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Perception of Women Self-help Group Members towards Training: Evidence from India

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ABSTRACT

Background: The study was carried out in two districts: Keonjhar and Khordha districts under Odisha state with ex post facto research design. Multi-stage sampling was used to select a sample of 200 WSHG members. Perception of training for five skill areas was assessed with 25 statements rated on a five-point scale and the relationship of 11 profile characteristics to perception was examined by multiple linear regression.

Methods: This analysis was conducted in Khordha and Keonjhar districts of Odisha by following an ex-post facto research design. A sample of 200 rural WSHG members was selected through multi-stage sampling method. Henry Garrett's ranking technique was employed to determine and grade the problems witnessed by respondents across various pre-defined dimensions.

Result: The overall mean of perception was 3.67 and it was in the middle range of the scale, with 61.50 per cent of respondents in the middle range, 23.50 per cent in the low range and 15.00 per cent in the high range. It was highest for marketing (4.15) and farming skills (3.94) and lowest for application-oriented aspects of the farming business like pricing and costing, financial decision making, planning of group activities and hands on follow up support. There was a significant effect of family annual income and extension contact ($p<0.01$) and education ($p<0.05$) on perception. The study suggests that training needs to be practice oriented, need based, regular follow up and more extension support is needed for enterprise action.

Key words: Millet-based enterprises, Mission shakti, Multiple linear regression, Perception towards training, Skill-based training, Women SHGs.

INTRODUCTION

Farming has been a notable quarter in the national economy with focus on livelihood sustainability (Selvan *et al*., 2021; Rai *et al*., 2022) whereby it is futile to disregard the presence of rural women in farm fields (Das *et al*., 2021) as they constitute around 80.00 per cent of farm employment (PIB, 2026). Despite this prevalence, the farm women still continue be marginalized due to absence of accessibility to basic services such as education, health, finance, *etc* and heavily burdened with domestic responsibilities, they become incompetent to wield their agency as stereotypical roles. This encourages for women empowerment zeroing in to the capacity of evidence-based choice making with equitable accessibilities (Mwalupaso *et al*., 2025). Women entrepreneurship is one of the possible ways that can be adopted for sustainable solutions for nourishing socio-economic growth and inclusive development. The development of women entrepreneurship plays a significant role in providing economic activity, reducing unemployment rates and promoting innovation which can contribute to socio-economic welfare (Ge *et al*., 2022; Raman *et al*., 2022). According to Women's World Banking report (2026), the scenario of women are the owners of about 26.20 per cent of 73.30 million of both nano and micro-enterprises in the country. Even though 110.9 million employed in MSME sector, women's contribution remains small at just 24 percent which puts the impetus for supporting rural women's entrepreneurial ventures (Nayak and Nayak, 2025).

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In the context of existing situation in rural India, the appropriate thrust for women entrepreneurship can be executed on the lines of Self-Help Groups, thus enhancing their social status with involvement in family as well as community business (Jayalakshmi, 2026). This venture is further empowered by group cohesiveness, rational decision making, financial accessibility and earning creation, which further increases the agency of the households. Even though impact of psychological empowerment has been restricted to limits, women SHGs

have had constructive influence over mobility and resource utilization on the lines of credit (Brody *et al*., 2016). Being a membership-based organization offering individual support and community mobilization, women SHGs have been able to optimistically facilitate the domestic earnings leading to wider range of socio-economic empowerment and political establishment (Datta *et al*., 2018; Basak and Chowdhury, 2024).

The ventures of Mission Shakti Programme have been a prominent drive in Odisha to mobilize the farm women by Self-Help Group formation with the support for entrepreneurship, business and financial skills training since 2001. Prior focus has been laid on networking aspects of enterprise running accompanied with confidence, technicalities and leadership along with their improved extent of socio-economic inclusion with resilience (Dash *et al*., 2025). Even though there has been strong evidence pointing towards the gains of SHG approach, but it is also important to note that real empowerment has happened when SHGs moved beyond small savings towards larger credit, market linkages, durable action and conducting training programmes (Kochar *et al*., 2022). Given this concern as explained above, a panoramic investigative venture was done in order to analyse the perception of women SHG members against the training activities conducted under Mission Shakti Programme.

