

Role of Women in Indian Agriculture-Issues and Challenges

Swami Prakash Srivastava¹ and Sachin Prakash Srivastava²

¹Head, Dept. of Economics, & Dean, Faculty of Social Sciences, Dayalbagh Deemed University-Agra-282005

²Students of MBA-Final Year, RBS Management & Technical Campus-Agra-282005

E-mail: spsdei2008@gmail.com

“ We can't neglect the importance of women who comprise half of our population in nation building the upholder of tradition must also be ushered for modernity ,we should look to science for greater social justice and equality of opportunity”

—The Late Prime Minister Mrs. Indira Gandhi(1988)

Agriculture in India defines familial tradition, social relations and gender roles. Female in the agricultural sector, whether through traditional means or industrial, for subsistence or as an agricultural laborer, represents a momentous demographic group. Agriculture is directly tied to issues such as economic independence, decision-making abilities, agency and access to education and health services and this manner has created externalities such as poverty and marginalization, and compounded issues of gender inequality. Agriculture continues to play an important role in most non-industrial economies, as a major contributor to the country's export earnings and as a source of employment and livelihood.

Abstract

“Improved access to women in agriculture could bring down the number of hungry people by 12-17%, or 100-150 million”

-Report of the “Global Forum on Agricultural Research” Rome

Agriculture is the backbone of any developing country like India. Women who have sustained the growth of society molded the future of nations. In the emerging complex social scenario women have a pivotal role to play. Rural women from the most important productive work force in the economy of majority of the developing nations including India.

Women Workers are engaged in almost all the activities of agriculture. From sowing to selling farm products, women's role in agriculture has been globally recognized. Women constitute 43% of agricultural workers in much of the developing world, most of whom are forced to make do with less access to resources such as water, fertilizer and market outlets than men. Experts say that by providing these basic services to women, agriculture productivity could grow 20-25% to meet food security and reduce hunger at a time when food import bill is soaring.

Women in India are major producers of food in terms of value, volume and number of hours worked. Agriculture continues to be the major employer of India's workforce. Of this workforce, mainly small and marginal workers are women. Nearly 63 percent of all economically active men are engaged in agriculture as compared to 78 per cent of women. Almost 50 percent of rural female workers are

classified as agricultural labourers and 37% as cultivators. About 70 percent of farm work was performed by women.

Keywords:- Marginal Workers, Extension Programmes, Live- Stock Production, DRWA, Agro Social Forestry

1. INTRODUCTION

The women is the backbone of agricultural workforce and are a vital part of Indian economy. Over the years, there is a gradual realization of the key role of women in agricultural development and their contribution in the field of agriculture, food security, horticulture, dairy, nutrition, sericulture, fisheries, and other allied sectors. Women form the backbone of agriculture, in India, comprising the majority of agricultural laborers, women have been putting in labour not only in terms of physical output but also in terms of quality and efficiency. With various targeted efforts, her enlightenment will change the face of rural India.

Rural women are responsible for production of more than 55% food grains and comprise 67% of total agricultural labour force. The role of woman in agriculture varies from country to country. Asian woman contribute to about 50% of the food production. In south-east Asia, women play major roles in sowing, transplanting, harvesting and processing staple crops like rice. Complementary gender roles are also found in most areas as in Nepal and India where women exclusively gather fodder for buffaloes, cattle and other livestock. Almost all women in rural India can be termed as farmers, in some sense, working as agricultural labour, unpaid workers in families and farm enterprises or a combination of the two.

2. REVIEW OF LITERATURE

Various studies have showed that the female contribution to the overall economy is high throughout Asia and the Pacific region, particularly in terms of labour input into agriculture. Bangladesh, Bhutan, Cambodia, China, India, Myanmar, Nepal, Pakistan and Vietnam have particularly high percentages of women employed in the agricultural sector, with estimates ranging between 60 and 98 percent. Indeed, in

most Asian countries the number of women employed in agriculture as a percentage of the economically active population (EAP) is higher than that of men.

