURE AND ALLIED ACTIVITIES IN RAYAGADA DISTRICT OF ORISSA

ARCHANA PADHI

DEPARTMENT OF EXTENSION EDUCATION
COLLEGE OF AGRICULTURE
ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
BHUBANESWAR-751003, ORISSA

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A THESIS SUBMITTED TO
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AND TECHNOLOGY, BHUBANESWAR
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE
OF MASTER OF SCIENCE IN AGRICULTURE
(EXTENSION EDUCATION)

2011

BY

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COLLEGE OF AGRICULTURE
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DEDICATED TO MY PARENTS

APPROVAL SHEET

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APPROVED BY ADVISORY COMMITTEE

Chairman: **Dr. B.P. Mohapatra**
Associate Professor
Department of Extension Education,
College of Agriculture,
O.U.A.T., Bhubaneswar

Member : **Dr. R.N. Das**
Professor and Head,
Department of Extension Education,
College of Agriculture,
O.U.A.T., Bhubaneswar.

Member : **Dr. R.K. Mishra**
Associate Professor,
Department of Agril. Economics,
College of Agriculture,
O.U.A.T., Bhubaneswar.

EXTERNAL EXAMINER

DEPARTMENT OF EXTENSION EDUCATION
COLLEGE OF AGRICULTURE
ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
BHUBANESWAR-751003, ORISSA

Dr. B.P. Mohapatra
Associate Professor
Department of Extension Education,
College of Agriculture,
O.U.A.T., Bhubaneswar

CERTIFICATE

This is to certify that the thesis entitled **"GENDER INVOLVEMENT IN AGRICULTURE AND ALLIED ACTIVITIES IN RAYAGADA DISTRICT OFORISSA",** submitted in partial fulfillment of the requirements for the award of Degree of **MASTER OF SCIENCE IN AGRICULTURE (EXTENSION EDUCATION)** is an authentic record of bonafide research work carried out by **Archana Padhi** under my guidance and supervision.

This research work is original and no part of it has been submitted for any other degree or diploma or published in any form. The help and information received during the course of investigation has been duly acknowledged.

I wish her all success in life.

Place : Bhubaneswar **(Dr. B.P. Mohapatra)**

Date :

Name of the student : **Archana Padhi**
Adm. No. : 145EE/09
Title of the thesis : **Gender Involvement in Agriculture and allied activities in Rayagada district of Orissa**
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Name of the Advisor : **Dr. B.P. Mohapatra**
Associate Professor
Department of Extension Education,
College of Agriculture,
O.U.A.T., Bhubaneswar

A B S T R A C T

The present research study entitled "Gender Involvement in Agriculture & Allied Activities in Rayagada District of Orissa" was undertaken in 2 blocks comprising of 4 viilages of Rayagada district of Orissa State. A total number of 120 respondents(60 farm women & 60 farmers) were interviewed personally by the researcher to find out the i) different agricultural and allied activities performed by farmers and farm women; ii) to analyze the extent of involvement of farmers and farm women in different agricultural and allied activities; iii) to compare the decision making behaviour of farmers and farm women in different agricultural and allied activities and iv) to study the time utilization pattern of farmers and farm women in performing various agricultural and allied activities. The major findings are described in the following lines. Illiteracy was much more visible among the farm women as comparison to farmers. Farmer were more actively participate in the activities like sowing, preserving seeds for future use, and seed treatment where as farm women were more active in transplanting the seedling, seed broadcasting and nursery raising., Seed treatment and preserving seeds for future use activities were predominantly done by farmers ;where as nursery raising, seedling transplanting were mostly done by farmwomen. There was positive & significant correlation between education, income, and land possession with performing crop management activities of farm women whereas a significant correlation between extension contact and performing crop management activities was established with respect to farmers. Education was negatively related with performance of farm women in animal management activities. Maximum involvement of farm women occurred in the activity of bunding and transplanting and the minimum involvement in the activity of storing. On the contrast the farmers of sample area were deeply involved in the activity of transporting for storage and minimum involvement was found in the activity of bunding and transplanting. Farm women were deeply involved in the activities of fetching of water for animal and minimum involvement was found in the activity of purchasing of animal. On the contrast the farmers of the sample area were deeply involved in the activities of milking and minimum involvement was observed in the activities of fetching water for animal and preparation of cattle feed. There was positive relationship between education, income and land possession with degree of involvement of farm women in crop management activities. Hence, it may be concluded that, better educated farm women having more family income and land possession had more involvement in crop management activities. But negative correlation value in land possession and

income indicated that poor farm women with less landed property were more involved in animal management & household management activities. A negative correlation value in case of income & cosmopoliteness with involvement of farmers in animal management activities implied that, poor and localite farmers were only active in animal management activities in the study area. Decision in the area of sowing, seed treatment, seed rate, sowing season and time were farmer dominated where as farm women in the sample area only took major role in decisions in the segment of seed and variety selection. In all other activities except selection of seed and variety usually the decision were taken by farmers in seed and sowing related activities. Both farmers and farm women were more or less equally involved in taking decision about the segment of harvesting. Farmers were more involved but farm women also taking part in almost upto the same degree. It was also observed that, farm women were dominant in harvesting activities. Farmer respondents spent majority of their active hours in farming and milking activities whereas the farm women respondents spent much of the time in farming, collection of water, fuel wood, preparation of cattle feed and doing backyard gardening. As it was observed that very poor contribution of the respondents was rendered with respect to community work a large scale campaign on community management events like formation of SHG, co-operative society, farmer's club, women club, water user's club, can help the people of that locality to develop their exposure and managerial competency.

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guiding force in my life propelling me towards brighter horizons of happiness.

I wish to express my deep sense of honour, love, heartful regards and gratitude to y loving parents whose blissful blessings, dedication and incessant inspiration that had made me so today.

Lastly, I bow my head before Almighty who is most benevolent, beneficent and whose blessings have solely contributed for my success till this phase of life.

Place: Bhubaneswar **Archana Padhi**

Date:

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Gateway to the academic creation, it lights the mover with broad pathway ahead to cover. It gives the reader the "starters" for upcoming pleasant behaviour. It is truly said that a gateway shows half of the contents. Introduction gives the entry of the reader to any text. It creates awareness about the subject matter, further creates interest to go deep into the same. Introduction narrates the specific objectives of the study. An attempt was made to introduce the research problem, its need and importance along with the mandatory prints like limitations of the study.

CHAPTER I

INTRODUCTION

INTRODUCTION

Women are the backbone of our economy. They play a significant role in domestic and socio-economic life of the society. National development is not possible without developing this important and substantial segment of any society. Women represent almost 50 percent of population, make up 30 percent of the labour force, perform 60 percent of all working hours, receives 10 percent of the world's income and own even less than one percent of world's property. According to Human Development Report, poverty has a women's face. Nearly 80 percent of the economically active women are engaged in agriculture. Indian farming community represents a complex social system including its heterogeneous nature, economics and social inequalities, class and caste differentiation, traditional social structure and system, regional imbalances in development, underdeveloped village institutions, low level of literacy and a relatively fixed and expected role of women.

It is now recognized all over the world that, the status of women in society, both in developed and under developed countries continues to be inferior to men. To achieve anything, women are obliged to surmount host of obstacles. The difficulty in gaining access to land, credit and agricultural inputs hampers their potential as producers who feed the world. Barriers of tradition and discrimination have limited their access towards technology, training and education. Moreover, the extension approaches and strategies usually followed for transfer of

technology to women are not keeping match with their specific needs and problems. The World Food Summit convened by FAO in 1996 drew up a plan of action to address the major impediments to universal food security. It also called for the full and equal participation of both the genders so as to ensure gender equality and empowerment of women.

In spite of their crucial role in the family and household economy, women have not given equal rights in social, economic and political fields. In third world countries, the contribution of women in agriculture is quite significant compared to men. Women are generally involved in wide range of farm operations in one way or other. Further, their farm activities are also changing due to mounting demographic pressure on land as well as environmental degradation resulting in increased rural poverty and male migration off the farm sector in search of employment. Therefore, improvement in the status of woman has now been recognized all over the world as an important aspect of national progress and development. It is also felt that, the problem of poverty cannot be tackled without providing opportunities of productive employment to women for providing necessary economic base and improve their social status. But, it is still a fact that women in many countries are facing discriminating attitude in varying degrees on ground of sex in employment and working conditions.

It is found that, a woman continues to bear the major load of the household work. Her primary role is often viewed by the society as housewife. This is very much visible with rural households. While women bear the major burden of housekeeping, functional decision

making powers did not necessarily; rest with them, especially in the areas of major capital investment. The other most common feature is the differential treatment to the female child in the breakdown of allocation of resources i.e. food, clothing, expenditure on education and so on. Indian women have a multifunctional personality. She is the pivot around whom the whole household revolves. Hard working and dedicated, she shares most of the duties and responsibilities of a family. Housekeeping, child rearing, assisting in agriculture and industry, cattle rearing are parts of her duties. Most of the rural women do not find a place in the planning & mechanism of development. Though women make a substantial contribution to the family income through home-based activities, this is usually treated as supplemental and hence it goes unnoticed. Since a long time, it is generally believed all over the world that the place of women is at home. However, this institutional belief has been radically transformed particularly since the beginning of the twentieth century due to political, economical and social changes in the attitude and outlook of the people towards women and their role in the society.

Gender inequality is the most dominant factor for the social empowerment of the women. The “Ideology of seclusion”, “Classic patriarchy” and “Adam orientation” are some of the main social causes for the less or no participation of women particularly rural women in various spheres of life. At the same time the women employment rate has increased faster than that of men during 1980s and 1990s. Basically women are taking jobs to help the family. But their jobs are

treated as marginal to supplement the core earnings. In farm sector, though they are the invisible work force, most of their economic activities are unidentified and unrecognized. The housewives do much productive work, which is economically viable, but not accounted for family earnings formally many authors opined that, women have plenty of influence but not much authority. Some of the data indicating the economic status of rural women reveals that women suffer from certain inadequacies and limitations. The unpaid work, the women do such as collection of fuel, fodder, water and minor forest produce for sustenance and household maintenance, for long, has been considered as non-economic activities. The custom and social norms create a barrier in the participation of women in areas where men are important actors. Social attitudes continue to project male. The inequalities inherent in our traditional social structure based on caste, community and class have a very significant influence on the status of women in different spheres. Socially accepted rights and expected roles of women, norms governing their behaviour and of others towards them vary among different groups and regions.

Empowerment is a process whereby women become able to organize themselves to increase self reliance to assert their independent right to make choice and to control resources which will assist in challenging and eliminating their own subordination. It is the process by which individuals, organizations and communities gain control and mastery over social and economic conditions. Efforts have been made to make women empowered in different spheres of life i.e.

political, economic, social, cultural, participation in decision making, access to health care, quality education, career and vocational guidance, employment, equal remuneration, occupational health safety, social security, strengthening legal system for elimination of discrimination, changing social attitudes & community practices by active participation & involvement of men & women & above all mainstreaming gender perspectives in development process. Elimination of discrimination & all forms of violence against women and girl child, strengthening partnership with civil society particularly women organizations are some of the major initiatives in this direction.

The Constitution of India provides adequate safe guards for the socio-economic development of the disadvantaged sections such as women, SC, ST, as well as other backward communities. The level of development of these sections is not in desired extent and direction despite plenty of developmental programmes implemented during the last five decades. More than fifty percent of these sections have been living in the vicious circle of poverty due to skewed distribution of developmental opportunities and low level of motivation and aspiration for better future. Over a period of time, most of the asset less families of these disadvantaged sections has developed a dependency syndrome expecting government to do everything for their development. Women are mostly considered as weaker than men and hence they require social and economic protection. This attitude has constrained their mobility and consequently lack of opportunities for development of their personality. So, women have lagged behind in the field of education,

self-development and employment. Their work is also generally undervalued in economic terms,

In spite of all efforts, the status of women particularly rural women and women from farm families still not developed much. The total contribution of women in rural work force is often perceived as lower than their actual contribution due to various forms of socio-cultural norms. The policy makers often highlight only the supportive role of women as owner's wife than her productive role. The male head of the family shares all his experience with the planners for any farm activities there by removing the touch of women experience and feedback. At the same time, due to restrictions on their movement and activities, the extent of exposure of women is meager leading to under employment. It has been commonly agreed that, unless the rural women are empowered and engaged in productive activities with drudgery reducing technologies, neither agriculture nor the rural families can be improved and contribute for national development. For the reason, the level of empowerment of the women particularly the rural women is to be identified and a suitable strategy should be formulated for their better empowerment and development.

Initial efforts to include women in development interventions aimed at improving women's welfare - and defined women mainly in terms of their conventional reproductive roles. During the seventies, development agencies began to recognize the importance of women's economic roles as well, and Women in Development (WID) policies were introduced with the goal of integrating women into development

programs. The United Nations' Decade for Women (1976-85) played a crucial part in highlighting the important but previously invisible roles of women in the social and economic development of Third World countries and communities, and the particular plight of low-income women. But the resulting programs and projects did not address inequalities between men and women because they focused solely on *women*.

By the end of the eighties, WID was seen as inadequate because it failed to deal with the inequalities between men and women, and the continuing subordination of women. *Gender* became the key category of analysis in a new approach called *gender and development* (GAD) Mainstreaming a gender perspective is the process of assessing the implications for men and women of any planned action, including legislation, policies and programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and social spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality. National governments committed themselves to promoting gender equality in the formulation of all government policies and programs.

Women constitute an important segment of the labour force. The unpaid economic activities of women and their contribution in the domestic sector remain unreported and go largely un-recognized. The

key role played by women in agriculture was in the past largely unacknowledged in government statistics and decision-making. This situation has started to change over the last two or three decades and much has been achieved in giving recognition to the importance of women in agriculture sector in many parts of the developing world. However, these recent advances may be endangered by such factors as Structural Adjustment Programmes (SAPs), the drive to commercialize agriculture and retreat of government from rural development in many countries. These factors have eroded gains and threaten a return to the situation where women's role is not fully recognized, and where gender- blind politics and programmes fail to address the needs of women farmers. For development of female education, educational institutions have been established exclusively for girls including kanyashrams in low literacy tribal areas. Education for girls, from primary to post graduate level, has been made free. ITIs exclusively for women have been opened to provide them professional training.

There also remain a number of areas where progress in advancing gender equality has not been significant and which represent challenges for the future. These include women's lack of access to land, resources entitlements and inputs such as credit and technology and the limited role played by women in planning and formulation of policy in the sector. Women have also had less contact with extension services than men generally use lower levels of technology because of problems of access, cultural restriction on use

or use or lesser interest in doing research on women's crop and livestock.

Agriculture contributes a major share to the Gross Domestic Product in the national economies of most developing countries. This underlines the linkages between agricultural performance and the output income of other sectors, as well as those between government's macroeconomic objectives (such as employment generation, poverty alleviation, food security and human resource development) and their goals and policies for agricultural development.

The role of women in community development and the creation of self help groups is particularly important, especially given current trends in agriculture extension activities. Agricultural extension is tending to rely more and more on working with farmer groups, and farmer-to-farmer extension, farmer field schools and farmers' organizations are replacing the more traditional methods of agriculture extension centered on individual farm visits. A key focus of this approach is to enable rural people to secure sustainable livelihoods, with an emphasis on income- generating activities. Women have traditionally earned valuable income through the processing of foods at the household levels for sale, but there are severe constraints on the extension of this due to a lack of information about markets, the absence of cold storage facilities and packaging technology and an inability to obtain credit. These limitations are now understood and one challenge is to foster this business acumen and to encourage small-scale agro-processing.

Women are the backbone of rural economy. They play a significant role in domestic and socio-economic life of the society. National development is not possible without developing this important and substantial segment of any society. To achieve anything, women are obliged to surmount host of obstacles. The difficulty in gaining access to land, credit and agricultural inputs hampers their potential as producers who feed the world. Barriers of tradition and discrimination have limited their access towards technology, training and education. Moreover, the extension approaches and strategies usually followed for transfer of technology to women are not keeping match with their specific needs and problems. The World Food Summit convened by FAO in 1996 drew up a plan of action to address the major impediments to universal food security. It also called for the full and equal participation of both the genders so as to ensure gender equality and empowerment of women. Women are usually responsible for food processing and also make a major contribution to food storage, transportation and marketing although they seldom control the revenue generated. In almost all societies, rural women tend to work longer hours than men.

It is now recognized all over the world that, the status of women in society, both in developed and under developed countries continues to be inferior to men. In spite of their crucial role in the family and household economy, women have not given equal rights in social, economic and political fields. In third world countries, the contribution of women in agriculture is quite significant compared to men. Women are

generally involved in wide range of farm operations in one way or other. Further, their farm activities are also changing due to mounting demographic pressure on land and as well as environmental degradation resulting in increased rural poverty and male migration off the farm sector in search of employment. Therefore, improvement in the status of woman has now been recognized all over the world as an important aspect of national progress and development. It is also felt hat, the problem of poverty cannot be tackled without providing opportunities of productive employment to women for providing necessary economic base and improve their social status. But, it is still a fact that women in many countries are facing discriminating attitude in varying degrees on ground of sex in employment and working conditions.

It is found that, a woman continues to bear the major load of the household work. Her primary role is often viewed by the society as housewife. This is very much visible with rural households. While women bear the major burden of housekeeping, functional decision making powers did not necessarily; rest with them, especially in the areas of major capital investment. The other most common feature is the differential treatment to the female child in the break down of allocation of resources i.e. food, clothing, expenditure on education and so on.

In the agricultural production process, end users or farmers are very important. The farming community comprises three distinct groups – farmers, farm women and young farmers including boys and girls.

Participation of women in agriculture in developing countries has been silently appreciated without much recognition and recording their contributions. They have not been prepared for active involvement in the development process. By and large, they are remained as invisible workers. Since 1970s, a global concern for the emancipation of women in general and farm women in particular has been expressed in so many ways aiming at improving the working environment of women and raising their standard of living.

Despite the recognized facts and a considerable amount of development, women are still restricted in their role as farmers by unequal rights and access to and control over resources especially land. For example, fewer than 10 percent of women farmers own land in India, Nepal and Thailand. In Kenya, although 98 percent of women work full time in agrarian sector, only 5 percent have land ownership titles. In addition, women still carry out their work without much help from agricultural support mechanisms such as extension agencies, input suppliers as well as credit institutions. Women farmers receive less than 5 percent of extension services world wide.

In many parts of the world today, there is an increasing trend towards what has been termed as the ‘Feminization of Agriculture”. Men are becoming increasingly absent from farms in rural areas. In the era of economic change, men are migrating from rural areas to towns and cities in search of paid employment. Women are therefore taking more and more responsibilities for agricultural production. Besides working for longer hours than men in the agrarian sector, women have

also been largely responsible for aspects like family food security, maintaining the bio-diversity through preservation of seeds etc. Their contribution has been substantial towards improving rural economy. The women who constitute almost half of the total population are seen as strong, potential work force to be tapped in strengthening the economy. Feminization of agriculture being an important issue in this direction needs active participation of women in agriculture as worker, manager and entrepreneur. But development among the vast segment of women population has not been taken care due to male dominancy, perpetuation of socio-cultural restrictions, non-realization of women's capabilities to produce by the planners and policy makers. What we see today, women are embodiment of dependence characters and multi-purpose roles without social recognition.

India is the second largest county in the world in terms of population. It has also a large segment of women population. Indian farming community represents a complex social system including its heterogeneous nature, economics and social inequalities, class and caste differentiation, traditional social structure and system, regional imbalances in development, underdeveloped village institutions, low level of literacy and a relatively fixed and expected role of women.

Women in Indian society had a distinct place of honor in ancient times. She was treated with great respect for her feminine virtues. Maitrayee, Gargi, Seeta, Savitreee are still held honor and symbols of intelligence, wisdom, purity and endurance. Women in India by tradition and culture have, for generations, taken a self efficiency role. They

have been kept down and always been dependent of father, brother and husband. Being women, the responsibilities of motherhood, household work, maintenance of social relations, obligations, socialization of children, care of aged and young, observations of rituals etc. are typically associated with them.

Indian women have a multifunctional personality. She is the pivot around whom the whole household revolves. Hard working and dedicated, she shares most of the duties and responsibilities of a family. House keeping, child rearing, assisting in agriculture and industry, cattle rearing are parts of her duties. Most of the rural women do not find a place in the planning & mechanism of development. Though women make a substantial contribution to the family income through home-based activities, this is usually treated as supplemental and hence it goes unnoticed. Since a long time, it is generally believed all over the world that the place of women is at home. However, this institutional belief has been radically transformed particularly since the beginning of the twentieth century due to political, economical and social changes in the attitude and out- look of the people towards women and their role in the society.

Agriculture, being the backbone or the Indian economy, the status of women in the economic front has to be primarily viewed in relation to the major trends affecting agricultural sector. Some of the data indicating the economic status of rural women reveals that women suffer from certain inadequacies and limitations. The unpaid work the women do, such as collection of fuel, fodder, water and minor forest

produce for sustainance and household maintenance, for long, has been considered as non-economic activities. The custom and social norms create a barrier in the participation of women in areas where men are important actors. Social attitudes continue to project male. The inequalities inherent in our traditional social structure based on caste, community and class have a very significant influence on the status of women in different spheres. Socially accepted rights and expected roles of women, norms governing their behaviour and of others towards them vary among different groups and regions.

The Constitution of India provides adequate safeguards for the socio-economic development of the disadvantaged sections such as women, SC, ST, as well as other backward communities. The level of development of these sections is not in desired extent and direction despite plenty of developmental programmes implemented during the last five decades. More than fifty percent of these sections have been living in the vicious circle of poverty due to skewed distribution of developmental opportunities and low level of motivation and aspiration for better future.

Over a period of time, most of the asset less families of these disadvantaged sections has developed a dependency syndrome expecting government to do everything for their development. Women are mostly considered as weaker that men and hence they require social and economic protection. This attitude has constrained their mobility and consequently lack of opportunities for development of their personality. So, women have lagged behind in the field of education,

self-development and employment. For the reason their work is generally undervalued in economic terms,

Women constitute a significant part of our work force in agriculture, which tops above all sectors of our economy in its contribution of the country's Gross Domestic Product (GDP).. It is also noticed that poorer the families, the greater is the dependency on women's economic productivity. Enhancing their economic productivity is an important strategy for improving the condition of the people of India particularly families below poverty line (BPL) level. There is also a significant gap between the rural women's potential and productivity due to several social, cultural and religious taboos.

Agriculture is the main base of the economy in Orissa. Nearly 75 percent population depends on this age-old profession for their livelihood. Farming operations are invariably carried out by all the members of the family and each one has definite duty and responsibility. But the role and contribution of women members is not documented in spite of its significance. The engagement of women on farm other than usual household responsibilities has been interpreted in social context rather than economic. At the same time, small holdings dominate agriculture in Orissa and there is a greater division of work in agricultural production. This is again related to the deep-rooted cultural norms and behavioural pattern in the rural society. Apart from their daily routine of house keeping activities, farm-women form a large number of agricultural activities which are also location, time and tradition specific.

In the process of agricultural modernization, major attention so far has been devoted to the farmers overlooking the role of farm women. However, there is an increasing realization in recent years regarding the central role the farm-women plays in agricultural production. She can make significant contribution not only through farm operations she performs directly but also through many farm decisions in which she assists. Yet, the status of farm women in general is much lower than that of their male counterparts largely because of the customary male dominance in the society, inherent shyness of women, lack of opportunities and poor accessibility to modern technology. The role of farm-women as producer of farm commodities remained almost completely neglected. Therefore, there is a direct need to create congenial atmosphere in social, economic and cultural spheres for their development through empowerment.

Women as agricultural workers generally participate in almost all operations except ploughing and plant protection to some extent. A large number of female workers are also engaged in marginal occupations such as collection of fish, firewood, cow dung, fetching drinking water, maintenance of kitchen garden, weaving, broom making etc. in order to supplement family income.

Gender inequality is the most dominant factor for the social empowerment of the farmwomen. The “Ideology of seclusion”, “Classic patriarchy” and “Adam orientation” is some of the main social causes for the less or no participation of women particularly rural women in various spheres of life. At the same time the women employment rate

has increased faster than that of men during 1980s and 1990s. Basically women are taking jobs to help the family. But their jobs are treated as marginal to supplement the core earnings. In farm sector, though they are the invisible work force, most of their economic activities are unidentified and unrecognized. The housewives do much productive work, which is economically viable, but not accounted for family earnings formally many authors opined that, women have plenty of influence but not much authority.

Emphasis on economic development in a poverty stricken country is very much required for the development of the people. However, this does not mean that unless economic development is fully realized, social development has to be neglected. Economic growth means not only creation of wealth, but also creation of people' capacity of create wealth and this resides in their health, education, knowledge and skill.

The Gandhian idea of "power of poor" through a process of decentralization of power at the grassroots has received some practical commitment through Panchayati raj institutions. The process resulted in the mobilization of women groups. Several research studies on women empowerment stated that, empowering people, particularly women to strengthen their capabilities is one of the main objectives of development. It needs full participation of the people in the formulation, implementation and evaluation of decisions that determine the functioning and well being of our societies.

Several programmes has been launched exclusively for the women at the central and state level over period of time for making women conscious for self employment and generation of employment as well as income through vocational activities. Some of the programmes for empowerment of women in Orissa are as follows.

- Orissa State social welfare advisory board.
- Dowry prohibition act
- State commission for women
- Mahila Samities
- Rehabilitation of distressed women
- Condensed courses of Education for adult women.
- Vocational training courses
- Training & Extension for women & Family counseling centers.
- Awareness Generation Projects for rural and poor women.
- State Old age pension scheme (SOAP)
- Mission Shakti
- Swayamsiddha
- Mahila Vikas Samabaya Nigam (MVSM)
- Integrated Child Development Scheme (ICDS)
- Kishori Shakti Yojana (KSY)
- Development of Women & Children in Rural areas (DWCRA)
- Rashtriya Mahila Kosh
- Support to Training & Employment of Women Programme (STEP)
- Indira Mahila Yojana

- Mahila Samridhi Yojana
- Self help Group (SHG)

In sprite of all efforts, the status of women particularly rural women and women from farm families still not developed much in comparison to the men. The total contribution of women in rural work force is often perceived as lower than their actual contribution due to various forms of socio-cultural norms. The policy makers often highlight only the supportive role of farm women as farmer's wife than her productive role. The male head of the family shares all his experience with the planners for any farm activities there by devoiding the touch of women experience and feedback. At the same time, due to restrictions on their movement and activities, their extent of exposure is meager leading to under employment. It has been commonly agreed that, unless the rural women particularly the farm women are empowered and engaged in productive activities with drudgery reducing technologies, neither agriculture nor the rural families can be improved and contribute for national development. For the reason the level of empowerment of the rural women particularly the farm-women is to be identified and a suitable strategy should be formulated for their better empowerment and development.

"In order to awaken the people it is the women who have to be awakened. Once they are on the move the family moves, the village moves and the nation moves."

-Pandit Jawaharlal Nehru

Some historian of Agriculture believe that it was women who first domesticated crop plants and there by initiated the art and science of farming. While men went out for hunting in search of food, women starts gathering needs from the native flora and began activating those of interest from the point of view of food, fodder, fiber, fuel. This view was strengthened by the fact that women have been traditionally seed selectors. Even today this tradition has continued in many parts of the developing world.

Agricultural and rural development that is equitable effective and sustainable cannot be pursued without an explicit recognition of the tremendous contribution of rural women to food and agricultural production and their crucial role in determining and guaranteeing food security and well being for the entire house-hold.

Women play a very crucial role in agriculture development. Their role varies from contributing physical lobour to managing the farms as a head of the household. Many studies have reported that 80 percent of the agricultural operations are done by women. Women perform most of the agricultural activities and play an important role in soil conservation and water management protection of Agro biodiversity, in livestock production and processing, agro forestry, fisheries etc. Despite their substantial contribution agricultural systems have failed to recognize women's contribution and planning and implementation process have marginalized women.

Marginalization of women is evident in technical development and resource access. Major interventions in extension and technology have passed women farmers and there is inequality in access to resources. This raises a question as to strategies that should guide future policy for mainstreaming of gender concerns.

All agricultural extension services are almost exclusively by men for men. This is due to gender blindness and the assumption that all farmers are men. Another reason for men oriented extension is possibly the inability to see women as farmers and understand that women farmers have different extension needs than men.

Poverty, food insecurity and environmental degradation have a disproportionate negative impact on rural women, due to their inferior socio-economic, legal and political status as well as their critical roles as procedures and household managers. The cause and effects of these impacts are systemic with far-reaching implications for agricultural and rural development as a whole and for all initiatives aimed at raising levels of nutrition improving production and distribution of food and agricultural products and enhancing the living conditions of rural population.

Rural women the world over are responsible for rearing small livestock and handling large livestock not raised on free ranges, for gathering food, fodder and fuel wood and for drawing water and managing domestic water supply. They often provide most of labour for make decisions on, a wide range of post harvest operations including

storage, handling and marketing and predominate in off-farm food processing activities either in micro enterprises or as wage workers in agro-industries. The root causes of persistent poverty and food insecurity among rural women and the families they support, as well as of environmental degradation, are similar and interrelated lack of access to and secure control over productive resources and services, over/under employment, inequalities in employment opportunities and remuneration and exclusion from decision and policy-making in an unfavorable large context.

The gender division of labour that assigns to women off-far, on-farm and household tasks leads to heavier workloads for women in comparison to men. Much of this work is unrecognized and unpaid, so that women are often over employed in terms of hours worked and under employed in terms of income received. As a pre-requisite to accomplish any activity with utmost accuracy, decision making plays an important role. Right decision at the time occupies the prominent place in any activity. Efficient participation in any activity is influenced by the possession of sufficient knowledge by farmers and farm women in their particular activity. Knowledge is an indispensable and non-monetary input to perform any operation.

Indian agriculture has moved fast in time and space heralding an era of self-reliance in food production. However, the progress in different farming systems has been quite uneven. Little achievements was made in different farming systems in the two decades. Only recently these systems are engaging the attention of policy makers,

planner's administrators, scientists, change agents and even peasants too. The importance of different farming systems in Indian agriculture can either be ignored or disregarded. They account for nearly 30 per cent of the total cultivated area contributing more than their share to total agricultural income.

Different farming systems are more remunerative than agriculture alone. This clearly speaks of the importance of different farming systems in the Indian context. In order to augment production and productivity, the work efficiency of farm men and farm women should be increased.

The marginal small farmers and farm women, owing to their limited farm size and economic backwardness, play the role of self-doing in all the activities. On the contrary, the big farmers and farm women who are economically sound enough to offer employment for others assume the task of supervising and assisting the farm activities carried out by others in their farm.

Women who perform two-thirds of the World's work earn only one-tenth of its income and own less than one-hundredth of its property. Women get up early in the morning and start cleaning the little courtyard, ramming it with cow dung. Her back breaking chores begin in the wee hours with milking the cattle, feeding her children, and going to farm for sowing, weeding, harvesting, winnowing etc. so the daily grinding of the unsung-housewife-cum-mother-cum-worker goes on and on, unrecognized by the statistics. An attempt to unearth the

facts regarding their degree of participation in agriculture and other allied agro-enterprises such as dairy, poultry, sericulture, apiculture, post-harvest and mushroom could be worth while and timely.

