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ADOPTION OF VERMICOMPOST PRODUCTION WITH RESPECT SOME SOCIO-ECONOMIC VARIABLE

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Abstract- The awareness for vermicompost production was created among the rural people of eastern zone of India by Cooch Behar Krishi Vigyan Kendra, West Bengal by conducting residential and non-residential training programme on successful vermicompost production. Vermicompost contain huge amount of plant nutrients and it's environmentally sustainable. The training was conducted during January 2015 to December 2015. The study was conducted on the respondents of Coochbehar district, West Bengal during January 2016 to February, 2016. The purpose of this study was to identify the adoption of vermicompost production with respect some socio-economic variable of the trainees. The research design was followed in this study was survey research method. The sample size of the study was 100. The dependent variable of this study was adoption and independent variables were age, gender, education, annual income, land holding and caste. The descriptive statistics like frequency, percentage and range were used for the investigation. This study had shown the relation of the adoption of the vermicompost production with the different independent variable.

Keywords- Sustainable, adoption, vermicompost, training, awareness, trainees, residential, non-residential.

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Introduction

Vermicompost production in Cooch Behar district is increasing day to day due to awareness of use of organic fertilizer, high price of inorganic fertilizer and other socio-economic factor. But still there some factor which may rise or fall the demand of organic fertilizer. On the basis of above problem some socio-economic variable were selected for the study. Vermicompost is a good source of organic manure, which is essential for plant. This compost is environmentally sustainable and eco-friendly and its can produce in a home. The cost of production is very less and farmers can easily produce it. Different government and Non-government organization continuously aware the farmers about the benefit to use of vermicompost. The demand for simple technologies [1] which are easily adoptable [2], cost-effective and profitable [3] leading to sustainable agriculture for socio economic development of farmers are a priority [4]. The complexity and adaptability [4] in the new technology is easily managed[5] if the technology is adopted [6] in a split way[7] and transfers one situation to another situation [8] among large number of participant and the benefits of an innovation[9] are visible to the intended adopters[10] .The innovation[11] in technological development has to be location or region specific [12]. These kinds of innovation satisfy [13] the farmers need with similar type of socio-economic background [14]and technology gets established among the user of that particular innovation[15]. The awareness and training for vermicompost production had been created among the rural people of Coochbehar district by Cooch Behar Krishi Vigyan Kendra. The training was conducted during January 2015 to December, 2015 and the study was conducted during January, 2016 to February, 2016. The purpose of this study was to identify the adoption percentage of vermicompost trainees and its distribution among the different independent variable selected for the study.

Materials and Methods

The study was conducted on the respondent of Coochbehar district, who took vermicompost training in coochbehar Krishi Vigyan Kendra (Coochbehar, West Bengal) from January, 2015 to December, 2015. The research design was followed in the study was survey research method. The data collected by pretested well structure interview schedule. Demonstration and low cost production system technique were used to motivate the farmers. Both method and result demonstration technique were used. Books, Vermin and the plastic (6ft×9ft) were given to the farmers to produce vermicompost. The entire trainees available at the time of investigation were considered as respondents. The sample size for the study was 100. The dependent variable of this study was adoption and independent variables were age, gender, education, income, land holding and caste [Table-1]. The variables were selected based on recommendation of the scientist of Uttar Banga Krishi Viswavidyalaya, Coochbehar, West Bengal. The descriptive statistics like frequency, percentage were used for the investigation.

Table-1 *Variables and their measurement*

Variable		Measurement
A.	***Dependent variable***	
1.	Adoption	Schedule developed for the study
B.	***Independent variable***	
1.	Age	Chronological age of the respondents in completed years
2.	Gender	Schedule developed for the study
3.	Education level	Procedure used by Sivamurthy (1994)
4.	Income	Schedule developed for the study
5.	Land holding	Schedule developed for the study
6.	Caste	Schedule developed for the study

Results and Discussion

It was shown from the investigation that a majority of the respondent participated [Table-2] in vermicompost training were male farmer (60%) followed by female farmer (40%) and after training it was found that majority percentages of respondent adopted vermicompost production were male farmer (91.66%) followed by female farmer (62.50%) (Adoption percentage of each category calculated on the basis their participation percentage. adoption percentage = number of respondent adopted the technology/number of respondent participated

in the technology adoption programme × 100). It was found from survey that the majority percentage [Table-2] of the farmer participated in vermicompost training in general belonged to the range of 25 yrs to < 35 yrs (40%) of the age group followed by 35 yrs to < 50 yrs (25%) age group and after training it was found that adoption percentage of vermicompost production were high in case of 25 yrs to < 35 yrs age group (92.50%) followed by 18 yrs to < 25 yrs age group (72.22%) and 35 yrs to < 50 yrs age group (72.00%).