FAO (2003); A global survey shows that women represent a substantial share of the total agricultural labour force, as individual food producers or as agricultural workers, and that around two-thirds of the female labour force in developing economies is engaged in agricultural work

Rao, (2006); reported that nearly 63 percent of all economically active men are engaged in agriculture as compared to 78 per cent of women. Almost 50 percent of rural female workers are classified as agricultural labourers and 37% as cultivators. About 70 percent of farm work was performed by women.

Kiran Yadav(2009); observed that in over all farm production, women's average contribution is at 55% to 66% of the total labour with percentages, much higher in certain parts of the country. In certain part of the country, a pair of bullock works 1064 hours, a man 1212 hours and a woman 3485 hours in a year on a one hectare farm, a figure that illustrates significant contribution of women to agricultural production.

World Bank (2011); Only 17.5% of India's gross domestic product(GDP) is accounted for by agricultural production. Yet for a majority of the country, an estimated 72% of the 1.1 billion people who live in rural India, it is a way of life.

3. SIGNIFICANCE OF WOMEN IN INDIAN AGRICULTURE

Background

Society is the base for overall development of a nation. And the society's structure depends entirely upon the status and condition of its women. The condition of women was far better in ancient India. In early period Aryans treated men and women alike in all religious rituals and social functions. But condition of women has declined gradually. Gender is the word used especially for the female population of the society. Many historians believe that it was woman who first domesticated crop plants and thereby initiated the art and science of farming. In those primitive days, when men went out hunting in search of food, women started gathering seeds from the native flora and began cultivating. Since then, women have played and continue to play a key role in crop production, livestock production, horticulture, post harvest operations, agro/ social forestry, fisheries, etc.

Significance

Women's contribution to agriculture, whether it is in subsistence farming or commercial agriculture, when measured in number of tasks performed and time spent, is greater than men. Their contribution in agriculture is aptly highlighted by a micro study conducted in Indian Himalayas which found that on a one hectare farm, a pair of bullocks

work for 1060 hours, a man for 1212 hours and a woman for 3485 hours. Generally, operations performed by men are those that entail use of machinery and animals. Contrary to this, women always rely on manual labour using only their own energy. In rural India, the percentage of women who depend on agriculture for their livelihood is as high as 84%. Women make up about 33% of cultivators and about 47% percent of agricultural laborers. These statistics do not account for work in livestock, fisheries and various other ancillary forms of food production in the country. In 2009, 94% of the female agricultural labor force in crop cultivation were in cereal production, while 1.4% worked in vegetable production, and 3.72% were engaged in fruits, nuts, beverages, and spice crops. Not only are women overworked, their work is more arduous than that undertaken by men. Further, since women's work is largely based on human energy it is considered unskilled and hence less productive. On this basis, women are invariably paid less wage despite their working harder and for longer hours. This makes the woman's work invisible.

In India, rural women are extensively involved in agricultural activities and form the most important productive workforce. They are engaged in agricultural activities in three different ways depending on the socio-economic status of their family and regional factors. They work as: Paid Labourers, Cultivator doing labour on their own land and Managers of certain aspects of agricultural production by way of labour supervision and the participation in post harvest operations. Rural India is witnessing a process which could be described as "feminization of agriculture". Table 1.0 showed the share of farm women in different agricultural operations. While doing these farm operations women has to face various health hazards. The National Research Centre for Women in Agriculture (NRCWA) has assessed occupational health hazards of farm women in coastal Orissa some years back and results are furnished in Table 2.0

Table 1: Share of Farm Women in Agricultural Operations

Activity	Involvement (%)
Land preparation	32
Seed cleaning and sowing	80
Inter cultivation activities	86
Harvesting reaping, winnowing, drying, cleaning and storage	84

