



"ENVIRONMENTAL IMPACT ON INDIAN AGRICULTURAL WOMEN"

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ABSTRACT

In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84 per cent. Women make up about 33 per cent of cultivators and about 47 per cent of agricultural labourers. These statistics do not account for work in livestock, fisheries and various other ancillary forms of food production in the country. In 2009, 94 per cent of the female agricultural labour force in crop cultivation was in cereal production, while 1.4 per cent worked in vegetable production and 3.72 per cent were engaged in fruits, nuts, beverages, and spice crops. Responsible for household food and nutrition security. 90 per cent of the hoeing and weeding in food production. 80 per cent of the work on food storage and transport. More than 90 per cent of post harvest management including food processing, providing water and energy. More than 60 per cent of harvesting and marketing. Nearly 63 per cent of all economically active men are engaged in agriculture as compared to 78 per cent of women. It is observed that women play a significant role in agricultural development and allied activities including main crop production, live-stock production, horticulture, post-harvesting operations etc. About 70 per cent of farm work is performed by women. Women farmers do not have equal access to productive resources and this significantly limits their potential in enhancing productivity. This article focuses on the women's role in agricultural and non-agricultural activities and also the environmental problems faced by the Indian women in agriculture.

KEYWORDS : Agriculture, Women, Production, Rural.**Introduction:**

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

-Pandit Jawaharlal Nehru

Agriculture is the backbone of the Indian economy. Women play a vital role in building this economy. Over the years, there is a gradual realization of the key role of women in agricultural development and their vital contribution in the field of agriculture, food security, horticulture, processing, nutrition, sericulture, fisheries, and other allied sectors. An estimated 52-75 per cent of Indian women engaged in agriculture are illiterate, an education barrier that prevents women from participating in more skilled labour sectors. In all activities there is an average gender wage disparity, with women earning only 70 per cent of men's wage. The lack of employment mobility and education render the majority of women in India vulnerable, as depends on the growth and stability of the agricultural market.

M.S. Swaminathan, the famous agricultural scientist says "some historians believe that it was women who first domesticated crop plants and thereby initiated the art and science of farming. While men went out hunting in search of food, women started gathering seeds from the native flora and began cultivating those of interest from the point of view of food, feed, fodder, fibre and fuel". Women have played and continue to play a key role in the conservation of basic life supporting systems such as land, water, flora and fauna. They have protected the health of the soil through organic recycling and promoted crop security through the maintenance of varietal diversity and genetic resistance. Therefore, without the total intellectual and physical participation of women, it is not possible to popularize alternative systems of land management to shifting cultivation, arrest gene and soil erosion, and promote the care of the soil and the health of economic plants and farm animals.

Extreme climatic changes are among the factors that have begun to jeopardize agricultural production globally. India's agricultural sector which depends greatly on the variations in climate and weather is defined mainly by the monsoon season. The appropriate levels of precipitation that last from June to September, predicate a bountiful agricultural yield later on in the year. Monsoon seasons with insufficient or excessive precipitation, hurts the agricultural

sector. Increasing temperatures and erratic precipitation has begun to exhaust agricultural land and create high variations of land. In the past couple of years these trends have made a noticeable impact in India, causing droughts and unpredictable rainfall. Just one season of such weather patterns can be devastating to the livelihood of farmers, who can find no resilience in small farms.

The loss of biodiversity in India and specifically food crops is a serious concern of food security and sustainability of the agricultural sector in India. The connection between women farmers and environmental health is not simply for subsistence and survival. It also stems from a long existing cultural valuation of India's agricultural fertility in ritual and practice. Women's connection to land is reflected in their almanac-like knowledge of plant varieties. Rituals and ceremonies in various parts of the country show this close relationship. There is Lohri, the harvest festival of Punjab or navadhanya puja, which translate to the worship of nine cereals, celebrations that take place in southern India. Both ceremonies celebrate the role of women in agriculture and fertility and importance of environment and biodiversity.

In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84 per cent. Women make up about 33 per cent of cultivators and about 47 per cent of agricultural labourers. These statistics do not account for work in livestock, fisheries and various other ancillary forms of food production in the country. In 2009, 94 per cent of the female agricultural labour force in crop cultivation was in cereal production, while 1.4 per cent worked in vegetable production and 3.72 per cent were engaged in fruits, nuts, beverages, and spice crops.