A clear understanding of the participation of farm women along with the farmer in crop production and other land based activities like dairy, poultry, their pattern of decision making, knowledge and skill level, time utilization pattern and contribution to family income would enable the extension organization and other policy makers to develop strategies for enhancing their participatory efficiency in different farming systems. Keeping this broad frame work in mind, the study entitled" **GENDER INVOLVEMENT IN AGRICULTURE & ALLIED ACTIVITIES IN RAYAGADA DISTRICT OF ORISSA**" was planned and conducted with the following specific objectives.

Specific objectives

1. To identify the different agricultural and allied activities performed by farmers and farm women.
2. To analyze the extent of involvement of farmers and farm women in different agricultural and allied activities.
3. To compare the decision making behaviour of farmers and farm women in different agricultural and allied activities.
4. To study the time utilization pattern of farmers and farm women in performing various agricultural and allied activities.

Scope & Importance of the study

Gender studies have come up a long way in the present era due to the realized fact of imbalanced growth of both the genders in the society. Women constitute an important segment of the work force. The unpaid economic activities of women and their contribution in the domestic sector remain unreported and unrecognized. Women play an important role in primary sector of state's economy. Out of 73.8 percent of female workers engaged in agriculture, 19.4 percent are cultivators and 54.4 percent are agricultural labourers. Women as agricultural workers primarily participate in all operations except ploughing and plant protection to some extent. The farmwomen usually do all important and labourious operations manually because of their negligible exposure, shyness, inferiority complex and above all binding to the norms of the society. Gender balance is very much needed in present context. The involvement of women in farm sector must be facilitated by regular training and capacity building as per equality as their men counterparts. The findings of the present study will definitely throw some light for the gender related studies by scholars. Therefore the study has its own significance and wide scope for the development of men and women in farm sector in the state and the country as well.

Limitations of all study

Due to academic calendar only one district of Rayagada has been covered in the study. Some selective area has been considered for the data collection since the study exclusively meant for the academic purpose. Hence, the findings of the study may not be applicable to the country even the state as a whole. However, the findings of the study will definitely give an idea to the planners, administrators and executers for the refinement of the policies and designing the programme for better participation and involvement of farmers and farmwomen. Hence, the study has its own limitations and the findings may applicable only to the districts under study.

The data collected are based on the expressed opinion of the respondents. Therefore, the study may not be free from usual biasness involved in social investigation.

Organization of the thesis

The thesis is organized in seven chapters.

Chapter one introduces the problems and sets same objectives, its scope and limitations of research work.

The second chapter presents the relevant reviews on the problem as per the specific objectives.

The third chapter is a collection of related terminology on gender which is called Theoretical Orientation. This chapter denotes the operational definitions of related gender terms.

The **Fourth chapter** is devoted for setting which describes few problem related facts about the state, the selected districts and blocks.

The methodology adopted is elaborated in **chapter – five**. It presents brief account of research design, procedure followed in sampling, technique of research used to collect data and required analyzed procedure for interpretation of result.

The findings and discussion run through **chapter six** which explains result objective wise and the discussion and analysis of the obtained research result.

Chapter – seven, the last chapter presents the summary and conclusion followed by research reference.

Appendix has its place at the end of the thesis.

CHAPTER II

REVIEW OF LITERATURE

This is a "small articulation of previous research" highlight. Past, golden, enthusiastic, and eminent works vibrated and finally selected for the current piece of work for guiding in times of necessary reference. Related reviews by eminent authors and scholars had found their place in this research work to establish necessary relationship with the current research. Pertinent reviews by authors and research scholars are a guiding force for any researcher to form various parameters of research outline. The researcher is deeply grateful to those unseen personality for their necessary reviews from their research work. The help is deeply acknowledged by the researcher.

REVIEW OF LITERATURE

As per the research norm, literature is of a paramount importance to any research behaviour. Review of literature helps to acquire broad and general background in the given field or discipline. So an acquaintance with earlier pertinent studies has been felt necessary to develop good understanding of the present study and to formulate appropriate research methodology. However, there are certain dimensions of this study in which either view or on studies have been conducted earlier, especially in Rayagada district of Orissa.

Hence an attempt has been made to review the related literature on topic “Gender Involvement in Agriculture & Allied Activities in Rayagada District of Orissa” which has been grouped under the following headings, keeping the objectives of the study in view.

2.1) Different agricultural and allied activities performed by farmers and farm women.

2.2) Extent of involvement of farmers and farm women in different agricultural and allied activities.

2.3) Decision making behaviour of farmers and farm women in different agricultural and allied activities.

2.4) Time utilization pattern of farmers and farm women in performing various agricultural and allied activities.

2.1) Different agricultural and allied activities performed by farmers and farm women

Kumar and Bhalla (1990) stated that farm women had involvement in planting, weeding, harvesting and post-harvest activities in almost all food crops and also played prominent role in horticultural productivity.

Tantray (1991) reported that women participated in all farm activities except ploughing, bond making, marketing of produce, plant protection operations and irrigation work.

Banerjee and Satapathy (1996) revealed that farm women posses very little knowledge about specific technologies recommended for rice cultivation. Altogether 64.93% of the farm women had contact with various categories of extension personnel. They had good participation in post harvesting activities in agriculture and animal husbandry practices except marketing.

Das (2000) stated that tribal women are very labourious and lay dual role in their daily life. They are the main earning members and care taker of their families. Expect ploughing they are doing almost all the agricultural operations.

Das and Mishra (2000) stated that in spite of key roles performed by tribal women in farm and home activities in one hand and their low level of awareness in the improved technologies on the other, their perceived training needs was found to be comparatively very low. The reason being attributed to their unawareness/ ignorance, religious restriction, male dominance, lack of tome, less inventive for training, etc.

NRCWA (2001-2002) in their study revealed that farm women had significant higher contact with lady village agricultural workers and also good contact with animal husbandry workers. Farm women were mostly involved in manuring, leveling, transplanting , harvesting and less involved in land preparation. Taking both agriculture and non-agricultural sector, women engaged for 138 days in year in comparison to male for 120 days in tribal areas.

Hossain and Mishra (2002) revealed that most of the farm women respondents were engaged in harvesting (68.6 %) seedling uprooting, transplanting (59.3%) and weeding (58%) operations. They had less participation in seed treatment, manuring and plant protection operations. As much as 47.3 percent of them had participation in storage of food grains. It was also observed that 90.6 percent of them involved in backyard kitchen gardening, 34.5 percent in marketing of vegetable, 72 percent in preservation of fruits and vegetables, and 26.8 percent in development of fruit orchard.

Satapathy (2003) opined that rural women have access to and performed as many as 27 roles in relation to agriculture and allied activities. Such as planning and decision making, marketing of farm produce, arrangement of inputs, supervision of labour, sowing of seeds, planting of seedlings, fertilizer application, manuring, weeding, intercultural operation, irrigation management, plant protection, harvesting, threshing, winnowing, post harvest operation, preparation of bi-product, preparation of FYM, earth work, nursery raising, fencing and land preparation management, animal care, marketing, milk

processing, fishing and net making, forest related activities, and beekeeping.

Abraham (2003) revealed that women represent 50 percent of population, make up 30 percent of the labour force, perform 60 percent of all working hours, receives 10 percent of the world's income and own even less than one percent of world's property. According to Human Development Report, poverty has a women's face out of 1.3 billion people in poverty, 70 % are women.

NRCWA Annual Report (2003-04) observed that 75% tribal farm women entered to agricultural work at the age of 8-10 years, 92% illiterate and 70% had agriculture as primary occupation next to animal husbandry. They were very receptive to changes unlike women of coastal districts. This indicates the commitment of tribal farm women to their family & contribution to agriculture.

NRCWA Annual Report (2003-2004) revealed the tribal farm women are highly involved in the activities like Jhola land preparation (75%), transplanting (82.5%), weeding (72.5%), harvesting (82.5%), transporting (60%), threshing (52.5%), hand milling (80%) and processing (85%) under livestock management they were involved in fodder collection (82.5%) feeding the animals (97.5%), cleaning the animal shed (87.5%) caring new born calf (87.5%), and preparing cow dung cake (90%).

Thejaswini, Chandra Shekar and Gowda (2004) observed that majority of rural women participated in harvesting, transplanting, manuring, winnowing, cleaning, threshing, transportation and storage

of the produce. The participation in water management, earthing up and chemical control was negligible. As far as role performance was concerned, farm women had good participation in meeting, input arrangements, transportation as well as marketing of finished items. They had poor involvement in areas of bank transactions, assessment of profit and loss, participation in social organizations, etc.

Chottopadyaya (2005) opined that nearly 90 percent of women workers in rural areas are unskilled. All poor women have to perform domestic duties and also supplement the family income. They are subjected to economic exploitation with low and discriminatory wages.

Jamali (2009) argued that the rural women in Pakistan have been actively involved in agriculture and its allied activities. Rural women's work ranges from crop production to harvesting operations, from livestock rearing to raising babies, in addition to their daily work routine, consisting of cooking, cleaning, and other domestic chores, rural women are also heavily involved in all aspect of countries agriculture sector, from crop production to livestock rearing rural women are expected to regularly engaged in both domestic and commercial aspect of society.

2.2) Extent of involvement of farmer and farm women in different agricultural and allied activities

Chavannavar (1990) observed that farm women had very poor involvement in plant protection measures except bringing water to the sites for spraying.

Pradhan (1990) stated that Indian women contributed to agriculture mainly as nursery growers, vegetable venders and transplanting seedlings.

Jain et al.,(1992) in Hissar , the involvement of women was significantly greater ($P<0.05$) than that of men in all operations except chaffing of fodder, irrespective of socio-economic status, men and women respectively devoting an average of 1.2 and 5.5 hours/day to animal husbandry activities.

Tulachan and Batsa(1994)noted that in Nepal women are the key players in household livestock production management, contributing more than 80% of the total labour. They are far more knowledgeable than men regarding the local fodder trees and grasses, as well as local practices of treating sick animals.

(1995) reported Vijayalakshmi that majority of the women participated to greater extent in operations like sowing, weeding, harvesting, drying and labour supervision. None of the farm women participated in ploughing, irrigation management and curing operation.

Thippaiah (1995) observed that women workers in urban unorganized sector were engaged in papad making, masala making,

ebrodery work, zari work, waste paper collection, retail trading and so on.

Sheela et al (1995) corroborated that farm woen involvement was found to be at a lesser degree in four activities viz. purchase of animals, taking care of calves, taking animals for grazing and care of sick animals which were predominantly men oriented activities by nature.

Sethini (1995) revealed that on the whole more than 95 percent of the work related to animal care was performed by feminine gender.

Majhi and Patra (1996) opined that women cultivators had more involvement in arrangement of inputs, supervision and labour management, winnowing, feeding animals and processing of milk products.

Timsina et al. (1996) showed that women participated equally or sometimes even more than men in different rice farming and livestock production activities. Women were exclusively involved in fuel wood and fodder collection from the nearby forest.

Senthamarai (1996) observed that farm women had high level of participation in harvesting than other operations. They had medium level of participation in weeding, hoeing and transplanting, average level of participation is found in preparation of nursery controlling pest attack fertilizer application and spraying insecticide. The farm women had low level of participation in seeds sowing and supervision.

Mishra and Sasmal (1997) revealed that rural female perform about 53 percent of works alone, while 20 percent of works done by

men and rest 27 percent jointly performed. Rural female shared major part of drudgery.

Sinha and Singh (2000) observed that the involvement of farm women was found independently or jointly in all major operations except ploughing, puddling and seed sowing which may be attributed to social norms and hard physical task.

Neeladevei, Rambaby, Rao (2002) revealed that most of the farm women respondents were middle aged and were involved in agribusiness management due to their heavier responsibilities, about 40% are illiterate due to financial problems and non-availability of institutional facilities. Half of the respondents had medium level consumption. About 65 percent of the respondents had medium extension contact and 14.16% had low extension contact. Similarly, about 35% bear some degree of leadership behaviour.

Behera, Mohanty and Mohapatra (2005) revealed that women involved in farming were less educated, low social participation and poor extension contact. They had more contact with cultural organizations, panchayat and SHG by poor contact with cooperatives and educational institutions.

Behera, Mohanty and Mohapatra (2005) revealed that the contact of farm women with extension system mostly occasional and majority of the farm women occasionally involved in the cultivation of field crops, vegetables, oilseeds, pulses, and cash crop. However, 49.02% of the respondents were fully involved in farm activities.

2.3) decision making behavior of farmers and farm women in different agricultural and allied activities

Kulkarni (1983) observed that majority of farm women (71%) were not involved in independent decision making on any of the agricultural operations.

Panda (1986) Found that tribal women were involved in decision making only with respect to buying food materials for the family and selling vegetables in the market. They had no role on important decisions of the family and society.

Seema (1986) observed that farm women took independent decisions on storage and marketing of produce. Joint decisions were taken on purchase and sale of land, care and management of animals as well as children's education.

Saraswati (1987) stated that decisions regarding crops, lease, sale and purchase of land were taken jointly. In the few women headed families, farm women took decisions in other matters. Decisions regarding home consumption or selling of livestock produce were also made by women.

Makkena (1987) observed that farm women played a dominant role in decision making regarding transplanting, time of weeding, amount to be spent on hiring labour, harvest and storage. No decision making behaviour was observed in soil testing, land preparation, use of farm machinery, adoption of plant protection measures and sale of surplus produce. Wives of contact farmers were more desirous to take part in decision making and they did so actually. Leadership status of

farm women was positively correlated where as caste adversely related to participation in decision making.

Rangnekare *al,* (1992) reported that participation of farm women in decision making relation to farm operation was very low whereas in economic aspects like farm, surplus, savings, repayment of loans, participation is fairly good. Generally, decisions regarding the produce (milk) are with women and purchase or sale of animals is decided by men. Tribal women have more say in decision making, amongst poor families most decisions are joint, while women from families with commercial dairy operations have no involvement.

Chaudhari and Ganorkar (1992) revealed that farm women played active role in decision making particularly in the areas of crops to be sown (41%), selecting the varieties (31%), stubble collection (84%), application of manures (46%) cleaning field boundaries (41%), harvesting (62%) and cleaning (61%). The study also further revealed that decision making behaviour of farm women on animal production was limited to collecting fodder (53%).

Aspinall *et al* (1994) The results of group interviews of 200 women in 19 villages showed that men are the Agricultural decision makers, except in a few villages where men have off-farm employment.

Mohanty (1995) reported that as far as the purchase of farm equipment and animals are concerned; a majority of decision was taken either by husband or alone (37.5%) or by the husband and wife jointly (36.75%).

Patil *et al.* (1995) reported that the majority (71%) of the rural women alone made the decision on storage of grains for home consumption and other purposes. On the other hand, decisions on animal husbandry activities, expenditure pattern, education and marriage of children were made jointly by rural women and their husbands in a majority of cases. It was also observed that decision on cropping pattern and marketing of produce was made by the husband alone in the majority cases.

Rowlands (1996) In Kenya women are also more actively involved in decision-making concerning the marketing of milk where males are absent from home for wage labour several factors are held responsible to create problems among rural women in entrepreneurship. The kind of socialization (male dominance) they perceive from their childhood restrict then from acquiring some traits such as self confidence, need for achievement, inclination to take risk, independent outlook which are essential for entrepreneurship.

Mohanty and Samantray (1997) observed that decisions related to food, its procurement and cooking were generally taken by house wives. Decisions related to clothing were taken jointly. A majority of health related decisions were either taken by husband alone or jointly.

Majhi and Patra (1996) stated that majority of women cultivator took decisions in areas like land preparation (71.57%), application of manures (59.95%), time of harvest (59.52%) weeding (89.95%), kitchen gardening, storage of seeds and grains (64.28%)

Parichha and Das (1997) revealed that farm women were not consulted for final decisions in the areas of labour payment, employment of labour, plant protection, inter cultural operations, application of fertilizer and selection of variety. Their role was visible in final decision making in areas of transplanting, weeding, seed sowing, irrigation, and selection of crop and land preparation. Only 4.35% of the respondents took independent decision in transplanting and 13.05% in weeding. But farm women took independent decision regarding storage and preservation of seeds as well as food grains.

Gopalppa (1997) reported that female member of the family took decision in celebration of religious festivals, buying clothes and type of food to prepare etc.

Hossain and Mishra (2002) reveled that the farm women respondents took decision on kitchen gardening (100%), family budgeting (99.3%), goat rearing (94%), cattle management (80.7%) , selection of crops and varieties (78.70%) raising of fruits and vegetables (71.3%) and poultry keeping (64.7%).

Kumar *et al*. (2003) revealed that nature of family, occupation, mass media exposure and economic motivation have a positive relationship with decision making by rural women.

NRCWA (2003-2004) observed that individual role of women in decision making on various crop production issues was found to be very low and almost negligible. Men dominated the decision making on various components of crop production. However, the decision on weeding / inter cultural operations were taken both by men and women

jointly with mutual discussion. Decision on domestic issues was done solely by women. But they had major role in decision making in dairy issues.

Goswami *et al.* (2004) revealed that role of women was important in areas like purchase and sale of land, selection of crop activities and varieties, manures and fertilizes, time of inter culture, time of harvesting, animal care, quantity required for family consumption and storage of farm produce. Women were also consulted by their counterparts in deciding the leasing in and leasing out of land, purchase and sale of farm machinery, allocation of area under different activities, selection of manures and fertilizer to be used, time of transplanting, time of inter culture and marketing of live stock produce. It was noticed that the role of women in decision making was not prominent in areas like construction of farm buildings, use of plant protection measures, deciding means of irrigation and grading of farm produce for marketing.

2.4) Time utilization pattern of farmers and farm women in performing various agricultural and allied activities.

Saxena (1983) observed that participation in farm activities was more or less same for tribal as well as non-tribal farm women i.e., about 8.25 hours per day.

Ingle *et al.* (1990) reported that tribal women were involved on an average 5.31 hours per day in agricultural activities

Jain et al.,(1992) in Hissar , the involvement of women was significantly greater ($P<0.05$) than that of men in all operations except chaffing of fodder, irrespective of socio-economic status, men and women respectively devoting an average of 1.2 and 5.5 hours/day to animal husbandry activities.

Patil *et al.*(1994) During the peak period of agricultural activities in Gujarat, average daily time spent by rural women in agricultural activities was 6.97 hours; 2.51 hours were spent in each of both household and animal husbandry activities.

Vairavi et al (1994) observed that rural women spent in all about 12.2 hours per day in home, dairy and farm related activities. In peak season, average time spent by them increased to about 14 hours per day. There was an inverse relationship between the time spent on farm activities and land holding. However, the relationship between time spent in home activities and size of land holding was positive and linear. Women were belonging to marginal and small farm holding devoted more time on farm activities due to economic factor.

Ram Ajit (1994) reported that women were found to work for 12-16 hours per day in agriculture, animal husbandry, fetching fuel and fodder and in household activities. In the case of men they were found to work for 10-12 hours per day in agriculture, animal husbandry and in sericulture.

Tripathi (2001) revealed that less use of institutionalized sources of information by rural women may be due to their inability to spare working s

Sarada and Rao (2001) revealed that a tribal woman works on an average 13.58 hrs/day. They spent much time in collection of fuel wood, care of cattle and mud plastering etc.

CHAPTER III

THEORITICAL FRAMEWORK

Collection of related terms, words, definitions and meanings collected for facilitating future research work. These are "conceptual clarities" selected and assembled. An attempt was made to cummulate various related terms and concepts from the secondary data source. This is an attempt to collect and fit various related terms, key words in one place to facilitate the readers about the related thrust areas of the research problem.

THEORITICAL FRAMEWORK

Both women and men play critical roles in agriculture throughout the world, producing, processing and providing the food to eat. Rural women in particular are mostly responsible for the world's food production and directly or indirectly contributing to production of food in most developing countries. Yet, despite their contribution to global food security, women farmers are frequently underestimated and overlooked in developing strategies.

Rural women are the main producers of the world's staple crops- rice, wheat, and maize- which provide up to a major portion of rural poor's intake. Women sow, weed, apply fertilizer and pesticides, harvest and thresh the crops. In the livestock sector, women feed and milk animals, while raising poultry and small animals such as sheep, goat, etc. Also, once the harvest is in, rural women provide most of the labour for post-harvest activities, taking responsibility for storage, handing processing and marketing.

Despite the fact that women are the world's principle food producers and providers, they remain 'invisible' partners in development. Lack of available gender disaggregated data means that women's contribution to agriculture in particular is poorly understood and their specific needs ignored in development planning. This extends to matters as basic as the design of farm tools. But women's full potential in agriculture must be realized if the goal of the 1996 world summit – to halve the number of hungry people in the world by 2015 – is to be achieved.

Gender

Gender refers to the social classification of men and women into masculine and feminine. Gender is a concept that deals with the role and relationship between men and women which are determined by the social, political and economic context and not by biology. Gender is socially constructed and changeable while biological sex are fairly straight forward and formed in the womb at the moment of conception. Those of gender are a more subtle yet permanent process of development evolving through childhood and maturing with adulthood.

Gender issues in Agriculture

Both women and men play critical roles in agriculture throughout the world, producing processing, and providing the food we eat. Rural women in particular are responsible for half of the world's food production and produce between 60 to 80 percent of the food in most developing countries. Yet, despite their contribution to global food security women farmers are frequently underestimated and overlooked in development strategies.

Rural women are the main producers of the world's staple crops- rice, wheat, maize which provide up to 120 percent of the rural Poor's food intake. Women sow, weed, apply fertilizer and pesticides, harvest and thresh the crops. In the livestock sector, women feed and milk animals, while raising poultry and small animals such as sheep, goat, etc. Also, once the harvest is in, rural women provide most of the labour for post-harvest activities, taking responsibility for storage, handling, processing and marketing.

Despite the fact that women are the world's principal food producers and providers, they remain "invisible" partners in development. Lack of available gender disaggregates data means that women's contribution to agriculture in particular is poorly understood and their specific needs ignored in development planning. This extends to matters as basic as the design of farm tools. But women's full potential in agriculture must be realized if the goal of the 1996 world food summit – to halve the number of the hungry people in the world by 2015 - is to be achieved.

Gender mainstreaming:

Gender Mainstreaming is a process rather than a goal. Efforts to integrate gender into existing institutions of the mainstream have little value for their own sake. We mainstream gender concerns to achieve gender equality and improve the relevance of development agendas. Such an approach shows that the cost of women's marginalization and gender inequalities are borne by all.

Gender mainstreaming is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality".

Gender and Agricultural Development:

Agriculture involves both self- employment and wage employment and accordingly requires precise information about who does what? In fact the land holding of 75% of farming community being small the number of landless labourers has swelled up over time by working on other's farm. The situation thus demands an understanding of activity performance of men and women, and the children – girls and boys, whose lives are fundamentally structured in different ways. Their living pattern, work pattern, interaction style and sharing of scientific information differ within socio-economic groups. Similarly, a gender-based division of labour is universal but culture and community diversities cause differentiation.

Gender therefore, has to be recognized as the social characteristic that cuts across caste, class, occupation, age and ethnicity. It is gender that differentiates the roles responsibilities, resources, constraints and opportunities of women and men in agriculture for which precise gender information is the need of the day.

Feminization of Agriculture:

In India Agriculture is the single largest production endeavor that supports 60% of the work force. Over the years the contribution of agriculture to GDP has gradually decreased fro 50% in 1950s to 25% at present. At the same time the roll of females is increased in this activity and this phenomenon is termed as "feminization of agriculture". Statistical data reveal that 75% of all female workers are in agriculture while 85% of all rural female workers are in agriculture. The agriculture

sector employs a large percent of economical active women and men. It is estimated that dairying there are 75 million women as against 15 billion men. Between 1977 and 2001, the female to all agriculture labour percentage has gone up. Similarly, the female to male cultivator percentage rose from 14% to 32%.

The significantly high and growing population of female headed households has also highlighted women's contribution to agriculture. Almost all activity women in rural India can be considered as `framers`, in some sense- working as agriculture labourer , unpaid workers in the family farm enterprise, or combination of the two. Moreover several farm activities traditionally carried out by men are also being undertaken by women as men are pulled away into higher paying employment. Thus rural India is witnessing a process which could be described as "feminization of agriculture".

In many parts of the world today there is an increasing trend towards what has been termed the "Feminization of agriculture". As men's participation in agricultures declines, the role of women in agricultural production becomes ever more dominant. War, sickness, and death fro HIV/AIDS have reduced rural population especially rural male population. Another major cause of this phenomenon is the migration of men from rural areas to towns and cities, in their own countries or abroad, in search of paid employment.

This trend has resulted in an increase in the population of households headed by women. Approximately one-third of all rural households in sub- Saharan Africa are now headed by women and in

India the percentage of Women headed Households account for 10.4 percent. Studies have been shown that women heads of households tend to be younger and less educated than their male counterparts. They also generally have less land to work and even less capital and extra farm labour to work it with.

With a shortage of labour and capital, women heads of household are often forced to make adjustment to cropping patterns and farming systems. These adjustments have resulted in decreases in production and .in some cases, shifts towards less nutritious crops. Not surprisingly, these households often suffer from increased malnutrition and food insecurity.

Gender and Agriculture

Women have always played an important role in agriculture, undertaking a wide range of activities relating to food production, processing and marketing. Beyond the farm, women play a key role in land and water management in all developing countries. Women are most often the collectors of water, fire wood and fodder. They have access to a store of local knowledge on the medicinal use of plants; they have been in the forefront of soil conservation programmes; and it is women who perform most of the household labour devoted to animals. As migration to the cities of the developing world gathers speed, women carry with them these rural skills and are responsible for the growth of urban and peri-urban agriculture, which is now recognized as being vital to food securities in cities.

Development of women

Women development has found a prominent place in the agenda of the development activities of the State Government considering low female literacy, the declining proportion of the females in the total population and the important role of women in the workforce of the state economy. Over the years there has been a significant shift in the approach of the State Government towards the development of women from the welfare orientation of the fifties to empowerment since the nineties. With gradual spread of education and empowerment, the position of women has begun to change. But still the status of women in the State continues to remain relatively backward as compared to men. It has become the policy of government to bring them into the mainstream.

Gender Equality & Diversity

Goals related to gender equality and diversity policy are an integral part of any developing society. These goals include, in particular, ensuring that women and men have equal rights to participate in academic life, fostering internationally visible gender and diversity studies and integrating those disciplines into teaching activities at the university, and striving to establish family-friendly overall conditions for employees, faculty members, and students.Some major reccommendations are-

- to foster an organizational culture distinguished by gender awareness and gender competence,
- to implement a personnel policy that aims to achieve equality,

- to implement equality indicators within management instruments and processes,
- to systematically collect and analyze equality-related data,
- to develop, implement, and evaluate programs and measures aimed at gaps and areas with potential for improvement that are identified during the analysis process,to use resources (human and material) to support women and promote gender and diversity studies.

Gender concepts

Sex

Identifies the biological differences between men and women, such as women can give birth and men provide sperm. Sex roles are universal.

Gender bias

The tendency to make decisions or take actions based on gender.

Gender mainstreaming

Gender mainstreaming is the process of ensuring that women and men have equal access and controls over resources, development benefits and decision making, at all stages of the development process and projects, programmes and policy.

Gender blind

Gender blindness is the failure to recognize that gender is an essential determinant of social outcomes on projects and policies.

Gender Awareness

Gender awareness is an understanding that there are socially determined differences between women and men based on learned behavior, which are affecting their ability to access and control resources. This awareness needs to be applied through gender analysis into projects, programmes and policies.

Gender- sensitivity

Gender sensitivity encompasses the ability to acknowledge and highlight existing gender differences, issues and inequalities and incorporates these into strategies and actions.

Gender Discrimination

Prejudicial treatment of an individual based on gender stereotype (often referred to as sexism or sexual discrimination).

Gender equality

Gender equality is the result of the absence of discrimination on the basis of a person's sex in opportunities and the allocation of resources or benefits or in access to services.

Gender equity

Gender equity entails the provision of fairness and justice in the distribution of benefits and responsibilities between women and men. The concept recognizes that women and men have different needs and power and that these differences should be identified and addressed in a manner that rectifies the imbalances between the sexes.

Condition in which women and men participate as equals, have equal access to resources, and equal opportunities to exercise control.

Gender issues

Gender issues are specific consequences of the inequality of women and men.

Gender relation

Ways in which a culture or society defines rights, responsibilities, and identities of men and women in relation to one another.

Gender sensitive

Gender sensitive is being aware of the differences between women's and men's needs, roles, responsibilities, and constraints.

Condition

Condition is the immediate, material circumstances in which women and men live. Position is women's place in society in relation to men's. Position involves power, status, and control over decisions and resources.

Empowerment

Empowerment is the process of generating and building capacities to exercise control over one's life.

Gender division of labour

The roles, responsibilities, and activities assigned to women and men based on gender.

Gender Analysis

It provides disaggregated data by sex, and an understanding of social construction of gender roles, how labour is divided and valued. Gender Analysis is the process of analyzing information in order to

ensure development benefits and resources are effectively and equitably targeted to both women and men, and to successfully anticipate and avoid any negative impacts development may have on women or on gender relations. Gender analysis is conducted through a variety of tools and frameworks, including those listed below.

Sex disaggregated data

For a gender analysis, all data should be separated by sex in order to allow differential impacts on men and women to be measured.

Gender planning

Gender planning refers to the process of planning developmental programmes and projects that are gender sensitive and which take into account the impact of differing gender roles and gender needs of women and men in the target community sector. It involves the selection of appropriate approaches to address not only women and men's partial needs, but which also identifies entry points for challenging unequal relation and to enhance the gender-responsiveness of policy dialogue.

Gender roles

Gender roles are learned behavior in a given society/community, or other special group, that condition which activities, tasks and responsibilities are perceived as male and female. Gender roles are affected by age, class, race ethnicity, and religion and by the geographical, economic and political environment. Changes in gender roles often occur in response to changing economic natural or political circumstances, including development efforts.

Both men and women play multiple roles in society. The gender roles of women can be identified as reproductive, productive and community managing roles, while men's are categorized as either productive or community politics. Men are able to focus on a particular productive role, and play their multiple roles sequentially. Women, in contrast to men, must play their roles simultaneously, and balance competing claims on time for each of them.

- **Productive role**

Refer to the activities carried out by men and women in order to produce goods and services either for sale, exchange, or to meet the subsistence needs of the family.

- **Reproductive roles**

Refer to activities needed to ensure the reproduction of society's labour force. This includes child bearing, rearing, and care for family members such as children, elderly and workers. These tasks are done mostly by women.

- **Community managing role**

Activities undertaken primarily by women at the community level as an extension of their reproductive role, to ensure the provision and maintenance of scarce resources of collective consumption such as water, health care and education. This is voluntary unpaid work undertaken in 'free' time.

