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USEFULNESS OF SKILL ORIENTED VOCATIONAL TRAINING ON DIESEL ENGINE REPAIRING

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ABSTRACT

Introduction of effective skill training programs in agriculture and allied sectors is of immense necessity for paving the way to a bright future of the youths. Gujarat Vidyapith Krishi Vigyan Kendra -Valsad, Gujarat attempted to impart a vocational training on Diesel Engine repairing and maintenance for rural youth. As it offers non-farm-based earning opportunity to the local youth. The study was conducted in the three talukas viz. Kaparada, Dharampur and Pardi blocks of the Valsad district of Gujarat. Out of 60 respondents who undergone skill training 46 was purposively selected. The structured interview schedule was prepared and the responses of the ex- trainees were collected. The data collected were then analyzed through Statistical tools such as per cent, mean, standard deviation, t test etc. The calculated "t" value (0.74) based on the data was found highly significant. This indicates significant difference in knowledge before and after training. Using the skills acquired during training, respondents were able to earn additional income.

Keywords: *income, knowledge, skill, training*

INTRODUCTION

Economic uplift of a nation depends not only on agriculture but also on the active participation of youths in agriculture. It is imperative to train and develop the youths skillfully that may help transform agriculture into a lucrative entrepreneurial activity (Patel *et al.,* 2017). So, introduction of effective skill training programs in agriculture and allied sectors is of immense necessity for paving the way to a bright future of the youths. The low per capita usage of farm power is measured as a strong indicator for less prevalence of farm mechanization which in turn emerges as prime opportunity available in improving the overall farm-productivity. Both central and state governments have adopted various policy and project measures to facilitate the farmers for increase in usage of electrical and mechanical energy-based farming equipments in the country and states. This progress rate however is impeded by the low availability of repairs and service network of the mechanized farming equipments, despite the efforts put-in by equipment manufacturers. The state has recognized this situation as a potential weakness in improving the farm productivity and consequently the farmers' income. Valsad district is tribal dominated hilly area having 67 per cent of the total geographical area is under dry farming. Tribal farmers using diesel engine to lift water from the sources like stream, farm pond etc. The need for diesel engine is rising day by day for lift irrigation due to increasing check dam for water harvesting schemes of Government and unavailability of electric sources in the internal area of the district. It was also noticed that lack of knowledge about maintenance, lack of services of technician in remote places etc. has created demand for the skilled manpower for the repair and maintenance of diesel engine.

Keeping this in view Gujarat Vidyapith Krishi Vigyan Kendra -Valsad, Gujarat attempted to impart a vocational training on diesel engine repairing and maintenance for rural youth. As it offers non-farm-based earning opportunity to the local youth. The study was therefore conducted to measure the effectiveness of skill training on diesel engine repairing and maintenance with following objectives.

OBJECTIVES

(1) To study the socio- economic profile of the participating trainees

(2) To ascertain the level of knowledge of participants regarding operationalization of diesel engine and maintenance

(3) To assess the change in knowledge before and after institutional training

(4) To know the economic impact of training programs on participating trainees

METHODOLOGY

The study was conducted in the three talukas viz. Kaparada, Dharampur, and Pardi blocks of the Valsad

district of Gujarat. A total of 60 respondents who undergone skill training during the year 2017 to 2020 was purposively selected. Out of them only 46 was contacted. Thus, the sample size of the study was confined to 46 trainees of diesel engine repairing programs. The structured interview schedule was prepared and the responses of the ex- trainees were collected by the investigator. The data collected were then analyzed through Statistical tools such as per cent, mean, standard deviation, t-test etc. The individual respondents estimated personal annual income before and after training was considered to measure economic impact. Keeping in mind the content of the training, 15 objective-type knowledge inventory (Cleaning air cleaner, appropriate time of replacement of oil engine , regular Servicing , valve setting , nozzle setting , Timing set , Gasket Change , Control on Diesel leakages , replacement of diesel pump , type of air cleaner used in diesel engine , Efficiency improvement through slippage , over hauling etc.) was prepared and pre and post -test before and after training was conducted. Each question was given a score of one for correct answer and zero for incorrect answer. The mean per cent knowledge was computed by the following formula.

$$\text{Knowledge} = \frac{\text{obtained score}}{\text{potential score}} \text{X}100$$

Table 1: Distribution of respondents according to socio economic profile. (n=46)

Sr. No.	Variables	Number	Percentage
1	**Age**		
	Young (up to 25years)	15	32.62
	Middle (25 to 35 years)	21	45.65
	Old (Above 35 years)	10	21.73
2	**Education**		
	Illiterate	02	04.35
	Primary (1 to 7th Std.)	08	17.39
	Secondary (8th to 10th std)	14	30.43
	Higher secondary (11th to 12th std / ITI)	13	28.26
	Graduation	09	19.57
3	**Land Holding**		
	Landless	02	04.35
	Marginal (Up to 1 ha)	29	63.04
	Small (1.01 to 2 ha)	13	28.26
	Large (Above 2 ha)	02	04.35
4	**Irrigation facility**		
	Lift irrigation from check dam	26	56.53
	Well	20	43.47
5	**Caste**		
	ST	46	100.00
	SC	00	000.00
6	**Possession of Diesel engine**		
	Own	44	95.65
	Rental Hiring	00	00.00
	Having no diesel engine	02	04.35

