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Cultivating sustainability by knowing the perception of women farmers towards organic farming: A study of Uttarakhand

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Abstract

The challenges for present and future are global warming, food security, natural resources and individual's health and fitness. World is facing number of health problems after the pandemic situation because of low immunity therefore they are moving towards totally organic food products to maintain health. In India also, COVID-19 has accelerated the demand for organic foods and an exponential increase in organic consumers. Thus, present study was conducted in Betalghaat block of Nainital district of Uttarakhand. A total of 160 rural women farmers were surveyed from four villages which were selected by using simple random sampling method. Data was collected by using a semi structured interview schedule which was further analyzed by using SPSS software. Findings of study revealed that majority of women belonged to middle age category and no one was illiterate as well as majority were having good access to social media. More than half women farmers had favorable perception towards organic farming and they showed high need of training related to manure production, vermicompost etc. Age and training requirement had a strong correlation followed by family income and training need. Additionally, there was a significant correlation ($r=0.189$; $p=0.0016$) between respondents' perceptions and the requirement for training. Therefore the study was focused on the needs of women farmers to attain food security and to improve the livelihood in hills.

Keywords: Organic farming, women farmers, training need, perception

1. Introduction

According to the report of FiBL and IFOAM (2022), in Asia, the total land of organic farming was more than 6.1 million hectares. The leading countries are India (2.7 million hectares) and China (over 2.4 million hectares) and there are nearly two million producers in Asia, most of them are belonged to India. After the Covid-19 outbreak, purchasing behavior of people globally has been changing and they are demanding fresh nutrient rich and chemical free food because they realized the importance and health benefits of organically grown food. Moreover, all over the world policies and rules are formulated to reduce the green house gases effects, global warming and soil pollution by promoting organic agriculture. Improving agricultural production is one of the cornerstones to economic success especially in India where the most of population relies over agriculture. To ensure the sustainability, NGOs and GOs has taken various initiatives such as Parampragat Krishi, Agri-clinic and Agri-business Scheme, Krishi Vikas Yojana, Skill training for rural youth, Rural godown yojana and Krishi sinchai yojana etc to provide support services to all stakeholders and to build capacity through trainings in agri related aspects. Although, use of herbicides and pesticides raises the agricultural output quickly but at the same time it's excessive and frequent use deteriorated the soil health and natural resources as well. Farmers of conventional farming are dealing with a variety of issues and they require sustainable solutions. Due to the concerns over the trend of deteriorating natural resource

quality and the presence of toxins in the food, individuals are increasingly looking for products with traceability, nutritional foods without chemical residue, and environmental safety. Therefore, majority of governments and agribusiness organizations worldwide pushed to adapt "organic agriculture" to maintain the environment, health, and sustainability (Pandey and Singh, 2012) ^[1]. Organic farming basically deals with the use of organic manure, vermi-compost, bio-fertilizers etc to improve soil qualities, ground water table, reduce health risks and achieve closed nutrient cycles. It provides a distinctive combination of cheap external inputs and technology, environmental protection, and input-output efficiency which is regarded as the best feasible solution and intriguing choice for sustainable agriculture in underdeveloped nations.

In India, Uttarakhand is one of the leading states for organic farming where traditional integrated crop and livestock production is the norm, and due to this the environment is comparatively unpolluted. The state also has a significant number of certified organic farmers who are promoted to grow organic crops. The importance of women in agriculture has been recognized more and more throughout the years because of their active participation in all activities of agricultural field like from field preparation to post-harvest activities, as well as other related activities like managing dairy cattle, raising poultry, caring for goats or sheep, etc. From last some years, male population is migrating to the plains in search of employment and for education then

women are the one who take care of both the family and the property including farm related activities. Thus, in Uttarakhand, women are considered as the backbone of agriculture therefore there is a high need to empower them and improve their capacity. Meanwhile, to increase the profitability, farm women must have timely access and exposure to agricultural techniques and women should be trained in organic farming techniques after recognizing their needs and problems. Hence, the present study was conceptualized to find out the needs of rural hill farm women in Uttarakhand state and their perception over organic cultivation.

2. Objectives

Keeping in view the above discussion the present study was undertaken with the following objectives:

1. To study the socio-economic, communication characteristics of women farmers
2. To know the perception of women farmers towards organic farming
3. To assess the training needs of women farmers related to organic farming
4. To study the relationship between personal characteristics of farm women and training needs

3. Literature review

For high use of agricultural technologies, it was suggested that the identified needs be taken into account when designing the farmers training programme such as weed control, enhanced variety, input availability, transplanting methods, seed rate and seed sowing pattern (Purushottam and Rao, 2008) [3]. Training in small-scale preservation, processing, value addition, and rural craft are also in high demand as means of producing income and employment for rural women. Farmers are now more interested in learning modern agricultural practices like integrated farming, water management, fodder production, and soil and water conservation. To raise the production and maintain the economy it is important to train our farmers about off season cultivation and nursery management (Neerja and Sanjay, 2010). Similarly, farmers need trainings on preparing the vermicompost, organic manures, bio fertilizers, dairy farming, quality seed and planting material production techniques reported by Sajeev and Singha (2010) [6], Sharma and Singh (2016) [5] and Das and Kumar (2018). Women farmers in India perform many roles from sowing of seed to harvesting and packaging of items. Hence, their empowerment is very important for food and nutritional security by providing training to them on the basis of their need like nutria-garden, value addition techniques, pest and disease control techniques as well as storage and marketing techniques etc. (Idiku, 2019) [8].