MATERIALS AND METHODS

The investigation was executed in two districts of Odisha namely as 'Keonjhar' and 'Khordha', as selected purposively. Keonjhar has been a tribal dominated rainfed plateau district, identified as an area of successful millet cultivation under the Odisha Millets Mission, while Khordha has been the most urbanized district with the state capital of Bhubaneshwar and a peri-urban production and market environment. This deliberate contrast in agro-climatic, infrastructural and market context increases the generalizability of the findings across different agro-climatic contexts and enriches the base of WSHGs in both districts for sampling frame, thereby making the results more robust. The below map (Fig 1) is showing the state of Odisha and districts with their boundaries.

Selection of blocks and villages

Sample selection was performed by executing multi-stage sampling method. At first, two blocks from each district and two panchayats under each block were identified by simple random sampling. Purposive sampling was employed for identification of WSHGs as main focus was targeting the SHGs under Mission Shakti Programme. The following Table 1 illustrates the sampling framework followed under the investigation:

A unit of 200 WSHG respondents constituted the sample in this way. An interview schedule was devised through the theme and pre-tested with 10.00 per cent of non-sampled SHG women by reading out it in their native dialect to ensure evocation of proper responses and later made relevant as well as valid before finalization (Jayasingh *et al*., 2024). Data collection was obtained from the involvement of women SHG members along with other stakeholders such as Mission Shakti officials, NGO facilitators, WSHG leaders, female area coordinators and ASHA workers in informal surroundings, for encouraging the delivery of honest and appropriate responses without any external influence. This exercise was conducted in

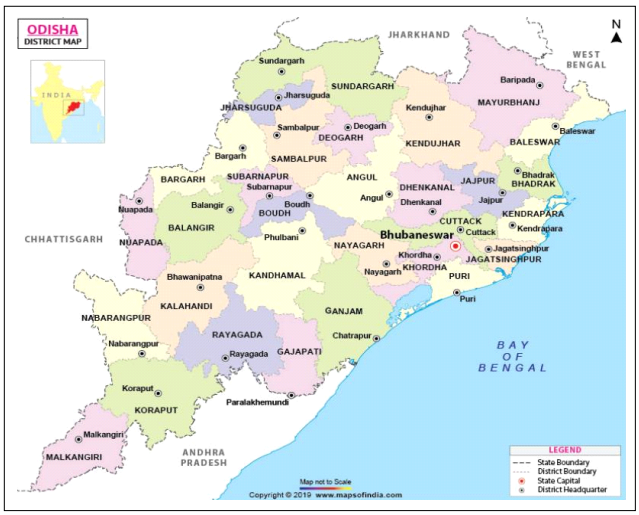


Fig 1: Political map of Odisha state with its districts.

Table 1: Selection of respondents from the sample.

Districts	Blocks	Panchayats	No. of respondents
Keonjhar	Anandapur	Mochinda	25
		Fakirpur	25
	Ghasipura	Balrampur	25
		Bailo	25
Khordha	Balianta	Bhingarpur	25
		Kakarudrapur	25
	Balipatna	Majhihara	25
		Deulidharpur	25

ex-post facto research module from March 2024 to October 2025.

Perception towards training programme under mission shakti programme

The perception of skill-based training was coded by the women SHG members' evaluation of its relevance, clarity and usefulness. This was calculated on the basis of a structured set of statements on training that was developed on the basis of literature search and consultation with experts under the Mission Shakti programme. Responses were transformed to values based on a five-point continuum (strongly disagree to strongly agree), scored 1 to 5 and added up to yield every respondent's cumulative score. The means and standard deviations were used to classify respondents as low, medium or high, as depicted in the following Table 2.

$$\text{Mean score } (\mu) = \frac{\Sigma_i^N X_i}{N} = \frac{\text{Total obtained score}}{\text{Total number of respondents}}$$

$$\text{Standard deviation of the scores (SD) } (\sigma) = \sqrt{\frac{\Sigma_i^N (X_i - \mu)^2}{N}}$$

Where,

X_i= Scores of i^{th} individual regarding perception levels.

