CONSTRAINTS AND SUGGESTIONS OF VERMICOMPOST TECHNOLOGY AMONGTHE TRIBAL BENEFICIARIES OF NAIP- III IN BANASKANTHA DISTRICT OF GUJARAT

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ABSTRACT

Vermicomposting is the term given to the process of conversion of biodegradable matter by earthworms into vermicast. Vermicompost supplies a suitable mineral balance, improve nutrient availability could act as complex fertilizer granules. Vermicompost may also bring about a greater decrease in bio available heavy metals than in the composting process and there is evidence that the final product may contain hormone like compounds which accelerate plant growth. This study was undertaken in one district viz., Bansakantha, of North Gujarat state. The district was purposively selected for the study being the more number of vermicompost making framers under NAIP-III. For selection of taluka, villages and respondents, three stage random sampling technique with purposive selection was employed. All beneficiaries' farmers of vermicompost farmers were selected from each village.

Keywords : *vermicompost, tribal, beneficiaries*

INTRODUCTION

Increased usage of chemical fertilizers without adequate organic recycling has not only aggravated multi-nutrient deficiencies in soil plant system but also deteriorated soil health and created environment pollution. Moreover, chemical fertilizers are becoming costlier input in agriculture because of increasing oil prices as well as raw materials prices. Therefore, it is right time to evaluate the feasibility and efficiency of organic manures but also increasing the efficiency of chemical fertilizers. Organic Farming is giving back to the nature what is taken from it. It is not mere non-chemical in agriculture, it is a system of farming based on integral relationship. Therefore, one should know the relationship among soil, water, plant and micro flora and overall relationship between plant and animal kingdom. It is the totality of these relationships, which is the backbone of the organic Farming, (Funtilana 1990). The basic concepts behind vermicompost is to: It concentrates on building up the biological fertility of the soil so that the crops take the nutrients they need from the steady turnover within the soil nutrients produced in this way and are released in harmony with the needs of the plants. In Banaskantha district many rural poor live in the less favoured, marginal or more complex environments. A long – term social, political and environmental stability requires that due attention should be given to Banaskantha district. Sustainability of the farming systems and natural resource management in the less favorable environments in Banaskantha district. The efforts were done in one of the ICAR funded project namely "Livelihood security of tribal dominated are' as through sustainability of farming system & natural resources under National Agriculture Innovation Projects component - III. Therefore, it is necessary to conduct impact study of adoption of vermicompost practices among the tribal beneficiaries of NAIP-III. With this ideology in view, an attempt has been made to study the adoption of vermicompost practices among the tribal beneficiaries of NAIP-III in the adopted villages with the following objectives.

OBJECTIVES

(a) Constraints faced by the tribal beneficiaries in adoption of vermicompost practices.

(b) To seek the suggestions to overcome the constraints experienced by the tribal beneficiaries in adoption of vermicompost practices.

METHODOLGY

The present study was conducted in two talukas viz,. Danta & Amirgadh of Banaskantha district, Gujarat because this district was under jurisdiction of the project NAIP - III. These two talukas were selected purposively. Three villages were selected purposively from each taluka. Total 120 beneficiaries were selected purposively because they have been given vermicompost units by the NAIP –III project. Ex - post- facto research design (Kerlinger (1976) was used for this study. The data were collected through personal interview with the help of pre–tested structured schedule. The data collected were tabulated and statistical tools like frequency, percentage and correlation coefficient were used for logical conclusion.

RESULTS AND DISCUSSION

Constraints faced by the respondents in adoption of vermicompost practices

In spite of active and sincere efforts of NAIP, farmers groups and government the application of vermicompost has not received desired attention yet. One of the reasons for this can be attributed to constraints at the end users level.

