ASSESSMENT OF CONSTRAINTS FACED BY RURAL WOMEN OF ASSAM IN ADOPTION OF TECHNOLOGY

ABSTRACT

The present study was conducted to explore the level of adoption of technology by rural women and constraints faced by them in technology adoption. Three vocational trainings namely 'Food processing and preservation', 'Mushroom cultivation' and 'Vermicompost production' were selected to study the constraints faced by the respondents in adopting the technologies learnt in the vocational trainings conducted by the Krishi Vigyan Kendras(KVKs). The study reveals that 69.33 per cent respondents belonged to medium socio economic category. Respondents of 'Food processing and preservation' training belonged to medium level of adoption, followed by low level (21.67%), whereas among the trainees of Mushroom production and Vermicompost production, highest percentage belonged to low level of adoption. Data on constraints faced by the respondents in adoption of technologies reveals that highest percentage of respondents faced medium level of constraints. 'Lack of financial resource for starting a new venture' was reported as a major constraint with mean score 1.33 by the rural women. Regarding the vocation specific constraints, 'Raw materials not available round the year' and 'Do not have adequate knowledge about registration and licensing', Preservatives and packaging materials not easily available' were some of the major constraints of food processing and preservation reported by the trainees. 'Seasonal nature of income from mushroom production' and 'disease attack and insect infestation', 'Shelf life is very short' were the constraints reported by the mushroom production trainee. Not getting sufficient earthworm in local area and Marketing is not smooth were the highly reported constraints of the participants of vermicompost production training.

Keywords: Vocational training, rural women, constraints, technology adoption

1. INTRODUCTION

At national and international level different conventions and commissions had recommended for equal opportunities of women for skill development, equal remuneration, employment, career and vocational guidance as means of empowering them. Women dedicate a large volume of their time and labour for household as well as for income generating activities and this demands women farmers' access to resources like technology and credit etc. With enhanced access to technology women can perform their jobs efficiently. Women empowered with technology may create success story in different areas of life. The Merriam-Webster dictionary reveals technology as the practical application of knowledge especially in a particular area. It may be defined as the entities, both material and immaterial, created by the application of mental and physical effort in order to achieve some value. While 'social technologies' are geared towards improving the living conditions of the households and communities by improving the household environment like sanitation, water management, biogas plant etc., the 'productive technologies' are directed towards income generation and include, particularly agricultural machinery, food processing, Mushroom production etc. Vocational trainings by the Krishi Vigyan Kendras (KVKs) are intended to impart productive technologies which are basically targeted to empower the participants for starting income generating activities. If appropriately adopted, such technology can increase the productivity or work efficiency of the participants and enable them to use the available resources efficiently. KVK has one of the mandates is to organize short and long-term vocational training courses in agriculture and allied vocations for the farmers, farm women and rural youths with emphasis on learning by doing for higher production on farms and generating self-employment. While fulfilling this mandate, the KVKs being a part of large extension system in India can contribute in certain dimensions of women empowerment. Through the vocational trainings, KVKs impart need based and hands on training on different technologies. Such hands on training can ultimately enable the participants in accessing, adopting and utilizing the technology which may reap benefit in various ways. Once the technology is transferred, it is expected that it is utilized by the recipients. However, the adoption of the technology largely depends on different factors in their own situation. It is observed that people participate in different extension activities, exhibit their interest for technology adoption but due to

some factors ultimately technology adoption does not take place. Exploring the reasons and working on them can establish an enabling environment for accelerating the technology adoption. The central point of this study is to explore the constraints faced by the rural women in technology adoption. Such study may help planners and policy makers in reframing the policies related to adoption of technology by rearranging if need arises.

