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Empowering Rural Women Entrepreneurs: Insights from Bihar

Qurie Kumari[1], Souvik Ghosh[2] and Swagat Ranjan Rath[3]*

[1]Formerly Post-Graduate Scholar, [2]Professor, [3]Ph.D. Scholar, Department of Agricultural Extension, Institute of Agriculture, Visva-Bharati (A Central University), Sriniketan-731236, West Bengal, India
*Corresponding author email id: swagatranjanrath.18@gmail.com

HIGHLIGHTS

- Overall women empowerment in agriculture index was highest for mushroom entrepreneurs (67%) followed by stitching (65%) goat rearing (62%) and dairy farming entrepreneurs (56%).
- Innovativeness, education, decision-making ability, and planning skills are critical factors in achieving higher levels of women empowerment.
- Social barriers like dual responsibilities and traditional mindsets hinder women's participation in entrepreneurship development.

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ABSTRACT

Farm women play an important role in agrarian economy. This study aimed to explore the role of entrepreneurship in empowering rural women in an eastern Indian state of Bihar, where literacy rates are low and socio-economic opportunities are limited. The research was conducted in Bhagalpur district during 2019-20, covering a random sample of 80 women entrepreneurs, 20 each engaged in mushroom cultivation, goat rearing, dairy farming, and stitching enterprises. Using the social empowerment as well as women empowerment in agriculture index, as a composite measure, this study assessed empowerment across social dimensions- personal autonomy, family decision-making, and political autonomy as well as agro-economic dimensions- production, resources, time, leadership, and income. Among the enterprises studied, mushroom entrepreneurs demonstrated the highest levels of empowerment across most of the social and agro-economic dimensions, followed by stitching entrepreneurs. The goat rearing and dairy farming entrepreneurs were lagged with respect to social and agricultural empowerment, respectively. The stepwise regression revealed that innovativeness, decision making ability, level of education and planning ability explained 39 per cent variation in overall empowerment of women entrepreneurs. These aspects require to be considered for focused policy initiatives to promote entrepreneurship for the rural women.

INTRODUCTION

The status of women in a society is an indicator of the society's level of civilization. However, India faces a significant gender imbalance, with a disproportionately higher number of males compared to females. About 66 per cent of the female population in rural areas is underutilized in terms of their involvement in productive activities (Shettar, 2015). Despite considerable involvement and considering the role that women play in the society, gender inequalities exist in access to technologies, credit, information, inputs, and services including land and livestock and their contribution is rarely acknowledged (Singh et al., 2017; Jadoun, 2021). The main reason of this issue is social norms. In order to equalize the value of both genders and enable the country's overall development, women's empowerment must proceed at a rapid pace. Women's empowerment is characterized by the eradication of gender-based discrimination across societal institutions and

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structures, alongside the equitable inclusion of women in household and public policy decision-making processes (Priyanka et al., 2021). It is very important to empower women socially and economically as the livelihood of these farm women depend entirely on farming and related activities (Shamna et al., 2021). If women have easy, reliable and timely access to productive resources on par with men, women can increase yield by 20 to 30 per cent, raising the overall agricultural output in developing countries by 2.5 to 4 per cent. In addition to raising women's incomes, this production increase can cut the world's hunger rate by roughly 12–17% (FAO, 2011).

Women empowerment is defined as a re-distribution of social power and control of resources in favour of women during the International women conference held at Nairobi in 1985 (Goswami, 2013). Sen (2012) in his address to the 67th UN General emphasized that enhancing women's autonomy and decision-making capacity is crucial for achieving sustainable economic development and social progress. Making women economically independent and self-assured through entrepreneurial growth is one practical strategy to empower women, especially in Bihar. The notable gender wage disparity in Bihar, particularly in rural regions emphasizes that women are not only underpaid and undervalued for their labour, but also encounter obstacles when trying to obtain official job (Singh & Singh, 2023). This study focuses on rural women in Bihar due to its distinctive socio-economic challenges, providing a critical context for examining the role of entrepreneurship in rural women empowerment. Addressing these challenges through targeted interventions can contribute substantially to regional and national socio-economic development.

METHODOLOGY

The current study was carried out in the state of Bihar. Bhagalpur District was purposively selected from among Bihar's 38 districts due to the presence of the State Government's JEEViKA initiative, which promotes rural entrepreneurship, and the involvement of Bihar Agricultural University (BAU), Sabour, in capacity-building programs for rural entrepreneurs. Out of 16 blocks of Bhagalpur, two blocks i.e. Sabour and Goradih blocks were randomly selected. Four types of women enterprises were randomly selected and from each enterprise a random sample of 20 entrepreneurs were selected as respondents. Thus, a total of 80 women entrepreneurs were chosen as respondents in the present study.

