

Gender Dynamics and Economic Impacts: The Feminization of Indian Agriculture in India

ABSTRACT

The phenomenon known as feminization of agriculture, which emerged in India after privatisation, refers to a rise in the proportion of women employed in farming. But feminization does not inevitably result in empowerment because female workers receive lower wages than male workers. Gender discrimination, general bias against women, a lack of advancements in technology for women, limited control over resources, and limited market access are some of the barriers that prevent women from progressing in agriculture. The states with a greater number of people working in agriculture saw the smallest shifts in labour participation between men and women. As women become more involved in agriculture, they contribute significantly to household income and food production. This financial contribution can enhance their decision-making power within the family and community. As small-scale farmers contend with growing competition from larger agricultural operations, more men are migrating to urban centres in pursuit of higher-paying jobs. This leaves women responsible for sustaining the family structure and preserving the traditional small-scale

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farming way of life. As a result, there is rising concern over the disparity between women's actual economic contributions and the public's perception of them. The first step in feminising agriculture and empowering women is to recognise the obstacles that women face in the sector. There are two in particular that are closely related i.e. land and credit. It is imperative to implement policy initiatives and programmes that advance gender equality, facilitate access to resources and training, and foster positive social situations. Social mobilization, collective action, community education, and community-based marketing are necessary. The focus on women's access to land and natural resources has the potential to greatly improve their capacity to produce and obtain food.

Keywords: Agriculture; empowerment; feminization; participation; small-scale farming.

1. INTRODUCTION

The feminisation of rural villages, where women are increasingly in charge of farming, is a result of men leaving the area. Some have called this state of situations the "feminisation of agriculture" (Bhawana and Race 2020). In India women contribute an important role for the growth of agriculture and rural economies. Mainly in rural economy women are the backbone and they are the unnoticed farmers, all farmers, including those actively engaged in both farming and marketing activities and were consistently overlooked in every conversation (Kushwah et al., 2018). Feminization of agriculture called as to the frequently increasing participation of women in the agriculture as a labour force which reflects the transfer in the gender roles in agriculture. Women perform the same duties as male farmers but a female farmer is known as a farmer's wife. This is widely known that increasing of agriculture depend on might be women's labour which is denoted as the "feminization of agriculture" (Shukla et al., 2022, Krishna Rao 2006, Garikipati 2006). In India, female participation in agriculture is filling the labour gap left by men leaving the field at a rapid pace. Nevertheless, because women only perform as unseen labourers and not as decision-makers, this feminization of agriculture has not been able to bear fruit (Sharma and Nayak 2019). According to the researchers it has been recognised that agriculture is gendered in developing countries across the globe. The percentage of rural women workers over the time period from 1961-2001 was categorized as agricultural labours has improved from 25.6% to 43.4%, related to an rise from 16.2% to 27.4% for men (Gol, 2001) as per Indian census data. In other words, feminization of agriculture means, women have the ability to do household works as well as farming activities since several works as they accept in their traditional and gendered roles (Shukla et al., 2022, Ramamurthy 2010, Rani et al., 2019). Agricultural production could be improved by the

improvement of technology, unmediated control and possession of land, and mainly improving the agricultural management skills and knowledge of women to overcome the poverty and monetary inequality (Kushwah et al., 2018). It is not a new concept but it is recently immunes and the reason is that many people are talking about it as a problem. Feminization is also known as for changing the relationship of property like increasing the ownership between women. Further it is marked that feminization provides ability to the women to regulate their own labour, communicate with expert to make proper choices and give priority to women's actions, desires and objectives for policy measure (Shailza and Sharma 2019, Rawal and Saha 2015, Sengupta and Singh 2010). In India's agriculture sector the percentage of women workers is 60 (FAO, 2010-11). The proportions of women in the total labour force decreased in the latest census, with 65% of the female workforce engaged in agriculture, in contrast to 42% of the male workforce. Recent studies stated that the primary causes of this feminization is emphasize agrarian crisis and distress-led male migration (Lahiri-Dutt 2021).

