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Role of Training and Value Addition in Enhancing Economic Empowerment of Tribal Women

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ABSTRACT

Tribal women form a vital part of the rural workforce and contribute significantly to agriculture and allied sectors, especially dairy-based livelihoods. This study assessed the effectiveness of a training programme on value addition conducted in Baruabaag (Sitarganj) and Gurukheda (Khatima) villages of Udham Singh Nagar district, Uttarakhand. A total of 100 tribal women were selected purposively. An experimental research design with a pre-test and post-test approach was used. Data were collected through structured interviews, and analysis was carried out using mean scores, percentage change, and knowledge categorization. The training covered value addition of local agricultural and dairy products, along with hygiene, processing, packaging, labeling, cost-benefit analysis, and marketing strategies. Results indicated a significant increase in knowledge levels, with mean scores rising from 9.25 percent (pre-test) to 82.75 percent (post-test), reflecting a gain of 73.5 percent. The highest improvement was observed in hygiene and quality control, followed by processing and value addition practices. All respondents shifted from low to high knowledge category after the training. The findings highlight that training interventions effectively enhance knowledge, skills, and entrepreneurial orientation among tribal women. Strengthening such capacity-building programmes can contribute to improved income generation and sustainable livelihood development.

INTRODUCTION

Tribal women constitute a vital segment of the rural workforce in India and play a significant role in sustaining household livelihoods through their active involvement in agriculture and allied activities. Despite their substantial contribution, their economic potential often remains underutilized due to limited access to resources, skill development opportunities, and market linkages. In tribal areas, women are traditionally engaged in activities such as livestock rearing, collection of forest produce, and small-scale farming, yet these activities are largely confined to subsistence levels with minimal income generation. **(Kumar and Singh, 2018).**

Value addition has emerged as an important strategy for enhancing the economic returns from agricultural and allied activities. It involves the transformation of raw produce into products with higher economic value through processing, preservation, packaging, and marketing. For tribal women, value addition offers immense potential to convert locally available resources into marketable products, thereby increasing income, reducing post-harvest losses, and creating opportunities for entrepreneurship. It also contributes to skill

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development, self-reliance, and improved socio-economic status. **(Meena *et.al.*, 2013)**. However, the adoption of value addition practices among tribal women is often constrained by lack of technical knowledge, inadequate training, poor awareness of market opportunities, and limited access to financial resources. In this context, capacity-building programmes and training interventions play a crucial role in equipping women with the necessary skills and knowledge required for value addition and enterprise development. **(Kandpal *et.al*, 2025)**

METHODOLOGY

The study was conducted in two tribal-dominated villages, Baruabaag (Sitarganj block) and Gurukheda (Khatima block) of Udham Singh Nagar district, Uttarakhand. A total of 100 tribal women (50 from each village) were selected through purposive sampling, as the study specifically targeted women actively engaged in agriculture and allied activities and willing to participate in training on value addition. An experimental research design with a pre-test and post-test approach was adopted to evaluate the effectiveness of the training programme on "Empowering Tribal Women through Value Addition." The intervention comprised both theoretical and practical sessions focusing on value addition of locally available agricultural and dairy products, including hygiene and quality control, processing techniques, packaging, labeling, cost analysis, and marketing strategies.

Primary data were collected using a structured interview schedule, along with knowledge tests administered before and after the training. Participant observation was also carried out during practical sessions to assess skill development and participation. Data analysis was performed using descriptive statistical tools such as frequency, percentage, and mean scores to measure changes in knowledge and skill levels. In addition, a paired t-test was applied to determine the statistical significance of differences between pre-test and post-test scores. To strengthen the effectiveness and adoption of the training, essential materials and input kits were distributed among participants for hands-on practice at the household level. This facilitated better skill retention, enhanced confidence, and encouraged participants to initiate small-scale value addition activities, thereby supporting sustained livelihood improvement.

RESULTS AND DISCUSSION

Socio-Economic Profile of Respondents

The results of the study are presented in Table 1, which depicts the socio-economic and communication profile of the respondents, along with the impact of the training programme on their knowledge level regarding value addition. The findings provide a comprehensive understanding of the background characteristics of tribal women and their influence on the effectiveness of the training intervention.

