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Effect of bamboo craft skill training on knowledge, skills and entrepreneurial development of rural women

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Abstract

Skill-based training is a key strategy for promoting rural entrepreneurship and livelihood security. The present study assessed the impact of bamboo craft training on knowledge gain, skill development and entrepreneurial traits among rural women. The study was conducted at MGM Krishi Vigyan Kendra, Gandheli, Chhatrapati Sambhajnagar district. A total of 100 rural women trainees were selected for the study. Data were collected using a structured interview schedule before and after the training programme. The overall mean knowledge score increased from 8.25 to 12.20, registering a 47.88 per cent gain. Skill competency improved from 1.85 to 2.50 (35.13% gain), while entrepreneurial traits increased from 1.69 to 2.61 (54.44% gain). About 65 per cent of the trainees expressed readiness to start bamboo-based enterprises. The findings indicate that skill-based bamboo craft training significantly enhances entrepreneurial capacity and rural livelihood opportunities.

Keywords: bamboo craft, Skill training, Entrepreneurship development, Rural women, Knowledge gain

1. Introduction

Entrepreneurship development among rural women is increasingly recognized as a key strategy for achieving sustainable rural development and economic empowerment (Meena *et al.*, 2018) [3]. Skill-based vocational training enhances employability, builds self-confidence and strengthens income-generating capacities among women (Kumar and Singh, 2019) [2]. In India, bamboo is a renewable, eco-friendly and multipurpose resource that supports cottage industries and rural livelihoods (Anonymous, 2022) [1]. Bamboo craft, in particular, offers considerable scope for micro-enterprise development due to its low capital requirement, local availability of raw material

and growing market demand (Rao, 2017) [4].

Despite this potential, many rural women remain confined to low-income activities due to limited technical knowledge, inadequate practical skills and weak entrepreneurial orientation (Sharma and Verma, 2020) [5]. Although Krishi Vigyan Kendras (KVKs) regularly conduct skill-oriented training programmes, systematic evaluation of their impact on knowledge enhancement, skill competency and entrepreneurial behaviour is often limited. Empirical evidence assessing the effectiveness of bamboo craft training in strengthening enterprise readiness among rural women is insufficient.



In this context, the present study was undertaken to assess the impact of skill-based bamboo craft training on knowledge, skill competency and entrepreneurial traits of rural women, thereby generating evidence on its effectiveness as a livelihood promotion intervention.

2. Materials and Methods

A pre–post evaluation research design was adopted to assess the impact of bamboo craft training on rural women, which is commonly used in extension research to measure change due to an intervention (Kothari, 2004) ^[6]. The study was conducted at MGM Krishi Vigyan Kendra (KVK), Gandheli, Chhatrapati Sambhajnagar district of Maharashtra. A total of 100 rural women trainees were selected purposively from participants of the bamboo craft training programme.

Data were collected before and after training using a structured and pre-tested interview schedule, a widely

accepted method in social science and extension studies (Singh and Narain, 2014) ^[8]. Knowledge was measured using objective-type questions (Correct = 1, Incorrect = 0). Skill competency and entrepreneurial traits were assessed on a three-point continuum.

Data were analysed using mean and percentage to assess the level of change. The percentage gain was calculated using the formula:

$$\% \text{Gain} = \frac{\text{Post} - \text{Pre}}{\text{Pre}} \times 100$$

This formula is a standard mathematical percentage change formula used in educational and impact evaluation studies and is not attributed to any single author. It is commonly described in research methodology and statistics textbooks (Kothari, 2004; Gupta and Kapoor, 2011) ^[6, 7].