Source: Registrar General of India, New Delhi, 2001

Table 2: Types of health hazards faced by farm women

Activities	Health hazards reported (%)
Farm activities	
Transplanting	50
Harvesting	26.5
Post harvest activities	
Threshing	50
Drying	33
Parboiling	67

Livestock management	
Shed cleaning	47
Fodder collection	23
Milching	27.5

Source: Registrar General of India, New Delhi, 2001

4. PRESENT STATUS OF AGRICULTURE IN INDIA

India has a national tradition bound to agriculture fertility. In the North, the Indus valley and Brahmaputra region are critical agricultural areas graced by the Ganges and monsoon season. Based on 2011 World Bank data, only 17.5% of India's gross domestic product (GDP) is accounted for by agricultural production. Yet for a majority of the country, an estimated 72% of the 1.1 billion people who live in rural India, it is a way of life.

While agriculture's share in India's economy has progressively declined to less than 15% due to the high growth rates of the industrial and services sectors, the sector's importance in India's economic and social fabric goes well beyond this indicator. First, nearly three-quarters of India's families depend on rural incomes. Second, the majority of India's poor (some 770 million people or about 70 percent) are found in rural areas. And third, India's food security depends on producing cereal crops, as well as increasing its production of fruits, vegetables and milk to meet the demands of a growing population with rising incomes. To do so, a productive, competitive, diversified and sustainable agricultural sector will need to emerge at an accelerated pace.

India is a global agricultural powerhouse. It is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea. The country has some 195 m ha under cultivation of which some 63 percent are rainfed (roughly 125m ha) while 37 percent are irrigated (70m ha). In addition, forests cover some 65m hectare of India's land.

Impact of Green Revolution

Based on 2012 data, India is home to the fourth largest agricultural sector in the world. India has an estimated 180 million hectares of farmland with 140 million of which are planted and continuously cultivated. Yet India's agricultural profile is shadowed by the controversial impacts of Green Revolution policies that were adopted in the 1960s and 70s with pressure from the United States Agency for International Development and the World Bank.

The Green Revolution brought a modern approach to agriculture by incorporating irrigation systems, genetically modified seed variations, insecticide and pesticide usage, and numerous land reforms. It had an explosive impact, providing unprecedented agricultural productivity in India and turned the country from a food importer to an exporter. Yet the Green

Revolution also caused agricultural prices to drop, which damaged India's small farmers.

India's agricultural sector today still faces issues of efficiency due lack of mechanization with poorer conditions of farmers, as well as small farm sizes. In India traditional agriculture is still dominant as many farmers depend on livestock in crop production, for manure as fertilizers, and the use animal powered ploughs. According to 2011 statistics, the average farm in India is about 1.5 acres, minuscule when compared the average of 50 hectares in France and or 178 hectares in United States and 273 hectares in Canada.

5. ECONOMICALLY ACTIVE WORKING POPULATION IN AGRICULTURE AT THE GLOBAL LEVEL

The female contribution to the overall economy is high throughout Asia and the Pacific region, particularly in terms of labour input into agriculture. Bangladesh, Bhutan, Cambodia, China, India, Myanmar, Nepal, Pakistan and Vietnam have particularly high percentages of women employed in the agricultural sector, with estimates ranging between 60 and 98 percent. Indeed, in most Asian countries the number of women employed in agriculture as a percentage of the EAP is higher than that of men. As FAO reports, "this finding is even more significant given that data for the economically active population in agriculture tends to exclude the unpaid work by rural women in farm and family economies. If unpaid work were included, the figures for female employment in agriculture would be even higher.

Recent research has also shown a trend towards higher female participation in agriculture in Latin America. A significant increase over the past two decades in the number of rural Latin American households headed by women has been noted; these women are usually the primary source of income for their families, and are typically involved in agriculture. Poverty levels have also increased in Latin America, from 60 to nearly 64 percent between 1980 and 1999, with the absolute number of people living in poverty having increased; while the number of women working in agriculture (both subsistence and commercial farming) increased from 15 to 20 percent between 1990 and 1999.