The socio-economic profile reveals that the majority of respondents (52%) belonged to the middle age group (31–50 years), followed by young (28%) and older women (20%). This indicates that most participants were in their active working age, which positively influenced their learning ability and participation in training activities. Regarding education, a large proportion of respondents had primary-level education (38%), while 30 percent were illiterate. Only a small percentage had secondary (22%) or higher education (10%), reflecting limited formal education among tribal women.

In terms of occupation, the majority (60%) were engaged in agriculture along with dairy activities, indicating that livestock-based livelihoods were an integral part of their household economy. Landholding pattern shows that most respondents (46%) belonged to the marginal category, followed by small farmers (24%) and landless (18%), highlighting the resource-poor condition of the participants. The income distribution further supports this, as a considerable proportion of respondents (42%) fell under the low-income category, while 36 percent had medium income and only 22 percent belonged to the high-income group.

The analysis of social participation indicates that a majority of respondents (64%) were members of Self-Help Groups (SHGs), which provided them with a platform for collective action, information sharing, and financial support. However, 18 percent had no participation in any social organization, indicating scope for strengthening community involvement. Media ownership among respondents was found to be limited. While a large proportion (82%) owned mobile phones, access to other mass media such as television (46%), radio (28%), and newspapers (22%) was comparatively low. About 10 percent of respondents had no access to any media source. This limited exposure to communication channels restricted their awareness regarding improved practices prior to the training programme.

Table 1: Socio-economic characteristics of respondents

S. No.	Variable	Category	Frequency	Percentage (%)
1	Age	Young (up to 30 years)	28	28
		Middle (31–50 years)	52	52
		Old (above 50 years)	20	20

2	Education	Illiterate	30	30
		Primary	38	38
		Secondary	22	22
		Higher	10	10
3	Occupation	Agriculture + Dairy	60	60
		Agriculture only	25	25
		Labour/Other	15	15
4	Land Holding	Landless	18	18
		Marginal (up to 1 ha)	46	46
		Small (1–2 ha)	24	24
		Medium & above	12	12
5	Annual Income	Low (up to ₹50,000)	42	42
		Medium (₹50,001–1,00,000)	36	36
		High (above ₹1,00,000)	22	22
6	Family Type	Nuclear	58	58
		Joint	42	42
7	Social Participation	Member of SHG	64	64
		Member of other organizations	18	18
		No participation	18	18
8	Media Ownership	Mobile phone	82	82
		Television	46	46
		Radio	28	28
		Newspaper	22	22
		No media access	10	10

Gain in knowledge of respondents

Table 2: Knowledge Gain among respondents

S. No.	Particulars	Pre-Test (%)	Post-Test (%)	Gain (%)
1	Knowledge about value addition concept	10	85	75
2	Awareness of value-added products	14	88	74
3	Processing techniques	5	82	77
4	Hygiene & quality control	8	90	82
5	Packaging & labeling	9	80	71
6	Cost-benefit analysis	7	75	68
7	Marketing strategies	10	78	68
8	Shelf-life & storage	11	84	73

Table 3: Rank based on knowledge gain

S. No.	Particulars	Gain (%)	Rank
1	Hygiene & quality control	82	I
2	Processing techniques	77	II
3	Value addition concept	75	III
4	Value-added products	74	IV

5	Shelf-life & storage	73	V
6	Packaging & labeling	71	VI
7	Cost-benefit analysis	68	VII
8	Marketing strategies	68	VIII

The impact of the training programme on "Empowering Tribal Women through Value Addition" was assessed through a structured questionnaire administered before and after the training. The results revealed a substantial improvement in the knowledge level of the respondents across all parameters, indicating the effectiveness of the training intervention. The analysis of pre-test scores showed that the respondents had very limited knowledge regarding value addition practices prior to the training. The scores ranged from 5 to 14 percent, clearly indicating low awareness about scientific processing techniques, hygiene practices, packaging, marketing, and economic aspects of value addition. This reflects that although the tribal women were engaged in traditional dairy and agricultural activities, they lacked exposure to improved methods and entrepreneurial opportunities.

In contrast, the post-test results demonstrated a remarkable increase in knowledge levels in all the selected areas. The scores ranged from 75 to 90 percent, highlighting a significant enhancement in understanding after the training programme. The mean knowledge score increased sharply from 9.25 percent in the pre-test to 82.75 percent in the post-test, resulting in an overall knowledge gain of 73.5 percent. This substantial improvement clearly indicates the success of the training programme in building the capacity of tribal women.

