



## Attitude of the women farmers towards organic farming of Nilphamari district in Bangladesh

Md. Golam Sarwar, Md. Abu Sayed Mondol, Pallab Goswami<sup>ID</sup>\* and Saiful Huda

Received 30 April 2022, Revised 20 June 2022, Accepted 25 June 2022, Published online 30 June 2022

### ABSTRACT

The key objective of the study was to determine the extent of attitude of the women farmers towards organic farming. The study was conducted in two union of Nilphamari Sadar upazila such as Lakshmi Chap and Palashbari under Nilphamari district. Total 100 women farmers were selected from the study area as the population and random sample techniques was used to comprised of 80 constituted the sample of the study. Data were collected by a pre-tested interview schedule during 25 April to 25 May 2020. Simple and direct questions with different scales were used to obtain information. Attitude of the women farmers towards organic farming was measured by Likert scale. Descriptive statistics, multiple regression was used for analysis. Slightly above three-fifths (63.7 percent) of the women farmers had moderately favorable attitude towards organic farming while 21.3 percent slightly favorable attitude and 15.0 percent of women farmers under highly favorable attitude towards organic farming. It is noticed that the majority (85.0 percent) of the women farmers showed slightly favorable to moderately favorable attitude towards organic farming. Educational qualification, training experience, and access to extension contact of the respondents had significant positive contribution with their attitude towards organic farming. The most important problem (77.50 percent) faced by the women farmers was "higher amount of insect pest and diseases". The foremost (67.50 percent) suggestion offered by the women farmers was "Developing organic pesticide company through private and government initiatives".

**Keywords:** Attitude, Farmers, Organic farming, Problems

Department of Agricultural Extension, Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200, Bangladesh

\*Corresponding author's email: [pallab.hstu.ag@gmail.com](mailto:pallab.hstu.ag@gmail.com) (Pallab Goswami)

Cite this article as: Sarwar, M.G., Mondol, M.A.S., Goswami, P. and Huda, S. 2022. Attitude of the women farmers towards organic farming of Nilphamari district in Bangladesh. *Int. J. Agril. Res. Innov. Tech.* 12(1): 174-181. <https://doi.org/10.3329/ijarit.v12i1.61049>

## Introduction

Agriculture is the building block and major food supplier of a country. In the world where the amount of people is grown up quickly in the last 50 years, agriculture shows a momentous role. With green revolution, where agriculture became deeply commercialized and chemicals were introduced, agriculture made a terrific progression in terms of proficiency and effectiveness. In the last 40 years, agricultural production doubled even though cropland area has boosted only by 12.0 percent (Rana *et al.*, 2017). By 2050, world food need is predictable to double in comparison with the levels of 20th century (Tilman *et al.*, 2002). It is feeding all and employing many though typical agricultures causes number of difficulties like diminution of natural sources, environmental ruin and effects on human health (Mader *et al.*, 2002; Carter, 2002). There are replacements for conventional

agriculture. One of which is organic agriculture which lowers negative impacts of agriculture and suggests price premium for the cultivators (Levin, 2009; Ullah *et al.*, 2011). Organic Farming is a holistic or combined agricultural production system described by the high inputs of capital, organic fertilizers, labor or labor-saving technologies such as pesticides relative to land space (Goswami *et al.*, 2021). It is in distinction with extensive farming, which includes a low input of materials and labor with the crop yield mostly depending on the naturally accessible soil fertility, water supply or other land properties. Now-a-days, intensive crop-based agriculture, involving the use of mechanical ploughing, chemical fertilizers, herbicides, fungicides, insecticides, plant growth regulators and/or pesticides. Agricultural mechanization also raises with its association (Patidar, 2015).

The Food and Agriculture Organization of the United Nations has defined sustainable development as the managing and maintenance of natural resources to meet the demands of present and the future generations while preserving land, water and genetic diversity of flora and fauna (FAO, 1999). Sustainable agriculture is based on the environmentally sound, appropriate, reasonably feasible and socially appropriate farming principles and practices. Organic agriculture is one of the most valuable areas of sustainable agriculture (SPAR, 2012). According to Hartmann *et al.* (2012), organic agriculture is a production management system that supports the sustainability of agricultural ecologies and makes sure the production of safe healthy foods. Al-Rudaiman (2004) views organic agriculture as an agricultural food production system that preserves the environment, boosts the natural capability of the soil, defends the flora and fauna and acts as the foundation for producing good quality food important for health.

