
Rapporteur's Report on Gender Equality and Resilient Agriculture

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I

Women have played a crucial role in agricultural development and allied fields, including crop production, livestock, horticulture, post-harvest activities, agro-forestry, and fisheries. The donor agencies, Governments, and community organizations are targeting women as priority clients and strengthening efforts to empower women and reduce inequality. These concerns have also been echoed through the Sustainable Development Goals (SDGs), and one of the 17 SDGs is "Achieve gender equality and empower all women and girls" (SDG#5). Women account for approximately 30 percent of the agricultural workforce in India. Despite the Government's efforts and schemes to empower female workers, the gender gap in Indian agriculture is massive. This gender gap might impact literacy, health, and productivity. Thus, the convergence of initiatives at the policy level is the need of the hour to ensure nutrition, health, livelihoods, and empowerment for women farmers. The impacts of outmigration are highly gendered; the outmigration of men has led to the 'feminization' of agriculture in rural communities, where women are the majority of participants in farming activities. Designing an effective gender intervention framework requires knowledge of context and domain-specific heterogeneity in women empowerment in agriculture.

Given the gender norms that regulate asset ownership, research has shown that men generally have an edge when it comes to holding assets, which implies that they tend to own more assets and assets of higher value than women (Deere & Doss, 2006; Deere, Oduro, Swaminathan, & Doss, 2013). In rural landowning households, women account for only 14% of landowners and 11% of agricultural land, on average among states, despite the tremendous progress made towards equality in inheritance rules (Agarwal *et al.*, 2021).

Ownership of assets is essential for poverty reduction, and women's control of assets is associated with positive development outcomes at the household and individual levels. Apart from the substantial male bias in inheritance laws and the gaps between laws and practice, government land distribution programs have widened the gender gap in command over arable land. Moreover, land ownership plays a major role in creditworthiness; providing women with joint rights to agricultural land could achieve greater command over financial resources and savings. However, the existing empirical studies of the 'gender in agriculture' literature consistently reveal that women lack access to and control over resources

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such as land and capital as well as agricultural inputs and technology such as improved crop varieties, training, information, and marketing services. The empirical research on the topic of "gender in agriculture" repeatedly shows that women do not have equal access to and power over resources like land and capital, as well as agricultural inputs and technologies like better crop varieties, training, information, and marketing services (Fletschner and Kenney, 2014). Generally speaking, women have less control over and access to productive resources like land, capital, and agricultural services like finance and training that are necessary to increase yields and transition from subsistence to market-oriented agriculture (FAO, 2011).

Due to the multidimensional nature of empowerment and the diversity of gender systems, the study of women empowerment in agriculture is essential to capture the regional variations in addressing gender needs and constraints. Thus, the holistic agenda for gender-sensitive agriculture entails information and evidence to facilitate designing a gender-inclusive framework.

The choice of 'Gender Equality and Resilient Agriculture' as one of the themes for the discussion in the 82nd Annual Conference of the Indian Society of Agricultural Economics is intentional as not much research has been undertaken on gender mainstreaming, empowerment, asset ownership, gender-sensitive value chains and farmers' collectives for women. In all, the Society received eleven research articles (two withdrawn) that addressed various issues related to gender equality and resilient agriculture. The papers have been organized and presented under sub-themes: (i) Gender mainstreaming and disparities and (ii) Markets Access, Farmer Collectives, and Institutional Finance.

II

GENDER MAINSTREAMING AND DISPARITIES

It is important to draw the evidence on gender discourse, gender bias, and gender norms to understand the structural drivers of gender disadvantage and the potential for change. The evidence of a gender gap in agriculture has prompted increased focus on resolving the barriers faced by women farmers (Palacios-Lopez et al., 2017).

Gender discrimination in agricultural labour markets is a significant barrier to agricultural development. The gender difference is quite pronounced in the daily wage earnings of the regular wage/salaried persons; the wage for women is less than their male counterparts for major agricultural operations in almost all the major states. Women's choices are also lessening due to social and cultural constraints, gender bias in the labor market, and lack of supportive facilities in the labor market. Lack of information regarding their legal rights is another major obstacle. In this regard, Panchanan Das quantified discrimination in earnings among agricultural workers (self-employment, casual and regular wage earners) in Bihar and West Bengal using data from employment and unemployment surveys (EUS) and periodic labour force survey (PLFS). The study examined the differential effects of gender,