RESULTS AND DISCUSSION

Data presented in Table 1 indicated that most of the participants were belonged to young to middle age group. Thirty per cent of the participants attained the secondary level education and nearly similar no. of respondents belonged to the category of higher secondary level, of which 08 respondents has successfully completed industrial training courses of six months duration. Only two respondents were illiterate whereas only nine were graduate. Majority (63 per cent) of the respondents belonged to marginal land holding category followed by 28 per cent respondents possessed more than 1 ha. but less than 2 ha. land. Majority of the respondent farmers were lifting the water from check-dam to irrigate their land. Since the district is Scheduled tribes dominated, all the respondents were from ST category and almost all of them possessed diesel engine. A great majority of respondents possessed diesel engine. As many as 43 per cent utilized well water to irrigate the land.

Table 2 : Distribution of the respondents on the basis of knowledge regarding operationalization of diesel engine and maintenance before and after training (n=46)

Level of knowledge	Before training		After training		Difference in per cent (Before and After training)
	No.	Per cent	No.	Per cent	Per cent
Low	32	69.56	10	21.73	- 47.83
Medium	08	17.39	16	34.80	+ 17.41
High	06	13.05	20	43.47	+ 30.42

It is observed from Table 2 that before training more than 69 per cent of the respondents had low level of knowledge and only 13 per cent belonged to high level of knowledge category whereas after training the scenario has been changed. After training, respondents have been shifted from 17.39 per cent to 34.78 per cent so far medium category of level of knowledge is concerned. The upward trend was observed in high level of knowledge category also (13.05 to 43.47 per cent) regarding operationalization of diesel engine and maintenance. This may be due to the proper combination of theory and practical during training. The finding is supported by Tankodarae et al. (2018) and Thakar et al. (2019).

Table: 3 Average score of the knowledge of respondents before and after training (n=46)

Category	No. of respondents	Mean	SD	t value
Before training	46	42.5621	17.4616	0.7436**
After training	46	59.7519	14.3218	

** = significant at 0.01 per cent level.

Table 3 revealed that the mean score of knowledge of farmers who received training was higher than that of prior training. The calculated "t" value (0.74) based on the data was found highly significant. This indicates significant difference in knowledge before and after training. The higher score can be attributed to the effectiveness of institutional training.

After getting skill training they acquired mechanical aptitude, problem solving skills and creative skills along with domain knowledge in diesel engine repairing. This finding is in accordance with Parmar *et al.* (2021), Dobariya *et al.* (2017), Katole *et al.* (2017) and Rai *et al.* (2017). This indicated that there was overall increase in skill of trainees from the training programme.

Table: 4 Distribution of the respondents on the basis of their personal annual gross income before and after training

(n=46)

Level of personal annual Gross income	Before training		After training		Difference in per cent
	No.	Per cent	No.	Per cent	Per cent
Low (Up to ₹15000)	28	60.87	09	19.57	41.30
Medium (₹ 15000 to ₹ 50000)	12	26.09	24	52.17	26.08
High (Above ₹ 50000)	06	13.04	13	28.26	15.22

It is observed (Table 4) that before training more than 60 per cent of the respondents recorded to have had low level of individual annual income. Most of them were unemployed before joining the training program, while rest were either self-employed or working farm. Most of the participant were working as casual agricultural labour engaged for short period during peak season. Only those who have passed diploma/ ITI were engaged with small industrial units as an apprentice were getting nearly about ₹ 4500 to ₹ 5,000 per month gross income. The respondents belonged to higher income category were found pre-engaged in contractual job in addition to the routine agricultural operations at their own farm. After

training, the scenario has been changed. After underwent training, the no. of respondents belonged to medium income category has been increased from 26.09 per cent to (12 nos.) to 52.17 per cent (24 nos.). Similar trend has been observed for high income group. Using the skills acquired during training, respondents were able to earn additional income Ravindra Kumar *et. al.* (2020). Earlier they were dependent on technician providing service and paying more money as service charges. Sometimes they have to wait for longer period to get their engine repair or service and thus, they did not irrigate the crop at critical stage of crop growth which adversely affects production. Reduction in the cost of regular maintenance saved money and time. The finding is similar to Satbir Singh, *et al.* (2013) who indicates that income of the people rises by proposing income generating opportunities to the people in villages.

CONCLUSION

It is concluded that the gain in knowledge after training was increase significantly. The difference in mean score of knowledge of respondents was found significant. It confirmed that the training is an innovative tool for acquiring the skills related to diesel engine repair. Using the skills acquired during training, respondents were able to earn additional income.

IMPLICATIONS

The training institutes should be given more emphasis on long duration skill-oriented training programs that can be helpful to generate self-employment in the rural India.

CONFLICT OF INTEREST

This is to declare that there is "No conflict of interest" among researcher.

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