- **Community politics role**

Activities those are undertaken primarily by men at the community level, organizing at the formal political level, often within

the framework of national politics. This work is usually undertaken by men and may be paid directly or result in increased power and status.

Triple role

These terms refer to the fact that women tend to work longer and more fragmented days than men as they are usually involved in three different gender roles – reproductive, productive and community work.

Gender needs

Leading on from the fact that women and men have differing roles based on their gender, they will also have differing gender needs. These needs can be classified as their strategic or practical needs.

- **Practical gender needs**

Practical gender needs are the needs women identify in their socially accepted roles in society. Practical gender needs do not challenge, although they arise out of, gender divisions of labour and women's subordinate position in the society. Practical gender needs are a response to immediate and perceived necessity, identified within a specific context. They are practical in nature and often concern inadequacies in living conditions such as water provision, health care and employment.

- **Strategic gender needs**

Strategic gender needs are the needs women identify because of their subordinate position in society. They vary according to particular contexts, related to gender division of labour, power and

control and may include issues such as legal rights, domestic violence, equal wages and women's control over their bodies. Meeting strategic needs assists women to achieve greater equality and change existing roles, thereby challenging women's subordinate position. They are more long term and less visible than practical gender need.

Gender analysis

Gender analysis is the first and most critical step forward towards gender-responsive planning and programming. It involves the collection and analysis of sex-disaggregated information. It examines the differences, commonalities and interactions between men and women. Gender analysis examines women's and men's specific activities, condition, needs, access to and control over resources, and access to development benefits and decision making.

Because men and women both perform different roles, they may have different experiences, knowledge, talents and needs. Gender analysis explores these differences so policies, programs and projects can identify and meet the different needs of men and women.

CHAPTER IV

SETTING

Analyzing the sample area, its various parameters and putting the "glimpses" of the study locale is the aim of its existence in this manuscript. Setting chapter delineates the information on the study location, its different inventory and vital statistics. Attempt was made by the researcher to collect and gather various information on the sample area from various secondary sources. This serves as a key reference material for further research in that locale.

SETTING

The state of Orissa lies in between $17^0$31' to $22^0$27' north latitude and $81^0$27' to $87^0$30' east longitude. It is bounded by West Bengal in the north east, Jharkhand in the north, Chhatisgarh in the west, Andhra Pradesh in he south and Bay of Bengal in the east. The distinctive features of the state are as follows: -

Table 4.1. Orissa at a glance (2001 Census)

Sl. No	Parameters	Unit	Magnitude
1	Geographical situation		Between 17^0 31' to 22^0 27' north latitude and 81^0 27' to 87^0 30' east longitude
2	Geographical area	Km^2.	4,55,707
3	Population	Number	3,6804660
4	Male Population	Number	1,86,60,570 (50.70%)
5	Female Population	Number	1,81,44,090 (49.30%)
6	Density of Population	Persons / Km^2	236
7	Literacy rate	Percentage	63.61
8	Male literacy rate	Percentage	75.95
9	Female Literacy rate	Percentage	50.97
10	Sex ratio	Females per 1000 Males	972

Source: Economic survey 2009-10, Govt. of Odisha.

Physiographic of the state

Orissa is an extensive plateau with slopes gently into coastal plain along the Bay of Bengal. The river Mahanadi is flowing west to east through the plateau divides the state into Chhotnagpur plateau and the southern part is a part of eastern ghat region. The state has been divided into ten agro-climatic zones.

Climate & Environment situation.

The state lies in the sub – tropical belt. The chief characteristic of the climate is high temperature and high rainfall. The defined seasons in the state are hot dry summer March to May, Monsoon – June to October and winter – November to February.

Rainfall

The average annual rainfall of the state is 1500mm with an average of 73 rainy days, out of which around 1386mm rain received during monsoon season i.e. June to October with average 14-18 rainy days per month. Drought, cyclone and flood are the usual calamities of the state. The climatic condition of the state is appeared in Table 3.2:

Table 4.2: Climatic condition of the state

Sl. No	Month	Av. Rainfall (mm)	No. of rainy days	Mean Temp^0 C		Relative humidity (%)
				Max	Min	
1	January	14.0	1.0	25.4	12.3	62.0
2	February	25.9	1.7	29.5	15.3	65.1
3	March	21.4	1.6	36.6	19.5	70.5
4	April	35.3	2.8	38.9	24.4	72.6
5	May	70.8	4.4	39.3	25.9	71.2
6	June	213.2	10.1	34.2	22.9	75.2
7	July	351.6	15..6	31.1	22.2	82.6
8	August	335.6	15.5	30.2	21.5	85.2
9	September	236.5	12.0	31.2	23.2	76.1
10	October	131.6	5.6	31.2	20.3	68.9
11	November	39.9	1.5	30.2	18.2	67.1
12	December	6.4	0.4	27.1	11.4	62.1
	ORISSA	1482.2	72.2	34.8	17.1	77.3

The climatic condition of the study area is further analyzed and presented in table 4.3:

Table 4.3: Climatic condition of the study area

Sl. No	Climatic Parameters	Rayagada	Orissa
1	Average rainfall (mm)	165	1482.2
2	No. of rainy days	72	72.2
3	Max. Temperature (^{0}C)	36.5	34.8
4	Min. Temperature (^{0}C)	15.2	17.1
5	Relative humidity (%)	60.8	77.3

As observed from the Table 4.3, district Rayagada has less rainfall and number of rainy days, high maximum and low minimum temperature as compared to state average.

Land Utilization pattern

The land utilization pattern of the study area is analyzed and presented in table 4.4:

Table. 4.4: Land utilization pattern in '000 hectares.

Sl. No	Utilization Pattern	Rayagada	Orissa
1	Geographical area	7584.7	15571.0
2	Forest area	281	5813.0(37.33)
3	Misc. tress to grooves	197	342.0(2.20)
4	Permanent pasture	987	494.0(3.17)
5	Cultivable waste	12	375.0(2.41)
6	Land put to non-agril. use	3241	1298.0(8.34)
7	Barren & unculturable land	564	840.0(5.39)
8	Current Fallow	31	526.0(3.38)
9	Other Fallow	14	229.0(1.47)
10	Net sown area	172	5654.0(36.31)

(Figures in Parenthesis indicate percentage)

Irrigation:

Water is the essential commodity for raising crops. The irrigation facilities available in study area are appeared in Table. 4.5.

Table 4.5: Availability of irrigation (000' ha.)

Sl. No	Source	Rayagada	Orissa
1	Major & Medium	10.80	1813.734(32.08)
2	Minor flow	25.37	590.37(10.44)
3	Lift Irrigation	20.07	655.468(11.59)
4	Other Sources	40.22	980.45(17.34)
5	Total	96.46	4040.022(71.022)

(Figures in parenthesis indicate percentage to the net sown area)

Source: Orissa Agricultural statistics, 2009-10.

Description about study area:

Rayagada is one of the backward divided KBK districts carved out from erstwhile Koraput district. It is endowed with rich natural and human resources. Despite having natural and human resources and concerted efforts made during the last six decades, Rayagada district continues to reel under backwardness. This district being tribally dominated and in the domain of hilly terrain is located between 19 degree to 19.58 degree North latitude and 82.54 degree to 82.20 East longitudes. It is surrounded by Gajapati district in the East, Koraput in the West and a part of Kalahandi district in the South up to Parvatipuram, sub-division of Andhra Pradesh and the North up to Kalahandi and Kandhamal Districts of Orissa.

As per 2001 Census, the population of Rayagada district was 8, 31,109 which accounts for 2.26 percent of Orissa. The total population of males constituted 4, 09,792 (49.31 percent) which lags behind female population to the tune of 1.38 percent registering 4, 21,317 (50.69) percent. The schedule caste and schedule tribe population of the district witnessed 1, 15,665 and 4, 63,418

respectively. In other words, SC and ST Population was 14.28 percent and 56.04 percent as against 23 percent and 16 percent in Orissa as a whole creating a yawning gap of 8.72 percent less and 40.04 percent more respectively. It elicits high concentration of tribal population with males2, 24,908 (48.53) lagging behind females 2, 38,510 (51.47) by 2.94%. As regards SC population too females (58,400) exceed the males (57,265) around 1 percent. However, the rural population constitutes 86.15 % as against 13.85% in urban areas. Rayagada is one of the most backward district in literacy witnessing 36.15 percent as per 2001 census as against 63.08 percent for the state leaving a gap of 26.93 percent. Further the female literacy is half of the male literacy, at the total 1.9 lakh families constitutes the category of BPL families.

Rayagada district consists of 2 Sub divisions, 4 Tahasils, 11 CD Blocks, 171 G.Ps and 2667 Revenue villages with 335 Hamlets, 1 Municipality and two Notified Area Councils. All the 11 blocks of the district is covered under tribal sub-plan blocks. Agriculture is the backbone of the district and as per 2001 census, the district has 1,16,000 cultivators, 1,84,000 Agricultural labour, 1,49,000 marginal workers, 2,50,000 main workers, the total workers being 3,99,000.

The percentage of population below poverty line (BPL) in 2004-05 for Orissa was 46.4 as against 27.5 for India leaving a wide gap of 18.9.But for Rayagada district percentage was 72.03% which is exorbitantly higher than the State and National level exerting acute backwardness of the district.

SOCIO-ECONOMIC PROFILE

Social life is the indicator of economic status of a community. Though the district has rich socio cultural background but the economic status is not sound. Poverty stands as a barrier in the path of progress. Due to illiteracy of people most of the Govt. Non Govt. policies cannot reach the grass root level. Most of the people adopt hand-to mouth policy. Traditional alcoholic practices of tribal, which also gets transmitted to other people's ruins the whole economy of the district. As a tribal dominated district its cultural heritage is obviously glamorous. Primitive tribal communities like Soura. Kandha, Sabara, Desia are abundant in the district. They do not adopt family planning policy due to illiteracy and ignorance. As a result parents having number of children at year's interval cannot afford to send their wards to schools and engaged them in sibling care or in works for supplementing family income.

LANGUAGE

Language is the mirror of socio-cultural status, means of communication and symbol of progress. Language is a great vehicle not only in exchange of thought but also in cementing close bonds of friendship and affinity factors essential for social mobilization. Linguistic barrier plays a vital role in UEE in our district. Verities of languages are being used by the people of this district. Though Oriya is the principal language, it is far away from the standard Oriya language. It is contaminated by Telgu, Kuvi, Soura , Desia and some other languages.

RELIGION

Most of the inhabitants of this district belong to Hindu religion. Besides due to migration, people of some other religions such as Christian, Islam, and Sikh etc. are seen in this district.

OCCUPATIONAL PATTERN

The occupation of inhabitants of this district is mostly agriculture. But due to scarcity of plain and fertile land substantial agro products are not yielded in this district. Barring a few the people of labour class are also engaged in other occupations such as factory Labourers, Labourers in construction works, collection of forest materials, grazing of cattle's etc. Very few people are engaged in business or in employment. Only a few are engaged in petty trades and business. There are two major industries running in this district, which play an important role in mitigating the employment problem of the district to some extent.

TRIBAL:

The physiography of Rayagada gives a prefect platform for the tribal in sustaining their ethno-cultural identity in the district. Forest area covers an area of 4785.36 Sq.K.M. out of which 777.27 Sq.K.M. is reserved forest. The district has been the homeland of various tribal communities with their sub-tribes, who are found in different level of development depending upon their assimilation with the so-called mainstream or modern communities. The kondhas and its subsection constitute the major percentage of tribal population in the district and the Souras stand second. There are also many other tribal

communities who are, however, negligible in number but definitely contribute to the exotic intermingling culture of the district.

Table 4.6: Demographic features of the study area:

Sl. No.	Features	Rayagada	Orissa
1	Total Population (no.)	823000	36804660
2	Rural Population (%)	415303	85.01
3	Urban Population (%)	85806	14.99
4	Scheduled Caste (%)	14.28	16.53
5	Schedule Tribe (%)	56.04	22.13
6	Sex ratio (%)	1029	972
7	Density of Population (Persons/Sq. Km)	116	236

Administrative Set up

Rayagada district is situated in the southern part of the state Administrative set up of the districts is reflected in table 4.7.

Table :4.7. Administrative set up of the study area.

Sl. No.	Set - up	Rayagada	Orissa
1	Sub-divisions	2	58
2	Tahasils	4	171
3	C.D. Blocks	11	314
4	Gram Panchayats	171	6234
5	Villages	2667	51349
6	Literacy rate (%)	24.05	63.08
7	S.T. Literacy rate(%)	21.30	37.37
8	S.C Literacy rate (%)	35.89	55.53
9	Male literary rate(%)	68.70	75.35
10	Female literary rate(%)	31.30	50.51

Agricultural Scenario

Agriculture and allied sectors continued to be the main stay of the economy of Orissa. The state Government pronounced its Agricultural policy, in 1996 and refinement in 2008 with the objective of doubling the production. The policy also aimed at brining all round agricultural development and encouraging entrepreneurship as well as

private sector investment. The land distribution of the families is indicated in Table 4.8:

Table: 4.8: Land distribution Pattern.

Sl. No	Category	Rayagada	Orissa
1	Total farm families	140000	3966489
2	Total cultivators	118395	3435170
3	Marginal farmers	52155	2145245
4	Small farmers	27413	1106337
5	Semi medium farmers	14692	543791
6	Medium farmers	5423	155921
7	Large farmers	713	15195

(Source – Orissa Agricultural Statistic, 2009-10)

Further analysis is made here to assess the different categories of workers which have been presented in Table 4.9.

Table 4.9: Distribution of workers.

Sl. No	Worker Category	Rayagada	Orissa
1	Total workers	380710	14276488
2	Cultivators	118395	4247661
3	Agril. labourers	121147	4999104
4	Household industry workers	16406	701564
5	Other workers	38574	4328160

Crops grown:

Rice is the major crop in the state. Other crops like other cereals, pulses, oilseeds, vegetables, horticultural crops are also grown. The area under different crops grown in the sample districts are analyzed and presented in Table 4.10:

Table 4.10: Area under different crops (000'ha)

Sl. No	Crop	Rayagada	Orissa
1	Rice	147.170	4450.32
2	Other cereals	45.876	438.15
3	Pulses	34.10	1951.39
4	Oilseeds	27.50	834.54
5	Vegetables	9.2	655.46
6	Spices	2.75	146.03
7	Fibre corps	15.68	102.96
8	Sugarcane	0.212	40.51
9	Fruits	10.23	336.86
10	Gross cropped area	229	8960.35
11	Cropping intensity (%)	133	158

Source: Orissa Agricultural statistics 2009-10

Fertilizer consumption

The fertilizer consumption rate with regard to nitrogen, phosphorus and potash in both kharif and rabi season is also analyzed. The collected information is pooled together and consumption of total fertilizer calculated and presented in Table 4.11.

Table: 4.11: Consumption of fertilizer per hectare. (Kg)

Sl. No	Season	Rayagada	Orissa
1	Kharif	21.0	46.0
2	Rabi	23.5	49.0
3	Total	22.0	47.0

Source: District Agricultural statistics 2009-10

Women in workforce

Women as cultivators, agricultural labourers, artisans or housewives constitute a sizable section of the rural workforces. A situational analysis on the states of rural women indicates that they occupy a low position in all fronts in society and therefore effecting improvement in their status is imminent. But the main issue which is

still being debated is the kind of strategy to be evolved for their empowerment.

Rural women in many development countries are among those with no or very insecure rights to land. Increasing numbers of women in rural areas bear primary responsibility for agricultural production. Various research studies underline their importance to secure access to land, with its relationship to growth in agricultural productivity, family welfare and ultimately empowerment.

The socio-economic state of women is characterized by low female literacy, distressing health, and nutritional deficiencies and the declining proportion in the total population. Nearly 78% of economically active women are engaged in agricultural activities. Almost 70% of total farm works are performed by women only. They are less empowered in farm sector due to feminization of poverty, low perception of legitimacy, meager exposure, patriarchal family system as well as neglected member in the family. They need both social and economic empowerment not only to increase the status of their own family but the state of country as a whole.

It is now being emphasized at government as well as non-government sector for the empowerment of farm women. Equal status has been clearly spelled out at the institutional level. Orissa is one of the potential states, where empowerment to women is essentially needed for the prosperity of the state. Therefore, the present study is undertaken to suggest some strategy towards empowerment of farm women.

TABLE 4.12 BLOCK WISE AREA AND DEMOGRAPHIC PATTERN OF DISTRICT

Sl.No	Block	Area in Sqkm	Total population	S.C. Population	S.T. Population	Literacy rate (%)
1	**Rayagada**	**549.9**	**170089**	**17591**	**79070**	**40.39**
2	Kolnara	356.63	66670	5901	46612	28.43
3	Kalayanisinghpur	420.63	57195	8258	36417	22.71
4	Kasipur	481.86	121086	24216	47646	19.15
5	Gunupur	1246.01	87244	7898	50155	36.43
6	Padmapur	860.24	49594	4900	23535	36.41
7	Ramanaguda	849.59	45699	4538	29024	32.72
8	Gudari	756.77	42243	6083	26286	30.57
9	Bissam cuttack	622.05	82774	14083	50630	25.34
10	Muniguda	649.47	76166	19442	24848	24.73
11	Chandrapur	432.63	32349	2755	22465	19.96

SOURCE: DISTRICT STATISTICAL HAND BOOK-2010

TABLE 4.13 LITERACY RATE IN PERCENTAGE OF THE DISTRICT

	All classes		Scheduled caste		Scheduled tribe	
	Male	Female	Male	Female	Male	Female
Rural	36200	379103	51480	52355	219772	233080
Urban	43592	42214	5785	6045	5136	5430

SOURCE: DISTRICT STATISTICAL HAND BOOK-2010

TABLE 4.14 BLOCKWISE NUMBER OF VILLAGES AND HOUSEHOLDS

Sl no.	Block	No. of villages		Total	No. of households
		In -habited	Un -habited		
1	Rayagada	277	16	293	24913
2	Kolnara	192	7	199	15148
3	Kalayanisinghpur	237	17	254	13343
4	Kasipur	416	33	449	28844
5	Gunupur	123	4	127	14619
6	Padmapur	116	9	125	11846
7	Ramanaguda	112	7	119	11141
8	Gudari	150	9	159	8223
9	Bissam cuttack	280	27	307	19039
10	Muniguda	384	52	436	18259
11	Chandrapur	200	19	219	6861

SOURCE: DISTRICT STATISTICAL HAND BOOK.

TABLE 4.15 OPERATIONAL HOLDINGS

Sl no	Class	Total no.	Total area in Ha.	SC no.	Area in Ha.	ST no.	Area in Ha.
1	Marginal (<1 ha.)	52155	31136	6464	3664	39485	23863
2	Small (1-2 ha)	27413	39081	2042	2927	21146	30265
3	Semi medium (2-4 ha.)	14692	39435	1135	3098	10614	28541
4	Mediu (4-10 ha)	5423	30688	434	2450	3286	18598
5	Large (>10 ha.)	713	10386	50	653	371	5653
	Total	100325	190725	10125	12792	71902	106920

SOURCE: DISTRICT STATISTICAL HAND BOOK.

TABLE 4.16 BLOCKS COVERED UNDER DIFFERENT ECOLOGICAL SITUATION

Sl no.	Agro climatic zone	Agro ecological situation	Blocks covered	Area in 1000 Ha.	% of geographical area of the zone	Soil type
1	North Eastern Ghat	Red loam soil, moderate rainfall, high elevation (500-1000m) Rainfed. Red loam soil, low rain fall, moderate elevation (300-500) moderate irrigation.	Gudari, Muniguda, Chandrapur, Bissam cuttack, Kalayansinghpur, Ramanguda, Gunupur, Padmpur, Kashipur, Kolnara.	323.145 435.643	42.58 57.41	Red soil brown forest, soil mixed red and black, lateritic alluvial. Lateritic alluvial, brown forest soil mixed red and black, red soil.

SOURCE: DISTRICT STATISTICAL HAND BOOK.

TABLE 4.17 : Area, Production and Productivity of Fruit Crops in the District (Area in Hectare, Production in MT, Yield in quintal/Hectare)

Sl no.	Name of the fruit crops	Area	Production	Productivity in (MT)
1	Mango	8987	25297	2.81
2	Guava	917	6329	6.90
3	Citrus	1038	8410	8.10
4	Litchi	181	407	2.24
5	Sapota	93	450	4.83
6	Banana	1053	13875	13.17
7	Papaya	27	432	16.00
8	Pineapple	86	1020	11.86
9	Other fruits	1548	12571	8.12

(Source: District Agriculture Office: Rayagada)

TABLE 4.18 BLOCK WISE WORKFORCE OF THE DISTRICT

Sl no.	Block	Cultivators	Agriculture labours	Household industries	Other workers	Total	Marginal workers	Total
1	Rayagada	19574	15701	962	14434	50671	19662	70333
2	Kolnara	7695	6075	364	6117	20251	12101	32352
3	Kalayanisinghpur	7228	5706	342	5746	19022	9713	28735
4	Kasipur	13477	10639	638	10712	35466	26645	62111
5	Gunupur	11610	9666	599	8679	30554	12747	43301
6	Padmapur	4897	4325	281	3384	12887	11437	24324
7	Ramanaguda	6446	5089	305	5124	16964	7410	24376
8	Gudari	4547	3509	210	3432	11698	9053	20751
9	Bissam cuttack	8261	6522	414	6543	21740	18658	40398
10	Muniguda	8608	6796	407	6844	22655	13465	36120
11	Chandrapur	3040	2400	144	2417	8001	8384	16385
	Total	95383	76428	4666	73432	249909	149275	399814

TABLE 4.19 WEATHER PARAMETERS OF DISTRICT.

Parameters rainfall	Apa	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2002-03	33.0	65.2	124.9	136.9	320.7	90.8	105	7.8	0.0	21.0	0.0	11.6
2003-04	47.6	12.8	115.0	269.4	315.4	211	161.6	0.0	0.0	0.0	14.9	20.9
2004-05	99.3	36.6	242.2	341.7	285.8	97.1	170.6	2.3	0.0	12.4	4.9	9.6
2005-06	18.7	62.3	129.8	212.9	158.8	349	193.2	48.1	0.0	17.8	8.7	21.1
2006-07	52.7	87.8	195.3	259.5	273.7	199	109.7	32.9	4.7	9.6	22.9	38.0

SOURCE :DISTRICT AGRICULTURE OFFICE, RAYAGADA.

TABLE 4.20 : Distribution of women workers.

Sl. No	District	Cultivators		Agril. labourers		Household Industry		Other workers	
		M	F	M	F	M	F	M	F
1	Ganjam	7.15	9.43	7.85	12.36	8.78	5.72	9.75	10.83
2	Mayurbhanj	6.44	8.12	7.07	8.85	13.09	28.61	4.26	5.79
3	Cuttack	4.21	2.10	4.88	2.33	7.32	3.78	9.82	8.32
4	Sundargarh	4.50	7.77	3.28	5.61	3.30	1.77	6.60	6.22
5	Balaswar	5.97	2.19	6.04	2.39	3.86	2.85	4.66	3.17
6	Kendujhar	4.62	5.66	4.13	4.93	3.45	4.45	3.72	3.90
7	Kalahandi	4.41	4.11	5.39	7.15	3.04	2.22	2.37	2.79
8	Bargarh	4.68	4.92	4.60	5.30	7.76	4.37	2.40	2.44
9	Khordha	2.25	0.43	2.87	0.83	3.66	1.18	9.47	6.05
10	Koraput	3.82	6.67	3.62	5.63	2.02	1.28	2.92	4.99
11	Balangir	4.27	3.45	4.11	4.95	4.53	2.52	3.07	3.61
12	Nabarangapur	3.65	3.58	4.15	6.49	1.94	1.24	1.50	2.76
13	Anugul	2.81	4.72	2.43	2.68	4.46	3.21	3.82	3.59
14	Puri	4.49	0.74	3.47	0.96	2.84	1.24	4.09	2.68
15	Jajapur	3.25	0.53	4.32	0.98	3.11	0.92	4.53	2.79
16	Sambalpur	2.07	2.44	2.68	2.68	3.45	12.45	3.01	3.75
17	**Rayagada**	**2.37**	**4.22**	**2.92**	**4.41**	**1.20**	**0.87**	**1.81**	**3.29**
18	Kendrapada	4.18	2.55	3.00	0.88	1.78	0.92	2.79	2.29
19	Bhadrak	4.14	1.27	3.49	0.87	1.65	1.13	2.78	1.95
20	Dhenkanal	2.38	1.25	3.04	1.81	2.53	1.56	3.14	2.26
21	Jagatsinghapur	2.57	1.08	2.38	0.93	2.23	0.98	3.27	2.98
22	Kandhamal	1.98	4.10	1.79	2.65	1.37	4.58	1.45	2.57
23	Nayagarh	2.35	0.68	3.00	0.71	3.16	2.79	2.15	1.51
24	Gajapati	1.63	4.13	1.88	3.14	0.84	0.70	1.09	2.10
25	Malkangiri	2.77	5.65	0.92	1.67	0.57	1.06	0.63	1.56
26	Nuapada	1.87	2.05	1.75	2.66	1.33	0.73	0.97	1.67
27	Sonapur	1.84	1.69	1.93	2.33	2.74	1.90	0.81	1.14
28	Jharsuguda	0.95	1.15	0.95	0.91	1.19	2.92	2.07	1.59
29	Baudh	1.50	1.72	1.12	1.61	1.90	1.43	0.56	0.80
30	Debagarh	0.88	1.60	0.94	1.30	0.90	0.62	0.49	0.61

TABLE 4.21 BLOCK WISE LAND UTILIZATION PATTERN OF THE DISTRICT (AREA IN HECTARE)

Block	Forest area	Misc.tree crops and groves not included in net area sow n	Permanent pasture and other grazing land	Cultivable w aste land	Land put to non agricultural use	Barren uncultiv able land	Current fallow	other fallow	Net area show n
Rayagada	10352	181	650	1053	2717	26120	2959	1903	10407
Kolnara	4650	373	439	908	1945	14146	2816	1682	14807
Kalayanisinghpur	7644	244	928	620	1492	17153	2246	1402	9692
Kasipur	3071	327	1589	1711	2546	5467	14280	1944	11759
Gunupur	9779	2700	594	367	1629	23001	1783	974	9127
Padmapur	6842	341	537	1357	1944	12342	796	648	10110
Ramanaguda	5340	424	1391	604	2181	7880	4903	963	9265
Gudari	6127	422	379	453	915	12856	2259	240	6513
Bissam cuttack	10610	994	903	387	2701	25739	3689	2320	15849
Muniguda	9680	555	1082	2263	2545	24952	4457	2132	16349
Chandrapur	18040	159	620	434	1281	9791	2499	445	6138

TABLE 4.22 BLOCKWISE IRRIGATION POTENTIAL OF DIST. (Ha)

Block	Medium Source	Minor Source	Lift	Wells	Tank	Others	Total	% of cultivated area
Rayagada	-	2574	1570	10	297	626	5077	25.38
Kolnara	-	2313	412	18	230	287	3260	20.37
Kalayanisinghpur	-	3071	394	0	240	221	3926	27.76
Kasipur	-	579	72	0	297	2601	3502	9.46
Gunupur	2800	1150	1075	72	167	200	5464	32.14
Padmapur	5920	169	484	19	89	99	6781	32.14
Ramanaguda	650	3300	1175	5	107	295	5531	30.72
Gudari	630	298	372	40	94	525	2534	30.72
Bissam cuttack	-	1898	270	40	99	520	2831	14.15
Muniguda	-	2627	310	46	109	194	3452	19.17
Chandrapur	-	69	5	25	71	41	275	3.43
	10000	18048	5685	275	1800	5551	42600	21.96

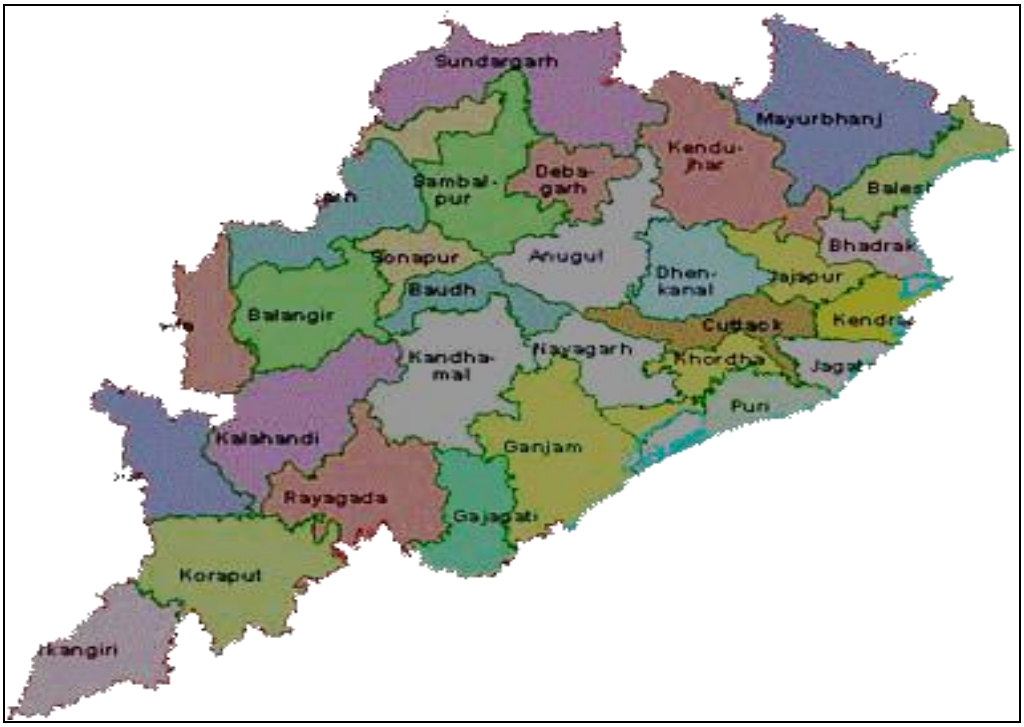
SOURCE: D.A.O,Rayagada

TABLE: 4.23 Area, production and productivity of crops for Kharif 2006-07 and programme for Kharif 2008 (Area in Hectare, Production in MT Yield in Qtls)

Type of crop	2006			2007			2008		
	Area	Prod^{n}	yield	Area	Prod^{n}	yield	Area	Prod^{n}	yield
Food grains	124431	192512	15.47	133976	269793	20.14	134883	299591	22.35
Oil seeds	23854	7201	3.02	22444	8557	3.81	19425	9834	5.09
Fibers	15850	21508	13.57	11969	18932	15.82	15679	31110	19.82
Vegetables	8235	61763	75	8873	78627	88.61	9200	90350	98.27
Spices	3043	7846	28	2745	7716	28.1	2745	8714	32.14
Sugarcane	102	4590	450	202	10100	500	212	12720	60
Tobacco	0	0	0	460	552	12	460	644	14
Total	175515	-	-	180660	-	-	182604	-	-

Source: DAO Rayagada

MAP OF SAMPLE AREA



Attempt to list out how the collected raw information to be fit to required tools, methods & statistics. This highlighted the "spark plugs" to ignite the raw data for final result. This is said to be the plan of work for the entire research work. Problem identification, instrument preparation, data collection, analysis and interpretation procedure are the areas of this chapter.