N= Total number of respondents.

Socio-economic profile characteristics of women SHG respondents

The socio-economic profile attributes are the bundle of variables that are attributed to the economic repute, social status and personal capacity of the women participating in the SHG. These include the age, caste, education, family size, land holding, family annual income, house type, economic motivation, risk orientation, mass media exposure and extension contact. Being interlinked, these factors operationalize the socio-economic surroundings wherein the WSHG members are evaluating, adopting and sustaining the skill-based training, which in turn get swayed by socio-economic factors such as income, education and social norms *etc.* (Ghosh *et al.*, 2024).

Quantitative variables (from 'age' to 'house type') were measured directly and then described by the help of frequencies and percentages. The remaining were qualitative ones which were analyzed through structured questionnaires with statements devised from literature review and expert consultation. The obtained responses were scored from five (strongly agree) to one (strongly disagree) and summed up to get cumulative scores of each respondent. The mean and standard deviation of those scores were implied to classify those respondents into low, medium and high extent as provided in Table 3.

$$\text{Mean score } (\mu) = \frac{\Sigma_i^N X_i}{N} = \frac{\text{Total obtained score}}{\text{Total number of respondents}}$$

$$\text{Standard deviation of the scores (SD) } (\sigma) = \sqrt{\frac{\Sigma_i^N (X_i - \mu)^2}{N}}$$

Where,

X_i= Scores of i^{th} individuals in the respective variables.

N= Total number of respondents.

Regressional analysis

Multiple linear regressional models were fitted to chalk out the linear relationship existing between dependent variable as perception towards skill-based training and the profile characteristics of the women SHG respondents as independent variables. It facilitates the conjectural projection of the dependent variable and assessment of each predictor's independent contribution while other predictors are fixed constant. The regression model is expressed as:

$$Y = b_0 + b_1X_1 + b_2X_2 + \ldots + b_{11}X_{11} + e$$

Whereas,

Y= Dependent variable (perception towards training).

$X_1, X_2, \ldots, X_{11}$= Independent variables (age, caste, education, family size, land holding, family annual income, house type, economic motivation, risk orientation, mass media exposure and extension contact).

b_0= Intercept (the expected value of Y when all predictors are zero).

$b_1, b_2, \ldots, b_{11}$= Regression coefficients (the change in Y for a one-unit change in the respective predictor, other predictors held constant).

e= Error term (unexplained variance).

The overall fit of the model was appraised employing the coefficient of determination (R^2), adjusted R^2 and the F-test (df = 11, 188). The t-Test statistic was employed to test the significance of regressional coefficient of each predictor at both five and one percent level of significance.

RESULTS AND DISCUSSION

Perception towards training activities under mission shakti programme

The scenario of perception of women SHG members about the training activities carried out in five skills areas under Mission Shakti programme was well represented in Table 4.

Table 2: Classification of respondents based on the scores obtained for perception.

Category	Criteria
Low	Less than (Mean-½ SD)
Medium	Between (Mean±½ SD)
High	More than (Mean+½ SD)

Table 3: Classification of respondents based on the scores obtained for variables.

Category	Criteria
Low	Less than (Mean-½ SD)
Medium	Between (Mean±½ SD)
High	More than (Mean+½ SD)

Table 4: Perception of women SHG respondents towards training conducted for different skill activities through mission shakti programme.