Table 1: Constraints faced by the respondents in adoption vermicompost technology n=120

Sr. No.	Constraints	Number	Per cent	Rank
A	**Technical**			
1	Lack of information regarding vermicompost farming	29	24.17	VI
2	Lack of crop specific scientific recommendations	62	51.67	II
3	Lack of marketing information	65	54.67	I
4	Lack of knowledge about certification	60	50.00	III
5	Difficult to control disease, pest and weeds	48	40.00	IV
6	Difficultly in maintenance of cattle	22	18.33	VII
7	Long transition period	36	30.00	V
8	Inadequate availability of organic inputs	20	16.67	VIII
B	**Institutional**			
1	Difficult to convince family member	20	16.67	V
2	No Govt. subsidies for vermicompost farming	25	20.83	VIII
3	Lack of consumer awareness	72	60.00	II
4	Lack of assured marketing network	81	67.50	I
5	Inadequate certification agencies	42	35.00	VI
6	Process of certification is cumbersome & time consuming	30	25.00	VII
7	Lack of Govt. support for training	60	50.00	III
8	Difficult to maintain farming records	45	37.50	IV
C	**Economic**			
1	Less yield in initial years	54	45.00	III
2	Require high investment during conversion period	15	12.50	VI
3	High labour requirement	39	32.50	V
4	No price premium in local market	65	54.17	I
5	High certification charges	62	57.67	II
6	Costlier vermicompost inputs	18	15.00	VIII
7	Need frequent training	25	20.83	IV
8	Time consuming practices	27	22.50	VII
D	**Situational**			
1	Small holding	18	15.00	V
2	Fragmented holding	46	38.33	III
3	Difficult to meet vermicompost standard in our condition	55	45.83	I
4	Lack of faith of consumers in vermicompost products	45	37.50	II
5	Inadequate transport facility	21	17.50	IV
6	Negative attitude of neighboring farmers	09	07.50	VI

(A) Technical constraints

The data presented in Table 1 reveal that lack of marketing information (54.67 per cent) was the main constraint ranked first followed by lack of crop specific scientific recommendations (51.67 per cent), lack of knowledge about certification (50.00 per cent) and difficult to control disease, pest and weeds (40.00 per cent) and were

ranked second, third and fourth respectively as reported more than 50.00 per cent vermicompost farmers. The other constraints were; long transition period (30.00 per cent), lack of information regarding vermicompost farming (24.17 per cent), difficulty in maintaining cattle (18.33 per cent) and inadequate availability of organic inputs (16.67 per cent) and were ranked fifth, sixth, seventh and eighth respectively.

These findings were supported by the findings of those Laxmi Devi (2004).

(B) Institutional constraints

Regarding institutional constraints among vermicompost farmers, lack of assured marketing network (67.50per cent), lack of consumer awareness (60.00 per cent), lack of Govt. support for training (50.00per cent) and difficult to maintain farm records (37.50 per cent) were important constraints and ranked first, second, third and fourth respectively. Other constraints recorded were; inadequate certification agencies (35.00 per cent), certification process is cumbersome and time consuming (25.00 per cent), no government subsidy (20.83 per cent) for vermicompost farming and difficult to convince family members (16.67 per cent) in order of their importance.

(C) Economic constraints

With respect to economic constraints, no premium price available in local market (54.17 per cent) was ranked first followed by high certification charges (51.67 per cent) and less yield in initial years (45.00 per cent), which were ranked second and third respectively. Other constraints reported by vermicompost farmers were, high labour requirement (32.50 per cent), time consuming vermicompost practices (22.50 per cent), need frequent training (20.83 per cent), costlier organic inputs (20.00 per cent) and require more investment during conversion period (72.50 per cent) as their order of importance.

These findings are in conformity with the findings of Berns (2003) and Laxmi Devi (2004).

(D) Situational constraints

Among the situational constraints, difficult to meet vermicompost standards (45.83 per cent) lack of faith of consumer in vermicompost products (37.50 per cent) and fragmented holding (38.33 per cent)and were found as the major common constraints and were ranked first, second and third by the vermicompost farmers respectively. Other constraints reported were; small holding (15.00 per cent), inadequate transport facility (17.50 per cent) and negative attitude of neighbouring farmers (07.50 per cent) which were ranked as their order of importance.