2. WOMEN EMPOWERMENT

A central survey says that an index of the exchanging relationship between labour and capital is feminization of agriculture. Gender disparities concerning agricultural land ownership are pronounced in India, with poverty alleviation programs primarily focused on male labourers lacking land ownership. In this context, agricultural wage labour emerged as the primary means for impoverished rural women to attain financial independence and challenge unfair social norms. This approach served as the underlying principle driving the rise of women's engagement in agricultural wage labour in India (Garikipati 2008). The record looks into the connections among women's employment and the feminization of the semi-arid region of Andhra Pradesh. Women are found to be highly

involved in agricultural wage labour in this region, mostly because better-paid jobs like seasonal migration and self-employment are out of reach for the majority of women. Salaries of women, working circumstances, and relative influence inside the household continue to be severely impacted as a result. Furthermore, evidence points to seasonal migratory income as the factor widening the wealth disparity among the men and women. Policies aimed that challenge patriarchal control over productive assets and have a direct focus on enhancing the off-farm of women prospects are needed (Deere 2005). Kerala is a state known for its strong focus on women's empowerment and education, which motivates women to explore alternative opportunities in the manufacturing and service sectors, leading to a reduction in their involvement in agriculture. This shift is noticeable when women take on land ownership in the agricultural sector, as it is observed that 80.74 percent of the land is actively cultivated, underscoring their significance in the future of this sector (Patnaik et al., 2017).

According to the annual reports of periodic labour force survey for 2018,2019, and 2020, there is a noticeable trend of increasing female participation in Indian agriculture. Achieving parity in land rights and access for both genders not only amplifies economic prospects but also encourages investments in land and crop cultivation. This, in turn, bolsters household food security and empowers women in making influential decisions (Kauntia 2022). This article lists a number of issues that Indian women farmers confront as well as effective approaches for empowering women and growing the agricultural industry as a whole. The first step regarding feminising agriculture and strengthening women is to identify the challenges that women confront within the industry. Particularly, there are two issues: land and credit, which are inextricably linked. Banks want collateral (ideally land) prior to providing loans, which the women do not have. In order to purchase land, women need loans. This suggests that they are unable to obtain land due to their lack of credit and that they are similarly unable to obtain credit due to their lack of land. The two resources must first be offered in order to address this issue. The feminization of agriculture denotes to the rising participation of women in agricultural activities and their growing role in shaping rural economies. This phenomenon has been observed in various parts of the world, including rural India (Agrawal and

Chandrasekhar 2015). The empowerment of women in rural India through their involvement in agriculture has several positive implications.

As women become more involved in agriculture, they contribute significantly to household income and food production. This financial contribution can enhance their decision-making power within the family and community (Khadka 2022). Women's involvement in various agricultural tasks, such as crop cultivation, livestock management, and post-harvest activities, helps them develop valuable skills and expertise. This enhances their capacity to engage in income-generating activities and become more self-reliant. Through ICT modern technology also used by women that will help them for self-empowerment (Das et al., 2021).

Increased earnings from women's participation in agriculture can lead to improved access to education and healthcare for themselves and their families. Empowered women often prioritize the well-being of their children and invest in their education IAS Express. (2021). As women take on more visible roles in agriculture, their contributions gain recognition within their communities. This recognition can lead to a shift in traditional gender norms and stereotypes, fostering a more inclusive and supportive environment.

Women's participation in agricultural activities often leads to the formation of women's self-help groups, cooperatives, and farmer organizations. These platforms enable women to advocate for their rights, share knowledge, access resources, and collectively address common challenges (Das et al., 2021). Empowered women are more likely to have improved access to agricultural resources such as land, credit, seeds, and tools. This access strengthens their productivity and decision-making abilities (Khadka 2022).

The involvement of women in agricultural value chains can lead to the development of diverse and sustainable rural economies. This promotes overall rural development and reduces gender-based disparities (Das et al., 2021). Women's intimate knowledge of local ecosystems and climate patterns makes them crucial agents in adapting to changing environmental conditions. Their expertise contributes to more resilient and sustainable agricultural practices (Khadka 2022).

Women's involvement in agriculture can play a key role in reducing rural poverty by enhancing household income and food security Dristi IAS. (2022). It's important to note that while the

feminization of agriculture can empower women, challenges such as unequal access to resources, limited access to markets, and cultural barriers still exist. To fully harness the potential of this trend, policy interventions and programs that promote gender equality, provide access to training and resources, and create supportive social environments are necessary (Dev 2012). Empowering women in agriculture not only benefits them individually but also contributes to the overall development and sustainability of rural communities.

3. WOMEN'S PARTICIPATION IN NATURAL FARMING

Natural farming employs techniques grounded in ecological processes and utilizes natural resources, reducing the reliance on external inputs. It holds promise for reducing farmers' dependency on bought inputs while simultaneously growing their income, promoting ecological benefits, and ensuring food security. In natural farming the women's active involvement can enhance their economic prospects and empower them in decision-making processes. Additionally, it can have a positive impact on family health and nutritional well-being. Studies have shown a clear link the relationship between women's management of agricultural assets as primary contributors and the socio-economic dynamics within their households remains unchanged Dristi IAS. (2022). Women have occupied themselves a pivotal role in the management of biodiversity and the promotion of sustainable agriculture by employing ecological methods such as preserving traditional seeds, producing organic fertilizers, and utilizing a wide array of natural resources for daily household requirements. Their active engagement in natural farming will not only make sure the sustainability and expansion of this practice but also contribute to the nation's pursuit of sustainable development goals Dristi IAS. (2022).