CHAPTER V

RESEARCH METHODOLOGY

This chapter deals with the research methods and procedures followed by the researcher to analyze the problem during the course of investigation. The details of the methods and procedures used in this study along with the plan of statistical analysis have been outlined under the followed headings.

5.1. Selection of problem

5.2. Research Design

5.3. Location of the study

5.3.1. Selection of the districts

5.3.2. Selection of the blocks

5.3.3. Selection of the grampanchayats

5.3.4. Selection of the villages

5.3.5. Selection .of the respondents

5.4. Tools and techniques of data collection

5.4.1. Pilot study

5.4.2. Development of the interview schedule

5.4.3. Pre-testing of the interview schedule

5.4.4. Interviewing

5.5. Variables and their measurement

5.6. Statistical measures.

5.1. Selection of Problem

One of the most important factors in social research is the selection and conceptualization of research problem. Research worker should pay much attention towards the formulation of a realistic, clear

and unambiguous problem, since the delineation of problem is often more important and essential than its solution. The research problem, named “Gender involvement in agriculture and allied activities in Rayagada district of Orissa” was selected keeping in view the following factors –

a. In Orissa, 49.30% of total population are women and out of them 85.64% remain in rural areas.
b. Nearly 75% of the economically active women are engaged in agriculture.
c. Almost 50% of rural female workers are agricultural labourers and 37% are female cultivators.
d. About 70% of the total farm work is performed by women alone.
e. The rural women have very low decision making power, limited exposure and participation along with less control over the resources resulting in probably less degree of empowerment.

5.2. Research design:

Keeping in view the objective of the study more of qualitative and behavioural attributes are needed to be included in the study. For the study, survey research was considered most appropriate to gather data. Multiphase sampling technique was adopted to select the districts, blocks, panchayats, villages and respondents.

5.3. Location of the study

The sample of the research study covers the district Rayagada. Two blocks from Rayagada district were selected for the study. From each block one grampanchayat was selected at random for the study. Again from each grampanchayat two villages were selected at random for the study comprising of 4 villages from district. The total no of villages covered under study are in Table 5.1.

5.3.1. Selection of the district

Orissa state comprises of 30 revenue districts.The district "Rayagada" was selected purposively as the researcher belonged to the district. The main factor which was taken into consideration that was the female population is more in this district than the male population.

5.3.2. Selection of Blocks

Rayagada district comprises of 11 community development blocks out of which two blocks namely Rayagada and Kolnara were selected at random for the study.

5.3.3. Selection of Grampanchayats

One grampanchayat from each selected block was selected randomly for the study as visible in Table.5.1

5.3.4 Selection of Villages

Random sampling procedure was followed for selection of villages also. A total number of two villages from each selected grampanchayat were selected at random for the study (Table5.1)

Table 5.1 List of sample Villages, Block,Grampachayat & District

Districts	Blocks	Panchayats	Villages
Rayagada	Rayagada	Maligam	Kotaguda
			Gurunguda
	Kolnara	kolnara	Kaliaguda
			Jagrutiguda

5.3.5. Selection of respondents

A preliminary survey of the selected villages was carried out and selection of respondents was done as per the followings steps –

i. A list of all the farm women of the village was prepared.

ii. Out of the list 30 farm women were selected at random from each selected village comprising of the total sample size of 120, i, e, 60 from Rayagada block and 60 from Kolnara block.

Table :5.2. List of total sample respondents

(20% sample selection)

Blocks	Rayagada		Kolnara	
Gram panchayat	Maligam		Kolnara	
Villages	Kotaguda	Gurungada	Kaliaguda	Jagrutiguda
Farming population	128	179	78	231
Farmers	61	92	46	108
Farm women	67	87	32	123
Respondent farmer	12	18	9	21
Respondent farm women	13	17	6	24
TOTAL RESPONDENT	25	35	15	45

5.4. Tools & techniques for collection of data.

5.4.1. Pilot study.

Prior to finalization of the variables and preparation of interview schedule the investigator made visits to sample villages. Discussions and interactions were made with the farm families, farm women, local LVAW, VAW, contact farmers, SHG members and the line department

officials to collect information about the villages, the farm families, various programmes, education and health facilities,crop and non-crop enterprises etc. The data so collected helped the researcher for finalization of variables and interview schedule.

5.4.2. Development of the interview schedule.

In course of preparation of interview schedule many proposals were added and discarded after judging each item with their possible linkage with the specific objectives of the study. The pertinent questions were taken into consideration where as questions having less validity and reliability were dropped. Repeated verifications and proper measures were taken to avoid vague and ambiguous answers. The interview schedule consists of only close ended questions.

5.4.3. Pre-testing of interview schedule.

Pre-testing of the schedule was made at random with 15 percent of the total sample to be interviewed for the study. This was done in order to test the validity and reliability of the measuring instrument. Basing on the information collected, some minor modifications were made in the schedule and the final schedule was developed and used for the purpose.

5.4.4. Interviewing

Good rapport was established with the farm families of the sample area before data collection. The researcher faced much difficulty for collection of data from women respondents due to cultural taboo. Hence the researcher took the help of lady village level workers and lady scientists of nearby KVKs for assisting in data collection. The

help of lady training officers was also taken. The young, progressive and leading farm women of sample villages helped the researcher for information gathering. Personal interview and focused group discussion techniques were used for collection of information. Some secondary data was also gathered from village headmen, local officials and youth leaders.

5.5. Variables and their measurement:

5.5.1. Socio-economic variables

Sl. No	Variables
1	Age
2	Education
3	Income
4	Holding size
5	Occupation
6	Cosmopoliteness
7	Social participation
8	Extension contact

5.5.2. Age: Age is oeprationalized as the number of full years completed at the time of investigation. It was categories into 3 categories and scored accordingly.

Categories	Score
Up to 30 years (Young)	3
31-50 (middle aged)	2
Above 50 years (Old)	1

5.5.3. Educational status: has been operationalized as the extent of literacy attained by the respondents at the time of investigation. sscale developed by Trivedi (1963).

Categories	Score
Illiterate	1
Primary	2
Middle school	3
High School	4
College	5
General	4

5.5.4. Social participation: It refers to the membership in various organizations and institutions by the respondent

Parameters	Score
Yes	1
No	0

5.5.5 Cosmopoliteness: It was the outward orientation of the respondent outside self community

cosmopolite 1

localite 0

5.5.6. Holding size: It refers to the land possession of the individual farm women's family.

Category	Score
Landless	1
Marginal (upto 1ha)	2
Small (between 1-2ha)	3
Medium (between 2-10ha)	4
Big (Above 10 ha)	5

5.5.7. Occupation: Occupation relates to means of earning. Primary occupation is operationalised by the enterprise through which major income comes. The minor income, if any, contributes to subsidiary occupation.

Category	Score
Farmer	1
Agricultural labour	2

5.5.8. Income: The respondents were asked to give the income (appox) from different sources in cash or kind. Then, they were categories into three sub-groups basing on mean and standard deviation.

Income groups	Score
Low	1
Medium	2
High	3

5.5.9 Extension contact:

Parameters	Score
Regular contact	3
Occasional contact	2
Negligible contact	1

5.5.10 Activities performed

Parameters	Score
Sole activity	3
Joint activity	2
Not performed	1

5.5.11 Extent of involvement

Parameters	Score
Sole involvement	3
Partially involvement	2
Negligible	1

5.6 **Statistical measures**;

Statistical measure provides the investigator with the opportunity of expressing the facts in an imperial way. The statistical measurement which had been used in this study were,

(1) Percentage

(2) Mean Score

(3) Standard deviation

(4) Gap percentage

(5) Peasons co-efficient of correlation and

(6) Critical Ratio (Significant of Percentage Difference)

5.6.1. Percentage

Percentage was used in description analysis for making simple comparison between two responses. For calculating percentage, the frequency of a particular cell was multiplied by 100 and divided by the total number of respondents in the particular category to which the cell belonged.

Percentage = (Number of respondents/ Total no. of respondents) X 100

5.6.2. Mean Score

It is also simple comparison which was calculated by using the formula-

$$\text{Mean Score} = \frac{\sum fx}{N}$$

Summation f multiplied with x N = Sum of total score obtained by individual

N = Total number of respondents

5.6.3. Standard deviation

The standard deviation was found out by taking the differences of each item in the source from the arithmetic mean, squaring the differences, then summing all the squared differences and dividing by the number of items and then extracting the square root. Standard deviation was used for categorization of the respondents.

$$\text{S.D} = \frac{\sqrt{\sum fi\,(Xi - \overline{X})}}{\sum fi}$$

Where, fi - frequency of i th item, X_i - $\overline{X}$ - deviation from the mean

5.6.4. Score gap

It was the difference between maximum obtainable score and obtained score value for a given variable, when expressed in percentage it was called gap percentage.

Gap percentage (Gap %) = [(Maximum score – Obtained Score) / Maximum score] X 100

5.6.5. Pearson's coefficient of correlation

This test was applied to ensure the degree of association between number of variables and to test whether the association was significant or not.

$$r = \frac{\sum XY - (\sum X \sum Y)/n}{\sqrt{[\sum X^2 - (\sum X)^2/n][\sum Y^2 - (\sum Y)^2/n]}}$$

where, r = Correlation coefficient

$\sum XY$ = Sum of product of both variable X and Y

$\sum X$ = Sum of variable X

$\sum Y$ = Sum of variable Y

$\sum X^2$ = Sum of squares of variable X

$\sum Y^2$ = Sum of squares of variable Y

n = Number of respondents

5.6.6. Critical ratio

This test was carried out to know the significant association between two percentages.

$$C.R = \frac{\text{Difference between } P_1 \text{ and } P_2}{\sqrt{PQ\left[\frac{1}{N_1} + \frac{1}{N_2}\right]}}$$

$$P = \frac{N_1 P_1 + N_2 P_2}{N_1 + N_2}; \quad Q = (100 - O)$$

N_1= Size of 1st sample

N_2= Size of 2nd sample

P_1= Percent of 1st sample

P_2= Percent of 2nd sample

CONCEPTUAL FRAMEWORK OF THE STUDY

1. Problem: Gender Involvement in Agriculture and Allied Activities in Rayagada District of Orissa
2. Specific objectives

5. To identify the different agricultural and allied activities performed by farmers and farm women.
6. To analyze the extent of involvement of farmers and farm women in different agricultural and allied activities.
7. To compare the decision making behaviour of farmers and farm women in different agricultural and allied activities.
8. To study the time utilization pattern of farmers and farm women in performing various agricultural and allied activities.

3. Name of sample district and villages

Districts	Blocks	Panchayats	Villages
Rayagada	Rayagada	Maligam	Kotaguda
			Gurunguda
	Kolnara	kolnara	Kaliaguda
			Jagrutiguda

4. Independent variables

Sl. No	Variables
1	Age
2	Education
3	Income
4	Holding size
5	Occupation
6	Cosmopoliteness
7	Social participation
8	Extension contact

5. Dependent variables

Sl. No.	Dependent variables	Crop Management	Animal management	Household management
1	Performance in activities			
2	Involvement in activities			
3	Decision making role			
4	Time utilization pattern			

Back bone of any research this is the "bulk fruit" of the entire work of research and collected data. Interpretation and analysis gives it proper shape to churn out the summary & conclusion. In this segment of study the researcher tried to pen the collected information in proper format and analyzing the trends. It is believed that, interpretation of the observed result often help the future similar research studies..

CHAPTER V

RESULTS AND DISCUSSION

RESULT AND DISCUSSION

The research study entitled “Gender Involvement in Agriculture and Allied Activities in Rayagada District of Orissa” was conceived out of the consideration that the farm women are not being sufficiently empowered on productive utilization of their time and energy for significant contribution to the family income. The study so designed was carried out in Rayagada District. A sample size of 120 respondents from 4 villages covering 2 blocks equally were randomly selected for the study. The respondents were personally interviewed with a semi-structured schedule pre-tested earlier.

The result of the study has been presented in accordance with the objectives. The findings and interactions have been cited together to make inferences meaningful. The result is presented under the following sections as per the objectives.

Objective 1: Performed activities of farmer and farm women in different agriculture and allied activities

Objective 2: Extent of involvement of farmers and farm women in different agriculture and allied activities

Objective 3: Decision making behaviour of farmers and farm women in different agriculture and allied activities

Objective 4: Time utilization pattern of farmers and farm women in different agriculture and allied activities

Objective-1

Social research concentrates more on socio-economic variables to find out the effect of those variables on the dependent variables on the dependent variable. The magnitude of variation of variation assumes the effect, the study therefore attempted to examine some socio-economic variables of both the genders for correlating those with other parameters.

6.1.1.Age:

Age is the personal variable which determines the effect on various dependent variables. As per as age category of the respondents is concerned the entire the entire sample is divided into three categories, such as: young (up to 35 years), middle aged (36 to 55 years) and old (above 55 years).

Table 6.1.1 (age distribution of the respondent)

N=120

Sl no.	Age category	Farm women		Farmer		Total	
		F	%	F	%	F	%
1	Young (up to 35 years)	8	13.33	18	30	26	21.66
2	Middle aged (35 to 55 years)	44	73.33	26	43.33	70	58.33
3	Old (above 55 years)	8	13.33	16	26.66	24	20

It was observed from the table 6.1.1 that from the sample respondent of farm women 13.33 per cent of farm women belonged to young category, 73.33 per cent belonged to middle aged category and

13.33 percent belonged to old category. Similarly the percentage of farmers from the sample respondent with respect to age category were 30 percent belonged to young age category, 43.33 percent belonged to middle aged category and 26.66 percent belonged to old age category respectively.

While comparing the age category between farmer and farm woman it was observed that, the sample was consists of more middle aged women in comparison to farmers, where as in young and old category the percentage of farmers were more than farm women.

Hence it may be concluded that the sample respondent was based on more middle aged farm women and farmers who are relatively young and old category. But in general it may be concluded that the information collected was the reflection of mostly young and middle aged respondent.

6.1.2.Education:

Education is always linked with the mental and psychological ability of the individual to understand, and accept new ideas into action. It also influences the behavior of the individual and develops interest in new approaches. Educated women usually take part in almost all family decisions. Therefore education is one of the important independent variable for the developmental process. But, the reality is that, majority of the rural women are either illiterate or having low literacy level.

Sl	Educational level	Farm women	Farmer	Total

no.		F	%	F	%	F	%
1	illiterate	35	58.33	29	48.33	64	53.33
2	primary	20	33.33	14	23.33	34	28.33
3	Middle school	4	6.66	7	11.66	11	9.16
4	High school	1	1.66	8	13.33	9	7.5
5	college	0	0	2	3.33	2	1.66

Table 6.1.2 (Educational status of the respondent) N=120

It was observed from the table 6.1.2 that 53.33 percent of the total sample population belongs to illiterate category. From the sample of farm women 58.33 percent were illiterate, similarly out of the sample population of farmer 48.33 percent were illiterate. Further it was observed that illiteracy was much more visible among the farm women as comparison to farmers. It was also observed that in case of primary education farm women were 33.33 percent out of the sample population of farm women which is higher than farmers that is 23.33 percent out of the sample population of farmers. But when higher education is taken into consideration farmers were much higher educated than farm women.

The sample district is one of the less developed districts of the state with respect to education and socio-cultural development. Hence it is not surprising that after 60 years of independence still there was so much illiteracy among the farming community.

6.1.3.Income

It is a fact that income has a great role in the process of empowerment. Income of a person directly influences decision making process. It facilitates for the development of infrastructure, inputs, adoption of technology and fulfils the aspiration and goal of the

individual as well as family. At the same time it is equally difficult to assess the annual income as the farming communities not keeping any record. The researcher had made sufficient probing during data collection, analyzed from different angles and assessed the annual income of the respondents. After the annual income of the respondents it was grouped into low, medium and high income group with mean and standard deviation.

Table 6.1.3 (income of the respondent)

N=120

Sl no	Income group	Farm women		Farmer		Total	
		F	%	F	%	F	%
1	Low	29	48.33	16	26.66	45	37.5
2	Medium	29	48.33	37	61.66	66	55
3	High	2	3.33	7	11.66	9	7.5

It was observed that from table no. 6.1.3 that, 37.5 percent of respondent belonged to low income group, 55 percent belonged to medium income group and 7.5 percent belonged to high income group from the total sample respondent.

While comparing both the gender it was observed that more number of farmer household that is 73.32 percent of sample population of farmer belonged to middle and high income group as comparison to farm women household that is 51.66 percent out of sample population of farm women. But more farm women belonged to low income group that is 48.33 percent as comparison to farmer which was 26.66 percent.

As the farmers and farm women of the sample area are facing many agricultural problems like distress sale of produce, low productivity, lack of marketability, uneven rainfall, irrigation problem, lack of information about scientific practices of growing crop, integrated insect pest management and fertilizer management etc.

6.1.4. Farmer category as per land holding size

Holding size is another important factor reflecting the status. It not only helps in adopting diversified enterprises but also provides opportunities for farm mechanization for drudgery reduction which is very acute problem of farm women. Holding size has also direct relationship with use of improved technology along with recommended packages. Though it is a fact that, majority of the rural habitation belongs to marginal and small farmers, the study has attempted to analyze the holding size of the sample respondents.

Table 6.1.4. (farmers category)

N=120

Sl no.	Farm category	Far women		Farmer		Total	
		F	%	F	%	F	%
1	Landless	18	30	21	35	39	32.5
2	Marginal	28	46.66	15	25	43	35.83
3	Small	11	18.33	16	26.66	27	22.5
4	Medium	2	3.33	6	10	8	6.66
5	Big	1	1.66	2	3.33	3	2.5

While comparing the holding size of the respondent, it was observed that more number of farmers was there in landless, small, medium and big category than the farm women. But in the marginal

land holding category there were more number of farm women in the sample than the farmers.

It was a matter of concern that about one third of the sample belongs to tenant farming category. Usually tenant farmers did not have the personal attachment towards the vocation because land was not belonging to them. So for development perspective ownership of land ay help the purpose.

6.1.5. Occupation

Occupation is another contributor for developmental process. Occupational status of an individual indicates progressiveness in sustainable development. Diversification in enterprise selection and system approach are essentially required for production maximization, risk minimization and optimum utilization of resources including time and family labour. Therefore occupational competency has direct bearing with empowerment. Though the hypothesis says predominantly agrarian occupation is associated with low status, less development and poor consciousness, still the researcher has attempted to make occupational analysis of the respondents.

Agriculture was not doubt the primary occupation of the respondents as all of them were farm women. Occupational status on agriculture as primary occupation along with subsidiary occupations were collected, analyzed and presented in the Table 6.1.5

Table 6.1.5(Occupation of the respondent) N=120

Sl no.	Occupation	Farm women		Farmer		Total	
		F	%	F	%	F	%
1	Farming	57	95	58	96.66	115	95.83

2	Agril. Labour	3	5	2	3.66	5	4.16

It was observed from the table 6.1.5 that 95 percent of farm women from total sample of farm women were having farming as their primary occupation. Similarly 95.83 percent of farmer from total sample of farmer were having farming as their one and only occupation, which is somewhat equal to the percent of farm women. Here it was also observed that 5 percent of farm women were having agricultural labour as their occupation from the sample of farm women where as the percent of farmer were 4.16 percent from the sample of farmer.

As the wage rate is less in agriculture occupation in comparison with civil construction and other occupation, hence there was less presence of agricultural labour in the community. Researcher also observed that many agricultural works were not completed in time due to shortage of labour.

6.1.6. Outward orientation

Cosmopoliteness shows outward orientation of an individual. A person needs to be cosmopolite to have maximum degree of empowerment. More exposure to outside community enables a person to be more conscious, knowledgeable and progressive leading to empowerment. Data collected on cosmopoliteness of the respondents were analyzed and presented in Table 6.1.6

Table 6.1.6 (outward orientation of the respondent) N=120

Sl.no	Outward orientation	Farm women		Farmer		Total	
		F	%	F	%	F	%
1	Localite	46	76.66	23	38.33	69	57.5
2	Cosmopolite	14	23.33	37	61.66	51	42.5

It was observed from the table 6.1.6 that 76.66 percent of farm women were localite in nature from the sample population of farm women; where as 38.33 percent of farmer were localite in nature from sample population of farmer. From the sample population of farm women 23.33 percent were cosmopolite in nature and 50.83 percent farmer were cosmopolite in nature, which was much higher as comparison to farm women.

It was also observed that, the respondent of Maligam grampanchayat had regular contact with the district head quarter and the respondent of Kolnara grampanchayat had regular contact with the block head quarter and the district head quarter.

It was further observed that, majority of the respondents of the sample area had contact with the nearest town and city market. This might be due to sale of farm produce or purchase of household goods which confirms the involvements of the farmwomen in maintenance of their families. The findings therefore concluded that, the respondents of the study area had low cosmopoliteness irrespective of their significant contribution in maintaining their families.

6.1.7.Social participation of the respondents

Social participation denotes the involvement of an individual in various social, religious, political educational and cultural groups, organizations & institutions. The individual having more social participation definitely will be resourceful, advanced and empowered. But, it is seen that rural people are having either less or negligible level

of social participation which is mainly due to illiteracy and ignorance. The situation in this regard is still meager in case of rural women due to long standing social norms and cultural taboo. For the reason the researcher was interested to know the social participation of the farm women in context of their socio-economic status.

Table 6.1.7: social participation of the respondent N=120

Sl no.	Social participation	Farm women		Farmer		Total	
		F	%	F	%	F	%
1	Have participation	6	10	11	18.33	17	14.16
2	No participation	54	90	49	81.66	103	85.83

It was observed from the table 6.1.7 that a very little respondent was found to have any type of social participation (membership in formal and informal organization), that is 10 percent of farm women from sample population of farm women, similarly 18.33 percent of farmer from the sample population of farmer.

It is the matter of great concern that in primary sector like agriculture rural people are not linked with groups, organizations and institutions. Therefore the level of awareness and exposure was definitely very poor, which was a major bottle neck for the path of development.

The findings therefore concluded that, the respondents on the study area had low social participation. Therefore it was presumed that, the farm women kept them aloof from the social activities for which they were not feeling themselves empowered.

6.1.8. Extension contact of the respondent N=120

Sl.no.	parameters	Farm women		Farmer		Total	
		Mean score	Gap %	Mean score	Gap %	Mean score	Gap %
1	Radio	2.3	23.33	2.2	26.66	2.25	25.00
2	Television	1.55	48.33	1.5	50.00	1.54	48.66
3	Print media	1.71	43.00	1.51	49.66	1.61	46.33
4	Extension agent	1	66.66	1	66.66	1	66.66
5	NGO	1.18	60.66	1.13	62.33	1.15	61.66
6	Govt. officials	1	66.66	1	66.66	1	66.66

It was observed from table no. 6.1.8. that, the farmers and farm women of the sample area were having a little extension contact. In total minimum gap was found in case of using radio and maximum gap was found in case of contact with extension agent & govt. officials.

While comparing farmers and farm women, farmers were more frequently using radio than other contact media same as the farm women but farm women were having less gap percent than farmers in case of using radio. Here it can be conclude that farm women were having more extension contact than farmers. So it will be a good sign for development of society, as farm women were expose to the different contact methods.

6.1.9. To identify different agricultural and allied activities performed by farmer and farm women.

a. <u>Crop management activity</u>

In the agricultural scenario the farmer and far women are actively involved in various farm and related activities, but it is seen that some of the activities are exclusively done by farm women and some of them are farmer domain in nature, therefore the researcher tried to analyze the activities performed by farmer and farm women to identify the gender role in various agriculture and allied activities.

As crop management activity took a vital role in the rural lives of farmers and farm women, here the researcher tried to analyze the comparative relation between roles performed by farmers and farm women in the sample area.

6.1.9. Land preparation activity

Sl. No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap %	M.S	Gap %	M.S	Gap %
1	Stubble collection	2.68	10.66*	2.31	23*	2.49	16.83
2	Land leveling	2.5	16.66	2.55	15	2.52	15.83
3	Application of basal dose	2.28	24*	2.71	9.66*	2.49	16.83
4	Cleaning of field	2.6	13.33	2.83	5.66	2.71	9.74
5	Forming ridges and furrows	2.35	21.66	2.48	17.33	2.41	19.49

*significant CR value observed

It may be observed from table 6.1.1. That maximum gap of 19.49 percent was observed in the activity of ridges and furrow preparation; whereas minimum of 9.74 percent gap was observed in cleaning of fields. Hence as fewer gaps was observed in the performing of agricultural activities with respect to land preparation it may be concluded that sample farmers and farm women are engaged in land preparation activities to a great extent.

While comparing the performing activities between farmer and farm women, then it was observed that; farmers were more actively performing the activities like forming ridges and furrows application of basal dose of fertilizer and land leveling; whereas farm women were very active in stubble collection work than farmers.

Table also depicted that application of fertilizer and cleaning of field were predominantly done by farmers where as stubble collection was mostly done by farm women. A significant critical ratio value of difference were observed with respect to the activities of stubble collection and basal dose of fertilizer application, which established the fact that there was a significant difference between the performed activities of farm women and farmers with respect to these two activities.

6.1.10. **Seed and seed sowing activity**

Sl. no	Parameters	Far women		Farmer		Total	
		M.S.	Gap %	M.S.	Gap %	M.S.	Gap %
1	Seed treatment	2.3	23.33	2.46	18.00	2.38	20.66
2	Nursery raising	2.85	5.00*	2.33	22.33*	2.59	13.66
3	Sowing	2.53	15.66	2.56	14.66	2.54	15.16
4	Preserving seeds for future use	2.35	21.66	2.51	16.33	2.43	18.99
5	Transplanting the seedling	2.9	3.33*	2.4	20.00*	2.65	11.66
6	Seed broad casting	2.56	14.66	2.51	16.33	2.53	15.49

*significant CR value observed

It may be observed from table 6.1.2. that maximum gap of 20.66 percent was observed in the activity of seed treatment where as minimum of 11.66 percent was observed in transplanting of seedling activity. So it may be concluded that the respondent were engaged in seed and seed sowing activities to a great extent.

While comparing the performing activities between farmer and farm women, it was observed that farmer were more actively participate in the activities like sowing, preserving seeds for future use,

and seed treatment where as farm women were more active in transplanting the seedling, seed broadcasting and nursery raising.

Table also shows that, seed treatment and preserving seeds for future use activities were predominantly done by farmers ;where as nursery raising, seedling transplanting were mostly done by farmwomen. A significant critical ratio value of difference were observed with respect to the activities of nursery raising and transplanting the seedling, which established the fact that there was significant difference between the performed activities of farmer and farm women with respect to these activities.

6.1.11. Manures and manuring

Sl No.	parameters	Farm women		Farmer		Total	
		M.S.	Gap %	M.S.	Gap %	M.S.	Gap %
1	Preparation of compost	1	66.66	1.23	59	1.11	62.83
2	Transporting manure	1	66.66*	2.11	29.66*	1.55	48.16
3	Application of fertilizer	2	33.33*	2.5	16.66*	2,25	24.99

*significant CR value observed

It may observe from the table 6.1.3. that maximum gap of 62.83 was found in preparation of compost and FYM activity where as a minimum of 24.99 percent of gap was found in application of fertilizer activity. Hence it ay be observe that more gap was observed in these activities related to manure and manuring. So, it can be concluded that sample farmer and farm women were less engaged in the activities related to manure and manuring.

While comparing the performed activities of farmer and farm women, then it was observed that farmer were more actively performed the activity of application of fertilizer and transporting manures where as far women were not at all participate in the activities related to

manure and manuring. So it can be concluded that farmer are the only person who take participate in these activities.

The table also depicted that application of fertilizer and transporting manure were predominantly done by farmers. A significant critical ratio value of difference were observed with respect to the activities of application of fertilizer and transporting manure, which establishes the fact that there was a significant difference between the performed activities of farmer and farm women with respect to these activities.

6.1.12. Intercultural operation

sl No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S.	Gap %	M.S.	Gap %
1	Irrigation	2.03	32.33*	2.78	7.33*	2.40	19.83
2	Cleaning irrigation channel	2.36	21.33	2.51	16.33	2.43	18.83
3	Thinning and gap filling	2.83	5.66*	2.3	23.33*	2.56	14.49
4	Earthing up	2.61	13*	2.1	30*	2.35	22
5	Beushining operation	1	66.66	1	66.66	1	66.66
6	Khelua operation	1	66.66	1	66.66	1	66.66
7	Application of weedicide	2.41	19.66*	2.78	7.33*	2.59	13.49
8	Application of pesticide	2.40	20*	2.75	8.33*	2.57	14.16
9	Weeding	2.61	13	2.38	20.66	2.49	16.83
10	Harrowing	2.56	14.66	2.33	22.33	2.44	18.49

*significant CR value observed

It may be observed from table 6.1.4. that maximum gap of 66.66 percent was observed in the activities like beushuning operation and khelua operation. Because the sample respondents were usually does not prefer to perform those activities. It may also a minimum gap of 13.49 percent was observed in the activity of application of weedicide. It can be concluded from the table that fewer gap was found in maximum intercultural operations but the activities like beushuning and

khelua operation maximum gap was found, and farm women were more involved in intercultural activities than farmers.

While comparing the performed activities of farmer and farm women, then it was observed that; farmer were more actively participate in the activities like irrigate the field, cleaning irrigation channel and application of weedicide and pesticide; whereas farm women were active in thinning and gap filling, earthing up, weeding and harrowing activities than farmer.

The table also depicted that the activities like irrigating the field, application of weedicide and pesticide were predominantly done by farmers where as thinning, earthing up, weeding and harrowing activities are mostly done by farm women. A significant critical ratio value of difference were observed with respect to the activities of irrigation, thinning and gap filling, earthing up, application of weedicide and pesticide, which established the fact that there was a significant difference between the performed activities of farm women and farmers with respect to those activities. The result obtained in this research is in agreement of Thejaswini, Chandra Shekar and Gowda (2004).

6.1.13. **Harvesting**

Sl no	parameters	Farm women		Farmer		Total	
		M.S	Gap %	M.S	Gap %	M.S	Gap %
1	Reaping crops	2.58	14	2.38	20.66	2.48	17.33
2	Collection and heaping	2.55	15	2.45	18.33	2.5	16.66
3	Bunding and transplanting	2.61	13*	2.25	25*	2.43	19
4	Threshing	2.58	14	2.36	21.33	2.47	17.66
5	Winnowing	2.54	15.33	2.35	21.66	2.44	18.49
6	Drying and cleaning	2.58	14	2.56	14.66	2.57	14.33
7	Transporting for storage	2.71	9.66	2.6	13.33	2.65	1.49
8	Storing	2.59	13.66	2.4	20	2.49	16.83

*significant CR value observed

It may be observed from the table that maximum gap of 19 percent was observed in the activity of bunding and transplanting and a minimum gap of 1.49 percent as observed in the transporting of storage activity of harvesting. Hence fewer gap was observed in performing the activities related to harvesting, so it can be conclude that the respondent were having a great involvement in the activities related to harvesting i.e. they were actively performing the activities with respect to harvesting.

