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Research Article

Effectiveness of Training Program on the Socio-Economic Development of Farmers

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Abstract

This study evaluates the effectiveness of training programs conducted by the Agri-Business Promotion Support and Training Centre (ABPSTC), Malepatan, Kaski, in improving the socio-economic results and agricultural skills of farmers in Nepal's Gandaki Province. A mixed-methods approach with purposive sampling was employed, involving 120 participants. Semi-structured interviews and focus group discussions were used to collect the data. To evaluate the outcomes across economic and social dimensions, the Training Effectiveness Index (TEI) and Overall Training Effectiveness (OTE) were computed. Results showed that 85.2% of participants experienced positive socio-economic development. The TEI scores were 89.3% for social variables and 81.2% for economic variables, indicating significant improvements in agricultural practices, productivity, and technical skills among trained farmers. The findings highlight the substantial contribution of ABPSTC training programs in enhancing farmers' livelihoods. Continued investment in such capacity-building initiatives is recommended, and future studies should explore the long-term impacts and the role of digital technologies to further improve training effectiveness. productivity among trained farmers.

Keywords: Agriculture training program, Training effectiveness, Socio-economic development

Introduction

Agriculture plays a significant role in Nepal's economy, particularly in Gandaki Province, where many farmers continue to use traditional methods. About 80% of them face problems due to a lack of technical knowledge and limited access to modern farming practices (MoALM, 2079/80). Training programs are important for helping farmers improve their skills and increase productivity (Davis *et al*., 2009). Training initiatives have socio-economic advantages that go beyond increased agricultural output right away. Nevertheless, little is known about how well these training initiatives raise farm productivity and farmers' standard of living. These demands are met by the Agri-Business Promotion Support and Training Centre (ABPSTC), Pokhara, which was founded to strengthen the agricultural industry through capacity-building programs. It

does this by providing focused training and assessing its results. The ABPSTC has been instrumental in offering training programs that have improved the socio-economic development of farmers in Gandaki Province. Despite ABPSTC's efforts, there is not a comprehensive evaluation of the effectiveness of these training programs. Evaluating whether these initiatives are succeeding and identifying areas that need improvement are urgently needed. The purpose of this study is to examine the extent to which ABPSTC training programs improve the socio-economic status of farmers in Gandaki Province.

Methodology

The study used a mixed-methods evaluative design to assess the effectiveness of ABPSTC training. Data were collected through semi-structured interviews and focus group discussions. A purposive sample of 120 farmers from diverse backgrounds was chosen. Data from key informants, reports, and academic literature supplemented the findings. MS-Excel was used for data analysis, employing descriptive and inferential statistics. Training Effectiveness Index (TEI) and Overall Training Effectiveness (OTE) were calculated to quantify the program's impact across multiple dimensions.

The Training Effectiveness Index (TEI) was used to quantify the training's impact on various socio-economic indicators, calculating the effectiveness of each dimension based on a formula adapted from Kulkarni and Nikhade (1996).

$$TEI = \frac{D_1}{P_1} + \frac{D_2}{P_2} + \frac{D_3}{P_3} + \cdots + \frac{D_n}{P_n}$$

Where, TEI= training effectiveness Index, D_1, D_2, D_3, ... D_n refers to the total score obtained by all the respondents on a particular dimension of items and P_1, P_2, P_3, ... P_n refers to the potential score obtainable on each dimension included in the study.

Also, the Overall Training Effectiveness (OTE) was derived using the following formula:

$$OTE = \frac{TEI_1 + TEI_2 + \cdots + TEI_n}{Z}$$

Where, OTE= Overall Training Effectiveness, summation of $TEI_1 + TEI_2 + ...TEI_n$ refers to the individual effectiveness for all the items from 1 to Z included in the program.

Results and Discussion

Demographic Characteristics of Respondents

The 120 respondents averaged 43 years old with 0.76-hectare of farms. A large majority of respondents (90%) are engaged in agriculture as their primary occupation, 54.17% engaged in commercial farming, and 52.5% have under 10 years of farming experience. About 71 % of participants are male, and 41.67% have up to 10 years of education. Limited training exposure (88.33% attended fewer than five programs) underscores the need for more structured training, aligning with national trends of fragmented farmlands and low education levels that impact agricultural practices (Table 1).

Effectiveness of Training on Socio-economic Development

The effectiveness of training programs was assessed using the Training Effectiveness Index (TEI), categorized into economic and social indicators (Table 2).

Table 1: Demographic characteristics of respondents of the study, 2024

S.N.	Demographic characteristics of respondents	Frequency	Percentage
A	**Gender**		
1	Female	35	29.17
2	Male	85	70.83
	Total	120	100.00
B	**Level of education**		
1	Literate	24	20.00
2	Up to 10	50	41.67
3	Up to 12	25	20.83
4	Up to Bachelor's degree	18	15.00
5	Master's degree and above	3	2.50
	Total	120	100.00
C	**Ethnicity**		
1	Bhramin	55	45.83
2	Khsetri	18	15.00
3	Janjati	29	24.17
4	Dalit	4	3.33
5	Others	14	11.67
	Total	120	100.00
D	**Main Occupation**		
1	Agriculture	108	90.00
2	Other than agriculture	12	10.00
	Total	120	100.00