caste, and religion on employment and wage earnings and applied the parametric method and Shapley decomposition. Over time, a significant transformation is observed in the gender, caste, and religious distribution of workers in agriculture-based families in the two states. The major part of the workforce in self-employed agricultural households are self-employed workers engaging in their cultivation and related activities in the form of own-account workers and unpaid family workers. The share of own-account workers increased over time and at a much higher rate in Bihar than in West Bengal and all-India levels. The study estimated the discrimination index of wages separately for casual and regular salaried workers from agricultural households by applying the methodology developed in Ferreira and Gignoux (2014). Wage discrimination is notably higher among regular-paid workers than casual workers. Further, it is much higher in Bihar. Caste difference is the major contributing factor to wage discrimination in Bihar, while gender difference is instrumental in West Bengal and the country level. Most casual employment jobs are elementary, and the degree of heterogeneity is comparatively less. Perhaps, for this reason, the scope of discrimination in pay for casual workers is relatively less. The incidence of wage discrimination among these workers was much lower than discrimination among regular-paid workers. Still, it increased at an alarming rate in 2018-19 everywhere in the country and slightly at a higher rate in Bihar. The gender gap contributed the most to wage discrimination among casual workers in 2018-19.

Increasing the productivity of women farmers increases their contributions to economic development, which has significant positive effects on society (Neog and Sahoo, 2020; Peterman et al., 2014; Ragasa, 2012). In this regard, Raj Kumar Panda examined the gender disparity in crop productivity and input use efficiency based on 221 gender-headed self-cultivating farm households selected from a coastal district of Odisha. Analysis of variance was applied to assess the differences in crop yield in relation to gender. Multiple regression analysis is fitted to examine input use efficiency between farms across gender. The study revealed a disparity in the crop yield and input use efficiency between the male and female-headed farms and within female-headed farms. The male-headed farms were better than the female-headed farms in crop yield and input use efficiency. The male-headed farms exhibited more diversified cropping practices as compared to female-headed farms. It highlights the need to support female-headed households to improve their access to inputs, technology, and extension services to adopt resilient agriculture practices for higher and sustainable crop production.

Madhu Babu examined the employment of rural women agricultural labourers based on primary data in the Krishna district of Andhra Pradesh. The study also examined the various problems faced by agricultural laborers. The average number of employment days in agriculture in a year ranges from 120 to 150 days. The study reported that seasonal employment in agriculture is one of the problems. Further, low wage rates compared to the male counterparts and delays in wage payment are other problems for female workers. Three-fourths of the sample respondents strongly

agreed that mechanisation of agriculture is a problem for them in getting employment. In addition, as many as three-fourths of the sample respondents agreed that they face problems getting employment due to migrated labour.

The inequalities in the distribution of livestock assets by gender using the Karnataka Household Asset Survey (KHAS) data were analyzed by Vijayamba R. The study was also supplemented by the primary data collected in two villages in Karnataka. The KHAS data revealed that the two most common ways were in-house livestock breeding and market purchase through earnings. Purchasing with earnings included own earnings, loans, and remittances. Around 65 percent of the animals were purchased from the market, 29% were home-bred, and the remaining were acquired through gifts, NGOs, work payments, and government programs. As per the primary data, there was a higher number of female livestock owners than male owners, while KHAS data revealed lower livestock ownership by women.

Maitryee Tripathi, Sarba Narayan Mishra, and Bishnupriya Mishra studied the need for empowerment of women, the reasons for women empowerment, and the slow progress of women entrepreneurs in India. The development of women's entrepreneurship is the instrument of women's empowerment. The transformation of the social fabric of the Indian society, in terms of better decision-making power because of increased confidence, reputed educational status of women, and varied aspirations for better living, necessitated a change in the living style of Indian women. Entrepreneurship suggests becoming free from one's control through self-dependency. Women entrepreneurs need to be encouraged and given confidence, independence, and mobility to escape their self-contradictions. The capacity building would be critical to developing professional competencies and personal confidence in marketing, managerial capabilities, leadership skills, production process, and effective financial management. Further, Chinmoy Sarkar and Sujit Majumder concluded that the women mostly engage in farm activities like seed preparation, sowing, sealing, drying, weeding, harvesting, threshing, etc. Women's participation in agriculture demands more emphasis on developing gender-friendly farming tools, equipment, and the workplace.