Organic farming is one such technology that can lessen the harmful impacts of agro-chemicals and is considered by many scientists to be the best form of agriculture in terms of maximizing cost-effectiveness and minimizing pollution (Christian *et al.*, 2005). Confirming food security for the massive population for sustained organic agricultural production within the present scenario of decreasing soil fertility, reducing yields, enhanced and excessive usage of inorganic fertilizers and pesticides has become a serious challenge for Bangladesh. Before the presentation of chemicals, Bangladesh agriculture was completely dependent on the organic sources of fertilizers (animal manure, crop residues and domestic wastes) to fertile the land. In 1960s, with the introduction of green revolution, to follow earlier agricultural policy to meet the requirement of food for rising population, some farmers began to apply chemical fertilizers. Some of them used both chemical and organic fertilizers and some of them did not adopt chemicals fertilizers due to conservativeness or lack of infrastructural facility (Hossain, 2001).

Considering the scarcity of land and the continued growth of population, there is no option but to maintain intensifying agricultural production in Bangladesh. Research is instantly needed to ascertain the magnitude and careful nature of problems including warnings to the health of farmers and their families, pollution of water-bodies and pesticide residues on food and to improve proper solutions. The goals of the organic farming are primarily to protect environmental and agricultural means bases on further deprivation and to make certain long-term sustainability in agricultural system. Based on the above discussion, this study was intended

to explore the following objectives: i) to determine the extent of attitude of the women farmers towards organic farming; ii) to describe the selected characteristics of the women farmers; iii) to explore the contributions of the selected characteristics of the women farmers on their attitude towards organic farming; and iv) to identify the problems faced by women farmers during organic farming practices and their probable suggestions to overcome those problems.

## Methodology

### *Locale of the study*

The study was performed in two union of Nilphamari Sadar upazila namely Lakshmi Chap and Palashbari under Nilphamari district. The key employment of the ranchers agricultural and few people are service holders and businessmen. The geographical location of the research area in between 25°48' and 26°03' north latitudes and in between 88°44' and 88°59' east longitudes. It is surrounded by domar and jaldhaka upazilas on the north, saidpur upazila on the south, kishoreganj (Nilphamari) and Jaldhaka upazilas on the east, khansama and debiganj upazilas on the west.

### *Population and sample*

The women farmers who are getting support from Udayankur Seba Sangstha (USS) of Lakshmi Chap and Palashbari union of Nilphamari sadar upazila was the population of the study. An updated list of 100 farmers was collected from Udayankur Seba Sangstha (USS) office record who practice organic farming. Considering the study is intending to have statistically significant and comparable set of results for the study areas, to make a respective sample from the population following formula was used as developed by Kothari (2004). By using this formula, 80 farmers were selected by proportionate random sampling from two union. Beside this, a reserved list of 8 farmers (about 10 percent) was prepared who were supposed to be interviewed only when a respondent in the original sample list was unavailable during data collection.

$$n = \frac{Z^2 P Q N}{(N - 1)e^2 + Z^2 P Q N}$$

Where,

n= Sample size

Z= 1 the value of the standard normal variable at the chosen (95%) confidence level (1.96)

P= Probability (assume 0.5)

Q = Remaining from probability (1-P)

N = Total population

e = the level of precision (5%)

### Research instrument

A well-structured interview schedule was prepared keeping the objectives in mind to gather relevant data for the research, which contained both closed and open form of questions. A draft interview schedule was ready in advance before using the same for collection of data. The draft schedule was pre-tested with 10 farmers selected from the study area. This pre-test enabled the researcher to detect faulty questions in the draft schedule and necessary alterations, adding and conversion was made later in the schedule based on the pre-test results.

### Measurement of variables

In this study attitude of the women farmers towards organic farming was the independent variable. Attitude of the women farmers towards organic farming was measured by Likert scale, a scale mentioned by Likert (1932). Twenty statements on six dimensions of organic farming were asked to the respondents. The respondents were asked to indicate for each of the statement whether they strongly agree, agree, undecided, disagree and strongly disagree with a corresponding score of 5, 4, 3, 2 and 1, respectively. The score of attitudes of the women farmers towards organic farming were computed by summing his responses to all the items. Hence, scores of the respondents could range from 20 to 100. 20 indicating highly unfavorable attitude and 100 highly favorable attitudes of organic farming. Beside this, Rank Order (RO) was done by calculating Attitude Index (AI). The following formula would be followed to calculate AI:

$$\text{Attitude Index (AI)} = F_{SA} \times 5 + F_A \times 4 + F_{UD} \times 3 + F_D \times 2 + F_{SDA} \times 1$$

Where,

$F_{SA}$ = Frequency of respondents mentioned 'strongly agreed'

$F_A$ = Frequency of respondents mentioned 'agreed'

$F_{UD}$ = Frequency of respondents mentioned 'undecided'

$F_D$ = Frequency of respondents mentioned 'disagreed'

$F_{SDA}$ = Frequency of respondents mentioned 'strongly disagreed'

Where, the Attitude Index (AI) value could range from 80 to 400. This means that 80 initially less favorable and 400 indicated high attitude. The eight characteristics of the respondents namely age, educational qualification, farm holding, organic farming experience, annual income, training experience, cosmopolitaness and access to extension contact constituted the independent variables of this study. The independent were measured by proper measurement procedures.

