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RESEARCH ARTICLE

Gender Inequalities in Resource Management

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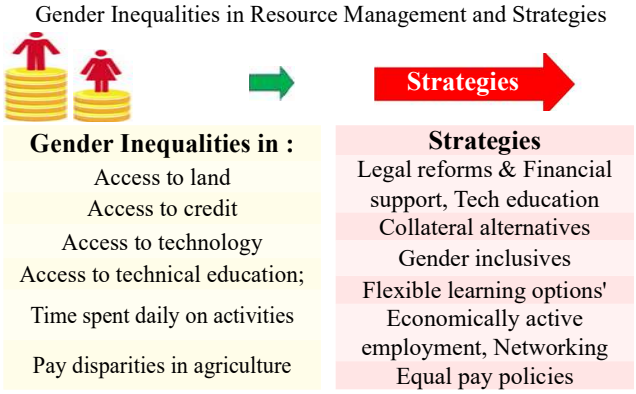
HIGHLIGHTS

- A multi-dimensional analysis of gender inequalities beyond the traditional binary understanding of gender disparities
- Identified existing gender disparities also by offering practical policy recommendations and empowerment strategies.
- A deeper understanding of cultural norms, traditional practices, and community dynamics that influence resource allocation which is pivotal in designing sustainable interventions that resonate with the socio-cultural fabric of Indian agricultural communities.

GRAPHICAL ABSTRACT



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ABSTRACT

Introduction: Women account for half of the world's population. A nation is never considered as developed until woman work force is utilized to its utmost potential in agriculture. The exposure of literature on gender and development confirms that women are crucial in agriculture production and that gender barriers most frequently hinder women from accessing resources and advanced technologies.

Context: However, a considerable difference is present in between raising awareness of gender issues and incorporating gender as an analytical variable in research and development processes.

Objective: To comprehensively review the literatures that highlighted gender disparities in agriculture, a literature review was done in order to address the nature of inequalities in the resource management, policies, decisions, and their enactment, as well as to explore the causes of such inequalities.

Method: This current study is solely grounded on the secondary data acquired from Food and Agriculture Organization (FAO), Periodic Labour Force Survey (PLFS) - National Statistical Office, All India Debt and Investment Survey, Ministry of Labour and Employment, Government of India and Time Use Survey. Descriptive metrics like frequency and percentage were utilized to draw conclusions from the data. Plots of lines, bars, and columns were used to graphically depict the conclusions.

Results & Discussion: Results revealed that even though women directly contribute significantly in terms of physical labour and time to agriculture and related activities, gender discrimination was predominantly existing against them at all times. This was found to be true when compared to land ownership, gender-based differences in access to productive inputs and resources, a lack of labour (particularly male labour) for own farm production and agricultural productivity, unpaid care and domestic work, lower wages, and exclusion from decision-making processes. However, despite their contribution to the world's food security, development policies routinely undervalue and ignore women farmers.

Although there has been extensive research on the value of gender equality in all areas, particularly in financial involvement, there has been only modest implementations. As per data of 2016 Global Gender Gap (GGG) Report by the World Economic Forum, India, it was pinpointed that the largest economy on the Indian subcontinent, has an uneven gender distribution in terms of fiscal involvement. A quick examination at the per capita GDP of the different developing countries included in the study revealed a positive association between the number of men and women participating in the economy (f-m ratio). India is significantly behind other emerging countries like Brazil, which has a per capita GDP of US$14,455 and an f-m ratio of 0.64, and Indonesia, which has a per capita GDP of US$10,385 and an f-m ratio of 0.598. These figures show that more female participation has boosted the economies of the respective nations. On meticulously considering these statistics, India would need its women comprising of 48.5 percent of the population to participate in economic and fiscal undertakings (Census India, 2011).

India, a nation that is rapidly growing, has a number of social problems, including sociocultural hegemony and gender inequality, which cause differences in opportunity and wealth (Comyn, Kemmis and Smith, 2014). While defining gender equality as per Hussain and Kirmani (2010), which refers to the equal importance of the roles played by men and women, they consistently stressed its importance in the advancement and development of a country. However, women consistently trail behind men in most indicators of human development and among them, the most significant one, being the literacy level. Discerning that a country can fully grow when around half of its population is still in poverty is almost unwise (Madhok, 2014). This is especially true for India's women, who make up 48.2% of the country's 1.22 billion people (Census of India, 2011).