While comparing the performing activities between farmer and farm women, then it was observed that farmer were not actively doing the activities related to harvesting as compared to farm women. Whereas farm women were exclusively doing the various activities related to harvesting than farmers.

Here it can be observed that though there are not significant differences between critical ratio value found in those activities expect bunding and trans planting. So it can be concluded that farm women were greatly involved in the activities related to harvesting than farmers but more predominantly doing the activity bunding and transplanting. Farmers were also engaged in the activities of harvesting but a lesser extent as compared to farm women.

6.1.14. Marketing

Sl No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap %	M.S	Gap %	M.S	Gap %
1	Transport to market	1.05	65*	2.6	12.33*	1.82	38.66
2	Marketing of produce	1.1	63.33*	2.31	23*	1.70	43.16
3	Labour management	1	66.66*	2.61	13*	1.80	39.83
4	Accounting	1	66.66*	2.61	13*	1.80	39.83

*significant CR value observed

It may be observed from table 6.1.6. that a maximum gap of 43.16 percent was observed in the activities like marketing of produce, where as a minimum gap of 38.66 percent was observed in transport to market. Hence from the table it may be concluding that the activities related to marketing is purely dependent on farmers' i.e. male members. Here a larger gap was found in performing activities related to marketing, so the sample farmer and farm women were not performing these activities to a greater extent.

While comparing the performing activities between farmer and farm women, it was observed that all activities were predominantly done by farmers only, farm women were not doing these activities to a significant level.

A significant critical ratio value of difference were observed with respect to all the activities related to harvesting, which established the fact that there was a significant difference between the performed activities of farmer and farm women with respect to harvesting is concern. The result obtained in this research is in agreement of Kumar and Bhalla (1990).

b. Animal management activity

Form the ancient time crop production and animal management goes simultaneously. It is along with agriculture takes a special place in different society and cultural group who are dependent on them. So here the researcher tried to analyze the different activities performed by farmer and farm women with respect to animal management activity.

6.1.15. Cattle management activities

Sl. No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of animal	1.13	62.33*	2.58	14*	1.85	38.16
2	Cleaning cattle shed	2.58	14*	1.68	44*	2.13	29
3	Cleaning the animal	2.55	15*	1.68	44*	2.11	29.5
4	Fetching water for animal	2.73	9*	1.2	60*	1.96	34.5
5	Collection of fodder	2.63	12.33*	1.75	41.66*	2.19	26.99
6	Preparation of cattle feed	2.7	10*	1.56	48*	2.13	29
7	Feeding the animal	2.6	13.33*	1.7	43.33*	2.08	28.33
8	Milking	1.71	43*	2.61	13*	2.16	28
9	Making curd, butter, ghee	2.28	24	2	33.33	2.14	28.66
10	Marketing milk & its product	2.26	24.66	2.1	30	2.18	27.33
11	Taking care of sick animal	2.61	13	2.5	16.66	2.55	14.83

*significant CR value observed

It may be observed from the table 6.1.7. that maximum gap was observed in the activity of purchase of animal and that is 38.16 percent; where as a minimum of 14.83 percent of gap was observed in the activity of taking care of sick animal with concern to cattle management. So the table shows that fewer gaps was observed in the performing of animal management activities with respect to cattle management, so it can be concluded that both farmer and farm women were actively performing these activities but there are some significant difference in critical ratio value of some activities.

While comparing the performing activities between farmer and farm women, then it was observed that farmer were more actively performing the activities like purchase of animal and milking activities; whereas farm women take a dominant role in doing other mentioned activities than farmer. So farm women play a vital role in performing cattle management activities.

The table also depicted that purchase of animal and milking were predominantly done by farmers, where as fetching water for animal, preparation of cattle feed and feeding, cleaning the animal and cattle shed mostly done by farm women. A significant critical ratio value of difference were observed with respect to the activities of purchase of animal, cleaning cattle shed, cleaning the animal, fetching water for animal, collection fodder, preparation of feed, feeding the animal and milking, which established the fact that there was a significant difference between the performed activities of farm women and farmers with respect to cattle management.

6.1.16. Poultry management

Sl. No.	Parameters	Farm women		farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of birds	1.38	54*	2.32	22.66*	1.85	38.33
2	Preparation of feed	2.46	18*	1.89	37*	2.17	27.5
3	Feeding	2.61	13*	1.95	35*	2.28	24
4	Collection of egg	2.36	21.33	2.3	23.33	2.33	22.33
5	Selling birds and egg	2.25	25	2.49	17	2.37	21
6	Taking care of sick birds	2.48	17.33	2.5	16.66	2.49	16.99

*significant CR value observed

It may be observed from the table 6.1.8. that maximum gap of 38.33 percent was observed in the activity purchase of birds and a minimum of 16.99 percent gap was observed in the activities of taking

care of sick birds. A fewer gap was observed in the activities related to poultry management, so it may be concluded that both farmer and farm women were actively performing poultry management activities.

While comparing the performed activities of farmer and farm women , then it was observed that farmer were actively perform the activities purchase of birds, selling birds and eggs and taking care of sick birds, where as farm women were taking a dominant role in performing the activities like preparation of feed, feeding and collection of eggs than farmer.

The table also depicted that purchase of birds were mainly performed by farmers, where as preparation of feed and feeding activities were performed by farm women to a great extent. A significant critical ratio value of difference were observed with respect to these activities those were purchase of birds, preparation of feed and feeding, which established the fact that there was a significant difference between the performed activities of farm women and farmers with respect to poultry management.

c. <u>Household management</u>

As we consider gender roles, along with agriculture and allied activities household activities also took a place in their lives. So for analyzing the gender roles here researcher tried to give a vision of performed activities of household management.

6.1.17. Household management

Sl. No.	parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of food items	2.66	11.33*	2.03	32.33*	2.34	21.83
2	Purchase of household materials	2.56	14.66*	2.1	30*	2.33	22.33

3	Collection of fuel wood	2.6	13.33*	1.65	45*	2.12	29.16
4	Collection of water	3	0*	1	66.66*	2	33.33
5	Cleaning house	3	0*	1	66.66*	2	33.33
6	Cooking food	3	0*	1	66.66*	2	33.33
7	Care of children	2.86	4.66*	2.3	23.33*	35.91	13.99
8	Care of elder members	2.79	7*	2.1	30*	2.44	18.5
9	Social rituals	2	33.33	2	33.33	2	33.33
10	Rope making	1	66.66	1	66.66	1	66.66
11	Preparation of fuel by cow dung	2.73	9*	1	66.66*	1.86	37.83
12	Mushroom cultivation	1	66.66	1	66.66	1	66.66
13	Badi and papad making	1	66.66	1	66.66	1	66.66
14	Housing budget	2.51	16.33	2.48	17.33	2.49	16.83
15	Backyard gardening	2.78	7.33*	2	33.33	2.39*	20.33

It may be observed from the table 6.1.9. that a maximum gap of 66.66 percent was observed in the following activities like making rope, mushroom cultivation and preparation of badi and papad. These activities were not much performed by the respondent, so maximum gap was found. A minimum gap of 13.99 percent was observed in the activity of taking care of children. Hence there is a large variation observed in gap percentage of mentioned performed activities so it can be concluded that some activities were purely performed my farmwomen only.

While comparing the performed activities of farmer and farm women, it may be observed that farmer were performing some activities but not to a remarkable limit. But farm women were playing a dominant role in performing the activities related to household management.

The table also depicted that, there is a great significant difference of values of critical ratio were observed in some activities like, purchase of food items, purchase of household materials, collection of fuel wood, collection of water, cleaning of house, cooing food, care of children, care of elderly member, preparation of fuel by

cow dung and back yard gardening. Hence these activities were exclusive domain of farm women in the study area and farmers had a minimum performance with respect to these activities.

Maximum & minimum performed activities of farmers and farm women

Table 6.1.18. Crop management

maximum performing activities	Farmers	Farm women
1	Land leveling and ploughing	Stubble collection
2	Application of basal dose	Land leveling and ploughing
3	Cleaning field	Cleaning of fields
4	Forming ridges and furrows	Nursery raising
5	Seed treatment	Sowing
6	Sowing	Transplanting the seedling
7	Preserving seeds for future use	Seed broadcasting
8	Transplanting the seedling	Thinning and gap filling
9	Seed broadcasting	Earthing up
10	Irrigation	Application of weedicide
11	Cleaning irrigation channel	Application of pesticide
12	Application of weedicide	Weeding
13	Application of pesticide	Harrowing
14	Collection and heaping	Reaping of crops
15	Drying and cleaning	Collection and heaping
16	Transporting for storage	Bunding and transplanting
17	storing	Threashing
18	Transport to market	Winnowing
19	Labour management	Drying and cleaning
20	Accounting	Transporting for storage
21	-	storing
Minimum performing activities	farmers	Farm women
1	Preparation of compost	Preparation of compost
2	Beushuning operation	Transporting manure
3	Khelua operation	Beushuning operation
4		Khelua operation
5		Transport to market
6		Marketing of produce
7		Labour management
8		Accounting

Table 6.1.19. Animal management activity

maximum performing activities	Farmers	Farm women
1	Purchase of animal	Cleaning cattle shed
2	Milking	Cleaning the animal
3	Taking care of sick animal	Fetching water for animal
4	Sealing birds and eggs	Collecting fodder for animal
5	Taking care of sick birds	Preparation of cattle feed
6	-	Feeding the animal
7	-	Making milk products
8	-	Taking care of sick animals
9	-	Preparation of feeds for birds
10	-	Feeding the birds
11	-	Taking care of sick birds
Minimum performing activities	farmers	Farm women
1	Cleaning cattle shed	Purchase of animal
2	Cleaning the animal	Milking
3	Fetching water for animal	Purchase of birds
4	Collecting fodder for animal	-
5	Preparation of cattle feed	-
6	Feeding the animal	-

Table 6.1.20 .Household management

maximum performing activities	Farmers	Farm women
1	Housing budget	Purchase of food items
2	-	Purchase of household materials
3	-	Collection of fuel wood
4	-	Collection of water
5	-	Cleaning house
6	-	Cooking food
7	-	Care of children
8	-	Care of elder members
9	-	Preparation of fuel by cow dung
10	-	Housing budget
11	-	Backyard gardening

Minimum performing activities	farmers	Farm women
1	Collection of fuel wood	Rope making
2	Collection of water	Mushroom cultivation
3	Cleaning house	Badi and papad making
4	Cooking food	-
5	Rope making	-
6	Preparation of fuel by cow dung	-
7	Mushroom cultivation	-
8	Badi and papad making	-

Correlation between Socio-Economic character & performed activities of farmers & farm women

The researcher also tried to find out the possible relationship between the socio-economic characters of the respondents with the performed activities.

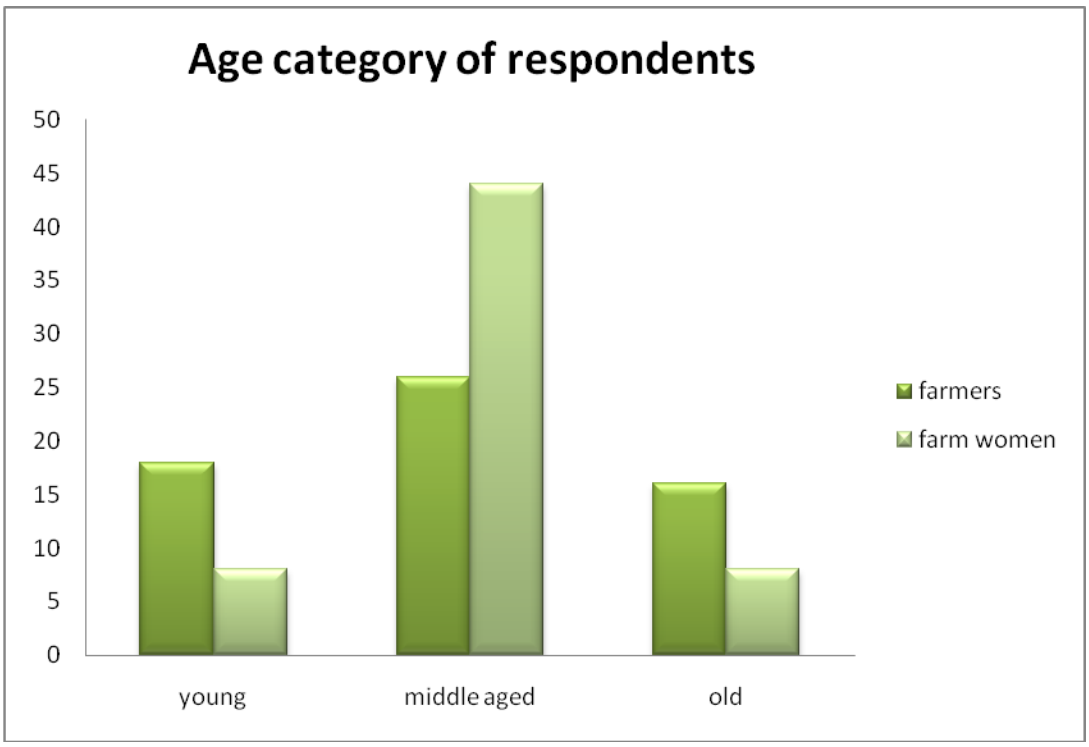
Table 6.1.21 : Correlation between Socio-Economic character & performed activities of farmers & farm women

Parameters	Crop management activities		Animal management activities		Household management activities	
	Farmers	Farm women	Farmers	Farm women	Farmers	Farm women
Education	0.087	0.312*	-0.189	-0.261*	0.228	-0.128
Income	0.040	0.321*	-0.396*	-0.084	0.048	-0.006
Land possesion	-0.041	0.388*	-0.154	-0.188	0.165	0.025
Cosmopoliteness	0.149	-0.209	-0.223	0.208	0.195	0.165
Extension contact	0.274*	0.173	0.104	0.023	0.267*	-0.134

It was seen from the table 6.1.18 that, there was positive & significant correlation between education, income, and land possession with performing crop management activities of farm women whereas a significant correlation between extension contact and performing crop management activities was established with respect to farmers. So, it may be concluded that, increase in education, income and land possession increased the possibility of

participation of farm women in various crop activities. But, the farmers having more extension contact were more active in crop management and also in household activities.

Further, it was seen that education was negatively related with performance of farm women in animal management activities. So, it may be concluded that less educated farm women were only active in animal management activities. But, animal management requires some degree of education to be successful. Hence, better educated farm women should be trained in animal management activities for capacity building and empowerment of farm women.


Age category of respondents
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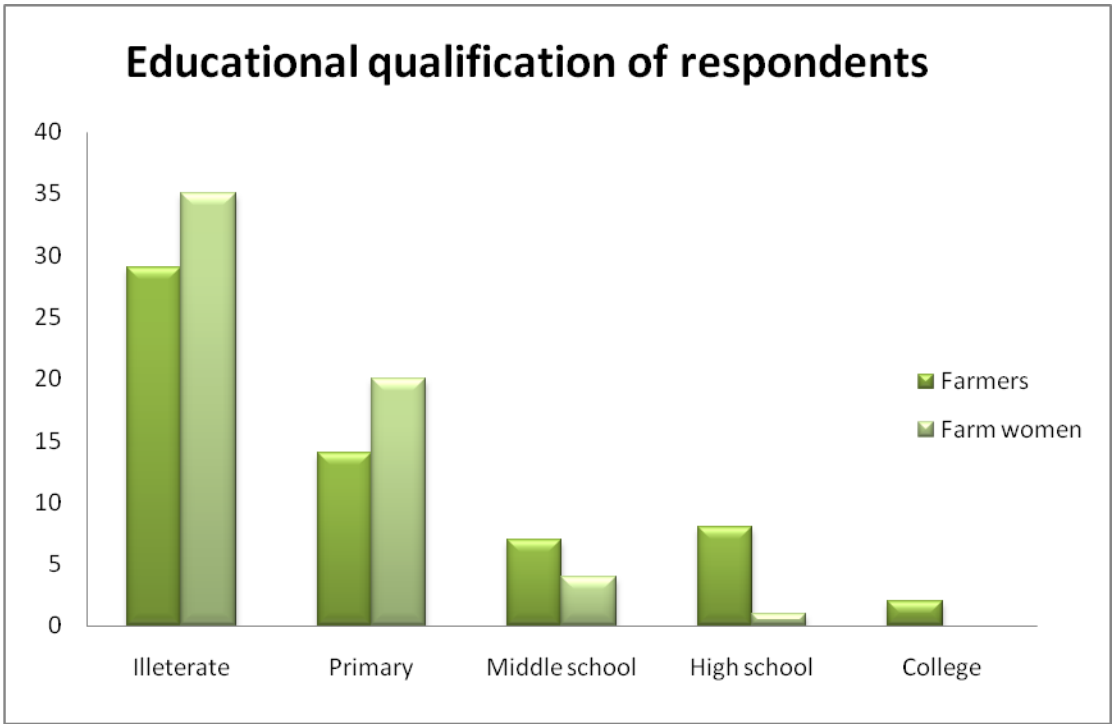
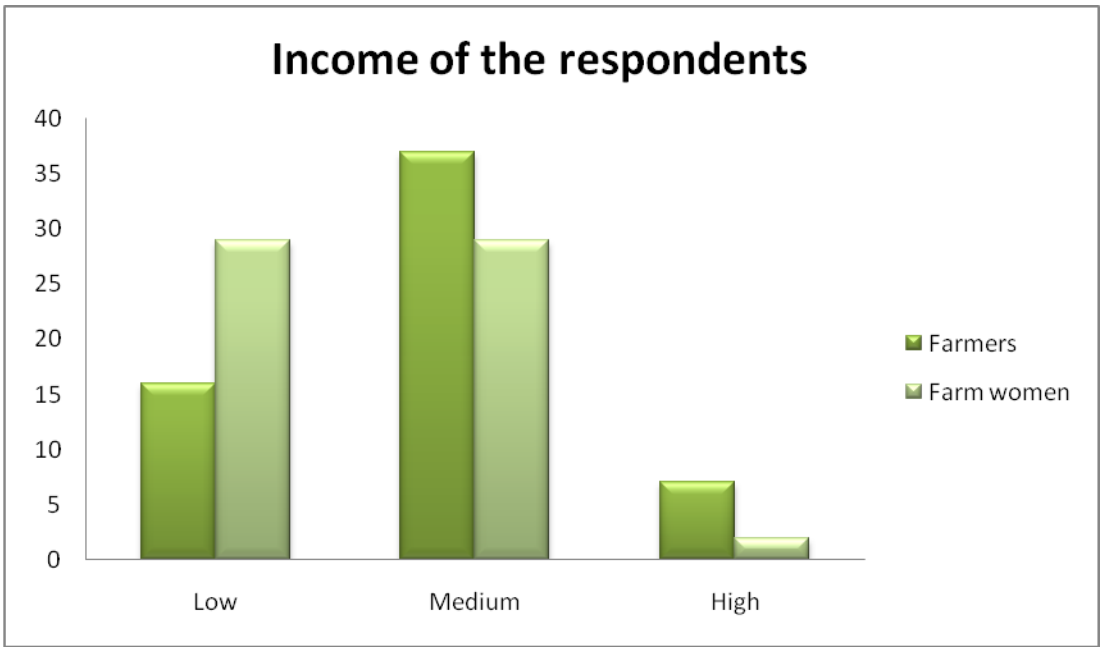
35
30
25
20
15
10
5
0
young
middle aged
old
farmers
farm women


Educational qualification of respondents
40
35
30
25
20
15
10
5
0
Illeterate
Primary
Middle school
High school
College
Farmers
Farm women


Income of the respondents
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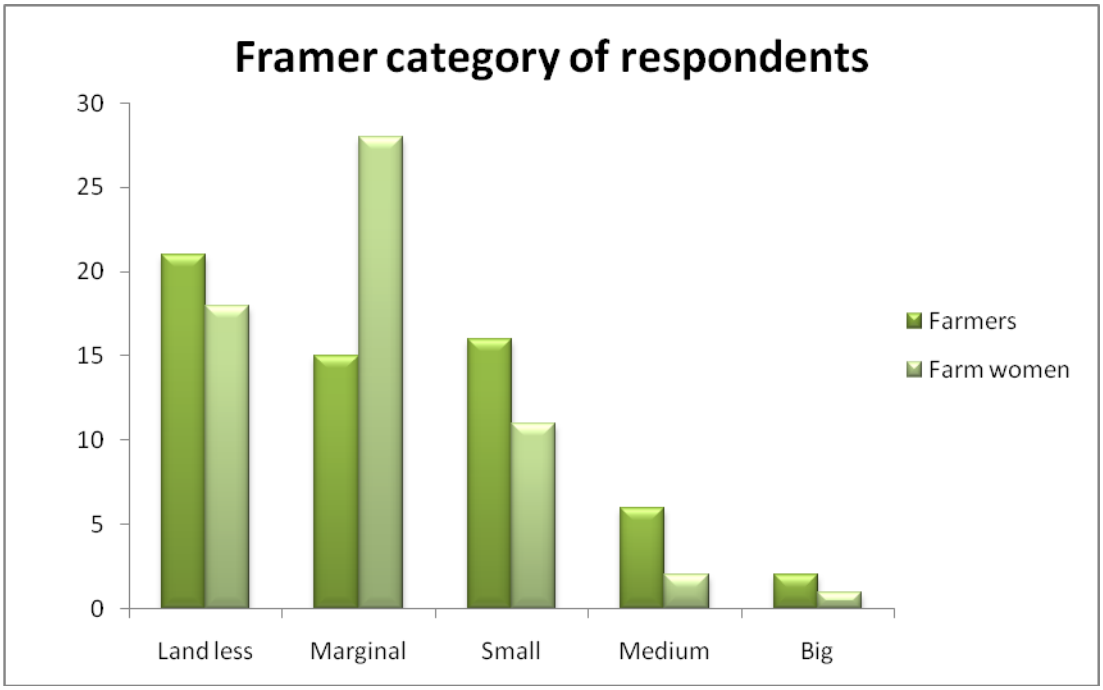
35
30
25
20
15
10
5
0
Low
Medium
High
Farmers
Farm women


Framer category of respondents
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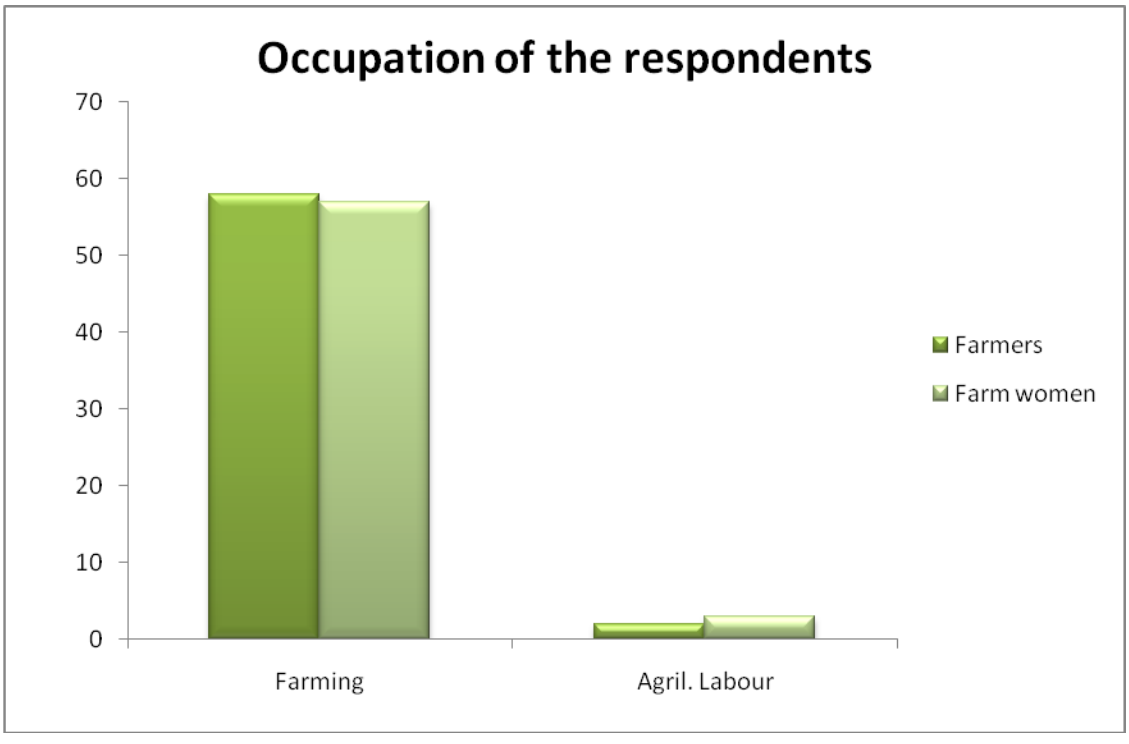
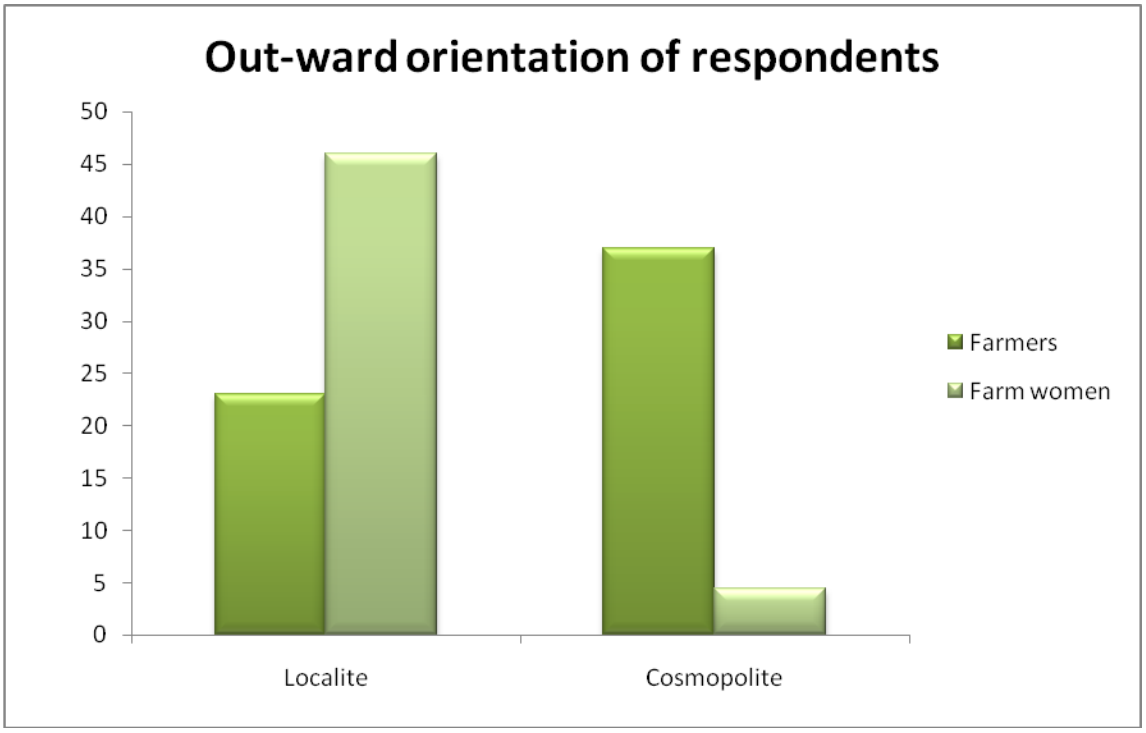
25
20
15
10
5
0
Land less
Marginal
Small
Medium
Big
Farmers
Farm women


Occupation of the respondents
70
60
50
40
30
20
10
0
Farming
Agril. Labour
Farmers
Farm women


Out-ward orientation of respondents
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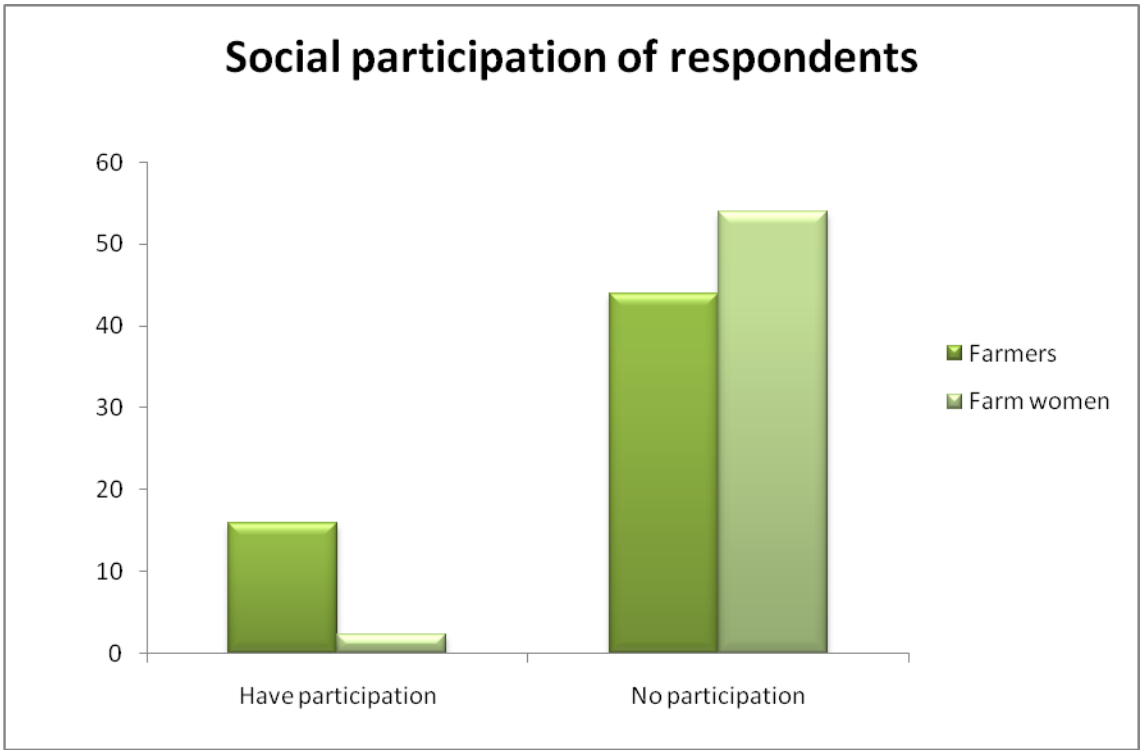
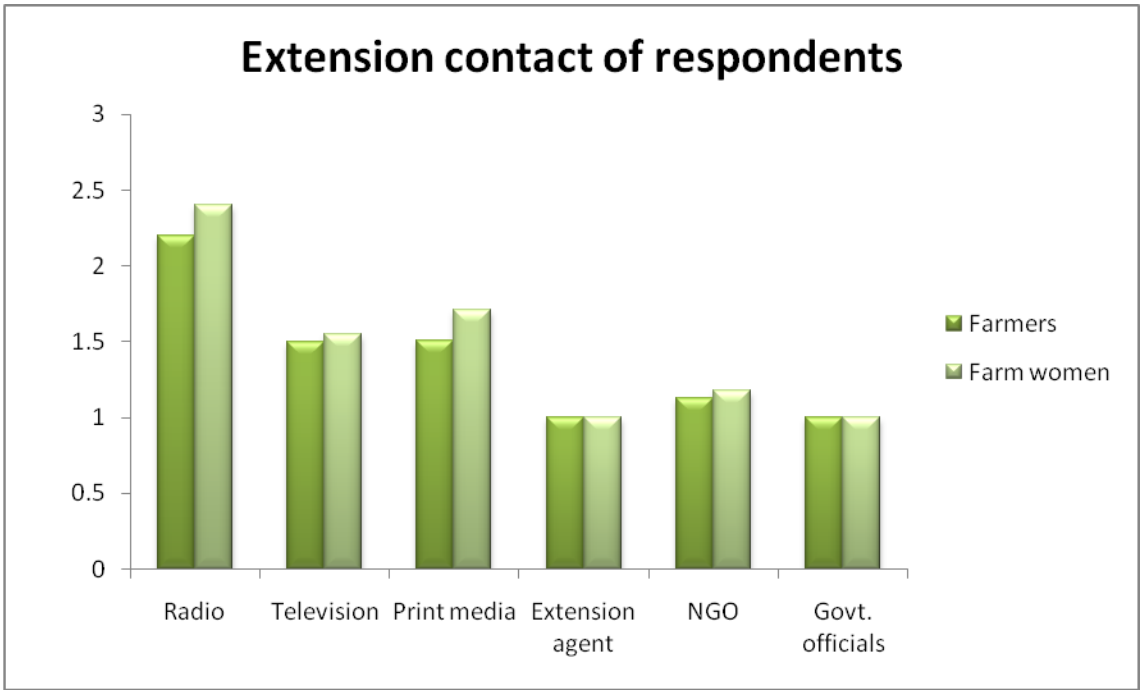
45
40
35
30
25
20
15
10
5
0
Localite
Cosmopolite
Farmers
Farm women


Social participation of respondents
60
50
40
30
20
10
0
Have participation
No participation
Farmers
Farm women


Extension contact of respondents
3
2.5
2
1.5
1
0.5
0
Radio
Television
Print media
Extension agent
NGO
Govt. officials
Farmers
Farm women

Objective -2

It is common that farmers and farm women are engaged in agricultural sector to a great extent but the extent of involvement vary with respect to both the categories. From the objective-1 we observed that farm women were performing some of the agricultural activities and farmers in some other. But their extents of involvement in those activities are to be analyzed to know their degree of penetration within the agricultural and allied activities in their daily job. Hence, the researcher tried to identify the degree of involvement of farm women and farmers separately with a three point scale continuum. The result so obtained could be visible from the following tables.

a. <u>Crop management activities</u>

Table 6.2.1. Extent of involvement in land preparation

Sl. No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Stubble collection	2.68	10.66*	2.21	26.33*	2.44	18.49
2	Land leveling and ploughing	2.63	12.33	2.53	15.66	2.58	13.99
3	Application of basal dose	2.50	16.66	2.58	14.00	2.54	15.33
4	Cleaning of field	2.58	14.00*	2.35	25.00*	2.46	19.50
5	Forming ridges and furrows	2.48	17.33	2.30	23.33	2.39	20.33

*significant CR value observed

It was observed from table 6.2.1. that in pooled data maximum involvement was observed in the activity that is land leveling and ploughing i.e. 13.99 percent gap and minimum involvement was observed in the activity of forming ridges and furrows i.e. 20.33 percent of gap.