Arindam Das examined the gender gap in wage rates for men and women across different agroecological zones. This study, which draws from village surveys carried out as part of the Project on Agrarian Relations in India (PARI) by the Foundation for Agrarian Studies (FAS), describes and investigates the potential factors influencing female wage rates and the gender wage differential for agricultural field operations (FAS). In order to comprehend who participates in the wage labor market and what influences their involvement, the study analyzed the scope and significance of the gender disparity in wage rates from 16 villages spread across 9 Indian states located in several agroecological zones. FAS conducted surveys in the villages between 2005 and 2012. The collection of wage data at a disaggregated level is a key component of the PARI village data; for wage workers, data are gathered by gender, crop operation, season, kind of wage contract, labor

hours, and method of payment (cash and kind). The wage rates for planting, transplanting, weeding, and harvesting tasks were normalized to an eight-hour of employment in wage work. The consumer price index for agricultural laborers (CPI-AL), using 2009–10 as the base year, was used to adjust the nominal wages. In comparison to villages examined in the northern and eastern regions of the country, evidence from the villages in southern India indicates a growing engagement of female wage workers from peasant households. With two exceptions, the gender wage differential persisted in all the study villages for every crop operation. Agroecology and cropping patterns significantly contribute to the gender difference in agricultural wage rates, along with regional variations. Additionally, the disparity in wage rates was not uniform across villages within States. A relatively large wage disparity was observed in rainfed single-crop villages, whereas the disparity was minimal in the irrigated multi-crop villages. The gender gap in wage rates was high in villages with sugarcane and paddy cultivation. This study is rare in terms of providing the village level and agroecology-based information on wage disparity; however, the database is ten years old and could have been validated from the recent evidence on employment diversification and wage disparity.

III

MARKETS ACCESS, FARMER COLLECTIVES, AND INSTITUTIONAL FINANCE

Integrating women into modern value chains (MVC) requires a holistic approach in identifying bottlenecks and opportunities to participate effectively in production, marketing, and value-addition activities. By empowering women in agricultural value chains, they can develop significantly and benefit their families, communities, and the wider world (Quisumbing and McClafferty, 2006). Due to the potential for socioeconomic empowerment, India has placed a lot of policy emphasis on encouraging women to participate in collectives like self-help groups (Dohmworth and Hanish, 2018).

There is a lack of information on the analysis of gender-disaggregated value chains. Further, there is a need to highlight the institutional mechanisms for credit and farmer collectives in agriculture. Additionally, there is little evidence that well-meaning Women SHGs collapsed due to poorly designed institutional mechanisms and internal conflicts of interest. It may be interesting to investigate inequality and disparities in inclusiveness and distribution of cost and gains within women SHG/s with heterogeneous socio-economic structures.

Primary Producers' organisations or collectives can protect small farmers through lower transaction costs, technical help in production, and creating social capital. Producer organizations are seen as vehicles for uplifting rural livelihoods as they reduce transaction costs and provide access to input and output markets, besides providing better bargaining power to their members. Given that women producers are more marginalized in terms of their access to and control over means of production, the significance of such organisations is even higher for such producers. Considering

this, Sukhpal Singh examined the physical and financial performance and assessed the impact of input and output market benefits for five all-women member PCs across high-value agricultural products and promoters in Madhya Pradesh.

The members, on average, had smaller land holdings than their non-member counterparts, but they had more livestock than their non-member counterparts, who had more goats. The interventions were mainly linked to the input supply and farm extension introducing new crops and technologies, including seeds, as they had been working with SHGs for a long time, even before the PCs were established in most cases. However, on the output side, only a few of them were able to make a significant impact by setting up linkages with corporates or creating their marketing facilities like warehouses and engaging in public procurement of some crops where relevant. The market linkages for the high-value produce can lead to higher turnover and higher member engagement in the PC business. The study recommended that the incentive of providing matching equity grants could be higher for women-only PCs owing to capital constraints due to a lack of ownership and control over resources. The best governance and management practices in all-women PCs could also be identified and replicated in other mixed-member PCs. Since there is a limit to the expansion of all-women PCs due to the asset control being with men and many other socio-cultural constraints, it is also essential to improve the ratio of women members in mixed-member PC. This can be done by jointly giving joint shareholding to couples rather than only male members or two different family members and incentivizing such membership to bring gender-aware and gender-sensitive orientation and functioning of the PCs.