2. MATERIAL AND METHODS

A list of KVKs functioning under administrative control of Assam Agricultural University, Jorhat was prepared. Considering the participation of women in vocational training programmes, three areas of vocational trainings *viz.,*'Food processing and preservation', 'Mushroom Cultivation' and 'Vermicompost production' were selected based on the objective and duration of the vocational training. Six KVKS were selected for the study. A list of rural women who participated in the selected vocational trainings conducted by the selected KVKs was prepared. From the prepared list ten respondents from each of the selected vocational training were selected using simple random sampling method. Sixty respondents were selected from the vocational training on 'Food processing and preservation', 50 from 'Mushroom production' and 40 respondents were selected from 'Vermicompost production' training. Thus sample size for the study was 150.

Adoption for the present study refers to the decision of the respondents to practice the technology which was learnt during the selected vocational trainings. The response categories were 'Complete adoption', 'partial adoption' and 'no adoption' and assigned scores 2, 1 and 0. Based on the obtained scores, respondents were categorized as Low, medium and high level of adoption. For the present study, 'Status of adoption' is operationally defined as the involvement of women in income generating activities after receiving vocational training i.e. whether the respondents had started the enterprise, still in perceived adoption stage, continuing it or discontinued. In the present study 'constraints' of the respondents were asked in terms of their economic constraints, socio-cultural constraints, personal constraints, Managerial constraints, psychological constraints, fund mobilization constraints, technical constraints and vocation specific constraints with four response categories i.e. 'regular', sometimes', 'rarely' and 'never' and assigned scores 3, 2, 1 and 0, respectively. Based on the mean and SD of the obtained scores, respondents were categorized as below.

List 1: Category of respondents

Category	Score
Low	Below($\bar{X}$-SD)
Medium	$\bar{X}$-Sd to $\bar{X}$+SD
High	Above ($\bar{X}$+SD)

Further, on the basis of the obtained scores by each problem statements, ranking of problem was done as I, II, III etc. In addition, in order to get an in-depth understanding of vocation specific problems, these problems were ranked separately for each

3. RESULTS AND DISCUSSION

3.1 <u>Socio economic status of respondents</u>: It is observed from the Table 1 that 69.33 per cent respondents belonged to medium socio economic category, followed by high with 18.00 per cent. The socio-economic status of participants from the selected training programmes was analysed and presented in Table 2. The data shows that highest percentage respondents from all the training programmes belonged to medium socio economic category, with percentage 60.00, 72.00 and 70.00 for 'Food processing and preservation', 'Mushroom cultivation' and 'Vermicompost production' respectively. Twenty per cent respondents from food processing and preservation training belonged to high socio economic category, where as the corresponding percentage for Mushroom Production and Vermicompost production were 16.00 and 12.50 per cent respectively.

Table 1. Distribution of respondents according to Socio-economic status N=150

Category	Frequency	Percentage	
			Mean:44.81
Low	19	12.67	SD:11.17
Medium	104	69.33	
High	27	18.00	

It may be interpreted that in Food processing and preservation training, participants are either from better off families than the other two trainings or this is newly acquired status after the training. Apparently, adoption of food processing and preservation as an enterprise requires more capital investment and inputs than the other two vocations. This may be one of the major factors of comparatively large percentage respondents of food processing training falling in high and medium socio economic category.

Table 2. Distribution of participant respondents according to their Socio economic Status

Category	Food Processing and preservation N_1=60		Mushroom cultivation N_2=50		Vermicompost production N_3=40	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	12	20.00	6	12.00	7	17.50
Medium	36	60.00	36	72.00	28	70.00
High	12	20.00	8	16.00	5	12.50
	Mean: 48.97		Mean: 42.57		Mean: 41.39	
	SD: 10.60		SD: 10.79		SD: 10.76	

3.2 Adoption of Technology

Table 3 reveals that among the participants of 'Food processing and preservation' highest percentage (66.67%) fall in medium level of adoption, followed by low level (21.67%), whereas among the participants of Mushroom production and Vermicompost production, highest percentage belonged to low level of adoption with percentage 46.00 and 45.00 respectively.