Statements	Response					Mean score
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Operational skill						**3.40**
Training contents are relevant to the operational activities of SHG members relevant to millet-based livelihood activities	13.00	27.50	51.50	3.00	5.00	2.60
Training enhanced confidence in preparing millet-based food products	25.00	8.50	0.00	5.00	61.50	3.69
Training improves practical knowledge regarding millet processing and value addition	0.00	8.50	8.00	9.00	74.50	4.50
Training improved the quality and hygiene practices followed during preparation of millet products.	10.00	14.00	10.00	21.50	44.50	3.77
Training provides adequate hands-on exposure and follow-up support for millet-based activities.	15.00	42.50	29.00	9.50	4.00	2.45
Financial skills						**3.46**
Training improved the ability to prepare budget estimates for millet-based enterprises	12.00	15.50	41.50	17.00	14.00	3.06
Training enhanced awareness regarding savings, credit and financial assistance for millet activities	1.50	6.00	8.00	56.50	28.00	4.04
Training improves the ability to maintain financial records of millet-based business activities	2.00	4.00	7.00	23.00	64.00	4.43
Training empowered to calculate cost of production and net returns from millet products	5.00	8.00	14.50	53.50	19.00	3.73
Training improves financial decision-making ability related to millet enterprise investments.	47.00	29.50	3.00	13.50	7.00	2.04
Managerial skills						**3.41**
Training capacitates planning and organization of group activities	31.00	45.00	12.00	7.50	4.50	2.10
Training upgraded leadership ability for millet-based SHG enterprises	6.00	5.00	1.00	17.00	71.00	4.42
Training enhanced coordination and teamwork among SHG members involved in activities.	0.00	3.00	19.00	10.00	68.00	4.43
Training supports the monitoring and supervision of millet production and marketing activities	3.00	9.00	20.00	56.50	11.50	3.65
Training improved decision-making ability for effective management of millet enterprises	17.50	41.50	25.00	9.00	7.00	2.46
Farming skill						**3.94**
Training improves knowledge of HYVs and strong indigenous cultivars of millets	0.00	6.00	3.50	9.50	81.00	4.66
Training helps to understand soil health management along with organic inputs for millet cultivation	4.50	4.50	57.00	21.00	13.00	3.33
Training builds awareness of climate resilient millet practices with the scope for multi-cropping and intercropping	0.00	4.00	7.00	11.00	78.00	4.63
Training enhances knowledge of millet seed selection, treatment and storage	23.50	48.50	11.00	9.00	8.00	2.29
Training improves resource management for millet farming (water, inputs, tools)	0.00	2.00	3.50	7.00	87.50	4.80
Marketing skill						**4.15**
Training improves knowledge about market demand for millet products	2.50	4.00	6.00	20.00	67.50	4.46

Table 4: Continue...

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Training helps understand consumer preferences for millet based foods	0.00	4.50	3.50	16.00	76.00	4.63
Training helps for fixing product price and calculating millet production costs	21.00	67.50	4.50	2.50	4.50	2.02
Training helps in value addition and packaging of millet-based products (*e.g.*, ragi flour, millet cookies, millet noodles, *etc*)	0.00	1.50	3.50	10.00	85.00	4.79
Training facilitates promotion of millet as a health-food through local fairs and millet cafes	0.00	0.00	6.00	5.00	89.00	4.83

Table 5: Extent of perception of WSHG respondents towards training conducted for different skill activities through mission shakti programme.

Extent	Criteria	Percentage
Low	<3.232	23.50
Medium	3.232 to 4.212	61.50
High	>4.212	15.00

It comprised of total of 25 statements whereby 16 of them managed to surpass the 3.5 score value, two lying in between 3.0 and 3.5 whereas the remaining seven falling below 3.0. It yielded an overall mean score of 3.67. The value of perception was highest for marketing (4.15) followed by farming skills, financial and so like other skill areas.