Therefore, it is of prime importance that NAIP, development departments, progressive vermicompost farmers and others who are engaged in promoting vermicompost farming should work out economics of vermicompost farming in various crops to remove the doubts of conventional farmers. That may attract them to adopt organic farming. Moreover the state agricultural universities and research institutions should develop location specific and crop based scientific vermicompost farming practices.

Suggetsions to overcome the onstraints in adoption of vermicompost farming

An effort was also made to collect the valuable suggestions of the vermicompost farmers for promotion of vermicompost farming. The respondents were asked open-end question to enlist their suggestions. The information regarding suggestions offered by the farmers are presented in Table 2.

The information depicted in Table 2 indicate that most valuable suggestions expressed by (99.17 per cent) farmers was to launch vermicompost farming campaign for creating public awareness, followed by government support is must for promotion of vermicompost farming (98.33 per cent), separate market places for vermicompost product be notified (60.00 per cent), sound marketing network should be established (56.66 per cent), consumer awareness programmes should be organized by NAIP and farmers groups (54.44 per cent), documentation of methods and collection of seeds of traditional varieties (52.22 per cent) were the important suggestions as reported by more than 50.00 per cent of the farmers. Other suggestions viz., Successful vermicompost farms be identified and designated for farmers training to other farmers, subsidy during conversion period should be provided, quality bio-pesticide and bio-fertilizers should be made available, local certification bodies should be framed by farmers groups and NAIP, each farmer should practice vermicompost farming at least in a small area were the suggestions offered by more than 20.00 per cent but less than half of the farmers. The suggestions given by less number of farmers were; ban on hazardous pesticide use, extension filed workers should be trained in vermicompost aspects, and motivational tours should be organized by respective departments. On the basis of above findings, it can be

Table 2: Distribution of the respondents according to suggestions offered by them **n = 120**

Sr. No.	Suggestions	Number	Percent	Rank
1	Vermicompost farming campaign should be launched for public awareness	119	99.17	I
2	Government support is must for promotion of vermicompost farming	118	98.33	II
3	Separate vermicompost products market place be notified	108	90.00	III
4	Sound marketing network should be established	102	85.00	IV
5	Consumer awareness programme should be organized by NGOs and farmers groups	98	81.67	V
6	Documentation of methods and seeds of traditional varieties should be collected	94	78.33	VI
7	Research on vermicompost farming should be taken urgently	90	75.00	VII
8	Successful vermicompost farms be identified and designated for farmers training	72	60.00	VIII
9	Subsidy during conversion period should be provided	60	50.00	IX
10	Quality bio-pesticide and bio-fertilizers should be made available	54	45.00	X
11	Local certification bodies should be framed by farmers groups and NGOs	42	35.00	XI
12	Each farmer should practice vermicompost farming at least in a small area	36	30.00	XII
13	Ban on hazardous pesticide use	20	16.67	XIII
14	Extension filed workers should be trained in organic aspects	18	15.00	XIV
15	Motivational tours should be organized by respective departments	12	10.00	XV

concluded that wide spread public awareness, government support, notified market places for vermicompost products, sound marketing network and consumer awareness programmes are needed with the intervention of government, NAIP and farmers groups.

CONCLUSION

From the above research study, it can be concluded after putting together the overall picture of the constrains & suggestions analysis, vermicompost farmers were facing difficulties in marketing, certification, consumer support and lack of premium price, low yield, difficult to meet vermicompost standards, lack of sound research and development in vermicompost farming, lack of government support for training and extension work regarding vermicompost farming. Therefore, it is of prime importance that NAIP, development departments, progressive vermicompost farmers and others who are engaged in promoting vermicompost farming should work out economics of vermicompost farming in various crops to remove the doubts of conventional farmers. That may attract them to adopt organic farming. Moreover the state agricultural universities and research institutions should develop location specific and crop based scientific vermicompost farming practices.

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Received : July 2017 : Accepted : October 2017