Setting up farmers' collectives is key to sustained agricultural growth and improving farmers' income because it ensures greater bargaining powers, access to financial credit, and farm insurance. Studies have found that the collectivization of farmers can ensure food security and improve their income through better bargaining powers, access to financial credit, and farm insurance. In this regard, Sayantani Satpathi, Pritha Banerjee, and Subhdeep Basu conducted a case study on the collectivisation of women in agriculture. The study examined how the collectivisation of women farmers can contribute to their economic and social well-being and focuses on the Agricultural Production Cluster (APC) program running in Odisha exclusively by women farmers through the creation of Producer Groups (PG). The study revealed that the collectivisation led to the augmentation of the bargaining power of the farmers. This led to crop diversification toward high-value crops and income enhancement for women within the project area. The paper suggests scaling up such initiatives across other Indian states, simultaneously addressing the implementation challenges. The findings revealed potential improvements concerning women receiving timely income in hand, setting up storage/aggregation units, and creating an effective marketing network.

Microfinance through SHG plays a significant role in alleviating poverty and rural development. The Self Help Groups have proved the way for the economic independence of rural women. M N Waghmare and Y C Sale examined the role of Women-led Self-help groups in the socio-economic development of rural households in the Osmanabad District. The study showed that Self Help Groups had vastly benefited rural people. It has helped them in their socio-economic upliftment. Many changes have occurred in the communication level of the members of SHG against that of non-SHG respondents. The study revealed that the micro-finance movement positively impacts members' ability to express their feelings and has made people more confident to express themselves. Also, SHG is having a good impact on members in their ability to save. The SHG can contribute to changes in economic conditions, social status, and decision-making and increase women's outdoor activities.

IV

ISSUES FOR DISCUSSION

The following issues merit further discussion:

1. How do asset ownership, intra-household dynamics, role in decision-making, and the extent of empowerment impact livelihood outcomes? What could the impact of various empowerment measures--legal, capacity creation, and other social measures?
2. How are women constrained by cultural, traditional, and sociological factors across regions? How can we create an effective work environment for reducing gender disparity?
3. How do specific value chains, product innovations, market actions & linkages, and control over income? How women farmer collectives (SHGs and FPOs) have performed, improved women's bargaining power, and enhanced incomes and market access?
4. How the capacity building can improve gender mainstreaming?
5. Emphasis needs to be given to women farmer collectives. How institutional support and hand-holding can improve effective value-chain management?
6. Women play a crucial and significant role in livestock rearing, hill agriculture, and post-harvest management; disaggregated evidence on the specialized contributions would be helpful in appropriate policy outcomes. Can we delineate gender-specific activities in agricultural value chains? The role of women in small-scale processing, particularly livestock and dairying, may be highlighted.
7. Women play a vital role in the linkages between agriculture and nutrition. The literature on intra-household dynamics and intra-household allocation has recognized the importance of the role of women in attaining dietary diversity and improving nutritional outcomes for their families. Micro-level studies may prove this proposition and provide appropriate evidence.

8. Various Government programs have enhanced the participation of women in local bodies and led to effective outcomes. The role of women in R&D, extension, local bodies, farm management, and local support services may be highlighted. Evidence of the impact of these initiatives and interventions would help take corrective actions and improve their effectiveness. Information on how this participation has influenced the priority setting and monitoring agenda would be imperative. Further, evidence of contribution towards fulfilling the SDGs would be vital.
9. Access to ICT can help women gather information about financing and markets. The studies on gender-related impacts and women's micro-entrepreneurship in rural areas are scanty. Evidence may be generated on how digitization and ICT have helped women agribusiness and agribusiness. Women-led SHGs in many parts of the country succeeded in bringing women to the mainstream of decision-making. They strengthened forward and backward linkage for consistency growth and greater outreach.
10. Interestingly, many women SHGs have developed their own production, processing, and marketing innovations to add marginal value at each stage of value chains. The case studies with objective evidence may be helpful in various success stories in agribusiness (horticulture, sericulture, animal husbandry & fisheries, mushroom, vermicompost, herbal products, plantation crops) and secondary agriculture activities related to agro-forestry, NTFPs, bamboo, jute, khadi & handicrafts, and other micro-industries.
11. Evaluating gender-related differentials in modern input use is an essential inquiry for policy. In addition, studies may address the research issues related to the responsiveness of the R&D system, gender mainstreaming, and technology need assessment.
12. Documenting Government programs and schemes in one place would provide helpful information for women farmers and entrepreneurs.

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