Majority of the respondents agreed that training was useful to know about market demand (87.50 per cent), consumer preferences (92.00 per cent) and value-addition with packaging (95.00 per cent) but 88.50 per cent opined against the training to be helpful in price fixation and cost calculation (Mean= 2.02)

Farming wisdom encompassing resource management (94.50 per cent) and improved cultivars (90.50 per cent) were rated highly whereas 72.00 per cent expressed discontent on aspects of training concerning seed selection, treatment and its storage. Almost three-fourth of the women SHG respondents disapproved towards training for enhancing financial decision-making (76.50 per cent) as well as planning of group activities (76.00 per cent) despite supportive response to the aspects of record-keeping (87.00 per cent) and leadership (88.00 per cent). Nearly, around three-fifth (57.50 per cent) of the respondents also expressed discontent regarding the adequacy of hands-on exposure and follow-up under training activities.

The respondents' perception was of highest regarding knowledge and awareness aspects but very poor regarding skill applications to decisions such as pricing, costing, planning and investment. Since training influences SHG performance predominantly through capacity building (Apat and Mohapatra, 2025) where the awareness-focused training without practical executions supported by follow-up actions might be insufficient. Even though, SHG members often expressed to absence of marketing skills where training is insufficient, in this case respondents opined marketing dimension as maximum, possibly showcasing the market-linkage support provided through Mission Shakti and the Odisha millets mission (Mohapatra *et al*., 2026). Livelihood training has been attached with more of microenterprise formation among WSHGs (Prasad and Choubey, 2024), underscoring the importance to power-up the weaker elements identified here, particularly pricing, costing, financial decision-making and follow-up support. Since live experiences and contemplation upscales managerial competencies (Kolb, 1984), case-based exercises with regular post-training setups are well recommended.

Extent of perception towards training under mission shakti programme

The extent of perception of women SHG respondents towards the training received under Mission Shakti Programme has been well depicted in Table 5. Three-fifth (61.50 per cent) of the respondents opined to possess moderate levels of perception followed by high (15.00 per cent and low (23.50 per cent) levels respectively, which can be said that only about one-sixth had perceived the training as highly favourable for them whereby rest (85.00 per cent) reported low-medium extent. The overall score of extent at 3.67 also falls in medium category.

Such prevalence of moderate category opined that the whole of training programme has been moderately useful for them, in accordance with uneven ratings depicted in Table 1, high scores were raked by knowledge-focused statements but less scores for application-focused statements. Much focus should be shifted on low-perception groups (23.50 per cent) because the fruition of training ventures lies on to the extent to which it builds capacity to execute skills (Apat and Mohapatra, 2025). Upscaling the women SHG members towards higher extent would demand for need-based, practice-oriented modules and consistent follow-ups. Since enhanced microenterprise formation is accorded to livelihood training for women (Prasad and Choubey, 2024), enhancement in the perception levels is of vital importance.

Socio-economic profile of respondents

The socio-economic profile of women SHG respondents under Mission Shakti Programme is illustrated in Table 6. Majority (61.50 per cent) of respondents were middle-aged (31-50 years) followed by old aged (14.00 per cent) and young (24.50 per cent). Caste-wise, most of them

(59.00 per cent) belonged to OBC-SEBC category followed by ST or SC (25.50 per cent) and unreserved (15.50 per cent). Literacy was observed in all of respondents with the highest proportion having higher secondary education or above (37.50 per cent) followed by high school (24.00 per cent), middle school (20.00 per cent) and so on. Around half of (53.50 per cent) them belonged to small families whereas medium and large families were 37.50 percent and 9.0 per cent respectively. Marginal holdings (up to 1 ha) were the most prevalent (68.00 per cent), whereas small (24.00 per cent) and medium holdings (8.00 per cent) came in second. In terms of family income, earnings up to Rs. 50,000 was by 37.50 per cent whereas earnings in category of Rs 50,000 to Rs, 1,00,000, Rs 1,00,000 to Rs 2,00,000 and above Rs. 2,00,000 was reported by the numbers of 32.00 per cent, 22.00 per cent and 8.50 per cent respectively. The majority of the population lived in pucca house (54.00 per cent) followed by semi-pucca house (31.50 per cent) and kutcha house (14.50 per cent). The medium group had the highest numbers for economic motivation (47.50 per cent), risk orientation (43.50 per cent), mass media exposure (48.00 per cent) and extension contact (53.00 per cent) in terms of psychological and communication variables. The high category was the smallest for all four (18.50 per cent, 17.00 per cent, 22.00 per cent and 19.00 per cent, respectively). The percentage of those with low economic motivation and low risk orientation were quite high (34.00 per cent and 39.50 per cent respectively).