4. Research methodology

The study was conducted in Uttarakhand state of India. There are 13 districts, which are grouped into two divisions namely Kumaon and Garhwal. Among these, Nainital district of Kumaon region was selected purposively from which Betalghaat block was selected for the study which is situated at the bank of Kosi River and recognized as organic block and also famous for organic Basmati Rice cultivation. Further, four villages, namely Tiwarigaon, Chuni, Amel and

Naugher were selected randomly from Betalghaat block. A total of 160 women farmers from four villages (40 women from each village) were surveyed randomly through semi-structured interview schedule. The data was organized and analyzed by using suitable statistical measures. To see the relationship with training need of farmer some profile characteristics were selected and following hypothesis were formulated:

H₀₁- There is no relationship of age, family income and land holding of women farmers with training needs.

H₀₂- There is no relationship between the perception and training needs of women farmers.

5. Results of study

5.1 Profile characteristics of respondents

The result of the socio-economic characteristics of the respondents (Table 1) revealed that maximum number of women fall under middle age category i.e. 25-35 years followed by young and old category. Majority of women farmer were married and had medium family income. Moreover, no one was illiterate as they were having some educational qualification. Maximum number of women farmer reported that they had 25-30 nali cultivating land, majority were using smart phone for accessing the information and majority of women had more exposure towards You tube (98.12%) followed by whatsapp, facebook and instagram.

Table 1: Socio-economic and informational characteristics of women farmers (n=160)

Age	Percentage
Young (<25 years)	37.5
Middle (25-35 years)	43.12
Old (>35years)	19.38
Marital Status	
Married	65.63
Unmarried	27.5
Divorced	1.87
Widowed	5.00
Education	
Primary	19.37
Secondary	33.12
High school	15.62
Intermediate	19.37
Graduation	6.87
Post-graduation	3.75
Land holding (20 nali = 1 Acre)	
<15 nali	8.75
15-25 nali	23.12
25-35nali	36.25
>35 nali	31.88
Family monthly income	
Low (<30,000/-)	8.12
Medium (30,000-60,000/-)	67.5
High (>60,000/-)	24.38
Media ownership	
Television	100
Smart phone	98.12
Laptop	5.62
Social media exposure	
WhatsApp	95
Facebook	58.75
Instagram	47.5
You tube	98.12
Messenger	20.00

5.2 Perception of women farmer towards organic farming

Data regarding women's perception towards organic farming has been presented in figure-1 which reveals that majority (60%) of women farmers showed positive highly favorable perception towards organic farming followed by 36 percent were having favorable perception and only 4 percent showed least favorable perception towards organic farming.

The findings highlighted that majority of women farmers were in favor that organic farming increases their crop yield, soil health as well as ensures the good health of grower. In addition, they also perceived that organic products are nutritious, disease free and have better shelf life. More than half (51.25%) were not in favor with that organic farming does not encourage large scale farming as well as not ensures clean environment and safe food.

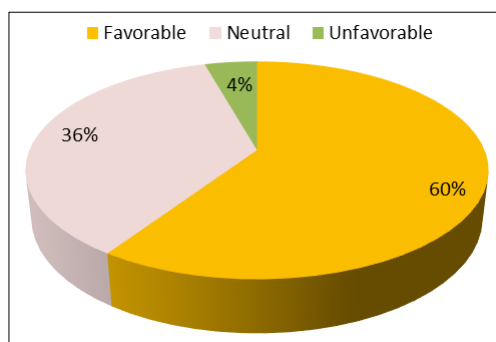


Fig 1: Overall perception of women farmers towards organic farming (n=160)

Thus, it can be interpreted that women farmers had high media exposure, access over information, literate and are already cultivating organic crops so that they are more aware about the bio-fertilizer and organic farming practices. It might be also due to the high market demand of organic products.

5.3 Training needs perceived by women farmer on organic farming

Findings from table 3 indicated that they showed high need of training in organic manure production (Mean score= 2.88 and Rank 1st) and vermi-compost production (Mean score=2.80 and rank 2nd). Third and forth rank was given to

soil cultivation practices, quality seed production and nursery management practices with mean score 2.74 and 2.68 respectively.