Level of social empowerment of women entrepreneurs was measured with the help of index developed by Handy and Kassam (2004) with suitable modification according to the study area. A total of 18 items were listed under three sub-dimensions i.e. personal autonomy, family decision making and political autonomy. The response was measured on a three-point continuum; thus, the total score would range from 0 to 36. The empowerment of the women in their farming was also measured with help of Women Empowerment in Agriculture Index (WEAI) that is a composite index designed to measure progress the multi-dimensional aspects of women's empowerment. This index considers empowerment to be a factor of women's achievements in addition to gender parity with men. This index was developed by International Food Policy Research Institute (Alkire et al., 2013) that was based on five domains *viz.* production, time, resources, leadership, and income and 10 sub-domains under these five domains, each of which were given 20 per cent weightage. The response was measured on yes (1) or no (0) basis. The total score would range from 0 to 100 per cent.

Data were collected from the sampled respondents with the help of an interview schedule. Step-wise multiple regression analysis carried out considering women empowerment as dependent variable and socio-personal, socio-economic, communicational, psychological and entrepreneurial behavioural attributes of women entrepreneurs as independent variables. t-test was applied to understand the significant differences (if any) between the levels of social empowerment of different entrepreneurs and women empowerment in agriculture of different entrepreneurs analysed based on various five components as perceived by sampled respondents.

RESULTS

The personal autonomy of women entrepreneur was found as above average in three out of four selected categories of entrepreneurs (Table 1) with the mean score varied from 5.95 to 4.65. The mushroom entrepreneurs showed highest level of personal autonomy while entrepreneurs involved in goat rearing had it at the lowest level. Family decision making of women entrepreneur was found comparatively better. Like personal autonomy, decision making of mushroom entrepreneurs was highest (mean score of 6.65), while goat rearing entrepreneurs have least empowerment with respect to family decision making (5.30). Political autonomy of all the entrepreneurs was found at low level as the rural women were not empowered politically. Overall social empowerment level of the entrepreneurs varied from 35 to 47% that indicates below average level of position of the women entrepreneurs considering personal, decision-making and political autonomy together in rural areas.

Table 2 shows how women entrepreneurs in the Bhagalpur district of Bihar were empowered in relation to five different areas of agriculture. On an average, WEAI ranged from 56 to 67 per cent indicating all the four types of entrepreneurs showed relatively better empowerment in agriculture as compared to their social empowerment. Empowerment of all entrepreneurs with respect to production domain was found at an average to below average level. It was 10 out of 20 per cent in case of mushroom entrepreneurs, 8 per cent each in case of stitching and goat rearing entrepreneurs, and 7 per cent in dairy farming entrepreneurs. Empowerment related to resources varied from 8.67 to 12.01 per cent. Full empowerment was found in case of all categories of entrepreneurs regarding time domain. The empowerment of entrepreneurs in case of leadership was found at an average level (10 to 11.50%). However, the women entrepreneurs varied in their empowerment with respect to income as stitching entrepreneurs had higher empowerment level (15%) followed by mushroom entrepreneurs (14%), goat rearing entrepreneurs (13%) and dairy farming entrepreneurs (9%). Overall women empowerment index was about 67, 65, 62 and 56% in case of mushroom, stitching, goat farming and dairy farming, respectively.

Findings from the Table 3 suggests that innovativeness, decision making ability, level of education and planning ability had contributed significantly to the women empowerment. The R^2 value of 0.390 indicated that all these four variables contributed to 39 per cent of variation in women empowerment. Regression coefficient of all the four variables were found positively significant, which mean that