The large percentage of medium level of adoption among Food processing and preservation may be because of the fact that many rural women traditionally practice pickle making at household level with their inherited knowledge and after participating in the training they might adopted some scientific practices along with their existing practice. However in case of Mushroom production and Vermicompost production both are completely new technology for them and they needed some new arrangements and different types of raw materials and inputs which they might not have ever used before. Santhi *et al[1].* (2013) conducted one study in Kanchipuram district of Tamilnadu among 300 respondents and found that 86.00 per cent respondents adopted fruits and vegetables preservation technology including dehydration of fruits and vegetables, and preparation of jam, jelly, pickle, tutty-fruity.

Singh *et al.* (2010)[2] in their study revealed regarding status of adoption that the proportion of the beekeeping trainees adopting enterprise was 63.00 per cent whereas mushroom cultivation was adopted by 43.00 per cent trainees.

Table 3. Distribution of respondents according to level of adoption of technology

Level of Adoption	Food Processing and preservation n=60		Mushroom cultivation n=50		Vermicompost production n=40	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	13	21.67	23	46.00	18	45.00
Medium	40	66.67	21	42.00	17	42.50
High	7	11.67	6	12.00	5	12.50

3.2.1 Status of adoption of the learnt technology

Table 4 reflects how the respondents had utilized the technology they learnt in the trainings. From the data it is observed that a considerable percentage i.e. 54.67 per cent respondents had started utilizing the technology for income generation whereas 23.33 per cent respondents had never practised or utilized the skill they learnt in the vocational trainings. Twenty two per cent respondents produced for household consumption and two per cent discontinued due to different factors. Almost equal percentage participant respondents from all the three vocations i.e. 55.00 per cent, 54.00 per cent and 55.00 per cent from Food processing and preservation, Mushroom production and Vermicompost production respectively adopted the technology for income generation. In a study conducted by Onwurafor and Enwelu (2013)[3] found that out of 300 trained women only 99 women started micro enterprises and rest of them utilized the products for their personal consumption which showed only a third of them enter in to the venture of marketing of the products.

Table 4. Distribution of participant respondents according to status of adoption of the technology

Status of adoption	Food processing and preservation N_1=60		Mushroom production N_2=50		Vermicompost production N_3=40		Total N=150	
	F	P	F	P	F	P	F	P
Not yet started unit	11	18.33	16	32.00	8	20.00	35	23.33
Started only for household-consumption	13	21.67	7	14.00	10	25.00	33	22.00
Adopted for income generation, but discontinued	3	5.00	0	0.00		0.00	3	2.00
Adopted the technology for income generation	33	55.00	27	54.00	22	55.00	82	54.67

F: Frequency P: Percentage

3.2.2 Status of registration of the enterprize: The respondents who had started production were asked about their status of registration of the unit and data is presented in table 5. Data shows that a large percentage of respondents (78.26%) had not registered their enterprize whereas 15.65 per cent had registered enterprize for Food Safety and Standard Authority of India (FSSAI). It may be because of their lack of knowledge regarding the need and process of doing the registration.

Table 5. Distribution of respondents according to the status of registration of the enterprize

Status of registration	Food processing and preservation N_1= 49		Mushroom cultivation N2=34		Vermicompost production N3=32		Total N=115	
	F	P	F	P	F	P	F	P
No registration	28	57.14	31	91.18	31	96.88	90	78.26
FSSAI Registration	18	36.73		0.00		0.00	18	15.65
Registration with DICC	2	4.08	2	5.88		0.00	4	3.48
Both FSSAI & DICC registration	1	2.04	1	2.94	1	3.13	3	2.61

3.3 Constraints faced by the respondents in adoption of technology

Fig. 1 depicts the level of constraint of the respondents and it shows that highest percentage (62.67 %) respondents faced medium level of constraint followed by low level (20.00%) and high level (17.33%) of constraints.