Due to the various disparities in gender at present, the workplace has occasionally been defined as an unwelcoming environment for women (Abrams, 1991). The gender wage gap (Peterson and Morgan, 1995), a smaller number of women in leadership positions (Eagly and Carli, 2007), and the longer time needed for women (vs. men) to advance in their careers (Blau and DeVaro, 2007) are a few examples of how workplace discrimination negatively affects women's earnings and opportunities. Women's psychological and physical stress, mental and physical health, job satisfaction and commitment (Hicks-Clarke and Iles, 2000), and ultimately, their performance (Cohen-Charash and Spector, 2001) are all impacted by both the objective disadvantages of lower pay, status, and opportunities at work as well as the subjective experiences of being stigmatized.

So, it's very important to address the nature of inequalities in the resource management, policies, decisions, and their enactment, as well as to explore the causes of such inequalities.

METHODOLOGY

This current study has considered the women and men labour force of India and is solely grounded on the secondary data acquired from Food and Agriculture Organization (FAO), Periodic Labour Force Survey (PLFS) - National Statistical Office, All India Debt and Investment Survey, Ministry of Labour and Employment, Government of India and Time Use Survey. A Meta data analysis was done using Open Meta [Analyst] (Wallace *et al*., 2009) by collecting published and unpublished research articles, policy papers, review and concept papers related to gender inequalities in resource access and utilization from the year 1990 to 2023. Key words such as gender, gender equality, gender inequalities, gender in resource management were used. From a total of 980 articles, 320 were related to the resource management and by following selective inclusion and exclusion procedure 64 articles were collected for the final study. In order to derive the inferences from the data, descriptive statistics like frequency and percentage was used. The inferences were graphically represented using line, bar and column plots.

RESULTS

Share of the labour force: According to the Periodic Labour Force Survey (PLFS) launched by National Sample Survey Office (NSSO), the percentage of the population that is either employed, looking for work, or available for work is known as the Labour Force Participation Rate, or LFPR. Figure 1 indicates the LFPR status for persons (male and female) of age 15 years and above. It can be seen that in rural areas there is a hike in the LFPR from 76.4 per cent in the year 2017-18 to 2022-23 in the case of male. A similar trend can be seen in the case of female also. It has increased from 24.6 per cent in 2017-18 to 41.5 per cent in the year 2022-23. Likewise, the LFPR has increased in

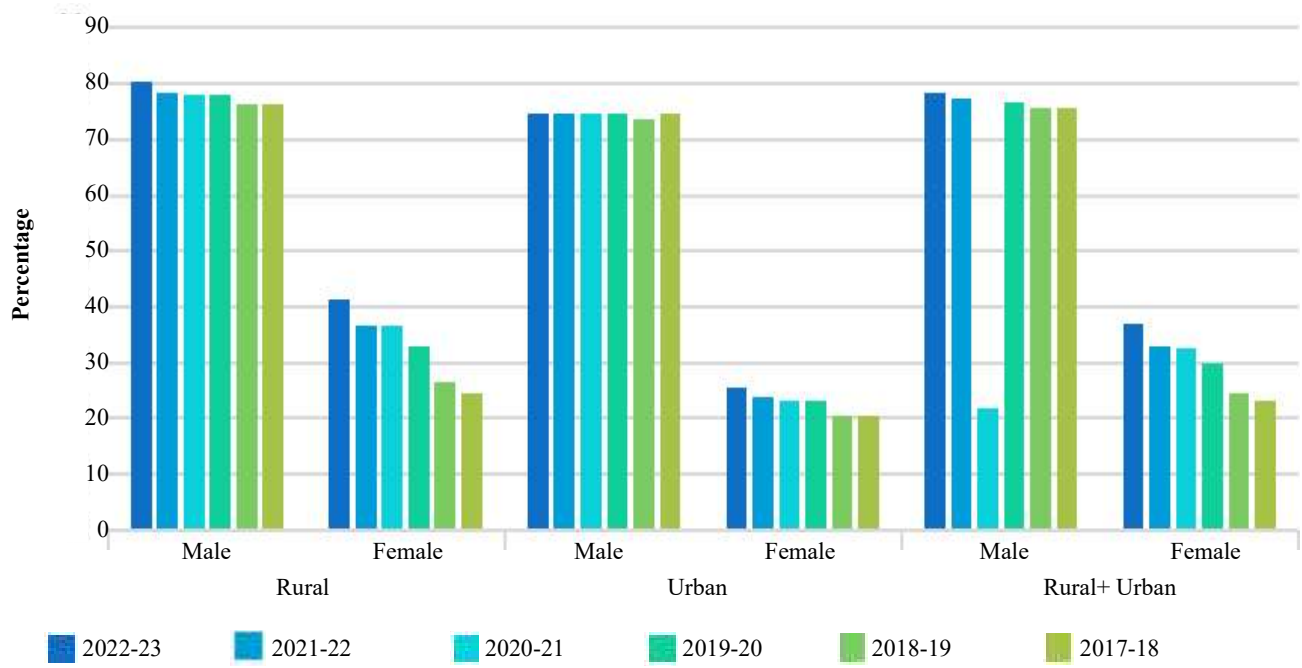

Fig. 1. Labour force participation rate status for persons of age 15 years and above (July 2022 – June 2023)