While comparing the extent of involvement between farm women and farmers, then it was observed that maximum involvement of farm women occurred in the activity of stubble collection and the minimum in the forming ridges and furrows. On the contrast the farmers of sample area were deeply involved in the activity of application of fertilizer application and minimum involvement was observed with respect to stubble collection.

A significant difference between degree of involvement of farmers and farmwomen was also observed with respect to activities like stubble collection and cleaning of fields. This might be due to the reason that farm women in the sample area were engaged in some other household activities for which their involvement was less in forming ridges and furrows, application of fertilizer and cleaning of fields. As farmers are genetically stronger in muscle power than farm women they were much involved in the activities like application of fertilizer and land leveling and ploughing. The result obtained in this research is in agreement of (1995) Vijayalakshmi.

Table 6.2.2. extent of involvement in seed and seed sowing

Sl. no	Parameters	Far women		Farmer		Total	
		M.S.	Gap %	M.S.	Gap %	M.S.	Gap %
1	Seed treatment	2.28	24.00	2.30	23.33	2.29	23.66
2	Nursery raising	2.46	18.00	2.53	15.66	2.49	16.83
3	Sowing	2.45	18.33	2.31	23.00	2.38	20.66
4	Preserving seeds for future use	2.45	18.33	2.55	15.00	2.50	16.66
5	Transplanting the seedling	2.65	11.66	2.45	18.33	2.55	14.99
6	Seed broad casting	2.61	13.00	2.80	6.66	2.70	9.83

*significant CR value observed

It was observed from the table 6.2.2 that a maximum involvement was found in the activity of seed broadcasting activity that is a gap percent of 9.83 percent and a minimum involvement was observed in the activity of seed treatment activity that is a gap of 23.66 percent.

While comparing the extent of involvement of farm women and farmers it was observed that the maximum involvement of farm women observed in the activities of transplanting the seedlings and minimum involvement was found in the activity of seed treatment. On contrast the farmers of sample area were deeply engaged in the activity of seed broadcasting and minimum involvement was observed in the activity of seed treatment.

Here we can observe that there was no significant difference was found with respect to the activities related to seed and seed sowing. This might be due to the reason that both farmer and farm women were equally involved in the activities related to seed and seed sowing. So here it can be conclude that both categories of the respondent were having the more or less similar extent of involvement with respect to these activities. The result obtained in this research is in agreement of Sinha and Singh (2000).

Table 6.2.3. Extent of involvement in manures and manuring

Sl No.	parameters	Farm women		Farmer		Total	
		M.S.	Gap %	M.S.	Gap %	M.S.	Gap %
1	Preparation of compost	1.00	66.66	1.10	63.33	1.05	64.99
2	Transporting manure	1.10	63.33*	2.31	23.00*	1.70	43.16
3	Application of fertilizer	1.71	43.00*	2.75	8.33*	2.23	25.66

*significant CR value observed

It was observed fro the table 6.2.3. that maximum involvement was observed in the activity of application of fertilizer that is a gap percent of 25.66 percent and a minimum involvement was observed in the activities of preparation of compost and FYM.

While comparing the extent of involvement of farm women and farmers, then it was observed that maximum involvement of farm women were occurred in application of fertilizer activity and minimum involvement were occurred in preparation of compost activity. In case of farmers also we observed the same thing but the degree of involvement was different.

A significant difference between degree of involvement of farm women and farmers were also observed with respect to activities like application of fertilizer and transporting manure. This might be the reason that the activities related to manure and manuring were mostly done by male person. Here role of female is less due to their biological difference. So farmers were greatly involved in these activities as compared to farm women.

Table 6.2.4. Extent of involvement in intercultural operation

sl No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S.	Gap %	M.S.	Gap %
1	Irrigation	2.18	27.33*	2.78	7.33*	2.48	17.33
2	Cleaning irrigation channel	2.50	16.66	2.41	19.66	2.45	18.16
3	Thinning and gap filling	2.68	10.66*	2.31	23.00*	2.49	16.83
4	Earthing up	2.53	15.66	2.66	11.33	2.59	13.49
5	Beushining operation	1.00	66.66	1.00	66.66	1.00	66.66
6	Khelua operation	1.00	66.66	1.00	66.66	1.00	66.66
7	Application of weedicide	2.33	22.33*	2.88	4.00*	2.60	13.16
8	Application of pesticide	2.30	23.33*	2.86	4.66*	2.58	13.99
9	Weeding	2.71	9.66*	2.35	21.66*	2.53	15.66
10	Harrowing	2.70	10.00*	2.30	23.33*	2.50	16.66

*significant CR value observed

It was observed from the table 6.2.4. that, maximum involvement was observed in the activity application of weedicide and minimum involvement was observed in the activities of beushning and khelua operation. It was due to the reason that, the respondents generally did not perform those activities.

While comparing the extent of involvement of farm women and farmers, then it was observed that maximum involvement of farm women were occurred in the activities like weeding and minimum involvement was observed in the activities like beushuning and khelua operation. On the contrast the farmers of sample areas were deeply involved in the activities of application of weedicide and pesticides and minimum involvement were observed in the activities of beushining and khelua operation.

A significant difference between degree of involvement of farmers and farm women was also observed with respect to the activities like irrigation, thinning and gap filling, application of weedicide and pesticide, weeding and harrowing activities. This might be due to the reason that farm women in the sample area were deeply involved in some activities related to intercultural operation and farmers were doing some other activities. But their individual roles with respect to intercultural operation were remarkable. The result obtained in this research is in agreement of Chavannavar (1990).

Table 6.2.5. Extent of involvement in harvesting

Sl no	parameters	Farm women		Farmer		Total	
		M.S	Gap %	M.S	Gap %	M.S	Gap %
1	Reaping crops	2.65	11.66*	2.30	23.33*	2.47	17.49
2	Collection and heaping	2.60	13.33	2.35	21.66	2.47	17.49
3	Bunding and transplanting	2.80	6.66*	2.25	25.00*	2.52	15.83
4	Threshing	2.60	13.33	2.31	23.00	2.45	18.16
5	Winnowing	2.50	16.66	2.28	24.00	2.39	20.33
6	Drying and cleaning	2.66	11.33	2.41	19.66	2.53	15.49
7	Transporting for storage	2.76	8.00	2.61	13.00	2.68	10.50
8	Storing	2.40	20.00	2.56	14.66	2.48	17.33

*significant CR value observed

It was observed from table 6.2.5. that, maximum involvement was observed in the activity of transporting of storage and minimum involvement was observed in the activity of winnowing with respect to harvesting activities was concern.

While comparing the extent of involvement of farm women and farmers with respect to harvesting activities, then it was observed that maximum involvement of farm women occurred in the activity of bunding and transplanting and the minimum involvement in the activity of storing. On the contrast the farmers of sample area were deeply involved in the activity of transporting for storage and minimum involvement was found in the activity of bunding and transplanting.

A significant difference between degree of involvement of farmers and farm women was also observed with respect to activities like reaping of crops, bunding and transplanting. The table also depicted that farm women were having more degree of involvement in the activities with respect to harvesting than farmers except only one activity that is storing. So here it can be concluded that farm women

were more involved in activities related to harvesting. The result obtained in this research is in agreement of Senthamarai (1996).

Table 6.2.6. Extent of involvement in marketing

Sl No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap %	M.S	Gap %	M.S	Gap %
1	Transport to market	1.66	44.66*	2.23	25.66*	1.94	18.66
2	Marketing of produce	1.48	50.66*	2.63	12.33*	2.05	31.49
3	Labour management	1.11	63.00*	2.85	5.00*	1.98	34.00
4	Accounting	1.26	58.00*	2.66	11.33*	1.96	34.66

*significant CR value observed

It was observed from the table 6.2.6. that, maximum involvement was observed in the activity of transport to market and minimum involvement was observed in the activity of accounting with respect to the activities related to marketing.

While comparing the extent of involvement of farm women and farmers with respect to activities related to marketing, then it was observed that maximum involvement of farm women occurred in the activity of transport to market and minimum in labour management. On the contrast the farmers of sample area were deeply involved in the activity of lobour management and minimum involvement was observed in the activity of transport to market.

A significant difference between degree of involvement of farmers and farm women were also observed with respect to all above mentioned activities with respect to marketing is concern. Here it can be observed that all activities related to marketing were mostly done by farmers and greatly involvement was also found in these activities.

b. Animal management

In rural community it was obvious that people keep domestic animals in household. Their management was usually done by female members as compared to male members. Here the researcher analyzes the extent of involvement different activities related to animal management were mentioned below.

Table 6.2.7. Extent of involvement in cattle management

Sl. No.	Parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of animal	1.20	60.00*	2.51	16.33*	1.85	38.16
2	Cleaning cattle shed	2.60	13.33*	1.48	50.66*	2.04	31.99
3	Cleaning the animal	2.60	13.33*	1.63	45.66*	2.11	29.49
4	Fetching water for animal	2.83	5.66*	1.00	66.66*	1.91	36.16
5	Collection of fodder	2.66	11.33*	1.41	53.00*	2.03	32.16
6	Preparation of cattle feed	2.65	11.66*	1.00	66.66*	1.82	39.16
7	Feeding the animal	2.58	14.00*	1.51	49.66*	2.04	31.83
8	Milking	1.93	35.66*	2.75	8.33*	2.34	21.99
9	Making curd, butter, ghee	2.33	22.33*	1.21	59.66*	1.77	40.99
10	Marketing milk & its product	2.25	25.00*	2.55	15.00*	2.40	20.00
11	Taking care of sick animal	2.43	19.00*	1.51	49.66*	1.97	34.33

*significant CR value observed

It was observed from the table 6.2.7. that maximum involvement was observed in the activity of marketing of milk and product and minimum involvement was observed in the activity of marketing curd, butter and ghee activity, with respect to cattle management activities.

While comparing the extent of involvement of farm women and farmers with respect to the activities related to cattle management, then it was observed that farm women were deeply involved in the activities of fetching of water for animal and minimum involvement was found in the activity of purchasing of animal. On the contrast the

farmers of the sample area were deeply involved in the activities of milking and minimum involvement was observed in the activities of fetching water for animal and preparation of cattle feed.

A significant difference between degree of involvement of farmers and farm women was also observed with respect to all the above mentioned activities. Here it can also be observed that there is a great variation found in all those activities related to cattle management. Here it can be conclude that farm women were greatly involved in all activities expect milking, purchase of animal and marketing of mil and milk produce, because the main decision was taken by farmers and farm women were doing the physical work mostly in this particular activity. The result obtained in this research is in agreement of Sheela et al (1995) and Sethini (1995).

Table 6.2.8. Extent of involvement in poultry management

Sl. No.	Parameters	Farm women		farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of birds	1.35	55.00*	2.90	3.33*	2.12	29.16
2	Preparation of feed	2.43	19.00*	1.39	53.66*	1.91	36.33
3	Feeding	2.70	10.00*	1.29	57.00*	1.99	33.50
4	Collection of egg	2.50	16.66*	1.63	45.66*	2.06	31.16
5	Selling birds and egg	2.45	18.33	2.64	12.00	2.54	15.16
6	Taking care of sick birds	2.50	16.66*	1.54	48.66*	2.02	32.66

*significant CR value observed

It was observed from the table 6.2.8. that maximum involvement was observed in the activities like selling of birds and eggs and minimum involvement was observed in the activities like preparation of feed with respect to poultry management activities.

While comparing the extent of involvement of farm women and farmers, then it was observed that maximum involvement of farm

women occurred in the activity of feeding to the birds and the minimum involvement in purchasing of birds. On the contrast the farmers of sample area were deeply involved in the activity of purchase of birds and minimum involvement was observed in the activity of feeding.

A significant difference between degree of involvement of farmers and farm women was also observed with respect to all activities except selling birds and eggs. Here it can be said that farm women were having a great involvement in the activities related to poultry management as compared to farmers. The only activity where no significant difference was found between farmers and farm women in the selling of birds and eggs, so it can be concluded that both farmers and farm women were doing the activity to a great extent.

c. Household management

Table 6.2.9. Extent of involvement in household management

Sl. No.	parameters	Farm women		Farmer		Total	
		M.S	Gap%	M.S	Gap%	M.S	Gap%
1	Purchase of food items	2.53	15.66*	1.93	35.66*	2.23	25.66
2	Purchase of household materials	2.48	17.33*	1.81	39.66*	2.14	28.49
3	Collection of fuel wood	2.58	14.00*	1.66	44.66*	2.12	29.33
4	Collection of water	3.00	0*	1.00	66.66*	2.00	33.33
5	Cleaning house	3.00	0*	1.00	66.66*	2.00	33.33
6	Cooking food	3.00	0*	1.00	66.66*	2.00	33.33
7	Care of children	2.73	9.00*	1.41	53.00*	2.07	31.00
8	Care of elder members	2.61	13.00*	1.51	49.66*	2.06	31.33
9	Social rituals	2.00	33.33	2.00	33.33	2.00	33.33
10	Rope making	1.00	66.66	1.00	66.66	1.00	33.33
11	Preparation of fuel by cow dung	2.60	13.33*	1.00	66.66*	1.80	39.99
12	Mushroom cultivation	1.00	66.66	1.00	66.66	1.00	66.66
13	Badi and papad making	1.00	66.66	1.00	66.66	1.00	66.66
14	Housing budget	2.46	18.00*	1.83	39.00*	2.14	28.50
15	Backyard gardening	2.60	13.33*	1.58	47.33*	2.09	30.33

*significant CR value observed

It was observed from the table 6.2.9 that maximum involvement was observed in the activity of purchase of food items and minimum involvement was found in the activity of mushroom cultivation and making badi and papad, because the sample respondent usually did not perform these activities.

While comparing the extent of involvement of farm women and farmers, then it was observed that maximum involvement of farm women occurred in the activity of collection of water, cooing of food and cleaning house and minimum involvement was observed in the activities like rope making, mushroom cultivation and making badi and papad. On contrast the farmers of sample area were deeply engaged in the activities like attending social rituals and minimum involvement was observed in any activities like collecting water, cleanliness of house, cooking food, rope making, preparation of fuel by cowdung, mushroom cultivation and making badi and papad.

A significant difference between degree of involvement of farmers and farm women was also observed with respect to activities like purchase of food items, purchase of household materials, collection of fuel wood, collecting of water, cleanliness of house, cooking of food, care of children, care of elderly members, preparation of fuel by cow dung, making housing budget and backyard garden. The result obtained in this research is in agreement of Timsina et al. (1996).

Maximum & minimum involvement of farmers and farm women in different agricultural and allied activities

Table 6.2.10. Crop management

Maximum involved activities	Farmers	Farm women
1	Land leveling and ploughing	Stubble collection
2	Application of basal dose	Land leveling and ploughing
3	Nursery raising	Application of basal dose
4	Preserving seeds for future use	Cleaning fields
5	Transplanting seedling	Forming ridges and furrows
6	Seed broadcasting	Nursery raising
7	Application of fertilizer	Sowing
8	Irrigation	Preserving seeds for future use
9	Cleaning irrigation channel	Transplanting seedling
10	Earthing up	Seed broadcasting
11	Application of weedicide	Cleaning irrigation channel
12	Application of pesticide	Thinning and gap filling
13	Weeding	Weeding
14	harrowing	harrowing
15	Drying and cleaning	Reaping of crops
16	Transporting for storage	Collection and heaping
17	storing	Bunding and transplanting
18	Marketing of the produce	Threashing
19	Lobour management	Winnowing
20	accounting	Drying and cleaning
21		Transporting for storage
22		storing
Minimum involved activities	Farmers	Farm women
1	Preparation of compost	Preparation of compost
2	Beushuning operation	Transporting manure
3	Khelua operation	Application of fertilizer
4		Beushuning operation
5		Khelua operation
6		Transport to market
7		Marketing of produce
8		Labour management
9		Accounting

Table 6.2.11. Animal management

Maximum involved activities	Farmers	Farm women
1	Purchasing of animal	Cleaning cattle shed
2	Milking	Cleaning the animal
3	Marketing milk and milk produce	Fetching water for animal
4	Purchase of birds	Collecting fodder for animal
5	Sealing birds and eggs	Preparation of cattle feed
6	-	Feeding the animal
7	-	Taking care of sick animals

8	-	Preparation of feeds for birds
9	-	Feeding the birds
10	-	Collection of eggs
11	-	Sealing birds and eggs
12	-	Taking care of sick birds
Minimum involved activities	Farmers	Farm women
1	Cleaning cattle shed	Purchasing of animal
2	Cleaning the animal	Purchasing of birds
3	Fetching water for animal	-
4	Collecting fodder for animal	-
5	Preparation of cattle feed	-
6	Feeding the animal	-
7	Making milk products	-
8	Taking care of sick animal	-
9	Preparation of feed	-
10	Feeding the birds	-
11	Collection of eggs	-
12	Taking care of sick birds	-

Table 6.2.12. Household management

Maximum involved activities	Farmers	Farm women
1	-	Purchase of food items
2	-	Purchase of household materials
3	-	Collection of fuel wood
4	-	Collection of water
5	-	Cleaning house
6	-	Cooking food
7	-	Care of children
8	-	Care of elder members
9	-	Preparation of fuel by cow dung
10	-	Housing budget
11	-	Backyard gardening
Minimum involved activities	Farmers	Farm women
1	Collection of fuel wood	Rope making
2	Collection of water	Mushroom cultivation
3	Cleaning house	Badi and papad making
4	Cooking food	-
5	Care of children	-
6	Care of elder members	-
7	Rope making	-
8	Preparation of fuel by cow dung	-
9	Mushroom cultivation	-
10	Badi and papad making	-
11	Backyard gardening	-

Correlation between Socio-Economic character & degree of involvement of farmers & farm women in various agriculture and allied activities

The researcher also tried to find out the possible relationship between the socio-economic characters of the respondents with the degree of involvement in various agricultural & allied activities.

Table:6.2.13 : Correlation between Socio-Economic character & degree of involvement of farmers & farm women in various agriculture and allied activities

Parameters	Crop management		Animal management		Household management	
	Farmers	Farm women	Farmers	Farm women	Farmers	Farm women
Education	0.094	0.499*	-0.199	-0.084	0.133	-0.006
Income	0.067	0.262*	-0.342*	-0.093	-0.031	0.288*
Land possesion	-0.005	0.413*	-0.166	-0.305*	0.102	-0.086
Cosmopoliteness	0.192	-0.201	-0.254*	0.125	0.165	0.224
Extension contact	0.336*	0.172	0.158	-0.157	0.226	-0.241

It was seen from table.6.2.10 that, there was positive relationship between education, income and land possession with degree of involvement of farm women in crop management activities. Hence, it may be concluded that, better educated farm women having more family income and land possession had more involvement in crop management activities. But negative correlation value in land possession and income indicated that poor farm women with less landed property were more involved in animal management & household management activities.

Hence, it may be suggested here that educated and farm women from high income group in sample area should be trained in animal management & household management for their capacity building and to make them empowered.

Similarly, extension contact was positively related with involvement of farmers in crop management activities. It was natural that more training and exposure will develop the degree of involvement. So, more number of farmers in sample area should be covered under various training and demonstration programmes of line departments and local KVK.

A negative correlation value in case of income & cosmopoliteness with involvement of farmers in animal management activities implied that, poor and localite farmers were only active in animal management activities in the study area. Hence, it was suggested that resource rich farmers of the study area should be given maximum field exposure to make them competent in animal management areas.

Objective 3: To compare the decision making behaviour of farmers and farm women in different agricultural and allied activities.

It is obvious that mental decision precedes physical action. Farmers and farm women are taking separate decisions in various agricultural related activities. Hypothetically it is true that farmers are taking decisions on marketing, purchasing, selling, buying and labour related activities. Usually farm women are taking decisions on household activities, post harvest, seed treatment etc. it is necessary that person who is taking decision in one particular activity should be motivated for adoption of technology, inclusion in training programmes and planning for those activities. Therefore it was decided to analyze the decision making behaviour of sample respondents as a whole to indentify the male and female domain areas in decision making behaviour.

a. <u>Crop management decisions</u>

Table 6.3.1. Seed and seed sowing decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Selection of seed and variety	60	50.00	60	50.00
2	Purchase of seed	54	45.00	66	55.00
3	Seed rate	30	25.00	90	75.00*
4	Seed treatment	38	31.66	82	68.33*
5	Sowing season and time	26	21.66	94	78.33*
6	Method of sowing	24	20.00	96	80.00*

*significant CR value observed

As it was seen from table 6.3.1. that, decision in the area of sowing, seed treatment, seed rate, sowing season and time were farmer dominated where as farm women in the sample area only took major role in decisions in the segment of seed and variety selection. In

all other activities except selection of seed and variety usually the decision were taken by farmers in seed and sowing related activities.

Significant difference was observed in decision making behavior of farm women and farmers with respect to decisions like seed rate, sowing season, seed treatment and method of sowing. Hence, it may be concluded that in these areas the farmers were taking maximum decision in the sample area of study.

The results obtained here are in agreement with the results of Goswami *et al.* (2004).

Table 6.3.2. Transplanting decision

Sl.No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Transplanting	56	46.66	64	53.33
2	Broadcasting of seeds	56	46.66	64	53.33

As it was seen from table no. 6.3.2. that farmers were dominated in taking decision of the areas of transplanting seedling and broad casting of seeds that is 53.33 percent where as farm women were taking a little less degree of decision on these areas. So farmers were taking a major role in the field of transplanting of seedling. Here we can observe that farm women were greatly involved in the activities of transplanting and broadcasting but the decision was taken by farmers. As there was no significant difference of observed data on decision making it may be taken granted that the role of decision making with regard to transplanting operation was almost balanced between the farmers and farm women of sample area.

Table 6.3.3. Intercultural operation decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Weeding time	20	16.66	100	83.33*
2	Types of fertilizer	18	15.00	112	93.33*
3	Time of application	20	16.66	100	83.33*
4	Does of fertilizer	20	16.66	100	83.33*
5	Method of fertilizer application	20	16.66	100	83.33*
6	Using weedicide	42	35.00	78	65.00*
7	Using pesticide	44	36.66	76	63.33*
8	Thinning and gap filling	42	35.00	78	65.00*
9	Harrowing	42	35.00	78	65.00*

*significant CR value observed

As it was seen from table no. 6.3.3. that farm women were taking less decision about these areas of intercultural operations. Farmers were taking a dominant role in taking decision about different intercultural operations. But in case of some intercultural operations like using weedicide pesticide thinning, gap filling and harrowing farmwomen also participate in making decision. Farmers took a major role but farm women also participate in some cases. It may be concluded that, except weeding, gap filling, and harrowing, intercultural operation decisions were usually taken by the farmers to a great extent due to the fact that the women had a less interest on other areas as per the respondents' view. A significant CR value between the compared data concluded that, the role of farmers in the area of intercultural operation decision was very dominant over that of farm women.The results obtained here are in agreement with the results of Parichha and Das (1997).

Table 6.3.4. Manuring & Fertilizer application decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Type of manure	22	18.33	98	81.66*
2	Time of application	20	16.66	100	83.33*
3	Fertilizer application method	20	16.66	100	83.33*
4	Dose of manure	20	16.66	100	83.33*

*significant CR value observed

It was seen from table no. 6.3.4. that farmers were taking major role in the field of manure and manuring, farm women have less importance in taking decision about this field. So it was a purely farmers dominated area. A significant CR value between the compared data concluded that, the role of farmers in the area of manurig operation decision was very dominant over that of farm women.

Table 6.3.5. Land Preparation decision

Sl.No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Time of land preparation	20	16.66	100	83.33*
2	Land preparation method	20	16.66	100	83.33*

*significant CR value observed

It may be observed from table no.6.3.5. that farmers were taking major role in the field of preparation of land, and farm women have less importance in taking decision about this field. So it was a purely farmers dominated area. As farmers were greatly involved in those activities so they were taking the decision about these activities. A significant CR value between the compared data concluded that, the role of farmers in the area of land preparation decision was very dominant over that of farm women.

Table 6.3.6: Harvesting decisions

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Time of harvest	52	43.33	68	56.66
2	Method of harvesting	54	45.00	66	55.00

It was seen from table no. 6.3.6 that, both farmers and farm women were more or less equally involved in taking decision about the segment of harvesting. Farmers were more involved but farm women also taking part in almost upto the same degree. It was also observed that, farm women were dominant in harvesting activities. But, as the percentage difference data of farmer & farm women were not significant it may be concluded that the decision making role on harvesting was well balanced between the two genders.

Table 6.3.7: Storage decisions

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Quantity of seeds to be stored	72	60.00	48	40.00*
2	Method of storage	72	60.00	48	40.00*

*significant CR value observed

It was seen from the table that, farm women were taking dominate role in taking the decisions about these activities related to storage (significant CR value). Farmers also involved in this decision making process but farm women were taking major part in storage related decision due to cultural attribute of women to store the grain and produce in our household chores. It was also informed by the women respondents of the study area that, male members of the family had a very meager say about the activities of small store houses of the

respective households of the study area. The results obtained here are in agreement with the results of Patel *et al.* (1995).

Table 6.3.8: Marketing decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Quantity to be sold	72	60.00	48	40.00*
2	Selling time	74	61.66	46	38.33*
3	Selection of market price	30	25.00	90	75.00*
4	Mode of receiving payment	32	26.66	88	73.33*
5	Market place location	30	25.00	90	75.00*
6	Engagement of middlemen	16	13.33	104	86.66*

*significant CR value observed

As it was seen from this table that, in the area of marketing decisions farm women took dominate role in some area like quantity to be sold and selling time (upto approximately 60%), but in all other activities the decision was taken by farmers. In the sample area of study the agro-markets were located in far areas and the male members were deciding the sale of produce to a great extent. But, the women only were asked about the quantity of selling and the quantity to be kept for home consumption.The results obtained here are in agreement with the results of Seema (1986).

Table 6.3.9: Investment decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Buying land	66	55.00	54	45.00
2	Selling land	66	55.00	54	45.00
3	Leasing land	64	53.33	56	46.66
4	Purchasing equipment	38	31.66	82	68.33*
5	Hiring equipment	34	28.33	86	71.66*
6	Engaging labour	30	25.00	90	75.00*
7	Construction of farm house	32	31.66	88	68.33*
8	Buying pump set	32	31.66	88	68.33*
9	Digging well	30	25.00	90	75.00*
10	Getting loans and credit	34	28.33	86	71.66*
11	Purchasing agricultural Equipment	42	35.00	78	65.00*
12	Types of sharing	36	30.00	84	70.00*
13	Amount to be saved	64	53.33	56	46.66
14	Fixing of wage	24	20.00	96	80.00*

*significant CR value observed

It may be observed from the table that, some of the investment decisions were taken by farm women like buying land, selling land, leasing land, leasing out the land and amount to be saved. But the farmers were dominant in all other types of investment decision. Anyway, it was a good sign that the male members of sample household were gender sensitive and allowed the crucial inventory related decisions of the family to be taken by the farm women to a great extent. A significant CR value indicated that purchasing, hiring, labour, construction; loan, credit and wage decisions were predominantly male oriented in the sample area.The results obtained here are in agreement with the results of Rangneare et al, (1992) and Goswami *et al.* (2004).

b. Animal management

Table 6.3.10: Cattle management decisions

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Selection of milch animal	10	8.33	110	91.66*
2	Purchase of animal	9	7.50	109	90.83*
3	No. of animals to be kept	10	8.33	110	91.66*
4	Purchasing of fodder	22	18.33	98	81.66*
5	Types of feed and feeding	24	20.00	96	80.00*
6	Treatment of sic animal	16	13.33	104	86.66*
7	Quantity of milk to be sold	32	31.66	88	68.33*
8	Marketing of milk and milk product	24	20.00	96	80.00*
9	Engagement of labour	12	10.00	108	90.00*

*significant CR value observed

As it was seen from this table that, mainly the cattle management decisions were taken by farmers except quantity of milk to be sold to a reasonable extent (31.66%). The farm women of the sample area had less to very less role in decision making activity as

cattle management was concerned. But when we observed objective 2, farm women were greatly involved in cattle management activities, but while we take an account of decision making, their role were negligible. This happened probably due to the fact that in the sample area the women were culturally not so advanced to take decision on those areas and felt it safe and proper to vest those on the shoulder of their male counterparts.