Table 1. Level of social empowerment of women entrepreneurs

S.No.	Particular	Mean perception score (SD)			
		Mushroom enterprise (n=20)	Stitching enterprise (n=20)	Goat rearing enterprise (n=20)	Dairy farming enterprise (n=20)
1.	Personal autonomy				
a.	Visiting parental home	1.45 (0.51)	1.40 (0.50)	1.35 (0.49)	1.45 (0.51)
b.	Visiting hospital	1.05 (0.22)	1.00 (0.00)	1.00 (0.00)	1.05 (0.22)
c.	Visiting Village Market	1.90 (0.31)	1.55 (0.51)	1.55 (0.51)	1.75 (0.44)
d.	Helping a relative with money	1.00 (0.32)	080 (0.52)	0.55 (0.51)	0.55 (0.60)
e.	Setting money aside for respondent use	0.55 (0.60)	0.40 (0.68)	0.20 (0.41)	0.30 (0.57)
	Overall score	5.95 (1.47)	5.15 (1.57)	4.65 (1.39)	5.10 (1.55)
	Personal autonomy index (%)	59.50	51.50	46.50	51.00
2.	Family decision making				
a.	Children's education in school	1.10 (0.55)	1.05 (0.60)	0.90 (0.55)	1.25 (0.55)
b.	Family planning	1.00 (0.46)	1.00 (0.56)	0.65 (0.59)	0.80 (0.70)
c.	Family day to day expenditure	0.95 (0.39)	1.00 (0.46)	0.85 (0.59)	0.85 (0.67)
d.	Going outside home	1.65 (0.49)	1.10 (0.55)	0.95 (0.51)	1.00 (0.56)
e.	Entertaining guests	1.95 (0.22)	1.95 (0.22)	1.95 (0.22)	1.95 (0.22)
	Overall score	6.65 (1.57)	6.10 (1.97)	5.30 (1.95)	5.85 (1.90)
	Family decision making index (%)	66.60	61.00	53.00	58.00
3.	Political autonomy				
a.	Voting according to own decision	0.80 (0.62)	0.50 (0.51)	0.30 (0.57)	0.30 (0.66)
b.	Awareness of any political issue	0.05 (0.22)	0.15 (0.37)	0.10 (0.31)	0.15 (0.49)
c.	Participation in any public protest	0.25 (0.44)	0.00 (0.00)	0.10 (0.31)	0.00 (0.00)
d.	Campaigning politically	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
e.	Standing for election	0.40 (0.50)	0.10 (0.31)	0.05 (0.22)	0.00 (0.00)
	Overall score	1.55 (1.36)	0.75 (0.72)	0.55 (1.23)	0.45 (1.10)
	Political autonomy index (%)	15.50	7.50	5.50	4.50
	Overall empowerment (%)	47.20	40.00	35.00	37.83

Note: Minimum and maximum possible scores of each statement are 0 to 2, respectively.

Table 2. Extent of women empowerment in agriculture

S.No.	Domains of empowerment	Mean Perception (%)			
		Mushroom enterprise (n=20)	Stitching enterprise (n=20)	Goat rearing enterprise (n=20)	Dairy farming enterprise (n=20)
1.	Production				
	Productive Decision	5.00	3.50	4.00	3.50
	Autonomy in Production	5.00	4.50	4.00	3.50
	Total	10.00	8.00	8.00	7.00
2.	Resources				
	Ownership of asset	0.33	0	0	0.33
	Access to credit	4.67	5.34	4.33	2.67
	Ability to purchase, sell or transfer assets	6.67	6.67	6.33	5.67
	Total	11.67	12.01	10.66	8.67
3.	Time				
	Productive and domestic task	10.00	10.00	10.00	10.00
	Available leisure time	9.50	10.00	10.00	10.00
	Total	19.50	20.00	20.00	20.00
4.	Leadership				
	Member of economic or social group	10.00	9.50	10.00	10.00
	Public speaking	1.50	0.50	0.50	1.00
	Total	11.50	10.00	10.50	11.00
5.	Income				
	Control over the income	14.00	15.00	13.00	9.00
	Total	14.00	15.00	13.00	9.00
	(WEAI)	66.67	65.01	62.16	55.67

Note: Minimum and maximum possible score in each domain is 20 and 0, respectively

Table 3. Step-wise multiple regression between women empowerment and attributes of rural entrepreneurs

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.473	.224	.214	17.903	.224	22.485	1	78	.000
2	.550	.303	.285	17.079	.079	8.708	1	77	.004
3	.591	.349	.323	16.610	.046	5.415	1	76	.023
4	.625	.390	.358	16.183	.041	5.055	1	75	.027

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.713	11.909		.564	.575
	Innovativeness	36.446	7.686	.473	4.742	.000
2	(Constant)	.344	11.564		.030	.976
	Innovativeness	25.422	8.229	.330	3.089	.003
	Decision Making Ability	20.944	7.097	.315	2.951	.004
3	(Constant)	-4.386	11.428		-.384	.702
	Innovativeness	23.882	8.030	.310	2.974	.004
	Decision Making Ability	16.955	7.112	.255	2.384	.020
	Level of Education	4.126	1.773	.227	2.327	.023
4	(Constant)	-15.751	12.229		-1.288	.202
	Innovativeness	30.840	8.414	.400	3.665	.000
	Decision Making Ability	22.651	7.378	.341	3.070	.003
	Level of Education	4.593	1.740	.253	2.640	.010
	Planning ability	20.375	9.062	.258	2.248	.027

with higher innovativeness, decision making ability, level of education and planning ability, women empowerment will be higher.