Source: PLFS Annual Report 2022-2023, NSSO

urban and rural+urban areas from 2017-18 to 2022-23. Even though the trend is similar in case of male and female, but compared to male, the female LFPR rate is comparatively low. It implies that the labour participation of women is comparably lower than the men force (MoSPI, 2023).

Share of the labour force in different industries: Figure 2 depicts the share of male and female in different broad industries such as agriculture, mining and quarrying, manufacturing, electricity and water, construction, trade, hotel and restaurant, transport, storage and communications, and other services. It can be understood from the figures and facts that in the agriculture sector, the share of women labour force is very high when compared to the men labour force in rural, urban and rural+urban areas. Almost a similar trend can be seen in the other services such as health care, hospitality *etc*. But the share of men labour is higher compared to the women force in all other sectors such as mining and quarrying, manufacturing, electricity and water, construction, trade, hotel and restaurant, and transport, storage and communications (MoSPI, 2023).

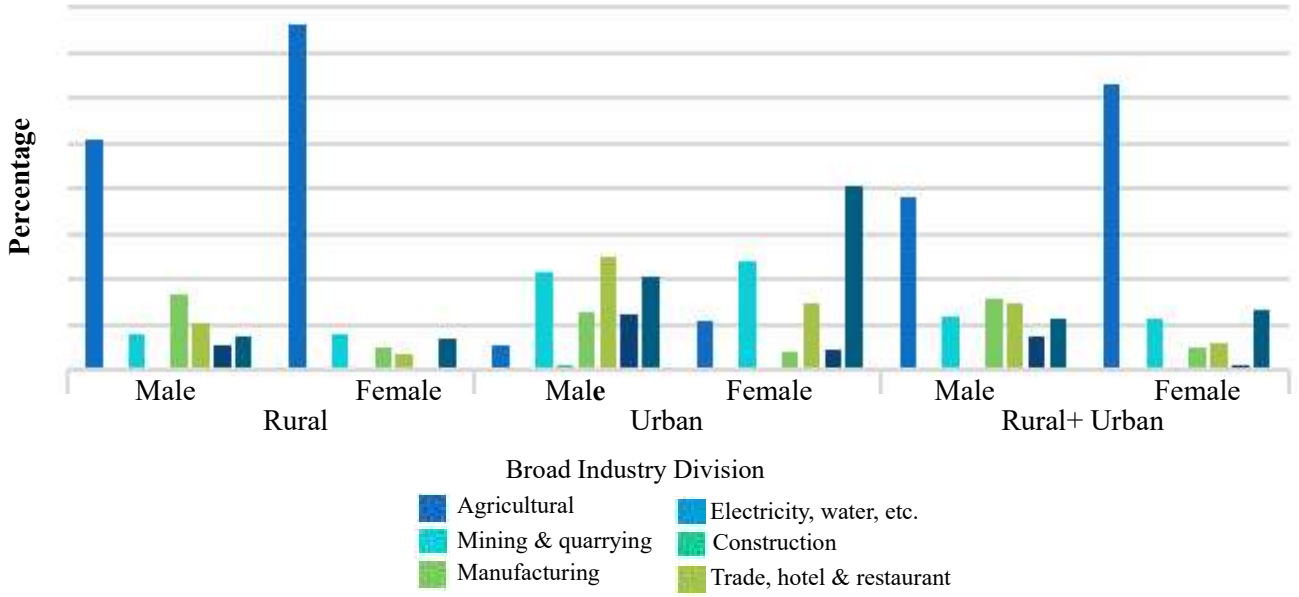

Fig. 2. Percentage distribution of workers by broad industry division (age 15 years and above) (July 2022 – June 2023)

Source: PLFS Annual Report 2022-2023, NSSO

State-wise trend of women participation in agricultural & non-agricultural activities: Figure 3 depicts the situation of female labourers in Indian States and illustrates the proportion of women who work mostly in agriculture; the remaining percentage of women earn their living through non-agricultural pursuits such as domestic industry, services, *etc*. Among the Indian states women from Himachal Pradesh and Nagaland contributes highest percentage share in the agriculture activities. When it comes to land resources, women in Himachal Pradesh have greater power than males do. This is because men often leave the village for work and only return seasonally for farming. The growth in the proportion of women in the workforce can also be attributed to the Pradhan Mantri Mudra Yojana and better financial circumstances. Through sharing, maintaining, and using traditional agricultural methods, women have contributed significantly to the preservation of genetic agro-biodiversity in Nagaland. Kerala, Punjab and West Bengal contributes highest percentage share in the non-agricultural activities. This is because of the highest rate of literacy in these states (Census of India, 2011).