FAO has noted that while the overall proportion of the economically active population (EAP) working in agriculture declined during the 1990s, the percentage of economically active women working in agriculture at the global level remained nearly 50 percent through 2000, with an even higher percentage in developing countries (61 percent) and in LDCs (79 percent). Furthermore, although FAO projections to 2010 indicate a continued reduction in the overall female participation in agriculture globally, the percentage of economically active women working in agriculture in LDCs is projected to remain above 70 percent.

6. ROLE OF COOPERATIVES FOR WOMEN FARMERS IN INDIA

Cooperatives have been long seen as a social institution providing partnership, solidarity and resources to women farmers as well as tackle gender inequality. In India they have had quite a success. In many instances in which women are barred from participation, women only cooperatives are critical in empowering and educating. Yet female participation in cooperatives is still relatively low and some argue because men are still seen as primarily in charge of agriculture and income generation. Only 7.5% of women participate in cooperatives as compared to 92.5% of men. Of India's 450,000 cooperatives with a membership of 204.5 million, there are only 8,171 women cooperatives with a total membership of 693,000 women. Despite that, women-only cooperatives, which include cooperative banks, stores, food vendors, have done quite well and provided a whole range of services to their members.

In India, with a view to involve women in the process of decision-making in local self-governing bodies including cooperatives, a 33% representation has been instituted and in a number of states all boards of directors have women serving on them. International organizations such as the Self-Employed Women's Association (SEWA) have been working quite successfully in India with partners to form a membership of 1.24 million women in India. Fifty four percent of members are agricultural workers.

7. GOVERNMENT INITIATIVES FOR WOMEN FARMERS IN INDIAN AGRICULTURE

Efforts have been made by department of agriculture to incorporate gender issues into development agenda and ensure full and equitable participation of women in all agricultural development programmes. In an effort to '*engender agricultural process*' the DOAC implemented special programmes/ schemes for women in agriculture sector, where a composite package of training, extension, input, managerial and entrepreneurial support was provided to selected farm women beneficiaries. Different approaches were followed in all these projects to provide a complete support package to women farmers. The technical back-stopping was provided through a blend of '*skilled-based*' capacity building exercises coupled with extension support through "*On field Demonstration*", "*Mahila-Goshties*" and "*Study Tours*".

Agriculture Extension Services

Women farmers contribute enormously to the Indian agriculture. This has been proved by various researches. The results of these researches, however, could not get due recognition in the planning and implementation of agricultural related programmes. Agricultural extension is one such effort taken by the Government and non-Government agencies that aims at reaching to farmers. The efforts include bringing about a positive change in knowledge, attitude and skills of the

farmers by providing training and technical advice and also assisting them in taking decisions in adoption of new research results. Importantly, the clientele of such programmes and efforts is inclusive of both farmers and farm women. The agricultural extension services in India has limited in its operations to a larger extent on male farmers only and it has failed to tackle the great structural problem of invisibility of female farmers. Women farmers are bypassed by male extension workers. It would be correct to state that women farmers in India have failed to get their due share in extension services. Extension services in India need to be refined, modified and redesigned so as to reach farm women effectively.

Integrated approach

In 1980s' integrated approach was started that attempt to integrate women in the mainstream of development by structurally making them beneficiaries up to an extent of 40 per cent. A number of services supportive for women's socio-economic empowerment viz., Support to Training and Employment Programme for Women (STEP), Rashtriya Mahila Kosh, Indira Mahila Yojna, Mahila Samridhi Yojna, Self-Help Groups etc. were implemented. These approaches were not directed towards fulfilment needs for agriculture-related services and concentrated mainly on the issue of employment and social empowerment. In 1993-94, a project aimed at gender-gap reduction among women farmers of the Northern India was launched by the Government of India. The limited coverage of this project shortens its impact. Such programmes need to be appreciated for being the pioneering one in this regard.

