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# Impact analysis of trained and untrained farmers towards agro based entrepreneurial skills in Tikamgarh district of Madhya Pradesh

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### Abstract

The study was conducted in Tikamgarh District its having four blocks namely viz Tikamgarh, Jatara, Plera and Baldevgarh out of which Tikamgarh and Jatara blocks are selected purposively for the study. Out of 04 villages namely Patha, Kanti, Madumr and Hasgora 120 (trained and untrained farmers were selected for study.

The higher percentage (66.66% and 68.33%) of the trained and untrained farmers was in the middle age group. Majority (43.33% and 15.00%) of trained and untrained farmers were up to middle level educated. Maximum percentage of trained and untrained farmers (48.33% and 60.00%) was having medium annual income. Most of the trained and untrained farmers (63.33% and 48.33%) were medium innovativeness. Most of the trained and untrained farmers (58.33% and 56.67%) had medium level of extension.

Regarding level of attitude of trained and untrained farmers it was observed that majority of the trained and untrained farmers (75.00% and 85.00%) were neutral attitude towards vermicompost. The relationship between six i.e. education, mass media utilization, extension participation, were found to be significantly related with the knowledge level of trained and untrained farmers towards vermicompost whereas age, annual income and had non-significant relationship with the knowledge level of trained and untrained farmers.

**Keywords:** trained, untrained farmers, agro based entrepreneurial skills

### Introduction

The term vermicompost originated from a Latin word *Vermes* means worms and the process of composting of organic material using earthworm is known as Vermicomposting. It is a simple biological process of composting in which certain species of earthworms are used to enhance the process of waste conversion and produce a better product available at the village farm level for improvement of soil health and environment. Vermicompost enhance the soil nutrition moisture and air retention capacity besides limitation the erosion of soil. It is well established that composting is the best recycler of the biological wastage which turn millions of turn of our refuse into a sustainable and resilient food growing assets. (Shrivastav and Singh 2013). The result of several long term studies have shown that the addition of compost improves soil physical properties by decreasing bulk density and increasing the soil water holding capacity (Weber *et al* 2007).

In 1985 Maharashtra Agricultural Biotech was formed and established a small plant to manufacture vermicompost from agriculture waste. They believed that a successful commercial venture based on regenerative principles might convince others to adopt sustainable practices. In India 1991-1992 Maharashtra Agricultural Biotech and the India Department of Science and Technology promoted the adoption of vermicompost technology in 13 states. In India Chitrakoot Gramodaya University in M.P produced five tons of vermicompost per month. It has promoted over 2000 farmers to change from convention chemicals to vermicompost.

### Materials and Methods

Food grain production in M.P has more than doubled. In food grain production it is next to UP and Punjab. It contributes 7.71% of total food production in India. Madhya Pradesh by contributing 24 to 25% of total pulse and oil seed production in India occupies first position in the country. Due to the problems of decline in farm profit and quality of food produced through use of agro-chemical M.P. Govt. has launched a programme of Bio-farming to generate rural employment and provide safeguard against income in cost of farm inputs in the

villages of Gwalior, Morena, Sheopur, Datiya, Indore, and Jhabua. Its objective improve socio-economic condition of small and marginal farmers through adoption of bio farming practices in the state and contribute substantially to meet the growing demands of organic food within the country as well as to export market.

The various extension agencies are continuously making efforts to create awareness among the farmers about vermiculture technology. Government Institute, Non-Government Organization, Private agencies and Krishi Vigyan Kendra (KVK) are playing major role for promoting the vermiculture technology and conducting training programme, exhibition, Kisan mela and other programme for dissemination about vermiculture technology with low cost and environmentally safe condition. The aim of training was to develop potential knowledge and skill of the trainees with the recognition as an important avenue for growth and development of individual. In order to keep the soil and environment health safe, it is essential to train the farmers and encourage them to use vermicompost in their field for crop production. After imparting training to the farmers it is essential to know their attitude regarding Vermicomposting and their existing level of knowledge about vermicompost.