Gender inequalities in resource management :

Access to land : Across the world, women make up lesser than 15% of agricultural landholders, whereas men make up the majority (85%). In North Africa and the Near East, where women earn about 5% of landholders, are among the greatest gender gaps in access to land (FAO, 2018). Similarly, significant gender-based differences exist in India between men and women when it comes to land ownership. Laws have been changed, but deeply ingrained sociocultural standards still prevent women from owning and controlling land (Jain et al. 2023).

Access to credit : According to the All-India Debt and Investment Survey of 2019 the percentage of women having the deposit account in bank is only 80.7 per cent when compared to men (89 per cent) in rural areas. A similar trend can be seen in the urban areas also. Only 19 per cent of women is having their own debit or credit card when compared with men (80 per cent) in rural areas and approximately 41 per cent of women having own debit or credit card compared to men (64 per cent) in urban areas. Similarly, a lower per cent of women is having e-wallets, i.e., 1 per cent and 9 per cent in rural and city/urban areas respectively (Figure 4) (MoSPI (b), 2019).

Access to technology : According to the mobile gender gap report of 2023, there is an increase in the adoption of mobile internet by the women from the year 2017 to 2022, but the increase is low when compared with the male counterparts (Figure 5). The adoption of mobile internet for women is 21 per cent less than the male in the year 2022. That is 21 per cent gender gap can be seen in India in the adoption of mobile internet. Research indicates that men possess greater technological proficiency than women. Similarly

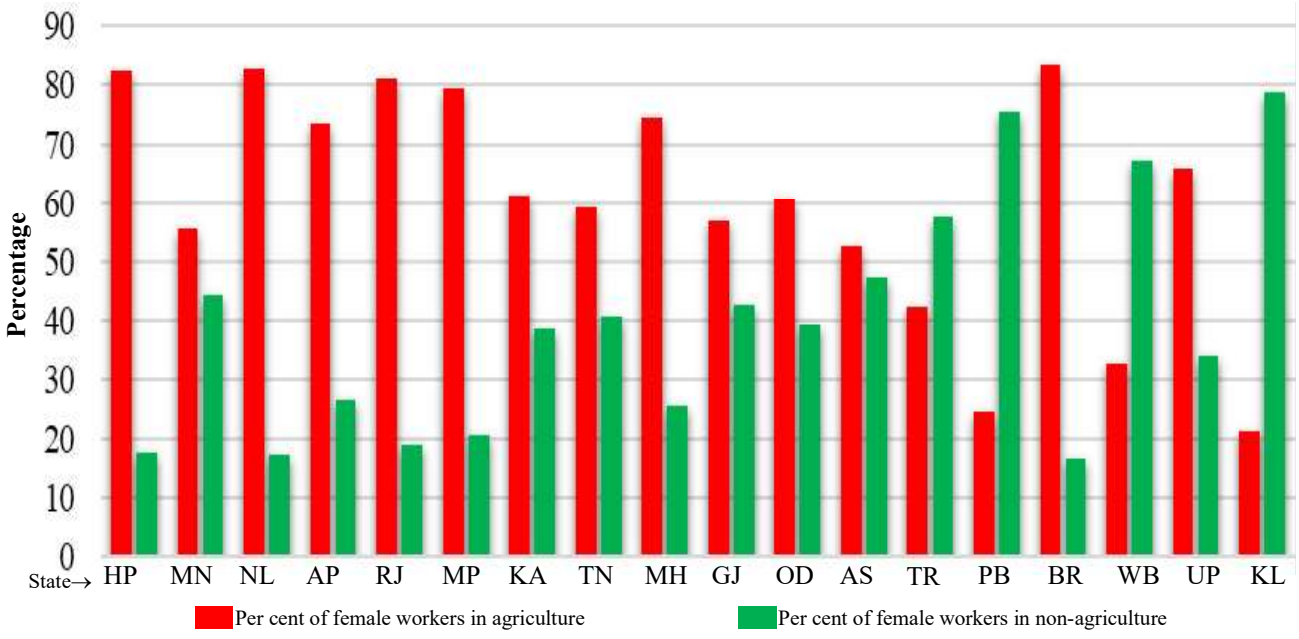

Fig. 3. State-wise trend of Women Participation in Agricultural & Non-Agricultural Activities (2010)