4. MAJOR CHALLENGES

In India, the typical employment of a female agricultural labourer or cultivator is restricted to unskilled tasks like sowing, transplanting, weeding, and harvesting that frequently fit well within the context of household life and childrearing. They are involved in the labour-intensive process of pollination, which produces cotton seeds and calls for some patience and accuracy. A lot of women also engage in unpaid subsistence work in agriculture. Only 32.8% of

Indian women officially participate in the labour force, according to the United Nations Human Development Report; this percentage has been constant from 2009 data. Comparatively, 81.1% of people are men. Rural women bear a significantly heavier workload, engaging in labour-intensive, repetitive, and exhausting tasks for approximately 15-16 hours each day (Das et al., 2021). Important resources like land are also spread inequitably by gender. Rarely do women have direct legal rights to real estate. They have limited influence on issues involving land. Despite having land registered in their names, individuals might not actually have any influence over decisions about cropping practices, sales, mortgages, or the purchase of land. Only 14.9% of families in India are controlled by a woman. Since women frequently lack the requirements for financing, such as assets or property ownership, access to credit can be challenging. Women lack the resources required for the stability of their employment and households without access to capital or household decision-making skills (Satyavathi et.al., 2010).

Rural women face many of the same challenges as resource-poor farmers, including limited access to land, credit, training, extension services, and marketing opportunities. However, due to social and economic factors, the obstacles faced by women are more pronounced and in most cases, initiatives aimed at addressing the constraints of poor farmers do not adequately benefit women. Additionally, rural financial institutions often exhibit reluctance to serve women as clients due to their inability to meet collateral prerequisites and their limited experience as borrowers (Kushwah et al., 2018).

5. PRESENT SCENARIO OF FEMINIZATION IN AGRICULTURE

In rural parts of India, a significant 84% of women rely for their livelihood on agriculture. Among them, around 33% are cultivators and approximately 47% are agricultural labours (Rao 2006). These figures do not encompass their contributions to activities like livestock, fisheries and other related forms of food production. In 2009, a substantial the percentage of the female agricultural labour is 94% were involved in cereal cultivation, while 1.4% worked with vegetables and 3.72% participated in the cultivation of fruits, nuts, beverages, and spice crops (Singh et al., 2022). In various agricultural sectors, women play a significant role, accounting for approximately 47% in tea plantations, 46.84% in cotton cultivation, 45.43% in oil seed growth and

39.13% in vegetable production (Centre for Trade and Development and Heinrich Boell Foundation, 2009). Despite the labour-intensive nature of these crops, the tasks are often seen as unskilled. Furthermore, women actively participate in complementary agricultural pursuits. According to data from the Food and Agriculture Organization, approximately 21% of all fishermen and 24% of fish farming practitioners in India are women, underscoring their substantial contribution to these sectors. Feminism in the context of Indian agriculture represents the active participation of women in agricultural and related activities. The term was first introduced in the Economic Survey of 2017-18, where it was used to describe the quantifiable increase in the inclusion of women in the agricultural and allied sectors of the workforce (Singh et al., 2022). Agriculture is one of the key sectors influencing the Indian economy, exhibiting a growth rate of 3.4 percent and contributing 19 percent to the total GDP in

the 2021-22 period. Currently, agriculture employs over 50 percent of India's workforce, with women comprising 45.3 percent of the agricultural labour force, yet a significant portion of them remains unnoticed (Singh et al., 2022). Even in rural India, a substantial 84 percentage of women for their livelihood rely on agriculture, as per the 2011 Census (Singh et al., 2022). The share percentage of women as labour was highest in Bihar (83.56%) and lowest in Kerala (21.27%) in 2011 Census of India. (2011).

The effects of economic liberalisation led to a considerable expansion in non-agricultural activities between 1991 and 2001 (Table 1). In contrast to the increase in female participation, which quadrupled from 17.6% to 34.0% during the same period, male participation in non-agricultural activities climbed from 39.1% in 1991 to 50.1 in 2011. It means that even if 50% of men work in non-agricultural occupations, 65% of women are still dependent on agriculture.