Women's participation rate in the agricultural sectors is about 47 per cent in tea plantations, 46.84 per cent in cotton cultivation, 45.43 per cent growing oil seeds and 39.13 per cent in vegetable production. While these crops require labour-intensive work, the work is considered quite unskilled. Women also heavily participate in ancillary agricultural activities. According to the Food and Agriculture Organization, Indian women represented a share of 21 per cent and 24 per cent of all fishers and fish farmers, respectively.

Despite their dominance of the labour force women in India still face extreme disadvantage in terms of pay, land rights, and representation in local farmer's organizations. Furthermore, their

lack of empowerment often results in negative externalities such as lower educational attainment for their children and poor familial health.

Women contribution to agriculture:

- Responsible for household food and nutrition security.
- 90 per cent of the hoeing and weeding in food production.
- 80 per cent of the work on food storage and transport.
- More than 90 per cent of post harvest management including food processing, providing water and energy.
- More than 60 per cent of harvesting and marketing.

Women's Time allocation in Agriculture:

In addition to rigorous agricultural work that is undervalued and underpaid, women are also responsible for the well-being of the household. They care for their children, provide nutrition or usually take part in subsistence agriculture, and do chores around the house. Based on time allocation studies, which pinpoint exactly how a woman's hours are spent throughout the week, Indian women spend about 25 hours in a week doing household chores and five hours in caring and community work. Besides the 30 hours of unpaid work, women spend the same amount of time as men carrying out agricultural work. Daughters typically supplement or substitute for mother's unpaid work around the household. Considered female tasks, the opportunity cost of girls' time for school is higher than that of sons. Girls do significantly more housework than boys, which compromises their schooling.

Review of Literature:

There is a vast body of literature linked with role of rural women in agriculture and its allied fields, but here we mention only recent work being done on the topic.

Singh and Vinay (2012) briefed in their working paper about the significance of female labour in agriculture and allied activities. They further stated that the role of women in agriculture as female labour is not highlighted in India. Despite of their presence in activities sowing, transplanting and post harvest operations they are considered as an invisible workers. The study of Vepa (2005) analysed the declining economic stake of women in agriculture despite their increasing contribution benefit. Sundaram (2007) in their study principally focused on the changes in the size and structure of the workforce especially male and female agriculture labour force and the changes in labour productivity, wages and poverty in India in the first quinquennial of the 21st century, to understand women's work status in India's rural areas and to examine the trends and nature of women's employment. Yadav and Kaushik (2006) conducted a study in Rewari district of Haryana state on the role performance of farm women in wheat crop. The study revealed that the total days of different activities in a season ranged from one day to 20 days, maximum days being spent on weeding followed by harvesting. The total time spent by women was maximum on harvesting (75 hrs), followed by weeding (50 hrs), irrigation (24 hrs) and storing (10.5 hrs). Least time was spent on threshing, winnowing, plant protection, fertilizer application and sowing (less than 10 hr/season). Farid et.al (2009) discussed the major role of women in farming & non-farming activities especially in post harvest operations, homestead gardening, livestock and poultry rearing, selling labour etc. The primary need of women working or seeking employment in various agricultural and non-agricultural activities is to meet the family needs and to enhance the family income. Chavan and Bedamatta (2006) examined the trends in agricultural wages with comparison to male-female agriculture labour force in India from 1964-65 to 1999-2000, using data from Agricultural Wages in India and Rural Labour Enquiry in 1990s. It found that the differences between the average wages of male and female agricultural labourers have widened over the years. In most of the states, the daily wages of male agricultural labourers exceeded the minimum wage levels while that of women was below the min

Objectives of the study:

The main objectives of the present study are as follows:

1. To understand the role of women in agriculture.
2. To know the share of women in agricultural and non agricultural activities.
3. To identify the environmental problems faced by the women in agricultural Activities.

Research Methodology

The present study based on secondary data were collected from various Government of India Report (Census data), Articles, Journals, Indian Agricultural Reports, websites data, etc. The study has used simple average, percentage, ratio as used for analysis and comparison.