Table 6: Socio economic profile of women shg respondents under mission shakti programme.

Variables	Category	Criteria	Respondents	
			Number	Per cent
Age	Young	Upto 30 years	49	24.50
	Middle	31 to 50 years	123	61.50
	Old	Above 50 years	28	14.00
Caste	ST/SC		51	25.50
	OBC/SEBC		118	59.00
	Unreserved		31	15.50
Education	Functionally literate	Only read and write	12	6.00
	Primary School	Upto class V	25	12.50
	Middle School	Class VI to Class VIII	40	20.00
	High School	Class IX to Class X	48	24.00
	Higher Secondary	Class XI and above	75	37.50
Family Size	Small	Upto 4 members	107	53.50
	Medium	5 to 6 members	75	37.50
	Large	Above 6 members	18	9.00
Landholding	Marginal	Upto 1 ha	136	68.00
	Small	1-2 ha	48	24.00
	Medium	2-10 ha	16	8.00
Family annual income (in Rs.)		Upto 50,000	75	37.50
		50,000-1,00,000	64	32.00
		1,00,000-2,00,000	44	22.00
		Above 2,00,000	17	8.50
House type	Kutcha		29	14.50
	Semi-Pucca		63	31.50
	Pucca		108	54.00
Economic motivation	Low	<7.387	68	34.00
	Medium	7.387-13.46	95	47.50
	High	>13.46	37	18.50
Risk orientation	Low	<12.38	79	39.50
	Medium	12.38-14.78	87	43.50
	High	>14.78	34	17.00
Mass media exposure	Low	<6.342	60	30.00
	Medium	6.342-10.445	96	48.00
	High	>10.445	44	22.00
Extension contact	Low	<4.35	56	28.00
	Medium	4.35-7.65	106	53.00
	High	>7.65	38	19.00

Table 7: Multiple linear regression analysis of factors towards the perception of women SHG respondents with respect to training received under mission shakti programme.

Dependent variable: Perception towards training				
F (11, 188): 32.74**	R^2= 0.657	adjusted R^2= 0.637		(N=200)
Variable	Coefficients (B)	Std error	t-value	*p*-value
Age	33.540	25.332	1.324	0.187^{NS}
Caste	10.831	33.121	0.327	0.744^{NS}
Education	9.075	4.567	1.987	0.048*
Family size	11.265	10.112	1.114	0.267^{NS}
Land holding	9.024	5.679	1.589	0.114^{NS}
Family annual income	18.054	5.224	3.456	0.001**
House type	1.049	1.931	0.543	0.588^{NS}
Economic motivation	8.495	6.895	1.232	0.220^{NS}
Risk orientation	1.719	1.546	1.112	0.268^{NS}
Mass media exposure	32.532	17.341	1.876	0.062^{NS}
Extension contact	26.017	9.342	2.785	0.006**

*=Significant at 5% level; **=Significant at 1 % level; ^{NS}=Non-significant.

The profile reveals that subjects were predominantly middle-aged women, who had a minimum level of schooling and were part of small family size, small land holding and low-income households. This is a typical profile of the members of SHG in rural Odisha (Behera *et al*., 2025). Participation in training is more likely to be beneficial at middle age and at school level, which would represent the ability to learn technical content and to manage group activities. But within the context of marginal lands and low-income subjects, small scale of enterprises to start and/or grow is restricted and training that is practical and low cost becomes particularly important.

The majority of the respondents belonged to the low and medium categories in the economic motivation, risk orientation, mass media exposure and extension contact. This implies less exposure to information sources and a more cautious approach towards enterprise orientation that can limit the extent of enterprise action from training. Enhancing extension ties and mass media outreach for SHG members, therefore, should be helpful (Raghunathan *et al*., 2019; Zhimomi *et al*., 2025).