Table 1. Work participation of gender in agriculture and non-agriculture sector

Census year	Agriculture			Non-Agriculture		
	Male %	Female %	Total agriculture %	Male %	Female %	Total non-agriculture %
1981	66.3	82.6	70.3	33.7	17.8	29.7
1991	60.9	82.4	67.2	39.1	17.6	32.8
2001	51.9	71.8	58.4	48.1	28.2	41.6
2011	49.8	65.1	54.5	50.1	34.9	45.5

(Feminization of Indian Agriculture: A review, 2021)

Table 2. State wise partnership of women in agriculture and non-agriculture activities during 2011 census

State	Total Female worker number	Female workers in Agriculture %	Female workers in Non-Agriculture %
Bihar	3541857	83.56	16.44
Nagaland	279166	82.66	17.34
Himachal Pradesh	630521	82.47	17.53
Rajasthan	4595570	81.07	18.93
Madhya Pradesh	5046293	79.45	20.55
Maharashtra	10331758	74.53	25.47
Andhra Pradesh	9585381	3.44	26.56
Uttar Pradesh	4999389	65.87	34.13
Karnataka	5467914	61.11	38.89
Odisha	1584529	60.47	39.53
Tamil Nadu	7454473	59.3	40.7
Gujarat	3544508	57.2	42.8
Manipur	229137	55.59	44.41
Tripura	170238	52.78	47.22
Assam	1265065	42.47	57.53
West Bengal	3528612	32.62	67.38
Punjab	1409704	24.51	75.49
Kerala	1776280	21.27	78.73

(Source: Ghosh et al. (2014) census Census of India. (2011))

Table 3. Operational holding Owned & Operated by women during Census 2011

State	Owned by Women %	Operated by Women %
Meghalaya	34.60	34.00
Andhra Pradesh	25.40	22.10
Goa	23.30	18.00
Kerala	19.80	15.00
Delhi	19.50	15.50
Tamil Nadu	19.20	16.60
Karnataka	19.00	15.70
Maharashtra	15.00	13.10
Bihar	13.70	12.90
Chhattisgarh	12.60	9.90
Uttaranchal	11.30	10.50
Mizoram	10.90	9.70
Jharkhand	10.80	9.00
Arunachal Pradesh	10.70	8.20
Haryana	10.50	8.80
Gujarat	10.30	9.10
Tripura	10.30	8.80
Nagaland	10.10	8.70
Madhya Pradesh	9.30	7.20
Uttar Pradesh	9.10	7.60
Rajasthan	9.00	7.70
Jammu & Kashmir	8.10	6.50
Himachal Pradesh	7.10	4.70
All India	13.50	10.90

(Source: Pattnaik et al. (2018), census (2011))

After liberalisation, males engaged in more non-agricultural activities (Das et al., 2021).

The distribution of female workforce participation in agriculture varies across different states. Table 2 highlights that Bihar had the highest proportion of female labour engaged in agricultural activities at 84%, closely followed by Nagaland at 83%, Himachal at 82%, and Rajasthan at 81%. In contrast, West Bengal had a lower percentage of women employed in agriculture at 67%, while Punjab and Kerala had higher percentages of females working in the industrial or service sectors, with 75% and 78% respectively (Shailza and Sharma 2019).

Operational holdings were used as a substitute due to the unavailability of official land ownership data. Table 3 presents data on land operated by women in comparison to the total operational holdings. As per the most recent 2010-11 census, women owned 13.5% of the total operational land, while they operated only 11% of it. Despite women actively participating in agricultural activities, a disparity persisted between operational holdings and land ownership among men and women.

6. CONCLUSION

When empowerment is both a route to farm employment and an aim in itself, female farmers can have a greater influence on food security (Asadullah and Kambhampati 2021). Compared to males, women do not enter the workforce on the same conditions. Social and cultural limitations, gender prejudice in the workplace, and a lack of supported services like child care, transportation, and employment in the formal sector of the labour market all restrict their options for careers (Padhy 2015). Women are mostly hidden face now we see a big shift taking place with many more women coming to the fore leading. The emigration of the male workforce from agriculture led to the feminization of agriculture. However, because women are persistently underpaid in the workforce, this situation is not consistent with empowerment. Nearly half of the male labour force worked in non-agricultural fields, the percentage of women labourers in these sectors was only 35% of the total, after expansion. With the notable exceptions of Uttar Pradesh and Bihar, it was clear that the variations in involvement between men and women staff members were least in

those states where workers were mostly employed in agriculture. Livestock is ruled mainly by men. The percentage of land used for food grain, per capita income, and land ownership were most of the variables affecting the participation of women. One of these variables, poverty, displayed a nonlinear relationship with female participation. The obstacles which restrict women from advancing in agriculture include gender discrimination, general bias against women, and a deficiency of technology improvement for women, restricted control to resources, and insufficient market access.

It is important to critically examine how women farmers should be able to access resources such as land, water, financing, technology, and training in the Indian setting. Furthermore, increasing agricultural output would depend on women farmers' rights (Ranjan 2023).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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