Krishi Vigyan Kendras (KVKs)

ICAR is another important system for transfer of farm technologies all over the country. This system has operated through various frontline extension programmes, all of which now have been merged with the Krishi Vigyan Kendras (KVKs) since April 1996. In KVKs, provision for special training programmes for women are made. These programmes restricted mainly in the areas like home economics and ignored women's productive role in agricultural operations. The efforts made so far in this direction appear to be localized and remain largely invisible.

Involvement of women in agricultural development process by ICAR has been further strengthened when the concept of Farming Systems approach to research/extension was institutionalized by several ways including assessment and refinement of agricultural technologies through institutionalizing village linkage programme. Still these efforts are very limited to make a substantial dent on the overall agricultural scenario. From the very beginning Non-Government Organisations (NGOs) have involved women component in their mandate. They too have given more emphasis on issues related to social empowerment of women. They also have given little attention on women's role in

agriculture. Therefore, all the major extension systems in India, the participation and benefits accrued to women farmers are minuscule. There is a need to delineate and discuss the reasons attributable to poor access of farm women to extension services in India.

8. WOMEN FARMERS AND THE ENVIRONMENT

Variation in Climate and its impact on Indian Women:

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.

Loss of Biodiversity in India:-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.

Furthermore, traditional agricultural methods heavily utilized by women subsistence farmers boast environmentally friendly features, such as seed preservation, natural fertilizers and crop rotation techniques that do not exhaust delicate soil. In the wake of Green Revolution's reforms, it is clear that many of the high yield recommendations had severe environmental impacts.

Negative impact of Green Revolution on Environment

The negative environmental impacts of the Green Revolution are barely beginning to show their full affect. The widespread chemical pollution in communities that utilize pesticides and herbicides is creating a public health problem, which has disproportionately impacted women. In the state of Punjab, which was touted as a success of Green Revolution, cancer rates have skyrocketed. A 2008 study by Punjabi University a

high rate of genetic damage among farmers, which was attributed to pesticide use. Ignorance on the appropriate use of pesticides, resulting in the heavy use, improper disposal, the use of pesticides as kitchen containers, and contamination of drinking water with heavy metals are contributing factors. In reaction to the health and monetary costs of inorganic farming many women are turning to organic farming practices. On a micro level women are organizing into collectives to exchange knowledge, organize organic seed sharing, to pursue organic and sustainable agricultural practices.

9. PROBLEMS OF WOMEN IN AGRICULTURE SECTOR IN INDIA

1. Gender Division of Labor in India:-In India, the typical work of the female agricultural laborer or cultivator is limited to less skilled jobs, such as sowing, transplanting, weeding and harvesting, that often fit well within the framework of domestic life and child-rearing. Many women also participate in agricultural work as unpaid subsistence labor. According to United Nations Human Development Report only 32.8% of Indian women formally participate in the labor force, a rate that has remained steady since 2009 statistics. By comparison men constitute 81.1%.

2. Literacy:-An estimated 52-75% of Indian women engaged in agriculture are illiterate, an education barrier that prevents women from participating in more skilled labor sectors. In all activities there is an average gender wage disparity, with women earning only 70 percent of men's wage. Additionally, many women participate in agricultural work as unpaid subsistence labor. The lack of employment mobility and education render the majority of women in India vulnerable, as dependents on the growth and stability of the agricultural market.

3. Time allocation:-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.

4. Property Ownership Rights of Indian Women

Critical resources such as land are also unevenly distributed by gender. Women seldom enjoy property ownership rights directly in their names. They have little control over decisions

made in reference to land. Even with land in their names, they may not have actual decision-making power in terms of cropping patterns, sale, mortgage and the purchase of land. In India only 14.9% of households are female headed. Access to credit is difficult, since women lack many of the prerequisites for lending such as assets or ownership of property. Without access to capital or household decision making abilities women lack the resources that are necessary for their labor stability and stability of their households. Land ownership opportunities also have a critical impact on human development with freedom from violence. According to a 2005 study of marital violence and property ownership, 49% of property less women experience physical violence and 84% experienced psychological abuse. Ownership rights saw a drastic decrease in violence. Among women who owned both land and house there was only 7% physical violence and 16% psychological abuse.