HP-Himanchal Pradesh; MN-Manipur; NL-Nagaland; AP-Andhra Pradesh; RJ-Rajasthan; MP-Madhya Pradesh; KA-Karnataka; TN-Tamil Nadu; MH-Maharastra; GJ-Gujrat; OD-Odisha; AS- Assam; TR-Tripura; PB-Punjab; BR-Bihar; WB- West Bengal; UP-Uttar Pradesh; KL-Kerala.

Source: Census India, 2011

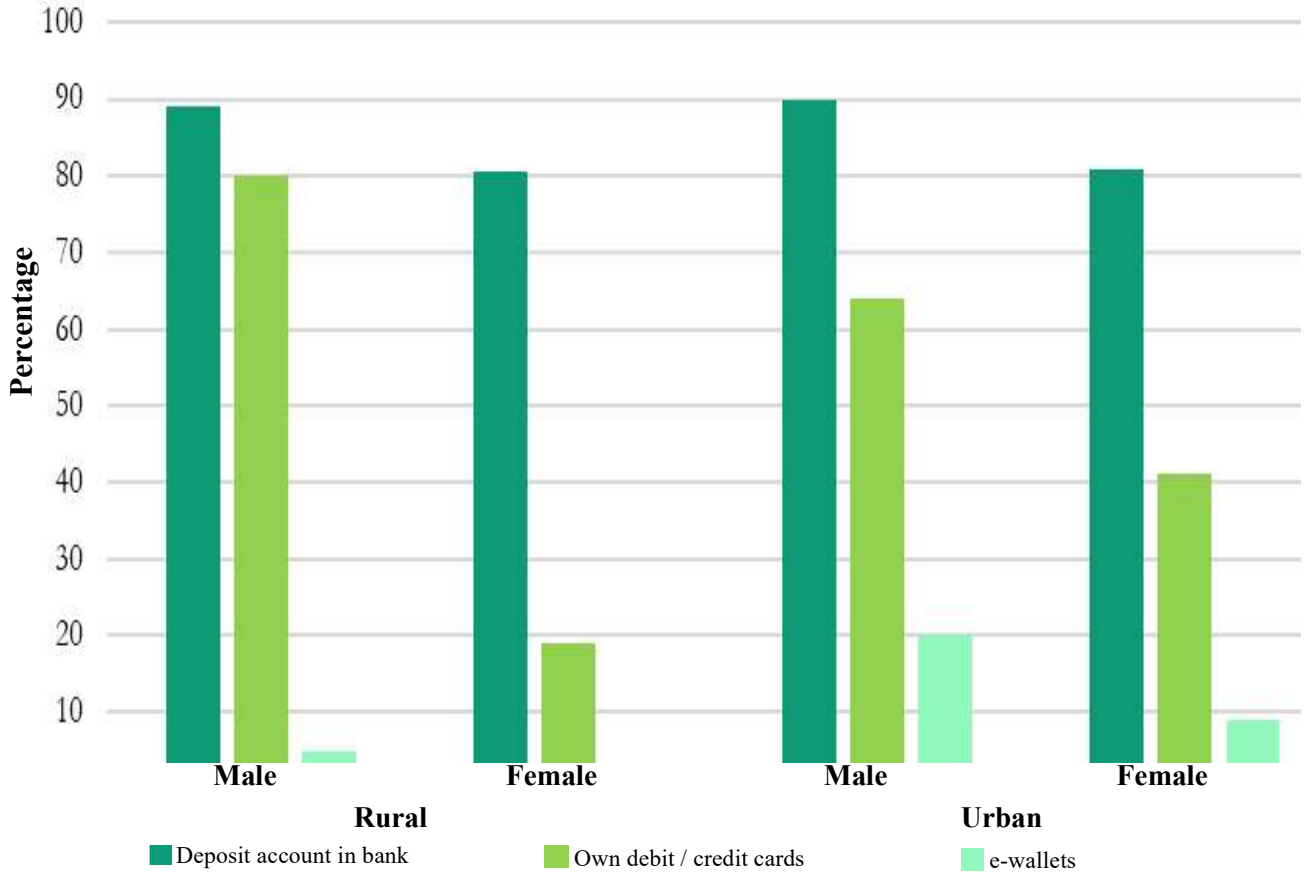

Fig. 4. Gender wise access to digital financial services

Source: All India Debt and Investment Survey, (Jan-Dec,2019)

economic challenges also hinder the women in accessing the technology (GSMA, 2023).