3. Results and Discussion

Table 1: Pre–Post Comparison of Knowledge Level (n = 100)

Sr. No.	Knowledge Component	Pre Mean	Post Mean	Mean Difference	% Gain
1	Bamboo Species Identification	1.85	2.70	0.85	45.94
2	Seasoning & Preservation Methods	1.60	2.40	0.80	50.00
3	Harvesting Techniques	1.70	2.55	0.85	50.00
4	Processing & Treatment	1.55	2.35	0.80	51.61
5	Marketing & Enterprise Aspects	1.55	2.20	0.65	41.93
	Overall Knowledge Score	8.25	12.20	3.95	47.88

Scoring: Not Known = 1, Partially Known = 2, Well Known = 3

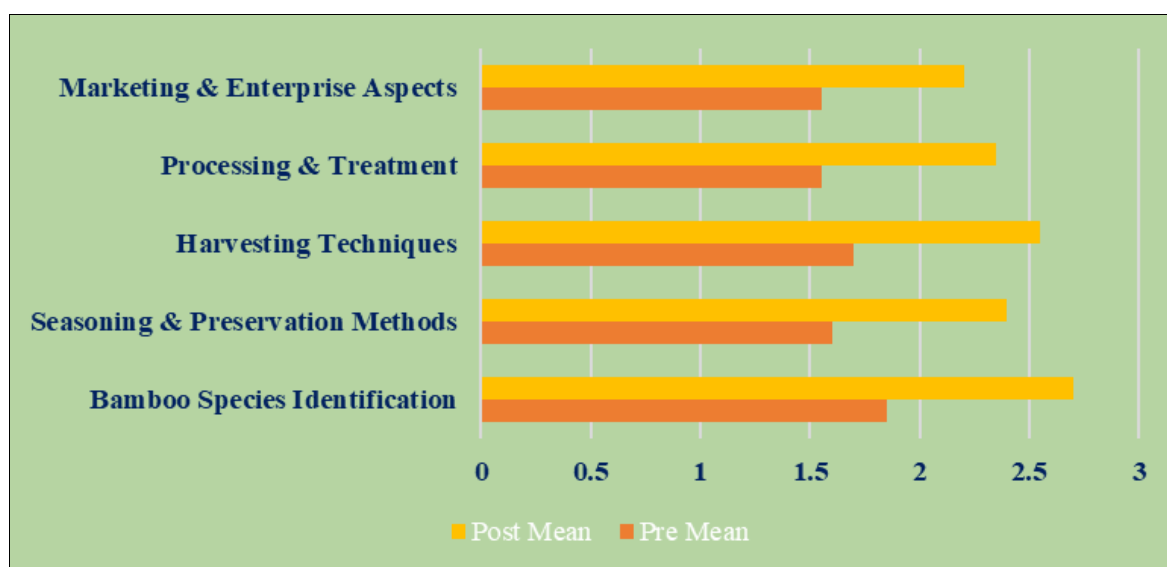


Fig 1: Pre–Post Comparison of Knowledge Level (n = 100)