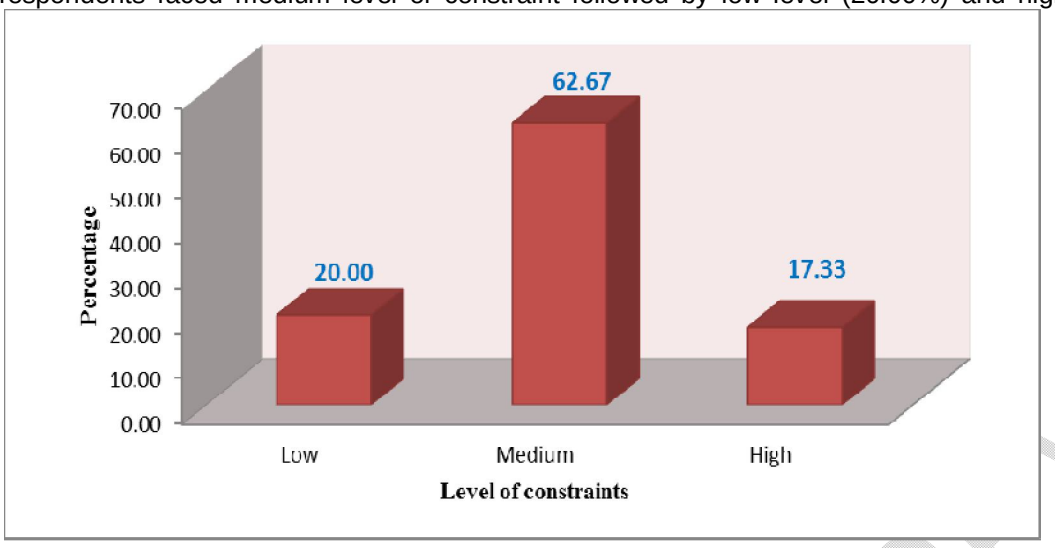

FIG.1 Distribution of respondents according to level of constraints

Data presented in the Table 6 reflects that a majority (75.00 %) of Vermicompost production trainee faced medium level of constraints while 68.00 per cent Mushroom production and 63.33 per cent of Food processing and preservation trainee belonged to this category. High level of constraint was faced by 22.00 per cent Mushroom production trainee, while 20.00 per cent and 18.33 per cent of Vermicompost production and Food processing and preservation trainee fall in this level. However, wide variation is observed in mean and standard deviation among all the three vocations with highest mean among Food processing and preservation trainees reflecting higher level of constraints faced by this group.

Table 6. Distribution of respondents of different vocations according to level of constraints

Level of constraint	Food processing and preservation N_1 =60		Mushroom production N_2 =50		Vermicompost production N_3 =40	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	10	16.67	5	10.00	2	5.00
Medium	39	65.00	34	68.00	30	75.00
High	11	18.33	11	22.00	8	20.00
	Mean: 32.87 SD: 14.86		Mean: 26.46 SD: 10.11		Mean: 19.87 SD: 15.59	

3.3.1 Ranking of constraints faced by the respondents

According to the mean score of each statement, constraints were ranked. 'Lack of financial resources for starting a new venture' occupied as rank I constraint with mean score 1.33 (Table 7), 'shortage of time' ranked II with mean score 1.15. 'Inadequate space to carry out the activity' with mean score 1.05 ranked III ,'high cost of machineries and equipment', 'do not have a proper marketing channel', 'poor connectivity to market' are some of the other constraints with mean score 0.70, 0.68, 0.67 occupying the ranks IV, V and VI respectively. The problems related to marketing channel and connectivity to market shows that the respondents experienced difficulty in selling of produce which may affect production as marketing is one of the key factors that move production.