Access to technical education : Figure 6 indicate the percentage distribution of persons based on the access to technical education. It is very evident from the data that the percentage of persons without any technical education is higher in case female when compared with male counterparts in rural, urban and rural + urban categories. Technical education comprises a degree in engineering, medicine, agriculture, management, crafts, *etc*., or a diploma or certificate in agriculture, engineering/technology, medicine, crafts, *etc*. It can be understood that only 0.4, 2.2 and 0.9 per cent female were having a degree in technical education in rural, urban and rural + urban categories respectively in the year July 2022-June 2023. A similar trend can be seen in the levels of technical education such as diploma/ certificate below graduate level and above graduate level. The gender gap in technical education in India is due to a number of factors such as social and economic status of the family, institutional environment and gender stereotyping. In a culture ruled by men, women's

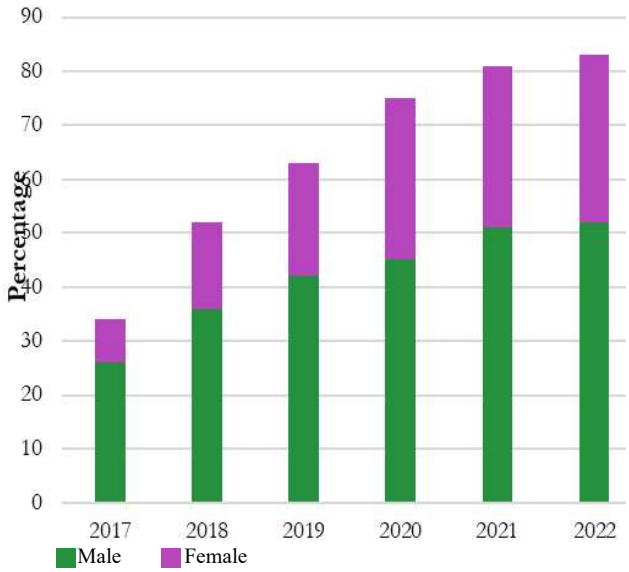

Fig. 5. Percentage distribution of male and female based on adoption of mobile internet

Source: Mobile Gender Gap Report 2023

education and professional advancement are subordinated to marriage and motherhood (MoSPI, 2023).

Time spent daily on various activities by gender : Figure 7 and 8 shows the average time spent in minutes on

various activities in 24-hour day by male and female. According to the Time Use Survey report of 2019, women spent 259.37 minutes in agriculture compared to the male which is 356.65 minutes. Even though the time spent by male in agriculture is more than female, but the remaining time in a day is spent on unpaid work by the female. It can be seen from Figure 8 that, women spent 299 minutes on unpaid work compared to men which is only 97 minutes. Similarly, the time expended by men on paid work is 459 minutes which is almost double than the time spent by women on paid work which is only 333 minutes. That means, regardless of their employment situation, women spend a larger percentage of their time taking care of their homes or domestic activities which is not considered as "economically active employment" (MoSPI (a), 2019).

Pay disparities in agriculture : Women play a vital role in the nation's food security as farmers and agricultural workers. According to a report on agricultural statistics issued by the Minister of Agriculture and Farmers' Welfare, women labour twice as long as men do, but they are paid 22% less than men. Despite a rise in the salaries of male and female farmers between 2006 and 2017, there is still a wage gap, with women agricultural workers continuing to make less money. There is a perception that men labourers are significantly more productive than female labourers in our male-dominated rural community. This idea supports the notion that female agricultural workers are underpaid relative to their male colleagues (Figure 7) (GoI, 2022).

DISCUSSION

In India, gender inequality stems from the societal construction of uneven power dynamics in relationships, which establishes a unique norm of male dominance and female submission in the majority of domains, including the workplace (Esteve-Volart, 2004). This socially created male dominance reinforces the norm of gender disparity in society and the workplace by supporting the belief that men's duties, positions, functions, and values are inherently more helpful than those of women. Even while India has achieved great economic strides, the country has had extremely weak growth in most areas when it comes to human development (e.g., access to resources for good health, access to educational opportunities, and an acceptable standard of living) (Arora, 2012).