5. Rural Credit:-Moreover, the access of women to the most crucial input “credit” is limited since they are not land owners, the credit flow generally goes in the name of male members i.e. owners. Credit policies of various banks and other organizations need orientation towards women by granting them the status of a producer.

10. SUGGESTIONS

Following are the key points, which will help in creating respectable role of women in Indian agriculture

1. Skill empowerment

By training in the area of various operations :

- i. Field operations
- ii. Conservation of biodiversity
- iii. Nutritional bio-security
- iv. Vocational training
- v. Organic farming

2. Technology development for women

- a. Designing of tools for various field operations
- b. Animal husbandry
 - i. Artificial insemination.
 - ii. Veterinary knowledge
- c. For side income
 - i. Mushroom cultivation
 - ii. Floriculture

3. Creation of self help groups

- i. For financial support
- ii. For generation of employment

4. Projection of contribution of women by collecting and analyzing data

- i. Collection and display of data
- ii. Projection of successful women in agriculture
- iii. Representation of their contribution in economic terms

5. Providing Financial Powers

Giving representation in land holdings

11. CONCLUSION

Looking at the present status of women in agriculture and their limited access to research and extension services it is urgently needed to revamp the entire approach towards women farmers to cater to their existing needs emphasizing the future challenges which the country has to face in the coming years. Hence, empowerment of Rural women is the need of the hour, as it is the only surest way of making women as “partners” in development and bringing them in to the mainstream of Agricultural development. The Justice Verma Committee has emphasized the need for looking at the status of women in its totality. Nearly 40 crore women out of the total of 60 crore female population depend upon crop and animal husbandry, fisheries, forestry, agro processing and agri-business for their livelihood, yet are handicapped by their inability to obtain equal access to natural resources such as land and water because of male-biased laws. Therefore, it is exceedingly important that we re-examine the current status of women’s empowerment in the field of farming.

Government has to take interest in solving their problems, government should not only invent “the schemes but they have to see whether the schemes are working successfully or not. By this, the agriculture women labour will come out of these problems and can lead a better life.

REFERENCES

- [1] Brandtzaeg, Brita. 1979, Women, Food and Technology, “Economic and Political Weekly” ,Vol.XIV,No.47
- [2] Fernandes, Walter and Geeta Menon ,1997,“Tribal Women and Forest Economy”, Indian Social Institute, New Delhi
- [3] Manmohan Singh, 1995,Inaugral Address, Indian Journal of Agriculture Econoics,Vol50,No.1
- [4] Mies,Maria, 1987,Indian Women in Subsistence and agricultural labour, Vistar Publications, New Delhi.
- [5] National Agricultural Policy, 1998, Confederation of Indian Industry , Agro-Tech, Chandigarh.
- [6] Pande, Rekha, 2000, “Globalization and Women in the agricultural sector”, International Feminist Journal of Politics, Vol.2, No3, Routledge, London
- [7] Towards Equality, 1974, Report on the status of women ,Government of India, New Delhi.
- [8] World Bank Report 1991,Gender and Poverty in India, Washington D.C.

-
- [9] World Bank, 1998,World Development Report, Oxford University Press, New York.
- [10] Shiva, Vandana, 1991,The Violence of the Green Revolution: Ecological Degradation and Political Conflicts in Punjab, Zed Books, London.
- [11] The Hindustan Times, April 29,2015, pp-15
- [12] ZENITH International Journal of Business Economics and Management Research,Vol.1, Issue 1,Oct 2011,pp-29
- [13] Indian Journal of Research, Volume :3, Issue 12,Dec 2014,pp-51-52
- [14] The Hindustan Times, May 1,2015, pp17
- [15] The Hindustan Times, May 5,2015, pp12