Table 7.Ranking of constraints faced by the respondents in technology adoption

Sl. No	Constraints	Mean Score	Rank
1	Lack of financial resource for starting a new venture	1.33	I
2	Shortage of time	1.15	II
3	Inadequate space to carry out the activity	1.05	III
4	High cost of Machineries and equipment	0.70	IV
5	Do not have a proper marketing channel	0.68	V
6	Poor connectivity to market	0.67	VI
7	Apprehension about profit	0.61	VII
8	Apprehension about the market demand	0.55	VIII
9	High operational cost	0.47	IX
10	Lack of knowledge about promotional techniques	0.39	X
11	Lack of knowledge about price fixation	0.36	XI
12	Poor road condition	0.34	XII
13	Negative attitude of society towards women's free movement	0.30	XII
14	Poor health condition	0.29	XIV
15	Low level of education	0.29	XV
16	Lack of knowledge about packaging	0.26	XVI
17	Lack of confidence	0.25	XVII
18	Lack of determination	0.23	XVIII
19	Lack of motivation	0.20	XIX
20	Insufficient amount of loan to carry out the enterprize	0.20	XX

Similar findings were reported by Choudhary *et. al* (2011)[4] where it was observed that lack of contact with extension workers, lack of marketing facilities and lack of information about source of loan and subsidy were faced by the respondents. Lack of capital to start work and high rate of inputs were some of the problems mentioned by the respondents. Sheheli (2012) [5] also reported similar findings. In her study on improving livelihood of rural women through income generating activities in Bangladesh found that the 'Insufficient money' was the most crucial, followed by 'lack of appropriate activity for income generation','inadequate homestead land and inadequate training facilities','smaller number of credit sources, 'high prices and less availability of input', 'lack of marketing channels', 'poor transport facilities' were the major constraints faced by the respondents. Dayya (2015)[6] too in her study reveals that more than 90.00 per cent respondents did not adopt any enterprise due to lack of support by the family members. Other reasons for non-adoption were 'lack of money for purchasing raw materials like seeds, land and machine' and 'lack of technical skills'. Around 87.00 per cent respondents were apprehensive about difficulty to sale products in the market and get good returns due to increase in competition, 86.36 per cent respondents 'lack of time' as reason, 81.82 per cent expressed 'non- availability of

raw material' and 80.30 per cent 'lack of knowledge' 27.23 per cent had limited space for storage and manufacturing. However, Umrikar and Tiwari (2022)[7] assessed the problems faced by farm women while adopting technologies and reported that women had the problem of technology 'not available in market' 'ignorant about technology' ' habit of using traditional practice' 'non availability of devices' 'costly for adoption'..

3.3.2 Vocation Specific constraints: Food processing and preservation

'Raw materials not available round the year' was the rank I constraint faced by the respondents with mean score 1.20 by the Food processing and preservation trainees. 'Do not have adequate knowledge about registration and licencing' ranked II with mean score 0.93. It was found reported by Bora and Deka (2021)[8] reported that knowledge on Registration and licencing of product & enterprize ranked IX with mean score 0.43. 'Preservatives and packaging materials not easily available' 'Machineries and equipment required for production is not easily available' ranked III and IV respectively with mean score 0.82 and 0.75.(Table 8)

Table 8. Constraints faced by the respondents in Food processing and preservation

Sl. No.	Constraints in Food processing and preservation	Mean Score	Rank
1	Raw materials not available round the year	1.20	I
2	Do not have adequate knowledge about registration and licensing	0.93	II
3	Preservatives and packaging materials not easily available	0.82	III
4	Machineries and equipment required for production is not easily available	0.75	IV
5	Process of registration and licensing is not smooth	0.72	V
6	The finished product cannot compete with the available company products	0.72	V
7	High cost of raw materials	0.72	V
8	Lack of knowledge about new machinery	0.57	VI
9	Shop keepers do not prefer local products	0.48	VII