Role of Women in agricultural Activities:

Agriculture is the first culture that man learnt to practice as a means of living and a way of life. It is the primary sector of any economy either it is developed or developing. Agriculture is considered as the backbone of the Indian rural economy and is a family enterprise. It is an important engine of growth and poverty reduction. India's economic security is heavily dependent on agriculture. In terms of employment, it is the most important source of income, especially for rural women. According to 2011 World Bank Data only, 17.5 per cent of India's Gross Domestic Product (GDP) is accounted for by agricultural production. Based on 2012 data, India is home to the fourth largest agricultural sector in the world. It has an estimated 180 million hectares of farmland with 140 million of which are planted and continuously cultivated.

Rural women performs numerous labour intensive jobs such as weeding, hoeing, grass cutting, picking, cotton stick collections, separation of seeds from fiber. Women are also expected to collect wood from fields. This wood is being used as a major fuel source for cooking. Because of the increasing population pressure, over grazing and desertification, women face difficulties in searching of fire wood. Clean drinking water is another major problem in rural areas. Like collection of wood, fetching water from remote areas is also the duty of women. Because a rural woman is responsible for farm activities, keeping of livestock and its other associated activities like milking, milk processing, and preparation of ghee are also carried out by the women.

Majority of women are involved in shed cleaning and collection of farm yard manure. Males, however, share the responsibility of taking care of sick animals. It is evident that the women are playing a dominant role in the livestock production and management activities. Poultry farming is one of the major sources of rural economy. The rate of women in poultry farming at household level is the central in poultry industry. Even though rural women are not using modern management techniques, such as vaccination and improved feed, but their poultry enterprise is impressive. Every year, income from poultry farming has been rising. In order to generate more and more income, rural women often sell all eggs and poultry meat and left nothing for personal use. Due to poverty and lack of required level of proteins most of women have got a very poor health. Most of women suffer from malnutrition. The study also noted that majority of the rural women are uneducated, unskilled and tradition bounded, therefore their productive capacities are also low, and counted as unskilled labour. Though rural

Women in Agricultural and Non-Agricultural Activities:

Majority of the women labourers (83.4 per cent) were found to be in the age group of 35-54 Years. About 80 per cent of the women labourers were married and 12.5 per cent were widows. The rest were either unmarried or separated from their spouse. More than 50 per cent of the labourers had primary level of education. Only 19.2 per cent labourers were illiterate. About 76.7 per cent of the women labourers belonged to nuclear family. The average family size of the sample labour households was 4.54 members. Among the women labourers 85 per cent belonged to backward caste category and 15

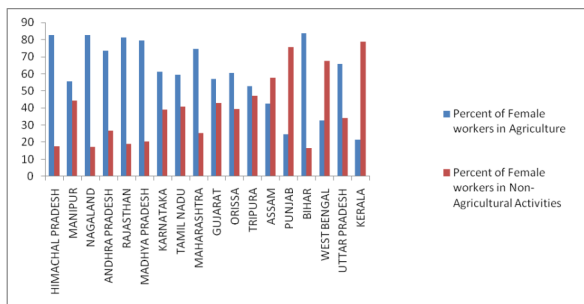
per cent belonged to scheduled caste category. Among the women labourers 97.5 per cent women had agriculture labour as their main occupation. The rest of them did both farming and labour activities. Majority of the labourers (97.5 per cent) worked as casual labour. The rest of them worked as cultivators and as casual labour. The women labourers were mostly involved in activities requiring no skill. The women labourers had participation in labour unions and religious unions. Some Labourers also had membership in SHGs, cooperative society, labour welfare boards etc.

Non – Agriculture Sectors:

Non-farm employment can broadly be classified into three categories: regular employment, self-employment and casual employment. A trend in employment status of rural labour in India shows 27 million people were employed in organized sector in 2003. The Employment in this sector has been decreasing since 1998 when it was 28.1 million. Estimates suggest that 92 per cent of Indian labourers are engaged in the unorganised sector while organised segment constitutes the remaining 8 per cent. Further, it can be noted that 95 per cent of female workers and 89 per cent of male labourers are engaged in the unorganised segment in India. The informal nature of farm and non-farm activities in rural areas drives this trend of overwhelming presence of unorganised sector in India. Though, the informal nature of farm activities in rural areas has been documented to some extent, non-agricultural activities appear to be extremely unorganised in India.