Table 6.3.11: Poultry management decisions

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Selection of birds	10	8.33	110	91.66*
2	Purchasing of birds	8	6.66	112	93.33*
3	No. of birds to be reared	14	11.66	106	88.33*
4	Construction of poultry shed	8	6.66	112	93.33*
5	Marketing of birds	16	13.33	104	86.66*
6	Buying feed and feeding	22	18.33	98	81.66*
7	Taking care of see birds	16	13.33	104	86.66*

*significant CR value observed

As it was seen from this table that, all type of decisions were taken by farmers and only farm women had a little role or negligible role in decision making in the activity of poultry management, but there was a great involvement of farm women in this activity. It may be recommended here that, as the involvement of farm women was dominant in these activities development departments and policy planners should include much of the women farmers and home makers in various training and capacity building programmes and also the family members should be gender sensitized to seek the decision of farm women while operating these activities. A significant CR value indicated that, poultry management decisions were almost done by male members of families and the role of women in that area was very

less though the women had a major work load of poultry management works in the houses.

c. Household management

Table 6.3.12: Household management decision

Sl. No.	Parameter	Farm women		Farmer	
		f	%	f	%
1	Purchase of household goods	88	68.33	32	31.66*
2	To organize functions	60	50.00	60	50.00
3	Construction of home-assets	50	41.66	70	58.33
4	Housing budgets	62	51.66	58	48.00
5	Backyard gardening	108	90.00	12	10.00*
6	Arrange funds for household	52	43.33	68	56.66

*significant CR value observed

It was seen from this table that, decision taking on house hold activities were well balanced almost between farm women and farmers except the decision on backyard gardening (90% cases decisions were taken by farm women) where it was taken maximum by farm women as that was the tailor made activity of rural house wives. It may be concluded that, farm women had a strong decision making role in the areas of backyard gardening and purchase of household goods.

Table 6.3.13: Major decision makers in farm family of Sample Area

Sl.	Farm women's major decisions	Farmer's major decisions
1	Backyard gardening	Seed sowing
2	Housing budgets	Fertilizer
3	Purchase of household goods	Weeding
4	Amount to be saved	Land preparation
5	Selection of seed and variety	Equipment purchase
6	Quantity of seeds to be stored	Loan
7	Method of storage	Credit
8	Quantity to be sold	Wages
9	Selling time	Cattle management
10	Buying, selling and leasing decision	Poultry management

As table 6.3.13 denoted the comparative analysis of decision making behavior of a farm family across gender the planners and

stakeholders are requested to take a glance on this before taking any gender related programmes for the development of farm families. It may be said here that, the decision maker of the family in that particular activity should be motivated for capacity building but not the other persons.

Maximum & minimum decisions taken by farmers and farm women in different agricultural and allied activities

Table 6.3.14. Crop management

Maximum decision	Farmers	Farm women
1	Seed rate	Quantity of seeds to be stored
2	Seed treatment	Method of storage
3	Sowing season and time	Quantity of seed to be sold
4	Method of sowing	Sealing time
5	Weeding time	-
6	Types of fertilizer	-
7	Time of application of fertilizer	-
8	Dose of fertilizer	-
9	Method of application	-
10	Using weedicide	-
11	Thinning and gap filling	-
12	Harrowing	-
13	Type of manure used	-
14	When to apply	-
15	How to apply	-
16	Dose of manure	-
17	Method of application	-
18	When to prepare land	-
19	How to prepare land	-
20	Selection of market price	-
21	Mode of receiving payment	-
22	Where to be sold	-
23	Engagement of middlemen	-
24	Purchasing of equipment	-
25	Hiring equipment	-
26	Engaging labour	-
27	Construction of farm house	-
28	Buying pump set	-
29	Digging well	-
30	Getting loans and credit	-
31	Purchasing agricultural inputs	-
32	Types of saving	-
33	Fixing of wage	-
Minimum decision	Farmers	Farm women
1	-	Seed treatment
2	-	Sowing season and time
3	-	Method of sowing
4	-	Weeding time

5	-	Types of fertilizer
6	-	Time of application of fertilizer
7	-	Dose of fertilizer
8	-	Method of application
9	-	Type of manure used
10	-	When to apply
11	-	How to apply
12	-	Dose of manure
13	-	Method of application
14	-	When to prepare land
15	-	How to prepare land
16	-	Selection of market price
17	-	Mode of receiving payment
18	-	Where to be sold
19	-	Engagement of middlemen
20	-	Purchasing of middlemen
21	-	Hiring equipment
22	-	Engaging labour
23	-	Construction of farm house
24	-	Buying pump set
25	-	Digging well
26	-	Getting loans and credit
27	-	Purchasing agricultural inputs
28	-	Types of saving
29	-	Fixing of wage

Table 6.3.15. Animal management

Maximum decision	Farmers	Farm women
1	Selection of milch animal	-
2	Purchase of animal	-
3	No. of animals to be sold	-
4	Purchasing of fodder	-
5	Types of feed and feeding	-
6	Treatment of sick animal	-
7	Quantity of milk to be sold	-
8	Marketing of milk private vender	-
9	Engagement of labour	-
10	Selection of birds	-
11	Purchasing of birds	-
12	No. of birds to be reared	-
13	Construction of poultry shed	-
14	Marketing of birds	-
15	Buying feed and feeding	-
16	Taking care of sic birds	-
Minimum decision	Farmers	Farm women
1	-	Selection of milch animal
2	-	Purchase of animal
3	-	No. of animals to be sold
4	-	Purchasing of fodder
5	-	Types of feed and feeding
6	-	Treatment of sick animal
7	-	Quantity of milk to be sold
8	-	Marketing of milk private vender

9	-	Engagement of labour
10	-	Selection of birds
11	-	Purchasing of birds
12	-	No. of birds to be reared
13	-	Construction of poultry shed
14	-	Marketing of birds
15	-	Buying feed and feeding
16	-	Taking care of sic birds

Table 6.3.16. Household management

Maximum decision	Farmers	Farm women
1	-	Purchase of household goods
2	-	Savings
3	-	Backyard gardening
Minimum decision	Farmers	Farm women
1	Purchase of household good	-
2	Backyard gardening	-

Objective 4: time utilization pattern of farmers and farm women(average hours per day)

People in farming community are usually engaged in various farm and non-farm activities throughout the day having very less leisure time for them. Farm women in particular remain busy in various home related activities along with the work of post harvest routine schedule. It is always true that, farmer and farm women are not engaged in same type of work and in same type of time schedule. Hence an attempt was made by the researcher to find out the time utilization pattern of both farmers & farm women of sample area separately and further to compare both for knowing the work-time relationship in the context of cross-gender analysis.

Table 6.4.1. Production work (average hours per day)

Sl no.	Parameters	Farmers	Farm women
1	Collection of fuel wood	0.8	1.3
2	Milking and processing of milk	1.5	0.3
3	Collection of fodder for animal	0.7	0.9
4	Preparation of cattle feed	0.2	1.2
5	Collection of water	0.0	2.3
6	Making different marketable items	0.2	0.6
7	Doing different farming activity	7.9	5.5
8	Preparing backyard gardening	0.4	1.1

As it was seen from table no.6.4.1. that, farmers and farm women have different time utilization pattern when we consider production work. Farmers and farm women were utilizing their time in different types of activities as per their need & requirement.

It was observed from the table that, farmers spent 7.9 hours per day in farming activity, where as farm women were engaged on an average 5.5 hours per day for the same activity. As far as other

production works were concerned, it was observed that farm women spent 1.3 hours for collection of fuel wood, 0.3 hours for milking and processing of milk, o.9 hour for collection of fodder for animal, 1.2 hour for preparation of cattle feed, 2.3 hour for collection of water, 0.6 hour for making different marketable item and 1.1 hour for preparation of backyard garden per day. For these same activities farmers were spent 0.8 hour, 1.5 hour, 0.7 hour, 0.2 hour, 0.0 hour, 0.2 hour and 0.4 hour respectively.

It may be concluded from the table 6.4.1 that farmer respondents spent majority of their active hours in farming and milking activities whereas the farm women respondents spent much of the time in farming, collection of water, fuel wood, preparation of cattle feed and doing backyard gardening. Hence it may be recommended here that development departments should help those farm households with respect to drinking water and bio-fuel facility so that, the farm women might be able to do some productive work in stead of going for fuel wood and water.

Table 6.4.2. Household work (average hours per day)

Sl no.	parameters	Farmers	Farm women
1	Cleaning house	0.0	2.1
2	Care for family members	0.5	1.6
3	Cleaning cattle shed	0.3	1.1
4	Taking care of sick animals	0.7	0.9
5	Collection of water	0.0	2.3
6	Cooking food	0.0	2.2
7	Preparation of housing budget	0.7	0.3
8	Purchasing household materials	0.2	0.4
9	Feeding the animals	0.4	0.8

As it was seen form table no. 6.4.2. that, farm women were greatly involving in household work as compared to farmers. There was found a great difference in time utilization pattern as household work is to be concern.

It was observed that farm women spent the maximum time in household work than other type of work. They were engaged on an average of 2.1 hour per day for cleaning house, 1.6 hour for care for family members, 1.1 hour for cleaning cattle shed, 0.9 hour for taking care for sick animals, 2.3 hour for collection of water, 2.2 hour for cooking food, 1.3 hour for preparation of housing budget, 0.4 hours for purchasing household materials and 0.8 hours for feeding animals. Where as farmers were engaged on an average of 0.0 hour, 0.5 hour, 0.3 hour, 0.7 hour, 0.0 hour, 0.0 hour, 0.7 hour, 0.2 hour an d 0.4 hour for those same activities respectively.

Further it was observed from table 6.4.2. that the respondents were spending a less amount of time for care of animals and household planning, it would be effective if training programmes on cattle management and poultry care would be conducted in these areas for sensitization and capacity building of the respondents.

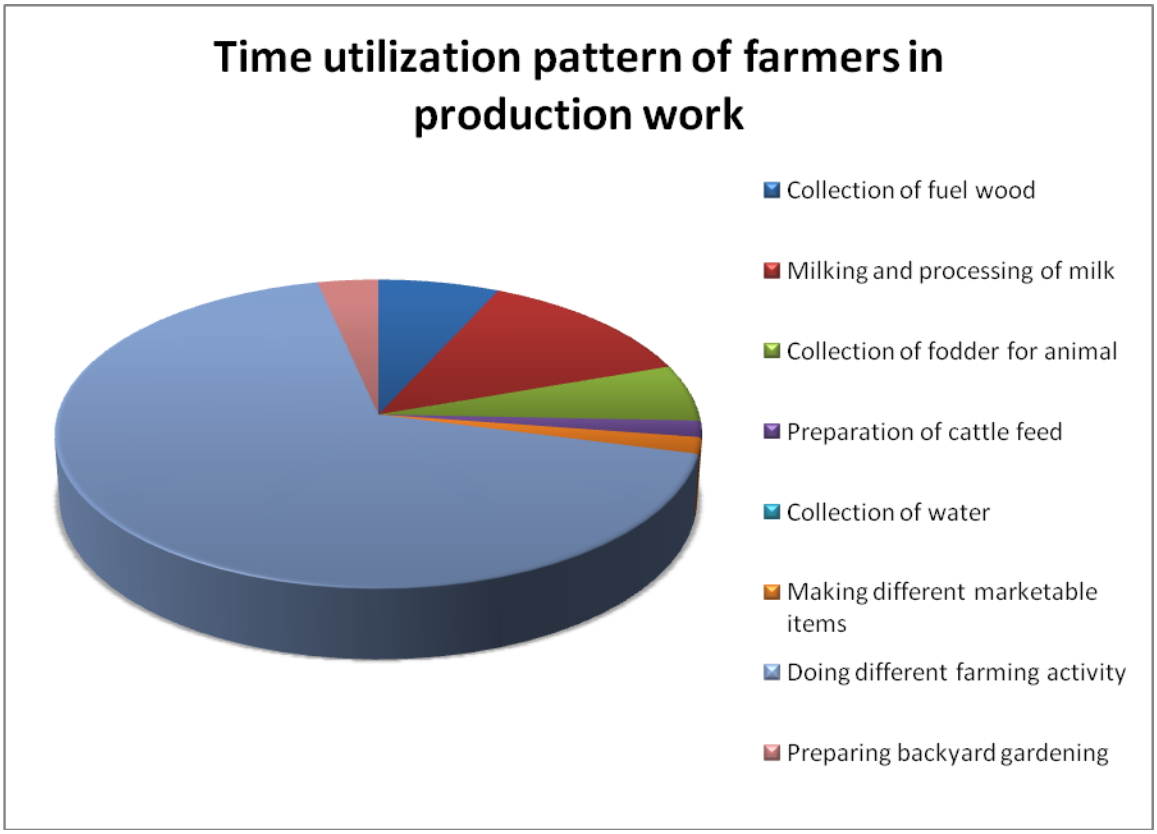
Table 6.4.3. Community work (average hours per day)

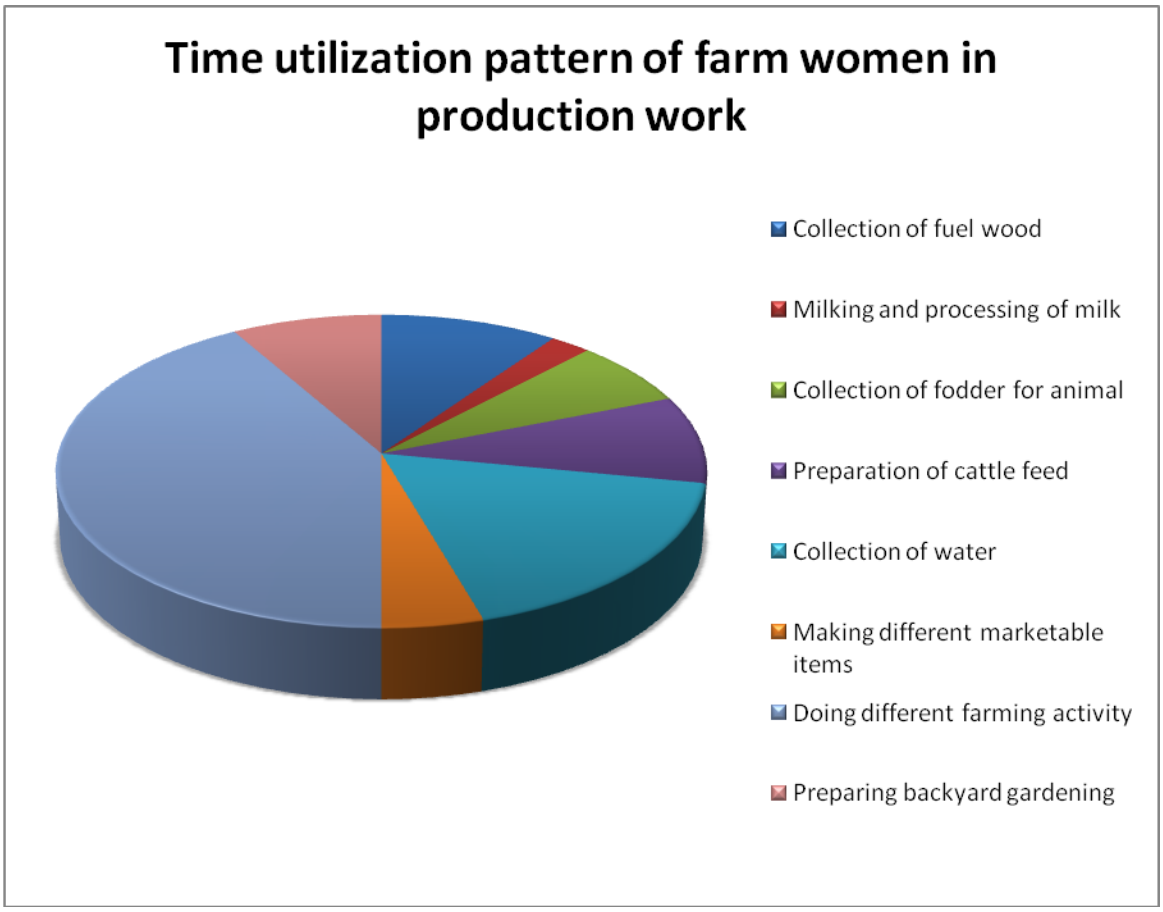
Sl no.	parameters	Farmers	Farm women
1	Organize village function	0.10	0.05
2	Attending social function	0.08	0.04
3	Organize village welfare activity	0.05	0.01
4	Attending training and demonstration	0.03	-
5	Attending village meetings	0.04	-
6	Attending social services	0.06	0.01
7	Attending extension meetings	0.03	-

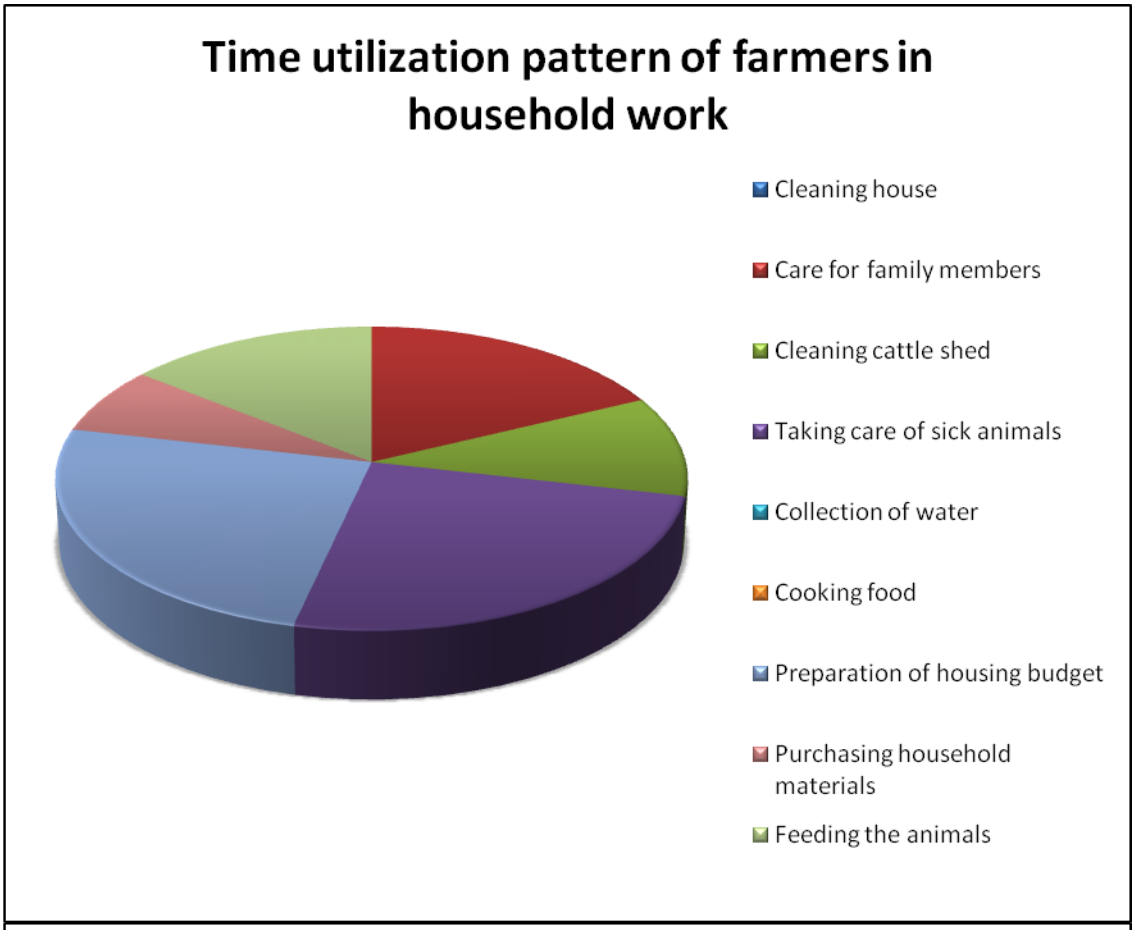
As it was seen from table no. 6.4.3. That, farm women were having a negligible role in community work so they were not engaged in those activities or having a less engagement. While the respondent farmers of the sample area were a little more engaged in community work as compared to farm women.

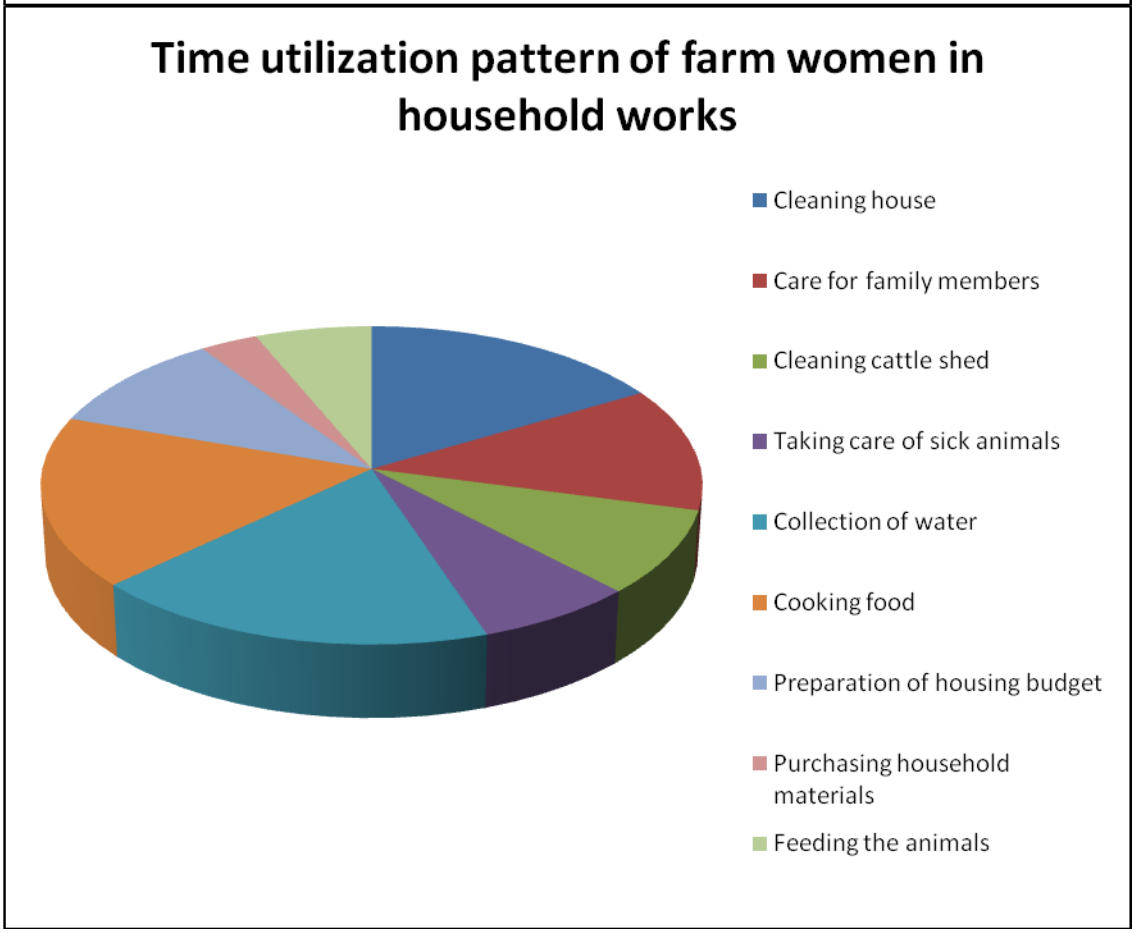
Farmers were engaged on an average of 0.1 hour per day for organize village function, 0.08 hour for attending social function, 0.05 for organizing village welfare activity, 0.03 hour for attending village meeting, 0.06 for attending social service and 0.03 for attending extension meetings. But in case of farm women time utilization for community work was negligible, that is 0.05 hour per day on an average for organizing village function, 0.04 hour for attending social function, 0.01 for organizing village welfare activity and 0.01 for attending social services.

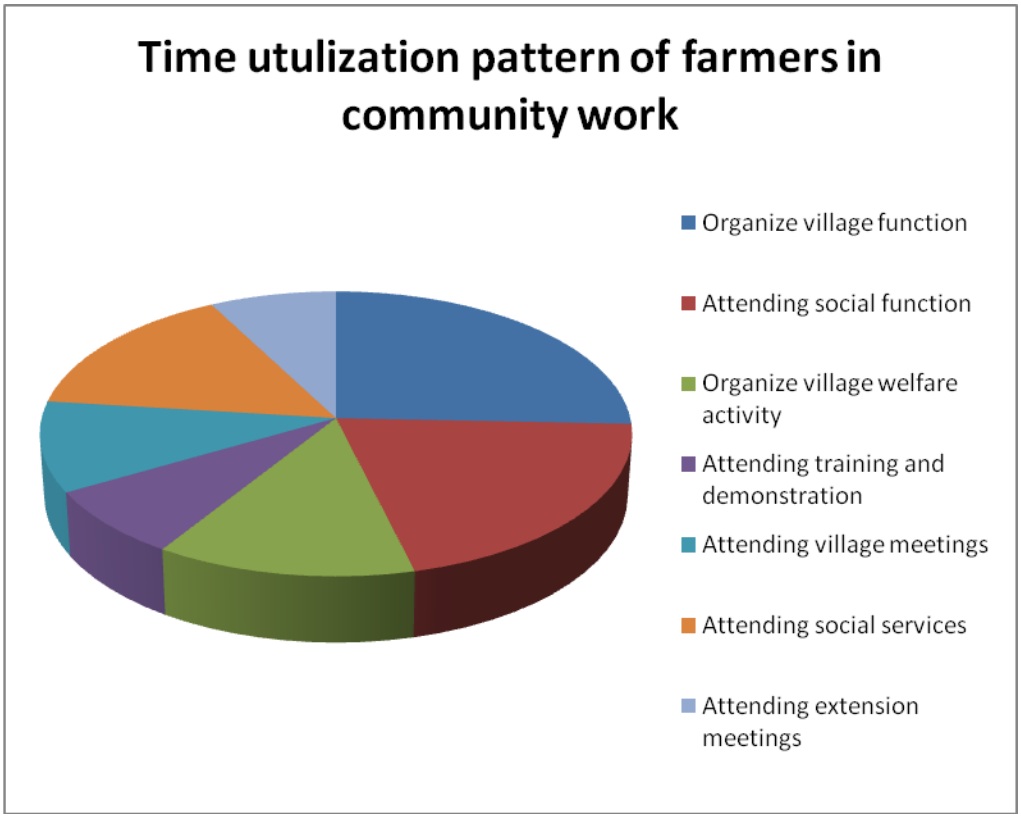
The data on time utilization pattern on community work revealed that, there was very poor contribution of the respondents in providing time for any type of community work. Of course some farmers were participating in some type of organizing works but the quantum was very less. Hence, more awareness generation programmes on social welfare,disaster management, group and cooperative formation may help the respondents in this area. Another fact is that unless the respondents connect themselves to various community works they cannot develop the management skill. Farm women may go for organizing Self Help Groups for their own empowerment.