3.3.3 Vocation Specific constraints: Mushroom production

Table 9 reflects that 'income from mushroom production is seasonal' was the ranked I constraint with mean score 1.5, 'disease attack and insect infestation' ranked II, 'shelf life is very short' ranked III with mean scores 1.44 and 1.36 respectively. Mushroom is susceptible to different pests and diseases and as expressed by experts, during summer season the problem occurs more frequently. Increased knowledge on management of disease and insect may lessen the problem. Similarly, the perishable nature of mushroom and short shelf life might be related to limited scope for regular marketing of mushroom and lack of infrastructure to keep the harvested mushrooms. Constraints such as 'Poor quality spawn','Unavailability of spawn' were some of the important constraints faced by the respondents with ranks IV and V. In Assam till date no dedicated laboratory is available for mushroom spawn production. As a result the mushroom producers have to depend entirely on supply from outside agencies. It was reported that many a times they receive damaged packets from the large scale producers from whom they purchase the spawns. In addition it was also reported by the respondents that sometimes they had to wait long for mushroom spawns to arrive. These underlying facts might be the reasons why the respondents faced constraints in mushroom production. The findings are in line several previous studies. Santhi *et al.* (2013)[9]reported marketing and economic problems as the major constraints to adopt mushroom cultivation expressed by 90.00 per cent and 82.00 per cent respondents. 'Mushroom cultivation' involves a lot of time for harvesting and compared to other technologies it demands special care during the processing period. This was the reason why mushroom production was adopted only by 58.00 per cent of the women trainees. Singh *et al.*(2010) [10] in their study

revealed that the reasons for discontinuance of mushroom enterprises were 'marketing problem' as mentioned by 87.00 per cent and 'low economic return' by 53.00 per cent. 'Lack of proper expertise in mushroom growing' was mentioned as major reason of non-adoption mentioned by 38.00 per cent respondents. Gautam *et al.* (2014) [11]in their study on constraints in adoption of mushroom production enterprise revealed that 'lack of proper marketing channel was the most important constraint responsible for low rate of adoption. 'distantly located markets', 'lack of government support', 'non availability of quality spawns' & 'risk involve due to perishable nature' were the major obstacles in this process. Shirur and Shivalingegowda (2016)[12] , Singla and Rajni (2016)[13], Muyal and Sharma (2018)[14] and Kumari *et al.* (2018) [15] also reported similar constraints. Sonam (2018) [16] revealed that a large percentage of respondents (98.33%) expressed mushroom growers faced lacks of proper marketing channel. Ninety five per cent respondents expressed that 'exploitation by middle men in marketing of mushroom' is a problem among the mushroom growers. The study reported that among technical constraints 'lapse in moisture level and controlled temperature' and 'require adequate maintenance' were noted as the main technical constraints by the 98.33 and 35.00 per cent of women mushroom growers respectively.

Table 9. Vocation Specific constraints: Mushroom production

Sl. No	Constraints in mushroom production	Mean Score	Rank
1	Income from mushroom production is seasonal	1.50	I
2	Disease attack and insect infestation	1.44	II
3	Shelf life is very short	1.36	III
4	Poor quality spawn	0.64	IV
5	Unavailability of spawn	0.64	V
6	Lack of assured market	0.60	VI
7	Lack of knowledge of post-harvest processing and preservation of mushroom	0.56	VII
8	People do not know about nutrition and health benefits of mushroom	0.42	VIII
9	People have fallacy regarding mushroom consumption	0.30	IX
10	Lack of knowledge about value added products from mushroom	0.24	X

3.3.4 Vocation Specific constraints: Vermicompost production

The data presented in the Table 10 shows that 'marketing is not smooth' ranked I with mean score 0.65. Even constraints of marketing ranked I, the mean score is 0.65, where maximum obtainable score was 2.00. 'Not getting sufficient cowdung in local area' ranked II with mean score 0.38 and 'not getting sufficient earthworm in the local area' ranked III with mean score 0.30. Several other constraints faced by the respondents were "separation of earthworm during harvesting', 'declining of earthworm population in bed' etc. Though the respondents faced problems the mean score are not very high. It reflects that either the respondents were not really facing much constraint or may be because of small quantity of production, they might not have encountered much constraints.