**Table 1:** Socio-economic and personal variable N-120

S. No	Variables	Trained n60		Untrained n60	
		F	%	F	%
1.	<b>Age</b>				
	Young age	10	16.67	12	20.00
	Middle age	40	66.66	41	68.33
	Old age	10	16.67	7	11.67
	Mean	38.966		38.9	
	SD	12.306		8.641	
2.	<b>Education</b>				
	Literate	21	35.00	21	35.00
	Up to primary	7	11.67	27	45.00
	Up to middle	26	43.33	9	15.00
	High school and above	6	10.00	3	5.00
	Mean	2.28		1.9	
	SD	1.05		0.83	
3.	<b>Annual income (in Rs.)</b>				
	Low	13	21.67	20	33.33
	Medium	29	48.33	36	60.00
	High	18	30.00	4	6.67
	Mean	194967		85700	
	SD	229771		41610.1	
4.	<b>Innovativeness</b>				
	Low	13	21.67	23	38.33
	Medium	38	63.33	29	48.33
	High	9	15.00	8	13.34
	Mean	13.983		11.683	
	SD	2.251		2.849	

The data collected from respondents and the distribution of trained and untrained farmers according to their age was presented in table 1 the data showed that 66.66% of trained and 68.33% of untrained farmers belong to middle age group followed by old age group 16.67% and 11.67% and young age group of trained and untrained farmers 16.67% and 20.00% respectively.

The data that 43.33% of trained and 15.00% of untrained farmers were educated up to middle school, 35.00% of trained and untrained farmers were literate, 11.67% and 45.00% trained and untrained farmers were educated up to primary school and 10.00% and 5.00% of trained and untrained farmers were educated up to high school and above. In

measuring this variable the total yearly earning of trained and untrained farmers was measured in rupees from all the sources. The result indicated that 48.33% of trained and 60.00% of untrained farmers belonged to medium income category whereas 30.00% and 6.67% belonged to high income category and remaining 21.67% and 33.33% belonged to low income category. The data in table indicated that 63.33% of trained and 48.33% of untrained farmers belonged to medium innovative category followed by 15.00% and 13.34% belonged to high innovative category and remaining 21.67% and 38.33% belonged to low category respectively.

### Communication variable

#### Mass media utilization

Table 2 indicate that 55.00% of trained and 45.00% of untrained farmers had medium level of mass media utilization whereas 28.33% and 46.67% of trained and untrained farmers had low level of mass media utilization and remaining 16.67% and 8.33% of trained and untrained farmers had high level of mass media utilization.

#### Extension participation

Extension participation referred to the extent of participation of trained and untrained farmers in different extension activities like- group meeting, demonstration, krishi mela, field days, exhibition etc. table -3 indicated that 58.33% of trained and 56.67% of untrained farmers had medium level of participation whereas 26.67% and 36.67% of trained and untrained farmers had low level of extension participation and remaining 15.00% and 6.66% of trained and untrained farmers belonged to high level of extension participation.

**Table 2:** Communication variable N=120

S. No	Variables	Trained n60		Untrained n60	
		F	%	F	%
1.	<b>Mass media utilization</b>				
	Low	17	28.33	28	46.67
	Medium	33	55.00	27	45.00
	High	10	16.67	5	8.33
	Mean	6.15		4.15	
	SD	1.99		1.62	
2.	<b>Extension participation</b>				
	Low	16	26.67	22	36.67
	Medium	35	58.33	34	56.67
	High	9	15.00	4	6.66
	Mean	12.83		7.75	
	SD	3.14		2.24	

**Table 3:** Distribution of trained and untrained farmers according to their knowledge level N = 120

S.N	Categories	Trained farmers		Untrained farmers	
		F	%	F	%
1.	Low	12	20.00	12	20.00
2.	Medium	40	66.67	46	76.67
3.	High	8	13.33	2	3.33
	Mean	19.06		8.36	
	SD	4.09		3.59	

The data presented in the table 03 reveals that 66.67% of trained and 76.67% of untrained farmers belonged to medium knowledge level category while 13.33% of trained and 3.33% of untrained farmers belonged to high knowledge level remaining 20.00% of each trained and untrained farmers belonged to low knowledge level category respectively.

Knowledge of trained and untrained farmers regarding individual aspect of vermicompost highlight the knowledge of the trained and untrained farmers regarding individual aspect of vermicompost regarding ill effects of fertilizer on soil (56.67%) of trained and (48.34%) of untrained farmers had correct knowledge i.e. it affects physical property, chemical property and water holding, capacity of soil.