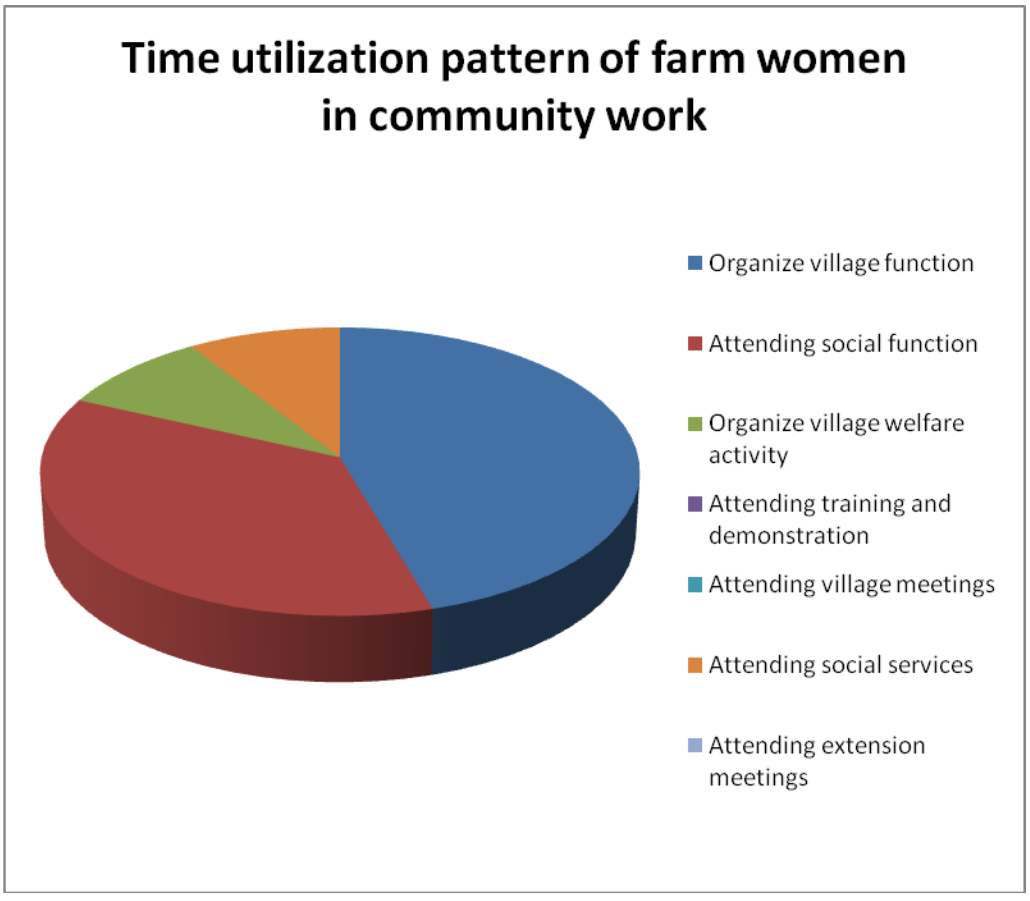

Time utilization pattern of farmers in production work
Collection of fuel wood
Milking and processing of milk
Collection of fodder for animal
Preparation of cattle feed
Collection of water
Making different marketable items
Doing different farming activity
Preparing backyard gardening

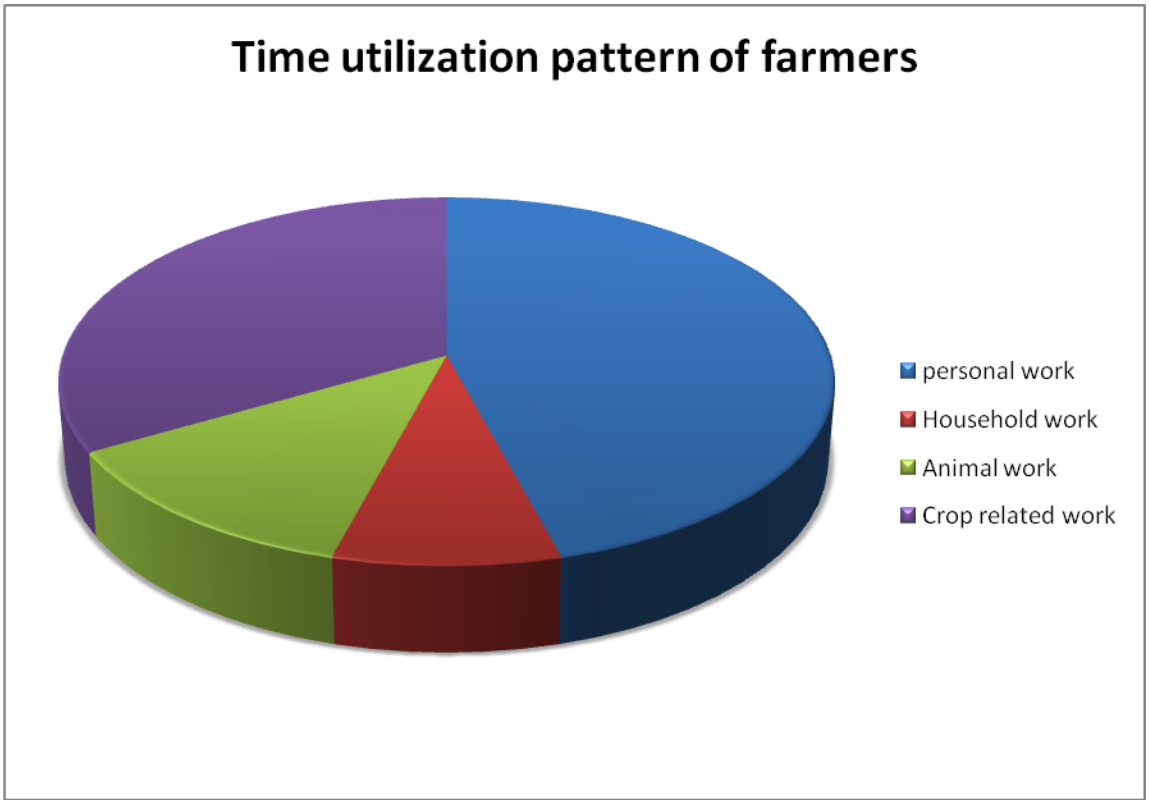

Time utilization pattern of farm women in production work
Collection of fuel wood
Milking and processing of milk
Collection of fodder for animal
Preparation of cattle feed
Collection of water
Making different marketable items
Doing different farming activity
Preparing backyard gardening

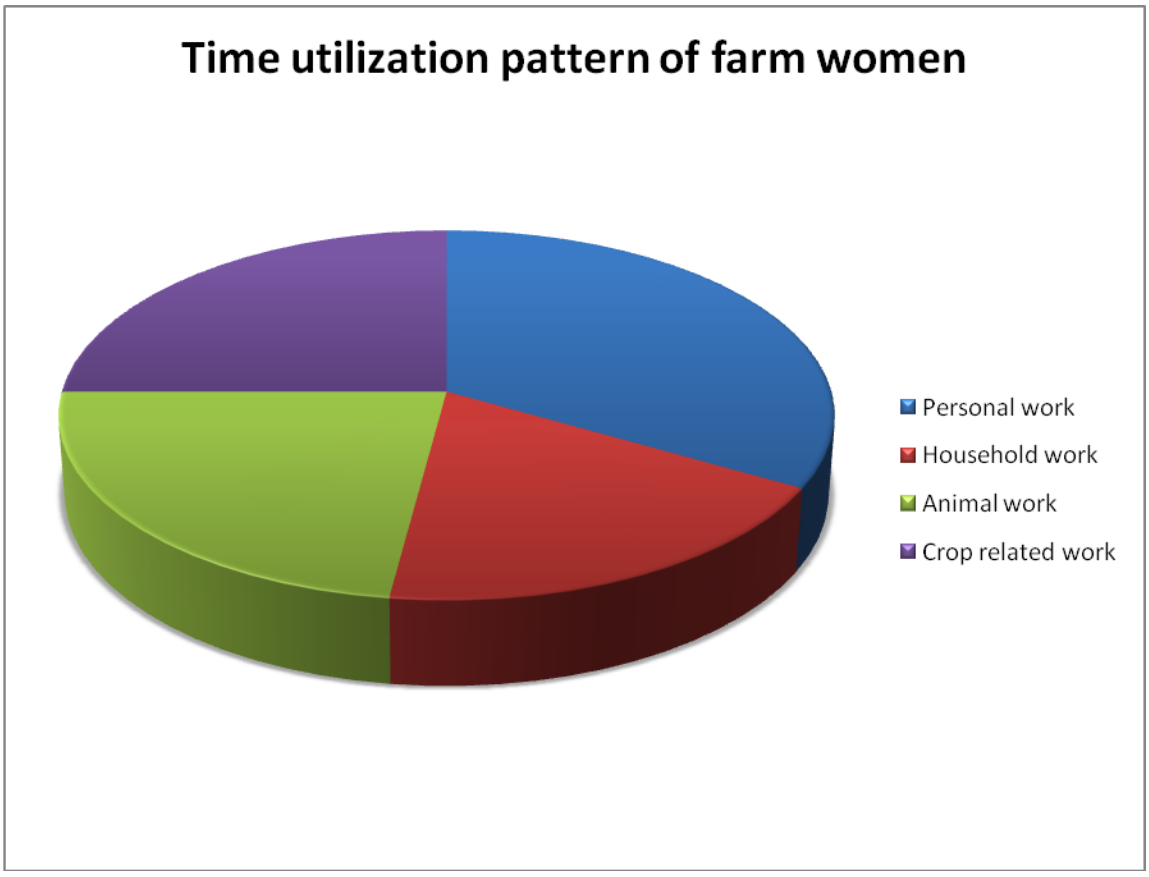

Time utilization pattern of farmers in household work
Cleaning house
Care for family members
Cleaning cattle shed
Taking care of sick animals
Collection of water
Cooking food
Preparation of housing budget
Purchasing household materials
Feeding the animals


Time utilization pattern of farm women in household works
Cleaning house
Care for family members
Cleaning cattle shed
Taking care of sick animals
Collection of water
Cooking food
Preparation of housing budget
Purchasing household materials
Feeding the animals


Time utulization pattern of farmers in community work
Organize village function
Attending social function
Organize village welfare activity
Attending training and demonstration
Attending village meetings
Attending social services
Attending extension meetings


Time utilization pattern of farm women in community work
Organize village function
Attending social function
Organize village welfare activity
Attending training and demonstration
Attending village meetings
Attending social services
Attending extension meetings


Time utilization pattern of farmers
personal work
Household work
Animal work
Crop related work


Time utilization pattern of farm women
Personal work
Household work
Animal work
Crop related work

This is the ultimate butter from the entire research work. This is the "handy finding" which can be glanced through for assessing the result. Summary and conclusion are narrated to give the research work a final destination. Summary is the entire research result in a capsule form. Researcher had tried to concise the findings in an edited form. Further an attempt was made to suggest certain recommendations basing on the observed findings in form of conclusion for various stake holders in this field.

CHAPTER VII

SUMMARY AND CONCLUSION

SUMMARY

The present research study entitled “Gender Involvement in Agriculture & Allied Activities in Rayagada District of Orissa” was undertaken in 2 blocks comprising of 4 viilages of Rayagada district of Orissa State. A total number of 120 respondents(60 farm women & 60 farmers) were interviewed personally by the researcher to find out the i) different agricultural and allied activities performed by farmers and farm women; ii) to analyze the extent of involvement of farmers and farm women in different agricultural and allied activities; iii) to compare the decision making behaviour of farmers and farm women in different agricultural and allied activities and iv) to study the time utilization pattern of farmers and farm women in performing various agricultural and allied activities.

- The sample was consists of more middle aged women in comparison to farmers, where as in young and old category the percentage of farmers were more than farm women.
- Illiteracy was much more visible among the farm women as comparison to farmers. It was also observed that in case of primary education farm women were higher than farmers. But when higher education is taken into consideration farmers were much higher educated than farm women.
- While comparing both the gender it was observed that more number of farmer household belonged to middle and high

income group as comparison to farm women household. But more farm women belonged to low income group as comparison to farmer.

- While comparing the holding size of the respondent, it was observed that more number of farmers was in the sample area was landless, small, medium and big category than the farm women. But in the marginal land holding category there were more number of farm women in the sample than the farmers.
- Farm women were having farming as their primary occupation. Similarly farmers were having farming as their one and only occupation, which is some what equal to the sample respondent of farm women. Here it was also observed that farm women were having agricultural labour as their occupation.
- The respondent of Maligam grampanchayat had regular contact with the district head quarter and the respondent of Kolnara grampanchayat had regular contact with the block head quarter and the district head quarter. Majority of the respondents of the sample area had contact with the nearest town and city market
- A small number of respondents were found to have any type of social participation (membership in formal and informal organization).

- Farmers were more frequently using radio than other contact media same as the farm women but farm women were having less gap percent than farmers in case of using radio
- Application of fertilizer and cleaning of field were predominantly done by farmers where as stubble collection was mostly done by farm women. Farmers were more actively performing the activities like forming ridges and furrows application of basal dose of fertilizer and land leveling; where as farm women were very active in stubble collection work than farmers.
- Farmer were more actively participate in the activities like sowing, preserving seeds for future use, and seed treatment where as farm women were more active in transplanting the seedling, seed broadcasting and nursery raising., Seed treatment and preserving seeds for future use activities were predominantly done by farmers ;where as nursery raising, seedling transplanting were mostly done by farmwomen.
- Farmers were more actively performed the activity of application of fertilizer and transporting manures where as far women were not at all participate in the activities related to manure and manuring. So it can be concluded that farmer are the only person who take participate in these activities. Application of fertilizer and transporting manure were predominantly done by farmers.

- Farmers were more actively participate in the activities like irrigate the field, cleaning irrigation channel and application of weedicide and pesticide; whereas farm women were active in thinning and gap filling, earthing up, weeding and harrowing activities than farmers.
- Farmers were not actively doing the activities related to harvesting as compared to farm women. Whereas farm women were exclusively doing the various activities related to harvesting than farmers.
- All activities related to marketing were predominantly done by farmers only; farm women were not doing these activities to a significant level.
- Farmers were more actively performing the activities like purchase of animal and milking activities; where as farm women take a dominant role in doing other mentioned activities than farmer. So farm women play a vital role in performing cattle management activities.
- Farmers were actively perform the activities purchase of birds, selling birds and eggs and taking care of sick birds, where as farm women were taking a dominant role in performing the activities like preparation of feed, feeding and collection of eggs than farmer.
- Farmers were performing some activities related to household management but not to a remarkable level. But

farm women were playing a dominant role in performing the activities related to household management.

- There was positive & significant correlation between education, income, and land possession with performing crop management activities of farm women whereas a significant correlation between extension contact and performing crop management activities was established with respect to farmers. Education was negatively related with performance of farm women in animal management activities.
- Maximum involvement of farm women occurred in the activity of stubble collection and the minimum in the forming ridges and furrows. On the contrast the farmers of sample area were deeply involved in the activity of application of fertilizer application and minimum involvement was observed with respect to stubble collection.
- Maximum involvement of farm women observed in the activities of transplanting the seedlings and minimum involvement was found in the activity of seed treatment. On contrast the farmers of sample area were deeply engaged in the activity of seed broadcasting and minimum involvement was observed in the activity of seed treatment.
- Maximum involvement of farm women were occurred in application of fertilizer activity and minimum involvement were occurred in preparation of compost activity. In case of

farmers also we observed the same thing but the degree of involvement was different.

- Maximum involvement of farm women were occurred in the activities like weeding and minimum involvement was observed in the activities like beushuning and khelua operation. On the contrast the farmers of sample areas were deeply involved in the activities of application of weedicide and pesticides and minimum involvement were observed in the activities of beushining and khelua operation.
- Maximum involvement of farm women occurred in the activity of bunding and transplanting and the minimum involvement in the activity of storing. On the contrast the farmers of sample area were deeply involved in the activity of transporting for storage and minimum involvement was found in the activity of bunding and transplanting.
- Maximum involvement of farm women occurred in the activity of transport to market and minimum in labour management. On the contrast the farmers of sample area were deeply involved in the activity of lobour management and minimum involvement was observed in the activity of transport to market.
- Farm women were deeply involved in the activities of fetching of water for animal and minimum involvement was found in the activity of purchasing of animal. On the contrast the farmers of the sample area were deeply involved in the

activities of milking and minimum involvement was observed in the activities of fetching water for animal and preparation of cattle feed.

- Maximum involvement of farm women occurred in the activity of feeding to the birds and the minimum involvement in purchasing of birds. On the contrast the farmers of sample area were deeply involved in the activity of purchase of birds and minimum involvement was observed in the activity of feeding.
- Maximum involvement of farm women occurred in the activity of collection of water, cooing of food and cleaning house and minimum involvement was observed in the activities like rope making, mushroom cultivation and making badi and papad. On contrast the farmers of sample area were deeply engaged in the activities like attending social rituals and minimum involvement was observed in any activities like collecting water, cleanliness of house, cooking food, rope making, and preparation of fuel by cowdung, mushroom cultivation and making badi and papad.
- There was positive relationship between education, income and land possession with degree of involvement of farm women in crop management activities. Hence, it may be concluded that, better educated farm women having more family income and land possession had more involvement in crop management activities. But negative correlation value in

land possession and income indicated that poor farm women with less landed property were more involved in animal management & household management activities.

- A negative correlation value in case of income & cosmopoliteness with involvement of farmers in animal management activities implied that, poor and localite farmers were only active in animal management activities in the study area.
- Decision in the area of sowing, seed treatment, seed rate, sowing season and time were farmer dominated where as farm women in the sample area only took major role in decisions in the segment of seed and variety selection. In all other activities except selection of seed and variety usually the decision were taken by farmers in seed and sowing related activities.
- Farmers were dominated in taking decision of the areas of transplanting seedling and broad casting of seeds, where as farm women were taking a little less degree of decision on these areas. So farmers were taking a major role in the field of transplanting of seedling.
- Farm women were taking less decision about these areas of intercultural operations. Farmers were taking a dominant role in taking decision about different intercultural operations. But in case of some intercultural operations like using weedicide pesticide thinning, gap filling and harrowing farmwomen also

participate in making decision. Farmers took a major role but farm women also participate in some cases.

- Farmers were taking major role in the field of manure and manuring, farm women have less importance in taking decision about this field. So it was a purely farmers dominated area.
- Farmers were taking major role in the field of preparation of land, and farm women have less importance in taking decision about this field. So it was a purely farmers dominated area. As farmers were greatly involved in those activities so they were taking the decision about these activities.
- Both farmers and farm women were more or less equally involved in taking decision about the segment of harvesting. Farmers were more involved but farm women also taking part in almost upto the same degree. It was also observed that, farm women were dominant in harvesting activities.
- Farm women were taking dominate role in taking the decisions about these activities related to storage. Farmers also involved in this decision making process but farm women were taking major part in storage related decision due to cultural attribute of women to store the grain and produce in our household chores. It was also informed by the women respondents of the study area that, male members of

the family had a very meager say about the activities of small store houses of the respective households of the study area.

- In the area of marketing decisions farm women took dominate role in some area like quantity to be sold and selling time, but in all other activities the decision was taken by farmers. In the sample area of study the agro-markets were located in far areas and the male members were deciding the sale of produce to a great extent. But, the women only were asked about the quantity of selling and the quantity to be kept for home consumption.
- Some of the investment decisions were taken by farm women like buying land, selling land, leasing land, leasing out the land and amount to be saved. But the farmers were dominant in all other types of investment decision. Anyway, it was a good sign that the male members of sample household were gender sensitive and allowed the crucial inventory related decisions of the family to be taken by the farm women to a great extent.
- Mainly the cattle management decisions were taken by farmers except quantity of milk to be sold to a reasonable extent. The farm women of the sample area had less to very less role in decision making activity as cattle management was concerned.
- All type of decisions were taken by farmers and only farm women had a little role or negligible role in decision making

in the activity of poultry management, but there was a great involvement of farm women in this activity.

- Decision taking on house hold activities were well balanced almost between farm women and farmers except the decision on backyard gardening where it was taken maximum by farm women as that was the tailor made activity of rural house wives.
- Farmer respondents spent majority of their active hours in farming and milking activities whereas the farm women respondents spent much of the time in farming, collection of water, fuel wood, preparation of cattle feed and doing backyard gardening.
- Respondents were spending a less amount of time for care of animals and household planning.
- There was very poor contribution of the respondents in providing time for any type of community work. Of course some farmers were participating in some type of organizing works but the quantum was very less.

CONCLUSION & RECOMANDATION

- The information collected was the reflection of mostly young and middle aged respondent.
- The sample district is one of the less developed districts of the state with respect to education and socio-cultural development. Hence it is not surprising that after 60 years of independence still there was so much illiteracy among the sample farming community.
- For development perspective ownership of land may help the purpose of empowering the tenant farmer and farm women who were reluctant to try out new technology.
- It may be recommended here that development departments should help those farm households with respect to drinking water and bio-fuel facility so that, the farm women might be able to do some productive work instead of going for fuel wood and water and wasting so much of time per day.
- It would be effective if training programmes cattle management and poultry care would be conducted in these areas for sensitization and capacity building of the respondents.
- More awareness generation programmes on social welfare, disaster management, group and cooperative formation may help the respondents in this area. Another fact is that unless the respondents connect themselves to various

community works they cannot develop the management skill. Farm women may go for organizing Self Help Groups for their own empowerment.

- ❖ It was also observed that farm women were not involved in the developmental programmes due to the dominancy of their male members and due to lack of interest. Grass root extension functionaries have to organize and make them conscious about programmes and develop interest through sensitization process.
- ❖ The farmers and particularly farm women should be exposed to all the farm based technological development for increasing their competency along with increasing their managerial efficiency particularly leadership quality, community organization, team work & resource management.
- ❖ As it was observed that the degree of social participation was very poor among the sample respondents various govt. and non govt. organizations should create awareness among them for membership in SHG, co-operative society and panchayat institutions.
- ❖ More number of training programmes should be conducted to increase the skill competency of sample farm women in the areas of fertilizer application, mushroom, apiculture, sericulture as there was vast scope for these vocations in the sample districts.

- As threshing is a very important activity and majority of farm women were engaged in this sphere it is equally important that the male members of the family should facilitate their female counterparts in these activities to maintain a gender balance in farming sector.
- In the areas of cattle and poultry management need specific training programmes should be conducted by local KVK and line departments to make the farm women competent in these areas.
- The managerial skill of the farm women in labour management in household chores should be polished by women facilitators of NGOs and KVKs so that the farm women could improve their involvement in management of labour in farming occupation.
- It may be concluded that, better educated farm women having more family income and land possession had more involvement in crop management activities. But negative correlation value in land possession and income indicated that poor farm women with less landed property were more involved in animal management & household management activities.
- As it was observed that farm women were greatly involved in storage activities, regular training programmes should be conducted to empower them for knowledge and skill development in management of stored grains.

- ❖ It was observed from the study that farmers of the Sample area were deciding about the sale of produce, hence information dissemination through media may help the farmers for fetching a good market for their produce.
- ❖ farmers were spending much of their active hours in farming and milking activities, therefore it is suggested that institutional support with respect to credit, input and proper market should be provided to the interested beneficiaries to empower them for a better livelihood.
- ❖ Respondents were spending a less amount of time and energy in care of animals and household planning. Therefore intensive training programmes and awareness generation can help the respondents to improve in this sector.
- ❖ As it was observed that very poor contribution of the respondents was rendered with respect to community work a large scale campaign on community management events like formation of SHG, co-operative society, farmer's club, women club, water user's club, can help the people of that locality to develop their exposure and managerial competency.

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APPENDIX

GENDER INVOLVEMENT IN AGRICULTURE AND ALLIED ACTIVITIES IN RAYAGADA DISTRICT OF ORISSA

INTERVIEW SCHEDULE

Village: **Schedule No.**

Panchayat: **Date:**

Block:

A. Personal Characters

1. Name:

2. Age: Young / Middle Aged / Old

3. Education: Illiterate / Primary / Middle School / High School / College

4. Gender: Male / Female

5. Income per Month: BPL / Low / Medium / High

6. Farmer Category: Landless / Marginal / Small / Medium / High

7. Occupation: Farmer / Agril. Labour / any other

8. Outward orientation: Localities / Cosmopolite

9. Social participation: Yes/ No

10. Extension Contact:

Sl. No.	Extension Personals or Media	Regular contact	Occasional contact	Negligible contact
1	Radio			
2	Television			
3	Print media			
4	Extension agent			
5	NGO personals			
6	RDO from bank			
7	Agricultural officer			

B. What are the activities performed by you?

a. Crop Management activities

Sl. No.	Activities	Sole Activity	Joint Activity	Not Performed
1	**Land Preparation**			
	Stubble collection			
	Land leveling			
	Application of basal dose			
	Cleaning of field			
	Forming ridges and furrows			
2	**Seed and seed sowing**			
	Seed treatment			
	Nursery rising			
	sowing			
	Preserving seeds for future use			
	Transplanting the seedling			
	Seed broadcasting			
3	**Manures and manuring**			
	Preparation of compost and FYM			
	Transporting manure			
	Application of fertilizer			
4	**Intercultural operation**			
	Irrigation			
	Cleaning irrigation channel			
	Thinning and gap filling			
	Earthing up			
	Beushuning operation			
	Khelua operation			
	Application of weedicide			
	Application of pesticide			
	Weeding			
	Harrowing			
5	**Harvesting**			
	Reaping crops			
	Collection and heaping			
	Bunding and transplanting			
	Threshing			
	Winnowing			
	Drying and cleaning			
	Transporting for storage			
	storing			
6	**Marketing**			
	Transport to market			
	Marketing of produce			
	Labour management			
	Accounting			
7	**Any other**			

b. Animal Management Activities

Sl. No.	Activities	Sole Activity	Joint Activity	Not Performed
1	**Cattle management**			
	Purchase of animals			
	Cleaning cattle shed			
	Cleaning the animal			
	Fetching water for animal			
	Collecting fodder for animals			
	Preparation of cattle feed			
	Feeding the animal			
	Milking			
	Making curd, butter and ghee			
	Marketing milk and milk produce			
	Taking care of sick animal			
2	**Poultry management**			
	Purchase of birds			
	Preparation of feed			
	feeding			
	Collection of egg			
	Selling birds and egg			
	Taking care of sick birds			

c. Household Management Activities

Sl. No.	Activities	Sole activity	Joint activity	Not performed
1	Purchase of food items			
2	Purchase of household materials			
3	Collecting fuel wood			
4	Collecting water			
5	Cleanliness of house			
6	Cooking of food			
7	Care of children			
8	Care of elderly family member			
9	Social rituals – marriage etc			
10	Rope making			
11	Preparation of fuel by cowdung			
12	Mushroom cultivation			
13	Badi and papad making			
14	Housing budget			
15	Backyard gardening			

C. What is your extent of involvement in activities?

a. Crop Management activities

Sl. No.	Activities	Fully Involved	Partially Involved	Not Involved
1	**Land Preparation**			
	Stubble collection			
	Land leveling			
	Application of basal dose			
	Cleaning of field			
	Forming ridges and furrows			
2	**Seed and seed sowing**			
	Seed treatment			
	Nursery rising			
	sowing			
	Preserving seeds for future use			
	Transplanting the seedling			
	Seed broadcasting			
3	**Manures and manuring**			
	Preparation of compost and FYM			
	Transporting manure			
	Application of fertilizer			
4	**Intercultural operation**			
	Irrigation			
	Cleaning irrigation channel			
	Thinning and gap filling			
	Earthing up			
	Beushuning operation			
	Khelua operation			
	Application of weedicide			
	Application of pesticide			
	Weeding			
	Harrowing			
5	**Harvesting**			
	Reaping crops			
	Collection and heaping			
	Bunding and transplanting			
	Threshing			
	Winnowing			
	Drying and cleaning			
	Transporting for storage			
	storing			
6	**Marketing**			
	Transport to market			
	Marketing of produce			
	Labour management			
	Accounting			

b. Animal Management Activities

Sl. No.	Activities	Fully Involved	Partially Involved	Not Involved
1	**Cattle management**			
	Purchase of animals			
	Cleaning cattle shed			
	Cleaning the animal			
	Fetching water for animal			
	Collecting fodder for animals			
	Preparation of cattle feed			
	Feeding the animal			
	Milking			
	Making curd, butter and ghee			
	Marketing milk and milk produce			
	Taking care of sick animal			
2	**Poultry management**			
	Purchase of birds			
	Preparation of feed			
	feeding			
	Collection of egg			
	Selling birds and egg			
	Taking care of sick birds			

c. Household Management Activities

Sl. No.	Activities	Fully Involved	Partially Involved	Not Involved
1	Purchase of food items			
2	Purchase of household materials			
3	Collecting fuel wood			
4	Collecting water			
5	Cleanliness of house			
6	Cooking of food			
7	Care of children			
8	Care of elderly family member			
9	Social rituals – marriage etc			
10	Rope making			
11	Preparation of fuel by cowdung			
12	Mushroom cultivation			
13	Badi and papad making			
14	Housing budget			
15	Backyard gardening			

D. What is your role in decision making in the following activities?

a. Crop Management activities

Sl. No.	Activities	Male Decision	Female Decision
1	**Seed and seed sowing**		
	Selection of seed and variety		
	Purchase of seed		
	Seed rate		
	Seed treatment		
	Sowing season and time		
	Method of sowing		
2	**Trans planting of seedling**		
	Transplanting		
	Broadcasting of seeds		
3	**Intercultural operations**		
	Weeding time		
	Types of fertilizer		
	Time of application		
	Dose of fertilizer		
	Method of fertilizer application		
	Using weedicide		
	Using pesticide		
	Decision about following acvities a. thinning and gap filling b. khelua c. beushaning d. harrowing		
4	**Manure and manuring**		
	Which type of manure		
	When to apply		
	How to apply		
	Dose of manure		
	Method of application		
5	**Preparation of land**		
	When to prepare		
	How to prepare		
6	**Harvesting**		
	Time of harvest		
	Method of harvest a. contract labour b. casual labour		
7	**Storage**		
	Quantity of seed to be stored		
	Method of storage		
8	**Marketing of produce**		
	Quantity to be sold		
	Selling time		
	Selection of market price		
	Mode of receiving payment		
	Where to be sold a .local market b. distant market		
	Engagement of middle men		
9	**Investment decision**		
	Buying land		

	Selling land		
	Leasing land		
	Leasing out land		
	Purchasing equipment		
	Hiring equipment		
	Engaging labour		
	Construction of farm house		
	Buying pump set		
	Digging well		
	Getting loans and credit		
	Purchasing of agril. Inputs		
	Types of savings a. post office b. bank c. personal d. chit funds e. village committee		
	amount to be saved		
	Fixing of wage		

b. Animal management activity

1	**Cattle management**		
	Selection of milch animal		
	Purchasing of animals		
	No. of animals to be kept		
	Purchasing of fodder		
	Types of feed and feeding		
	Treatment of sick animals		
	Quantity of ilk to be sold		
	Marketing of milk a. by co-operatives b. private venders		
	Engagement of labour		
	Any other		
2	**Poultry management**		
	Selection of birds		
	Purchasing birds		
	No. of birds to be reared		
	Construction of poultry shed		
	Marketing of birds		
	buying feed and feeding		
	Taking care of sick birds		

c. household management

	Purchase of household goods		
	To organize functions		
	Construction of assets		
	Savings		
	Housing budget		
	Backyard/ kitchen garden		
	To arrange funds for household works		
	Any other specific		

E. what is your time utilization pattern in different activities.

a. percent of time utilization pattern

1. productive work

Sl. No.	Productive work	male	female
1	Collection of fuel		
2	Milking and processing of milk		
3	Collecting fodder for animal		
4	Preparation of cattle feed		
5	Collection of water		
6	Making different marketable item		
7	Doing diff. farming activity		
8	Preparing backyard gardening		
9	Any other specific		

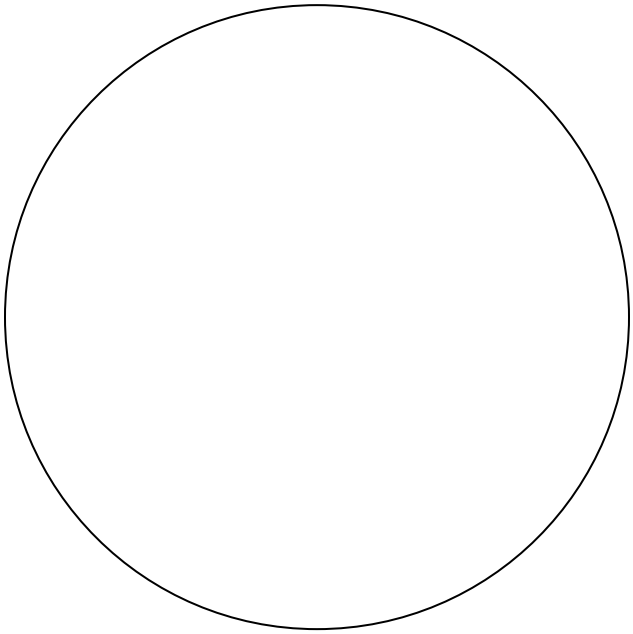
2. household work

Sl. No.	Household work	male	female
1	Cleaning house		
2	Care of family members		
3	Cleaning cattle shed		
4	Taking care of sick animals		
5	Collection of water		
6	Preparation of cattle feed and feeding the animals		
7	Preparing housing budget		
8	Cooking food		
9	Purchase of household material		
10	Any other specific		

3. community work

Sl. No.	Community work	male	female
1	Organizing village functions		
2	Attending marriage functions		
3	Organizing village welfare activities		
4	Attending training and demonstration programme		
5	Attending different meetings		
6	Attending different social activities		
7	Attending diff. extension activity		

2. Time utilization pattern by PRA method.



Indications:

- **Personal work**
- **Household work**
- **Animal work**
- **Farm related work**