Table 10. Vocation Specific constraints: vermicompost production

Sl. No	Vocation Specific problem	Mean Score	Rank
1	Marketing is not smooth	0.65	I
2	Not getting sufficient earthworm in local area	0.38	II
3	Not getting sufficient cowdung in local area	0.30	III

4	Separation of earthworm during harvesting	0.23	IV
5	Declining of earthworm population in bed	0.20	V
6	Rising of temperature inside the bed	0.13	VI
7	Price of worms is high	0.13	VII
8	Attack from insect in the vermin-bed	0.10	VIII
9	Rising temperature inside the bed	0.08	IX

Ekatpure *et al.* (2011)[17] stated that majority of the women of Maharastra had faced numbers of constraint in the production of vermicompost such as 'preparation of bed', 'mortality due to high temperature', 'lack of time due to house and farm activities', 'difficulties in separation of earthworm', 'pH of mixture', 'lack of proper guidance' and 'earthworm were eaten by birds'. Lavania and Kumar (2014)[18] revealed that problem of non-availability of worms at nearby places was expressed by 63.33 per cent respondents whereas 53.33 per cent respondents mentioned lack of knowledge about methods and preparation of vermicompost as a problem. Not receiving uniform response to vermicompost and shooting temperature in summer especially in the month of April to June was reported as problem by 50.00 per cent and 40.00 per cent of the respondents respectively. Lack of reinforcement, lack of interest and lack of finance was reported by 27.33, 23.33 and 20.00 per cent respectively.

It may be summerised that the respondents faced medium to high level of constraints in adopting the technology. Major constraints are related to resources such as capital, time and space. Further, the findings also show vocation specific constraints encountered by the respondents. It was found that highest percentage respondents faced medium level of constraint followed by low level and high level of constraint in adoption of technology.A large majority (75.00%) of Vermicompost production trainee faced medium level of constraints while 68.00 per cent Mushroom production and 63.33 per cent of Food processing and preservation trainee belonged to this category. Vocation Specific constraints reflects that in 'Food processing and preservation ''Raw materials not available round the year' was the rank I constraint faced by the respondents while 'do not have adequate knowledge about registration and licencing' ranked II. In case of Mushroom production 'Income from mushroom production is seasonal' ranked I constraint while 'disease attack and insect infestation' occupied as ranked II constraint. In vermicompost production, 'marketing is not smooth' ranked I constraints while 'not getting sufficient cow dung in local area' ranked II.

.

4. CONCLUSION

Studying the constraints faced by the rural women in adoption of technology reflected dearth of resources along with different vocation specific constraints. It may be concluded that such issues demand need for creating better situation by mitigating the complexities and thereby creating an enabling environment for adoption of technology and for their sustainability. Based on the findings of the present study it is necessary to adopt certain measures for increasing the level of adoption of technology. The following recommendations may be put forwarded from the present study:

Training modules should be designed covering all aspects such as, project formulation, cost calculation, licensing and registration, list of funding agencies and marketing including different marketing applications. Special sessions on loan policy of different financial institutions should be arranged along with the vocational trainings. The participants of food processing and preservation should be motivated for large scale plantation of High Yielding Variety vegetable and fruit crops which give round the year production in order to get continuous flow of raw materials. In those areas where there is already abundant production of required fruits and vegetables, the owner of such units may be linked to the fruits and vegetables producers. Establishment of spawn production laboratory by the Government of Assam in order to meet the demand for quality mushroom spawn in time which is presently procured from outside the state. High perishability of mushroom was reported as problem, which may affect marketing and production of the commodity. KVKs should identify mushroom adopters and should train them on post-harvest processing and value added products either in KVKs or in some other suitable training institutes.