Female workers (nearly 10 million) constituted 21.96 per cent of total employment in rural non-farm sectors and proportion of female employment was found comparatively higher (24.32 per cent) in establishments which hire workers than own-account establishments (18.59 per cent). There were 1.03 million child workers, which constituted 2.45 per cent of total employment in non-agricultural establishments in rural areas and the proportion was more in establishments with hired workers (2.85 per cent) than in own account establishments (1.89 per cent). This sector includes economic activities like household and non-household manufacturing, handicrafts, processing, repairs, construction, mining and quarrying, transport, trade, communication, community and personal services etc. in rural areas. The Economic Census of India estimates that around 41.89 million rural people are employed in non-agricultural establishments which registered a growth rate of 4.56 per cent during 1998- 2005. However, the sector has been contending with a number of factors like inadequate rural infrastructure, particularly roads, electricity and communication facilities, lack of sufficient skilled labour and adequate access to credit, information and training facilities etc.

Figure-1 Percentage of female in agricultural and non-agricultural activities in different States of India



Source: 2011 census of India

The Figure-1 explains the scenario of female workers across Indian States and also visualizes the percentage of women involved in agriculture as primary occupation and the rest shows that percentage that generates their income from non- agricultural activities like household industry, services etc. It can be clearly indicated that across all the states considered for our study women majorly generates their income through agriculture and agricultural activities. Exceptions were there like Punjab, Kerala, and West Bengal where women were comparatively involved in non agricultural activities.

Environmental Problems Faced By Women in Agriculture Sector:

Women make up a significant portion of the agricultural labour force, constituting an average of 43 percent in developing countries; making up approximately 50 percent in Sub-Saharan Africa agriculture involves a variety of factors from the soil, to water, the air, animal and soil variety, people, plants, and the food itself. Some of the environmental issues that are related to agriculture are climate change, deforestation, genetic engineering, irrigation problems, pollutants, soil degradation, and waste.

However these farmers are often faced with challenges when trying to access the agricultural market.

1. Access to land

Women produce 80 percent of crops and own about one percent of land. This illustrates the lack of security in ownership, and in most cases of the one percent that own smaller plots to men that are less fertile. By giving women the same access as men to agricultural resources could increase production on women’s farms in developing countries by 20 to 30 percent.

2. Access to funding

Women tend to face greater challenges when it comes to securing credit. They are generally less experienced with the ins and outs of borrowing from an institution, and without assistance and support they find it difficult to access much needed funding. Women receive seven percent of the agricultural extension services and less than ten percent of the credit offered to small-scale farmers.

3. Limited access to new practices

Most agricultural extension focuses on large-scale commercial farming with limited research conducted on small farming techniques, which are often owned by women.

4. Limited access to technological advancements

Most advanced technology includes ploughs, cultivators, planters, harvesters and irrigation equipment. Most of these advancements are aimed at a male specific audience, with improvements aimed to accommodate their requirements. Women farmers often lack the know-how and the confidence to use the improved technology and most of the new technologies.

5. Less market opportunities

Lack of market research and information limit women farmers to market opportunities. Women are confined to local markets where prices are generally lower than in urban markets.

6. Lack of infrastructure

Access to transport and logistics would improve the mobility of women farmers and they could sell more of their farm produce in time. Empowering and investing in women, specifically in rural areas, will significantly increase productivity while reducing hunger and malnutrition.

Conclusion:

Rural women are the major contributors in agriculture and its allied fields. Her work ranges from crop production, livestock production to cottage industry. From household and family maintenance activities, to transporting water, fuel and fodder. Despite such a huge involvement, her role and dignity has yet not been recognized. Women’s status is low by all social, economic, and political indicators. Most of the women perform various types of work for their livelihood and agriculture is considered as the biggest unorganized sector where large numbers of rural women take part actively. Woman is the moulder and builder of any nation’s destiny. They play a significant role in any economy. They are regarded as the backbone of the rural scene. Totally Why women in agriculture? In order to eradicating poverty to ensure food security To increase their stake in agriculture To increase economic contribution Ownership in land, livestock, etc.

Suggestions to overcome the above problems:

- The women in rural area should be educated.
- To promote rural development programmes.
- A good and democratic leadership should be created at the grassroots level.
- Women's clubs and other organizations should be set up in the village several meetings and training of village women should be conducted.
- The training should be able to create awareness, generate interest, motivate learning, impart knowledge, change attitude and generate skills.

Finally it is concluded that the rural women are exploited by land lords for their personal good and enrichment. Women are treated as sub- servant or personal property. In this regard government must formulate policies to enhance their skills and their work should be counted in economic indicators.

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