The present study has analyzed the gender inequalities in various resources such as land, credit,

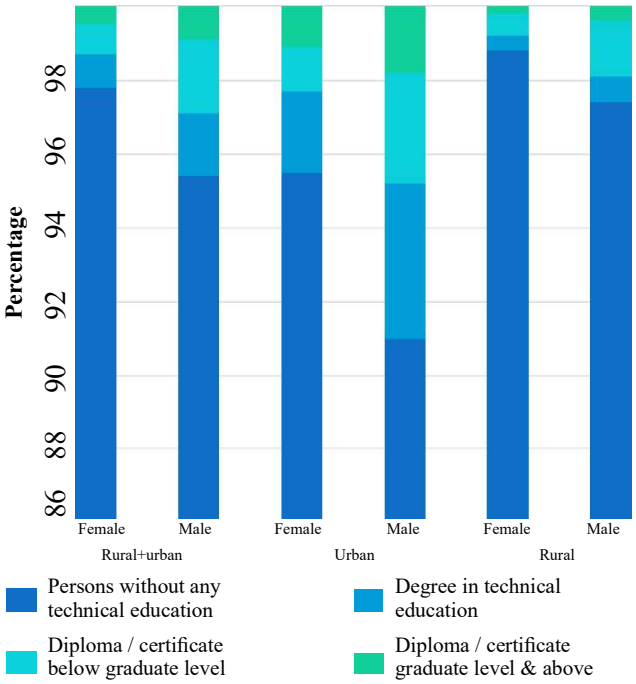

Fig. 6. Percentage distribution of persons by technical education (15 years and above)

Source: PLFS. Annual Report 2022-2023, NSSO

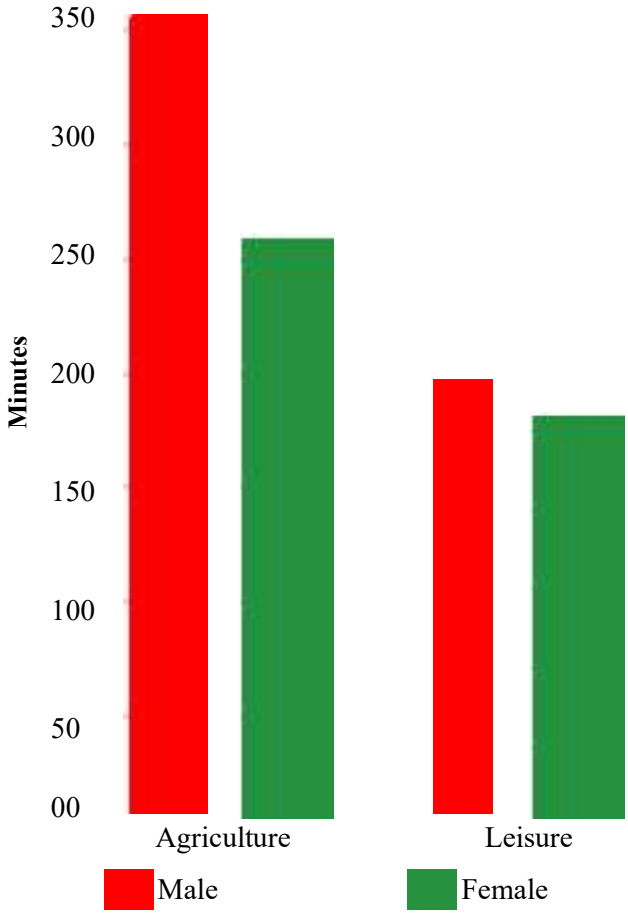

Fig. 7. Average time spent in minutes on various activities in a 24-hour day

Source: Time Use Survey in India, 2019, NSO

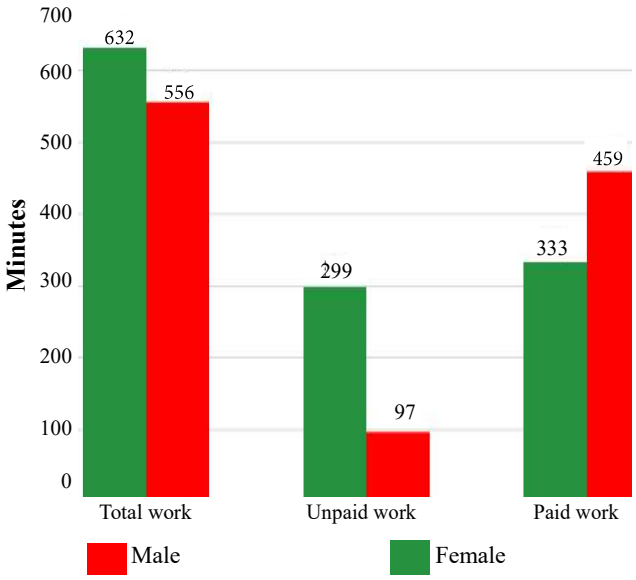

Fig. 8. Average time spent daily in paid, unpaid and total work (minutes)

Source: Time Use Survey in India, 2019, NSO

technology, technical education, time spent daily on various activities by gender and the pay disparities in agriculture.