Table-2 *Classification of the respondent with different independent variable*

n=100

Sl. No.	Variable	Number of participant	Number of adopted	Participant percentage	Adoption Percentage
A.	**Gender**				
1	Female	40	25	40.00	62.50
2	Male	60	55	60.00	91.66
B.	**Age**				
1.	18yrs to <25 yrs	22	16	22.00	72.72
2.	25 yrs to<35 yrs	40	37	40.00	92.50
3.	35 yrs to <50 yrs	25	18	25.00	72.00
4.	>50 yrs	13	9	13.00	69.23
C.	**Educational level**				
1.	Illiterate	-	-	-	-
2.	Can read only	-	-	-	-
3.	Can read and write only	5	2	5.00	40.00
4.	Primary school	14	6	14.00	42.85
5.	Middle school	24	20	24.00	79.16
6.	High school	45	42	45.00	93.33
7.	Pre-university	-	-	-	-
8.	Graduate and above	12	10	12.00	91.66
D.	**Caste**				
1.	GEN(General)	16	15	16.00	93.75
2.	SC(scheduled caste)	34	30	34.00	88.23
3.	ST(scheduled caste tribe)	30	18	30.00	60.00
4	OBC(Other Backward Classes)	20	17	20.00	85.00
E.	**Annual income level (INR)**				
1.	Less than Rs. 30,000	5	1	5.00	20.00
2.	Rs.30,001 to 60,000	20	12	20.00	60.00
3.	Rs. 60,001 to 1,00,000	30	24	30.00	80.00
4.	Rs.1,00,001to 2,00,000	37	35	37.00	94.59
5.	Rs.2,00,001to 3,00,000	5	5	5.00	100.00
6.	Rs. 3,00,001 and above	3	3	3.00	100.00
F.	**Land holding**				
1.	Up to 100 decimal	59	41	59.00	69.49
2.	100 to 200 decimal	23	21	23.00	91.30
3.	> 200 decimal	18	18	18.00	100.00

It was found from the study [Table-2] that majority of respondent participated in vermicompost training were SC (34.00%) category farmer closely followed by ST (30.00%) category farmer but in case of adoption of vermicompost production, it was shown that GEN (93.75%) category farmer adopted higher percentage followed by SC (88.23%) and OBC (85%) category farmer. It was also shown from the investigation that 60% of the ST category farmers adopted vermicompost production. It was observed from the investigation [Table-2] that the majority percentage of the respondent educational level at the time vermicompost training was high school (45.00%) pass followed by middle school (24.00%) pass but it was found from the survey that after training majority percentages of the respondent adopted vermicompost production were high school pass (93.33%) closely followed by graduate and above pass (91.66%).The finding is in line with the results reported by Anonymous [8]. It was observed from the investigation [Table-2] that the majority percentage of the respondent annual income level at the time vermicompost training was Rs. 1,00,001 to Rs. 2,00,000(37%) followed by annual income level Rs. 60,001 to Rs. 1,00,000 (30%) but it was found from the survey that after training 100% percentages of the respondent adopted vermicompost production belong to Rs. 2,00,001 to Rs. 3,00,000 and above annual income level closely followed by Rs. 1,00,001-2,00,000 (94.59%) annual income level. It was found from the survey that the respondents whose annual income level less than Rs. 30000 they were adopted vermicompost production less (20%) than others. The finding is in line with the results reported by Anonymous [13-15]. It was found from the study [Table-2] that majority of respondent participated in vermicompost training land holding size were Up to 100 decimal (59.00%) followed by 100 to 200 decimal (23.00%) but in case of adoption it was shown that farmers land holding size > 200 decimal were adopted highest (100%) in vermicompost production followed by land holding size 100 to 200 decimal (91.30%). It was also found from the survey that farmers land holding size up to 100 decimal were less adopted (69.49%) in vermicompost production than others. The finding is in line with the results reported by Anonymous [11, 12].

It was found from the investigation [Table-3] that overall percentage of the adoption of vermicompost production was 80%. The findings are in line with the results reported by Anonymous [1-4].

Table-3 *Adoption percentage of vermicompost production*

n=100

Sl. No.	Total number of respondent adopted of vermicompost production	Total number of respondent participated in vermicompost training	Adoption percentage
1.	80.00	100	80.00

Conclusion

It can be concluded from the investigation that male farmer were more interested to cultivate vermicompost than female farmer. It may be due to their more involvement in agriculture practices then female farmer. It was shown from the investigation that majority of the farmer adopted vermicompost production belong to the 25 yrs to 35 yrs age group followed by 18 yrs to <25 yrs age group. It may due to that this age range of respondent was basically involved in agriculture production. It was found from the study that majority of the farmer adopted vermicompost production belong to GEN category followed by SC and OBC

category. It may due to that General category farmers were more aware to produce vermicompost. It was found from the investigation that majority percentage of farmer adopted vermicompost production were high school pass. It was also observed that graduate and above pass category farmer adopted vermicompost production higher than middle school pass category farmer. It may due to that educated farmers were more aware on vermicompost production and they were more concern on sustainable environment. It was found from the survey that after training 100% percentages of the respondent adopted vermicompost production belong to annual income level Rs. 2,00,001 to Rs. 3,00,000 and above closely followed by annual income level Rs. 1,00,001-2,00,000. It may due to that high income category farmers were easily purchased vermin from market. It was also found from the survey that farmers land holding size > 200 decimal were adopted highest in vermicompost production followed by land holding size 100 to 200 decimal. It may due to that demand of vermicompost was high in case of large land holding size category farmers then other land holding category farmers. It was found from the investigation that the overall percentage of the adoption of vermicompost production was 80%. It may be due to low cost and easy way of vermicompost production shown by Cooch Behar Krishi Vigyan Kendra.

Conflict of Interest: None declared

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