A detailed analysis of individual parameters shows that the highest gain in knowledge was observed in hygiene and quality control (82%), which may be attributed to the strong emphasis on cleanliness, safe handling, and practical demonstrations during the training. This was followed by processing techniques (77%), where hands-on training enabled participants to effectively learn the preparation of value-added products. Knowledge about the concept of value addition (75%) and awareness of different value-added products (74%) also showed significant improvement, indicating that the respondents developed a clear understanding of how raw produce can be transformed into higher-value products.

Moderate gains were observed in areas such as shelf-life and storage (73%) and packaging and labeling (71%). These aspects, though well understood by the participants, may require further reinforcement through repeated practice and exposure to real market conditions. Comparatively, the lowest gains were recorded in cost-benefit analysis and marketing strategies (68% each). This suggests that while technical skills were effectively imparted, economic and market-oriented aspects need more focused attention, possibly through advanced training programmes, field exposure, and linkage with markets.

The categorization of respondents further strengthens these findings. Before the training, 100 percent of the respondents were in the low knowledge category, indicating a lack of awareness and technical know-how. However, after the training, all respondents (100%) shifted to the high knowledge category, with none remaining in the low or medium categories. This complete transformation reflects the high effectiveness of the training methodology, particularly the use of participatory approaches, demonstrations, and practical sessions. The rank order of knowledge gain also highlights the priority areas where the training had maximum impact. Hygiene and quality control secured the first rank, followed by processing techniques and value addition concepts. On the other hand, cost-benefit analysis and marketing strategies ranked lowest, indicating the need for strengthening these components in future interventions.

Overall, the findings clearly demonstrate that the training programme had a highly significant positive impact on enhancing the knowledge, skills, and awareness of tribal women regarding value addition. The substantial improvement in all parameters suggests that such capacity-building programmes can play a crucial role in promoting entrepreneurship, improving income levels, and ensuring sustainable livelihood opportunities among tribal communities. The results are further supported by the graphical representation (Fig. 1), which clearly shows a consistent increase in knowledge levels from pre-test to post-test across all variables.

Thus, it can be concluded that well-structured and need-based training programmes are highly effective tools for empowering tribal women and enabling them to actively participate in value-added enterprises and market-oriented activities.

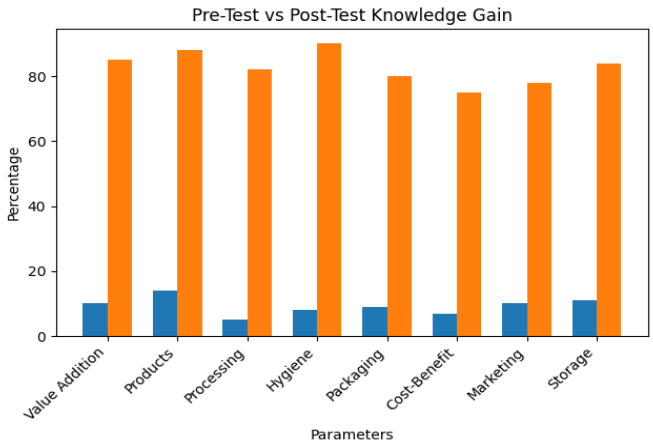

Fig. 1 Knowledge level of respondents

CONCLUSION

The study demonstrates that the training programme on "Empowering Tribal Women through Value Addition" was highly effective in enhancing the knowledge and skills of tribal women. The mean knowledge score increased from 9.25 percent (pre-test) to 82.75 percent (post-test), with an overall gain of 73.5 percent. All respondents shifted from low to high knowledge category, indicating strong training impact.

Practical and demonstration-based methods significantly improved understanding, especially in hygiene, processing, and value addition. However, comparatively lower gains in cost-benefit analysis and marketing highlight the need for greater focus on these areas. The findings also show that value addition can serve as an effective strategy for income generation and livelihood diversification among resource-poor tribal women.

Suggestion: Future training programmes should include dedicated modules on marketing linkages and financial literacy, along with follow-up support to ensure better adoption and sustainability of value-added enterprises.

Overall, the study concludes that well-planned and need-based training programmes can serve as an effective tool for empowering tribal women by promoting value addition, enhancing income opportunities, and strengthening rural livelihoods. For sustainable impact, continuous support in terms of credit facilities, market linkages, and follow-up training is essential.

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