Contribution of profile characteristics towards perception of training

The results of multiple linear regression of profile characteristics of women SHG respondents to that of perception towards training conducted under Mission Shakti Programme are well illustrated in Table 7. Since F-value acts as preliminary check point of regressional fitted models, findings of table 7 with its F-value of 32.74, significant at one percent level, confirms the significance of explanation of perception of training programmes by the variables. In the table 5, the R^2 value of 0.657 inferred that all the predictors were able to explain about 65.7 per cent of variation caused in perception of training programme. Through the adjusted R^2 value was only slightly lesser, pointing that there was the absence of a significant amount of inflation due to a few minor and less meaningful variables.

Variables like family annual income and extension contact were significant at one per cent level whereas education was significant at 5 per cent level, as significant contributors towards variation caused in the perception levels. The remaining variables did not show any significant contribution towards perception levels. The positive impact of family annual income indicates that people from high-income families had a more positive perception of the training. It may be easier for such households to implement training, such as purchasing equipment, raw material or marketing and to experience more gains (Adeyanju *et al*., 2021; Wonde *et al*., 2022). The impact of extension contact indicates that the frequency of contact with extension professionals increases the value placed on training, likely through the provision of guidance, clarification and follow-up (Nyberg *et al*., 2025). The positive impact of education suggests that those who have more education can make better use of the training content, but this impact was modest in size and should be viewed with caution. There was no evidence of a relationship between perception to the likes of caste, family size, land holding, type of house or risk orientation, respectively, in the concerned regression analysis suggesting that though these variables caused variation in perception yet they remained insignificant to be considered.

Based on the results, it is recommended that extension support for the members of SHG should be enhanced to improve the training outcomes and to be more focused on those with lower education and income (Vijayalakshmi *et al*., 2025) since regular touchpoints facilitates continuous guidance, operational clarity and post-training supervision bridging the elementary instruction to actual execution (Veena *et al*., 2026).

CONCLUSION

The study reveals that women members of the SHG showed moderately positive attitude towards the Skill based training under Mission Shakti, majority of them has moderate attitude. Marketing and farming skills, including market awareness, value addition, improved cultivars and resource management were highest in terms of perception. It was the least effective with application related skills (pricing and costing, financial decision making, planning group activities, seed handling, hands-on exposure and follow-up support). This suggests that training has lead to greater awareness and knowledge development than to application of skills in enterprise decision-making. Family annual income and extension contact and education were found to be important factors influencing perception, while caste, family size, land holding, house type and risk orientation were not. The results indicate that it is essential that training be practice-oriented, need-based and incorporate costing, pricing, financial and group management components, as well as regular follow-up training after the training, rather than a one-off awareness building activity. Improved extension support, especially with lower educated and income members, would also enhance training results. The findings provide some practical policy recommendations to Mission Shakti officials, rural women development practitioners and policy makers to enhance the process of enterprise development using WSHGs. Further research on larger geographic and demographic samples and the association of perception and actual skill acquisition and enterprise performance would support and verify the results.

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Author contributions

Sayan Sagnika Mohapatra, conceptualization, methodology and writing the original draft; RV, formal analysis, data curation and visualization; Sarbani Das, conceptualization, writing the original draft, supervision, Debi Kalyan Jayasingh, formal analysis, review and editing.

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Ethics and informed consent

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional committee of Odisha University of Agriculture and Technology, Bhubaneswar, Odisha. Verbal consent was taken before conducting the interview from the respondents. Verbal modality was employed to include all the participants with low literacy levels while keeping an equal approach for all participants.

Availability of data and materials

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request. They are not publicly deposited because they contain responses from individual women SHG members; aggregated data supporting the findings are presented in the article.

Use of artificial intelligence

The authors declare that no generative AI or AI-assisted tools were used in the conception, design, data collection, analysis, writing or editing this manuscript.

Conflict of interest

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