Access to land: The proportion of women landowners in India is still low, at 11%, although there have been recent slight improvements. Although there are legal safeguards against inheritance inequality, gender prejudice to the advantage of men persists (Licart, 2023). Women's lack of access to land is influenced by patrilocality, education, religion, and family dynamics. There are still insufficient accurate data on women's land ownership in India, which makes it difficult to create laws that are gender-balanced. For women to be economically empowered, to have social standing, and to be in general well-being, they must have access to and control over productive resources, particularly agricultural land.

Access to credit: A study by Chaudhuri *et al.* (2020) based on the Census data provided by the Ministry of Small Scale Industries, Government of India, revealed that the likelihood of obtaining a loan is 2% lower for female entrepreneurs than for their male counterparts. The endowment effects are the primary cause of the 3.3% lower loan likelihood for female managers compared to male managers. They've found that when a woman serves as both the owner and manager, her chances of not receiving a loan rise to 4%. Again primarily because of endowment effects, the likelihood that a woman will receive an institutional loan is 1.4%, 2.9%, and 2.4% lower for female managers, female owners, and female owner and manager, respectively, than for males.

Access to technology: Study by Jha *et al*. (2021) about the utilization outline of ICT tools amongst the farm women in Uttarakhand state revealed that majority of farm women require capacity building programs since they are not well-versed in using ICT tools such as mobile phone, internet, television etc.

Access to technical education: Based on an analysis of data regarding the educational attainment of labourers involved in various supporting activities within the dry fish value chain, it was discovered that 74% of these workers were literate. Of these, 34.16% had completed up

Fig. 9: State-wise Average Daily Wage Rates for General Agricultural Labourers (Including Watering and Irrigation Workers *etc.*) by Gender in Rural Areas of India (October and November, 2022)

Source: Ministry of Labour and Employment, Govt. of India

to class V of education, 37% had completed class X, and the remaining 3% had completed class XII. Additionally, it was observed that female labourers had higher rates of illiteracy than male labourers. These findings showed that workers in the dried fish value chain had lower levels of education and that female workers had lower levels of education (Upadhyay *et al*., 2021).

Time spent daily on various activities by gender: Similar findings were noted by Bora *et al*. (2023) in the production decision making outline of gender in tribal farming community of Assam. The results showed that there are notable distinctions in the ways that men and women make decisions about every productive activity in agriculture. The majority of women (40.63%) exhibited low decision-making power, followed by medium (36.25%), whereas a significant proportion of men (46.32%) exhibited strong decision-making power, with mean scores of 54.03 and 113.25, respectively.

Pay disparities in agriculture: Rani *et al*. (2022) has identified the various problems faced by women in agriculture in the Sub Mountainous Region of Punjab. The majority of women revealed that, while they had plenty of spare time, it was useless because they couldn't even guarantee a minimal standard of living for their families and themselves because they were unemployed. The respondents encountered numerous barriers that prevented them from fully engaging in agriculture and related activities, including insufficient technical expertise, low family recognition, limited market access, women's low physical strength, and the multiple obligations of family.

CONCLUSION

In all nations, women play a critical role in the agricultural and rural economies. Their responsibilities are evolving quickly in many parts of the world, where social and economic factors are reshaping the agricultural sector, and they differ significantly between and within regions. Despite being vital to rural households' survival, many of the tasks carried out by farm women are not included as "economically active employment" in national accounts. Women make up a far larger portion of the agricultural workforce in emerging nations than do men. Women make up maximum full-time labour force on Indian farms, and they produce a large proportion of country's total food. Women farmers experience marginalization and prejudice despite their widespread presence and significant contributions. In addition to receiving pay that is less than that of their male counterparts, they also have less access to labour, essential services like insurance and training, and inputs like fertilizer and seeds. Empowering rural women, who are essential to India's food security, can be achieved by policies that prioritize giving them access to land, finance facilities, and inputs and supporting them by forming FPOs and SHGs.

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Declaration of competing interest:

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability:

Data would be made available on request.

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Appendix: Supplementary data:

The supplementary data, table, graph in jpeg format for online visibility to the readers are submitted as an appendix

Author's contribution:

The first author has conceived and designed the analysis, collected the data, performed the analysis, and wrote the paper. The second author has helped in editing, reviewed the results and approved the final version of the manuscript.

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