Table 1: Demographic characteristics of respondents of the study, 2024

S.N.	Demographic characteristics of respondents	Frequency	Percentage
E	**Farm registration status**		
1	Registered	77	64.17
2	Not registered	43	35.83
	Total	120	100.00
F	**Farming experience**		
1	Less than 10 years	63	52.50
2	Above 10 years	57	47.50
	Total	120	100.00
G	**Types of farming/farmers**		
1	Subsistence	41	34.17
2	Commercial oriented	14	11.67
3	Commercial	65	54.17
	Total	120	100.00
H	**Number of trainings received**		
1	Below 5	106	88.33
2	Above 5	14	11.67
	Total	120	100.00

Table 2: Socio-economic variables and training effectiveness score of the study, 2024

S.N.	Socio-economic variable of farmers	TE Score	Percentage
A	**Economic variables**		
1	Farm income	0.833	83.3
2	Crop yield and productivity	0.837	83.7
3	Adoption of improved agricultural practices	0.877	87.7
4	Market access and sales	0.770	77.0
5	Access to financial services and credit	0.780	78.0
6	Employment generation	0.777	77.7
7	Business network	0.808	80.8
	Average	0.812	81.2
B	**Social variables**		
1	Education and skills development	0.835	83.5
2	Empowerment and decision-making	0.892	89.2
3	Confidence in technical know-how	0.932	93.2
4	Social recognition	0.908	90.8
5	Problem-solving	0.850	85.0
6	Participation of women, returnees, and marginal	0.938	93.8
	Average	0.893	89.3
Total		**0.852**	**85.2**

Economic Impact of Training

Economic impact scored 81.2%, with high improvements in adopting better practices (87.7%) and crop yield (83.7%) (Adjei & Mensah, 2021). However, market access (77.0%) and employment (77.7%) were weaker due to external market barriers. Similar studies highlight the need for better infrastructure and financial support (Magesa *et al*., 2023). Practical demonstrations and hands-on training played a vital role in knowledge retention and application. Similar trends were reported by Jones & Smith (2023) in Kenya, where training increased the adoption of modern techniques, leading to productivity gains of 25-30%.

Social Impact of Training

Social factors scored 89.3%, driven by strong participation of marginalized groups (93.8%) and confidence in technical skills (93.2%). Problem-solving scored lower (85.0%), suggesting participatory training could improve critical thinking (Singh & Kumar, 2022). Lee & Park (2022) suggests that training could further integrate participatory learning models to strengthen farmers' ability to address challenges independently.

Overall Training Effectiveness

Overall Training Effectiveness (85.2%) showed stronger social (89.3%) than economic impacts (81.2%). To boost financial outcomes, market integration and post-training support are needed (Jones & Smith, 2023). Magesa *et al*. (2023) found a TE score of 81.0 % in Tanzania, with similar limitations in market access and employment generation. Jones & Smith (2023) in Kenya reported that training improved productivity but had limited effects on farmers' income due to weak value chain integration.

Discussion

The study shows that the socio-economic development of farmers in Gandaki Province had positive impact by ABPSTC training programs. Among the 120 respondents, the average age was 43 years with a mean landholding of 0.76 hectares. Most participants (90%) were primarily engaged in agriculture, and over half practiced commercial farming, though a majority (88.33%) had attended fewer than five training programs, indicating a gap in access to structured learning opportunities. The Training Effectiveness Index (TEI) showed an overall effectiveness score of 85.2%, with economic impacts averaging 81.2% and social impacts averaging 89.3%. High economic improvements were observed in the adoption of improved agricultural practices (87.7%) and crop yield (83.7%), while weaker scores in market access (77.0%) and employment generation (77.7%) suggest the need for better post-training support, including market integration and access to finance. Social dimensions demonstrated even stronger outcomes, particularly in participation of marginalized groups (93.8%) and confidence in technical skills (93.2%), emphasizing the inclusive and empowering nature of the training. Problem-solving abilities, on the other hand, showed potential for improvement (85.0%), suggesting the advantages of incorporating more experiential and interactive learning approaches. These results align with other studies carried out in Tanzania and Kenya, which emphasizes that although training boots knowledge which impediments in the agriculture value chain which emphasize that although training boosts knowledge and productivity greatly, structural impediments in the agricultural value chain frequently restrict its economic benefit. Therefore, while ABPSTC's training programs are demonstrably effective, their long-term success hinges on broader systemic support beyond technical instruction.

Conclusion and Recommendation

This study indicates the essential contribution of agricultural training programs to enhancing farmers' economic and social well-being. The strong TEI score suggests that these programs effectively covered key training aspects. The findings align with past research, which highlights the importance of specialized training in boosting agricultural productivity, practices, and economic stability. To enhance future training efforts, a comprehensive approach should be considered one that extends beyond technical instruction to tackle wider socio-economic issues. This could involve working with market organizations, financial institutions, and employment services to offer well-rounded support for farmers.

Authors' Contribution

AD Jnawali conceptualized and designed the work plan, S Sharma & K Poudel collected data, AD Jnawali & DP Poudel analyzed the data, all authors jointly prepared the manuscript, AD Jnawali critically revised the manuscript and final form of the manuscript is approved by all authors.

Conflict of Interest

The authors declare that there is no conflict of interest.

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