### Data processing and analysis

First, the collected data were coded, concise and managed for analysis. All probable errors and contradictions were eliminated for authentication of the data. Then the collected data were analyzed with computer-based software - SPSS (Statistical Package for Social Sciences) version 22, tables and graphs were ready with MS Excel (Microsoft Excel 2010).

## Results and Discussion

### Attitude of the women farmers towards organic farming

Data presented in Figure 1 indicated that slightly above three-fifths (63.7 percent) of the women farmers had moderately favorable attitude towards organic farming while 21.3 percent slightly favorable attitude and 15.0 percent of women farmers under highly favorable attitude towards organic farming. Chawdhury (2015) and Mohan (2014) support this result. It is found that the majority (85.0 percent) of the women farmers showed slightly favorable to moderately favorable attitude towards organic farming. Adoption of any technology is followed by attitude of the adopters towards it. From the present findings, it can be inferred that the status of organic farming was not satisfactory at least in the study area. This is due to that most of the women farmers had less experiences and short training on organic farming.

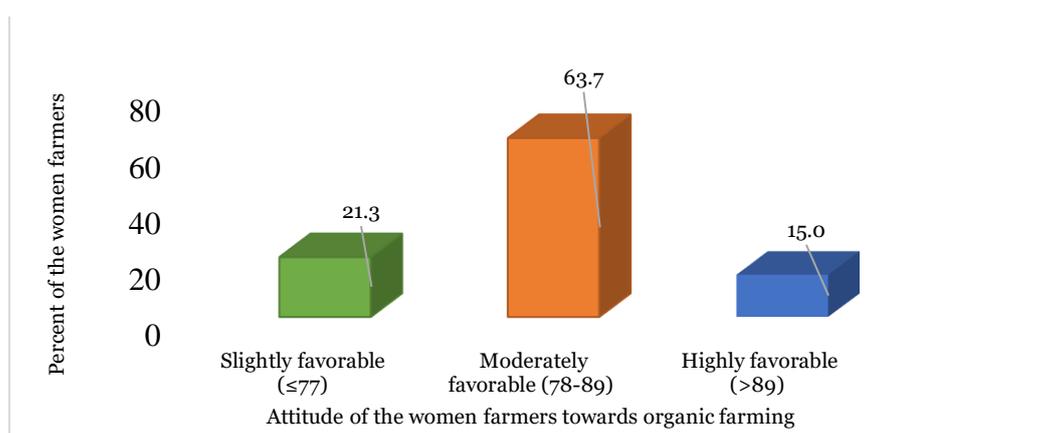


Figure 1. Attitude of the women farmers towards organic farming.

Data contained in Table 1 signifies that the statements such as “Chemical farming damages natural resources next to the farms” ranked first (1) and (AI) of 352. Rapid increase in the use of agro-chemicals is thought to adversely affect the health of farmworkers and others exposed to pesticides and contaminate ground and surface water, harming downstream users of that water and damaging in land fisheries. Organic farming is best alternative for this. “Organic farming brings about improvements in soil features.” had AI value of 351 and ranked 2. Despite the reduced potential of agro-ecosystems, organic farming can contribute to the improvement of physicochemical, chemical and biological properties of soils. “Generally, the production of organic farming products would cost less than that of chemical farming products” had AI value

of 350 and ranked 3. Organic farming products are more available than chemical farming products. Organic cultivation requires organic sources of nutrients, such as compost, cow dung, farmyard manure etc., which come from livestock animals. The statement “Organic farming does not need synthetic pesticide and herbicide application” was the last ranked (20<sup>th</sup>) statement in the attitude index table having AI value of 291. Organic standards are designed to allow the use of naturally occurring substances while prohibiting or strictly limiting synthetic substances. For instance, naturally occurring pesticides such as pyrethrin and rotenone are permitted, while synthetic fertilizers and pesticides are generally prohibited.

Table 1. Rank order of farmers’ attitude towards organic farming.