Table 3: Distribution of women farmers according to their training needs on organic farming (n=160)

Sr. No.	Areas of Training	Mean score	Rank
1	Organic manure production	2.88	1
2	Vermicompost	2.80	2
3	Nursery management (seed rate, fertilizers doses required, bed preparation etc)	2.68	4
4	Organic fertilizers/ bio-fertilizers production	2.60	5
5	Packaging and marketing of products	2.12	8
6	High quality seed production	2.75	3
7	Weed and pest management	2.60	5
8	Mulching and green manure practices	2.45	6
9	Inter-cropping management	2.31	7
10	Soil cultivation practices	2.75	3

Further, table shows that women farmers also reflected need of training related to weed and pest management related practices and production of bio-fertilizers (mean score=2.60 and rank 5th) followed by mulching and green manure practices (mean score=2.45, rank=6) and inter-cropping management practices (mean score=2.31, rank=7). Packaging and marketing of the products was less demanding need by women farmer.

Thus it might be interpreted that women farmers had positive perception towards organic farming and they had some knowledge related to positive effects of organic food items and also might be to raise their livelihood by incorporating other activities like selling of compost, earthworm, fertilizers etc.

5.4 Relationship of selected characteristics of women farmer with the training need

The findings of table 4 revealed that age of women farmers had highly significant relationship with the training need followed by land holding and perception had significant relationship at 0.05 level of significance. Further, table indicates that income of family and training need had positive relationship with each other.

Table 4: Relationship of age, income and perception of women farmer with training need

Sr. No.	Variables	Karl Pearson's correlation r-value	p-value
1	Age	0.238**	0.0031
2	Income	0.128	0.106
3	Land Holding	0.169*	0.032
4	Perception	0.189*	0.016

(** highly significant at 0.01 and * significant at 0.05 level)

Thus, it can be said that young women were more interested in receiving trainings related to organic farming practices. As per the findings majority of women had positive perception and they need a sustainable livelihood by improving their farming practices therefore they perceived high need for training. Moreover, it might be due to that they possessed

good land holding for main crops like rice and vegetables so if they will be received training on quality seeds production and healthy practices like organic manure, bio-fertilizers etc. ultimately their production will raise and income will increase.

Appendix: Perception of women farmers towards organic farming

Statements	Highly Agree	Agree	Neutral	Disagree	Highly Disagree
1. Organic farming increases crop yields than conventional farming					
2. Organic farming is more capital intensive					
3. Organic products are more nutritious than conventional produce					
4. Organic produce are more resistant to pest & diseases than conventional produce					
5. Organic crop production ensures good health of growers than conventional production					
6. Organic products reduces health risk among consumers					
7. Organic farming pollutes ground water and environment					
8. Organically produced crops are not toxic free					
9. Organic farming does not ensure safe food and clean environment					
10. Organic farming practices reduces soil erosion and increases soil health					
11. Nutrient uptake is slow in Organic farming					
12. Organic production encourages sustainability					
13. Organic agricultural products have longer shelf life					
14. Organic farming products increases farmers' income					
15. Organic fertilizers are enough to increase the production					
16. Organic farming does not encourage large scale farming/commercial system					

Conclusion

Food security, healthy ecosystems, management of land, water and other natural resources are important for sustainable agricultural development. In order to make it sustainable, there is a need to disseminate farm related practices at ground level and make them informed about new technologies, policies, subsidies and trainings conducted by NGOs, NTIs, SAUs, ATMA, KVKs etc. Initiatives should be taken to make rural people informed about new farm technologies and also to promote their ITK through ICTs. From present study also it was found that farm women were more interested in learning organic farming techniques (with low investment and high gain) and had positive perception. Although, they had lack of skills and knowledge about the production and application of organic manure at their fields but they were somewhat aware about the farming practices. Thus, the findings should be considered in designing the training programmes according to their needs. Almost all women farmers had smart-phones and having high exposure towards media use therefore it will be helpful for training institutions to develop an application (software) related to organic crop cultivation which will be easy to make them informed about new practices and to answer their queries immediately.

References

- Pandey J, Singh A. Opportunities and constraints in organic farming: an Indian perspective. *J Sci Res.* 2012;56:47-72.
- Sharma N, Arora RK, Kher S. KVK trainings for the farmers in hilly areas of Poonch District: identifying need of the hour. *J Hill Agric.* 2010;1(2):140-145.
- Purushottam, Rao DUM, Kumar Shailesh. Training needs of mid hill farmers in Uttarakhand. *J Community Mobil Sustain Dev.* 2008;3(2):116-119.
- Dash D, Kumar B. Vocational training needs of rural youth in agriculture for self-employment in Udham Singh Nagar of Uttarakhand. *Indian J Ext Educ.* 2018;54(4):91-97.
- Sharma A, Singh AK. Information needs of farm women for efficient farming in Uttarakhand. *J Agri Search.* 2016;3(2):122-126.
- Sajeev MV, Singha AK. Capacity building through

KVKs: training needs analysis of farmers of Arunachal Pradesh. *Indian Res J Ext Educ.* 2010;10(1):83-90.

- Chandra N, Sharma N, Joshi P, Dabas JPS. Uplifting farming in Rohtak District of Haryana State: training needs assessment. *J Community Mobil Sustain Dev.* 2022;17(1):215-220.
- Idiku FO. Training needs of women vegetable farmers in the University of Calabar Farm, Nigeria. *Direct Res J Agric Food Sci.* 2019;7(6):137-140.