REFERENCES

1 & 9- Santhi, P.; Sathyavathimuthu and Bhuvaneswari, K.. Employment generating technology transfer by KrishiVigyan Kendra as a means for empowering rural women. American International Journal of Research in Science, Technology, Engineering & Mathematics. 2013;**2**(2): 213-219.

2 &10- Singh, K.; Peshin, R. and Kaur, S.S.. Evaluation of the agricultural vocational training programmes conducted by the KrishiVigyanKendras (Farm Science Centres). Indian Punjab Journal of Agriculture and Rural Development in the Tropics and Subtropics. 2010;**111**(2): 65-77.

3- Onwurafor, E.U. and Enwelu, I.A. Rural Women Entrepreneurship in Agro-Food Processing In Enugu State, Nigeria. International Journal of Research In Applied, Natural And Social Sciences. 2013;**1**(2):13-30.

4- Choudhary, K.; Khare, N.K. and Pande, A.K. Impact of vocational training program conducted by KrishiVigyanKendra on rural women for income and employment generation. Abstract, National Seminar, Jawaharlal Nehru Krishi Vishwavidyalaya , Jabalpur. 2011

5- Sheheli, S. Improving Livelihood of Rural Women through Income Generating Activities in Bangladesh. Dissertation, Landwirtschaftlich-Gärtnerischen Fakultät der Humboldt-Universitätzu Berlin. 2012

6- Dayya, P. Adoption of Entrepreneurial Activities Promoted by Selected NGOs Among Rural Women. Unpublished Thesis, MaharanaPratap University of Agriculture and Technology, Udaipur (Rajasthan). 2015

7- Umrikar, S. H. and Tiwari, Rekha . Constraints faced by rural women in adoption of new technologies. Internat. J. agric. Sci., 2022;18 (1): 392-395, DOI:10.15740/HAS/IJAS/18.1/392-395

8- Bora, M and Deka, M. B. Impact of Food Processing and Preservation Trainon Knowledge, Attitude, Practice and Level of Empowerment of Rural Women. Indian Research Journal of Extension Education. 2021;21(4):99-105

11- Gautam, A.K.; Singh, P.; Mishra, D.; Kumar, A. and Singh, A. P. Constraints in Adoption of Mushroom Production Enterprise. Indian Journal of Extension Education. 2014;**50**(1&2): 39-41.

12- Shirur, M. and Shivalingegowda, N. Technological adoption and constraint analysis of mushroom entrepreneurship in Karnataka. Economic Affairs.*2016;***61**(3): 427-436.

13- Singla, R. and Goel, R. Impact of mushroom cultivation on socio-economic conditions of rural women of Patiala, Punjab. International Journal of Farm Sciences. 2016;**6**(2): 251-254.

14- Muyal, A. and Sharma, G. Constraints faced by small, medium and large farmers in mushroom cultivation. Agric. Update, 2018;**13**(4): 477-479.

15- Kumari, S.; Akhtar, N.M. and Kumar, S.. Role of Krishi Vigyan Kendra in women empowerment through mushroom production technology. Journal of Agricultural & Environmental Research. 2018;**1**(1): 1-5.

16- Sonam. Sustainability of Women Mushroom Growers and Its Impact on their Livelihood. Unpublished Thesis, Dr. Rajendra PrasadCentral Agricultural University, Pusa, Samastipur. 2018 http://krishikosh.egranth. ac.in/ handle /1/ 5810082938

17- Ekatpure, M.S.; Bodake, D.H. and Antwal, N.P. Study of the participation of Farm Women in Production of vermicompost, Maharastra. Hind Agricultural and Training Institute. 2011;**6**(1): 14-16.

18- Lavania, P. and Kumar, D. Knowledge and Attitude of Farmers Towards Vermi Compost Technology. The Indian Journal ofExtension Education and Rural Development. 2014;**22**: 56-59.

DEFINITIONS, ACRONYMS, ABBREVIATIONS

DICC-District Industries and Commerce Centre
F: Frequency P: Percentage
SD-Standard Deviation