Table 4 shows that level of empowerment of mushroom entrepreneurs' was significantly different from other entrepreneurs, involved in stitching, goat rearing and dairy farming which is evident from the significant t values at 6.3 and 1 per cent levels. Whereas, stitching, goat rearing and dairy farming entrepreneurs were not significantly different from each other.

Table 5 makes clear that there was no significant difference in the WEAI of the various entrepreneurs across the four enterprises. The types of entrepreneurships have not made any variations in WEAI that was measured on five domains of empowerment viz. production, resources, time, leadership, and income.

DISCUSSION

Present study revealed a relatively more social and agro-economic empowerment through mushroom enterprise followed by stitching, goat rearing and dairy farming enterprises. The outcome also shows how important women entrepreneurship is in achieving women's empowerment across various domains. The contribution of female entrepreneurs is reflected through economic growth, which is possible in two ways; firstly, they support economic growth through creating jobs, increasing per capita income, and capital accumulation, and secondly, they also contribute significantly to societal causes like innovation, better living standards, and balanced regional prosperity after launching micro enterprises (Malyadri, 2014). In fact, the women's empowerment is evidenced by their economic, social, and psychological advancement, facilitated through financial savings, enhanced decision-making authority, and increased self-confidence (Yasmeen & Gangaiah, 2014; Singh et al., 2014; Singh et al., 2016). Female farmers had greater authority than their male counterparts in the home, when it comes to time management and community leadership. Conversely, male farmers exhibited greater autonomy in financial decision-making, access to productive resources, and control over production decisions compared to their female counterparts; 28 per cent of women were categorized as

Table 4. t-statistics showing difference between levels of social empowerment of different entrepreneurs

Comparison between entrepreneurs	t	df	Sig. (2-tailed)
Mushroom entrepreneurs and Stitching entrepreneurs	1.973	19	.063
Mushroom entrepreneurs and Goat rearing entrepreneurs	2.909	19	.009
Mushroom entrepreneurs and Dairy farming entrepreneurs	2.956	19	.008
Stitching entrepreneurs and Goat rearing entrepreneurs	1.283	19	.215
Stitching entrepreneurs and Dairy farming entrepreneurs	0.544	19	.593
Goat rearing entrepreneurs and Dairy farming entrepreneurs	0.760	19	.457

Table 5. t-statistics showing difference between WEAI of different entrepreneurs

Comparison between entrepreneurs	t	df	Sig. (2-tailed)
Mushroom entrepreneurs and Stitching entrepreneurs	0.265	19	.794
Mushroom entrepreneurs and Goat rearing entrepreneurs	0.734	19	.472
Mushroom entrepreneurs and Dairy farming entrepreneurs	1.682	19	.109
Stitching entrepreneurs and Goat rearing entrepreneurs	0.488	19	.631
Stitching entrepreneurs and Dairy farming entrepreneurs	1.517	19	.146
Goat rearing entrepreneurs and Dairy farming entrepreneurs	0.970	19	.344

disempowered, with an overall women's empowerment index score of 0.83 (Ana Raj et al., 2022). According to Ojha & Mishra (2013), empowerment resulted in increased involvement, decision-making authority, and command over transformative action. In present study the attributes like innovativeness, decision making ability, level of education and planning ability have influenced the level of empowerment of women entrepreneurs. The annual income, use of information sources, social participation, extension activity participation, training, and innovativeness were responsible for 53.9 per cent of the variation in the women's empowerment level of aquaculture entrepreneurs in Odisha (Sahoo et al., 2023).

CONCLUSION

The study emphasizes the transformative potential of entrepreneurship in empowering rural women and addressing gender disparities. Women entrepreneurs demonstrated varied levels of empowerment, with mushroom entrepreneurs achieving the highest overall empowerment (67%). However, political autonomy remains alarmingly low across all enterprises, reflecting systemic socio-cultural barriers. The results highlight the necessity of focused initiatives to close these disparities, including education, skill development, and improved infrastructure. Entrepreneurship not only boosts women's economic independence and self-confidence, but also enhances their decision-making capabilities, contributing to broader societal progress. Practical implications include the necessity for government initiatives to prioritize rural women's access to resources, training, and credit facilities while addressing entrenched social norms. In line with national and international objectives for social justice and sustainable development, empowering women via entrepreneurship can boost gender equity, accelerate economic growth, and lower poverty.

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