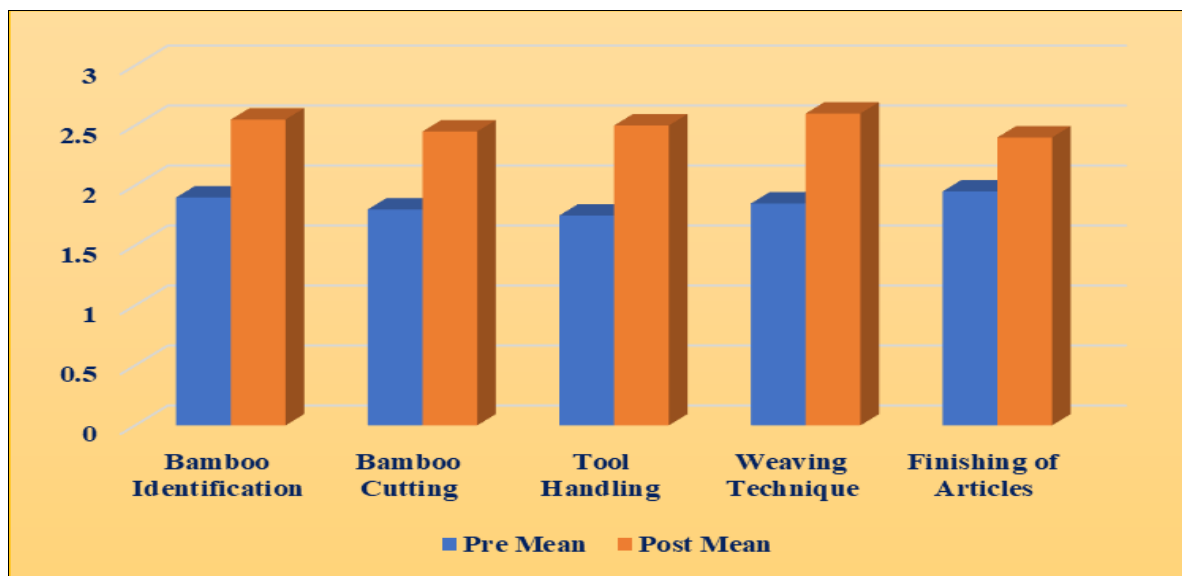
The results showed a significant improvement in knowledge after the bamboo craft training programme. The overall mean score increased from 8.25 to 12.20, registering a 47.88 per cent gain. Maximum improvement was observed in processing, harvesting and preservation aspects, indicating effective technical demonstrations and practical exposure during the training. Similar findings were reported by Kumar and Singh (2019) ^[2], who observed significant knowledge enhancement among rural women after vocational training interventions.

Although marketing knowledge improved, comparatively lower gain suggests the need for stronger enterprise-oriented and market linkage sessions. Meena *et al.* (2018) ^[3] also emphasized that technical training combined with entrepreneurship inputs leads to better livelihood outcomes. The substantial overall knowledge gain in the present study confirms that structured skill-based training programmes conducted by KVKs effectively enhance technical awareness and entrepreneurial preparedness among rural women (Rao, 2017) ^[4].

Table 2: Pre–Post Comparison of Skill Competency (n = 100)

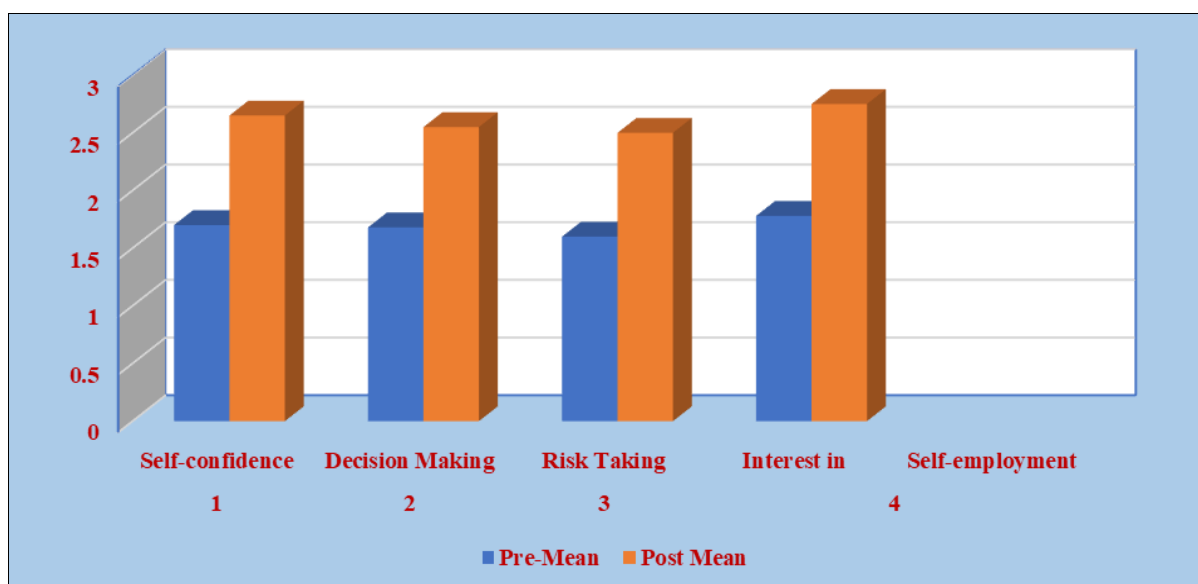
Sr. No.	Skill Area	Pre Mean	Post Mean	Mean Difference	% Gain
1	Bamboo Identification	1.90	2.55	0.65	34.21
2	Bamboo Cutting	1.80	2.45	0.65	36.11
3	Tool Handling	1.75	2.50	0.75	42.86
4	Weaving Technique	1.85	2.60	0.75	40.54
5	Finishing of Articles	1.95	2.40	0.45	23.08
Overall Skill Score		1.85	2.50	0.65	35.13