Majority of trained farmers (50.00%) and untrained (18.34%) farmers had correct knowledge that use of chemical fertilizers had bad effects on crop soil microbes and human being. Further large majority of both trained and untrained farmers (76.67% and 23.34%) respectively had correct knowledge about bad effects of heavy dose of chemical fertilizers on environment.

Regarding use of chemical fertilizer and its effects on crop resistance and incidence of pest and disease 46.67% and 11.67% of trained and untrained farmers had correct knowledge respectively.

Regarding the statement that use of vermicompost improves soil structure and texture, soil aeration and soil microbial activities, was perceived correctly by 40.00% of trained and 15.00% of untrained farmers followed by 40.00% and 38.00% of trained and untrained farmers respectively had correct knowledge that use of vermicompost increase water percolation in soil to deeper layers and reduce the incidence of moisture stress to crop.

Majority of 30.00% and 23.33% of trained and untrained farmers perceived correctly that use of vermicompost loosen the soil there by increased availability of water to the crop and easy movement of air in the soil while 66.67% and 23.34% of trained and untrained farmers had correct knowledge that use of vermicompost improve availability of micro and major

nutrients to the crop.

### Attitude of trained and untrained farmers towards vermicompost

Attitude was administered to the respondent individually and their response were recorded. The total score of each respondent was obtained on the basis of all statements.

**Table 4:** Distribution of trained and untrained farmers on the basis of their attitude towards vermicompost

Attitude of Trained farmers			
S.N	Attitude with score range	Frequency	%
1.	Most unfavourable (< 61)	2	3.33
2.	Unfavourable (61-68)	4	6.67
3.	Neutral (69-84)	45	75.00
4.	Favourable (85-93)	7	11.67
5.	Most favourable (>93)	2	3.33
Attitude of untrained farmers			
S.N	Attitude with score range	Frequency	%
1.	Most unfavourable (<58)	3	5.00
2.	Unfavourable (58-61)	0	0.00
3.	Neutral (62-70)	51	85.00
4.	Favourable (71-75)	6	10.00
5.	Most favourable (>75)	0	0.00

Data presented in table 4 show that the majority of trained and untrained farmers 75.00% and 85.00% were having neutral attitude towards vermicompost followed by 11.67% of trained and 10.00% of untrained farmers had favourable attitude, 3.33% and 5.00% of trained and untrained farmers had most unfavourable attitude, 6.67% and 0.00% had unfavourable attitude, 3.33% and 0.00% of trained and untrained farmers had most favourable attitude respectively.

**Table 5:** Relationship of selected independent variables with attitude level of trained and untrained farmers towards vermicompost

S. N	Characteristic	Trained		Untrained	
		Correlation coefficients 'r'	't' value	Correlation coefficients 'r'	't' value
1.	Age	0.08395NS	0.64159	0.04265NS	0.32513
2.	Education	0.02739*	2.16894	0.38033*	3.13185
3.	Caste	0.23085NS	1.80688	0.07387NS	0.56416
4.	Land holding	0.39192*	3.24436	0.25548*	2.01249
5.	Annual income	0.26457*	2.08938	0.25577*	2.0149
6.	Innovativeness	0.26436*	2.08759	0.2715*	2.14836
7.	Family size	0.67171NS	0.54756	0.10499NS	0.80402
8.	Gender	0.25478*	2.00653	0.31581*	2.53491
9.	Cropping pattern	0.25659*	2.02181	0.28103*	2.23018
10.	Number of livestock	0.3792*	3.12098	0.35039*	2.84915
11.	Mass media utilization	0.31888*	2.56229	0.31473*	2.52528
12.	Extension participation	0.29908*	2.38697	0.28898*	2.29887

It could be seen from table 5 that eight independent variable namely education, land holding, annual income, innovativeness, gender, cropping pattern, number of livestock, mass media utilization, extension participation were significant and positively correlated with level of trained and untrained farmers towards vermicompost while remaining three variables namely age, caste, family size were found to be non-significant. The null hypothesis was accepted with respect to two variables namely age, caste, family size.

### Conclusion

The data regarding the relationship of selected parameters and attitude of trained and untrained farmers with level of attitude revealed that education, annual income, innovativeness, mass media utilization were found to be significantly related with the attitude level of trained and untrained farmers toward

vermicompost where age, had non-significant relationship with attitude level of trained untrained farmers.

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