Scoring: Not Known = 1, Partially Known = 2, Well Known = 3

**Fig 2:** Pre–Post Comparison of Skill Competency

The findings indicate a substantial improvement in skill competency after the training programme. The overall mean skill score increased from 1.85 to 2.50, registering a 35.13 per cent gain and shifting trainees from lower medium to higher competency level. Maximum improvement was observed in tool handling (42.86%) and weaving technique (40.54%), highlighting the effectiveness of hands-on demonstrations and supervised practical sessions. Similar improvements in skill acquisition through vocational training were reported by Rao (2017) and Kumar and Singh

(2019) ^[4, 2], who emphasized the importance of experiential learning in entrepreneurship development programmes. Comparatively lower gain in finishing of articles (23.08%) suggests the need for advanced skill refinement sessions and extended practice exposure. Meena *et al.* (2018) ^[3] also observed that continuous skill reinforcement enhances enterprise sustainability. Overall, the results confirm that structured skill-based training conducted by KVKs significantly strengthens practical competencies necessary for bamboo craft enterprise development.

**Fig 3:** Pre–Post Comparison of Entrepreneurial Traits

The results revealed a remarkable improvement in entrepreneurial traits following the training programme. The overall entrepreneurial score increased from 1.69 to 2.61, registering a 54.44 per cent gain. Maximum improvement was observed in risk-taking ability (56.25%) and self-confidence (55.88%), indicating strengthened entrepreneurial orientation and behavioural change among trainees. Similar findings were reported by Kumar and Singh (2019) ^[2], who observed significant enhancement in entrepreneurial behaviour after vocational training interventions.

The increased interest in self-employment reflects the

motivational and confidence-building impact of skill-based programmes. Meena *et al.* (2018) ^[3] emphasized that entrepreneurial capacity improves when technical training is integrated with enterprise development inputs. Further, Sharma and Verma (2020) ^[5] reported that participation in skill development programmes enhances decision-making ability and enterprise readiness among rural women. Nearly 65 per cent of participants in the present study expressed readiness to start bamboo-based enterprises, confirming the effectiveness of the training in promoting rural entrepreneurship.



4. Conclusion

The present study clearly demonstrates that skill-based bamboo craft training had a significant positive impact on the knowledge, skill competency and entrepreneurial traits of rural women. The overall knowledge level increased by 47.88 per cent, indicating effective transfer of technical information related to bamboo identification, processing and marketing. Skill competency improved by 35.13 per cent, reflecting enhanced hands-on experience and practical proficiency in bamboo cutting, weaving and tool handling. Notably, entrepreneurial traits recorded the highest improvement (54.44%), with marked enhancement in self-confidence, risk-taking ability and interest in self-employment. Nearly 65 per cent of trainees expressed readiness to initiate bamboo-based enterprises, either individually or through Self Help Groups.

Thus, the study concludes that bamboo craft training conducted by Krishi Vigyan Kendra is an effective capacity-building intervention for promoting rural entrepreneurship, sustainable livelihood generation and women empowerment

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