Sl. No.	Statements	Frequency of the Respondents					AI	RO
		SA	A	UD	DA	SDA		
Knowledge aspects								
1.	Organic farming needs preliminary soil nutrition.	26	53	0	0	1	343	6 <sup>th</sup>
2.	Water resources have to be clean and without any pollutants for organic farming.	23	54	3	0	0	340	7.5 <sup>th</sup>
3.	For organic farming have to utilize quality seeds from valid sources.	22	48	9	1	0	331	14.5 <sup>th</sup>
4.	It is essential to provide the soil with organic fertilizers in organic farming.	29	35	15	1	0	332	12.5 <sup>th</sup>
5.	Organic farming does not need synthetic pesticide and herbicide application.	21	30	9	19	1	291	20 <sup>th</sup>
Environmental aspect								
6.	Organic farming brings about improvements in soil features.	34	43	3	0	0	351	2 <sup>nd</sup>
7.	Organic farming protects natural resources in comparison with chemical farming.	27	50	3	0	0	344	5 <sup>th</sup>
8.	Organic farming gives off toxic gases.	25	44	9	2	0	332	12.5 <sup>th</sup>
9.	Organic fertilizers utilized in the farms do not endanger the farmer’s health.	33	34	13	0	0	340	7.5 <sup>th</sup>
10.	Chemical farming damages natural resources next to the farms.	38	36	6	0	0	352	1 <sup>st</sup>
Marketing aspect								
11.	Consumers are preferring to purchase organic farming products than chemical farming products.	31	47	2	0	0	349	4 <sup>th</sup>
12.	Consumers can buy organic agricultural products readily from the farms.	23	52	4	0	1	335	11 <sup>th</sup>
13.	Government supports the production and marketing of organic farming products more than that of chemical farming products.	24	33	7	15	1	304	19 <sup>th</sup>
14.	Organic farming product marketing is easier than that of chemical farming product marketing.	28	36	10	6	0	326	17.5 <sup>th</sup>
15.	Consumers from both inside and outside the communities like to buy organic products.	28	37	13	2	0	331	14.5 <sup>th</sup>
Cost and benefit aspect								
16.	Generally, the production of organic farming products would cost less than that of chemical farming products.	34	43	2	1	0	350	3 <sup>rd</sup>
17.	Production of organic farming products is more beneficial than chemical farming products.	25	52	1	1	1	338	9 <sup>th</sup>
18.	Organic farming reduces costs by using own organic fertilizers and own family labor.	21	45	13	1	0	326	17.5 <sup>th</sup>
19.	Consumers pay more for organic products.	25	43	7	5	0	328	16 <sup>th</sup>
20.	Producers benefited from organic farming.	27	43	10	0	0	337	10 <sup>th</sup>

SA= Strongly agree, A=Agree, U=Undecided, D=Disagree and SDA= Strongly disagree  
AI= Attitude Index and RO= Rank Order

**Selected characteristics of the women farmers**

Majority (87.5 percent) of the women farmers were young aged. Young people are commonly attracted to new thoughts and ideas. They have a favorable attitude towards attempting new ideas or technologies. Goswami *et al.* (2021) found close findings in their research. Majority (56.3 percent) of the women farmers had secondary education. Goswami *et al.* (2021) and Mandal (2016) found nearby findings in their research. This signifies the real condition of country Bangladesh. Though the education qualification of the women farmers is not satisfactory, education is must for be aware of several aspects of organic farming. Education enhances the power of reflection, analysis, combination, understanding, decision making and alteration to new situation of a human being. Educated women farmers may find practical information beyond reading leaflets, booklets, books and other printed materials. Moreover, they possess need for new and newer knowledge associated to their farming operations. Slightly above four-fifths (82.3 percent) of the respondents had small sized farms. Land is the most vital production component of a women farmer. It is a limited resource in Bangladesh. In countryside Bangladesh, the land size is being steadily reduced due to fragmentation of land amongst the ever-increasing ancestors. The study area was not an exception to this fact. Therefore, most of the women farmers had small farm size. The highest proportion (87.5 percent) of the women farmers had low organic farming experience. This is due to that most of them practice organic farming from few years. Goswami *et al.* (2021)

found close findings in their research. The majority (88.7 percent) of the women farmers had medium income. The result might be due to that the less farm holding and less opportunity of different earning sources of the women farmers. Goswami *et al.* (2021), Rashed (2018), and Mandal (2016) also initiate similar results in their studies. Slightly above three-fifths (65.0 percent) of the women farmers had short training experience. The study revealed that most of the women farmers of that locality stayed engaged in distinct activities of earning and they didn't take proper training on agricultural activities. Slightly above four-fifths (83.8 percent) of the women farmers had low cosmopolitaness. People differ in their traveling behavior. The rural women farmers are not accustomed to visit the areas outside their own upazila but they are used to visit other villages. Thus, their cosmopolitaness became low. The findings are consistent with Goswami *et al.* (2021) and Uddin (2008). Slightly above four-fifths (81.2 percent) of the women farmers had medium access to extension contact. Extension contact is a very operative and effective source of obtaining information about numerous recent production technologies and cultivation practices. The respondents were not well educated, and they could not get information from printed materials like newspaper, leaflet etc. They mainly communicated with their neighbors, relatives, rather than other extension media like Upazila Agriculture Officer, group meeting, demonstration etc. Rashed (2018), Shanto (2011) and Uddin (2008) also observed near outcomes in their studies.

Table 2. Main features and categorization of the women farmers (N=80).

Characteristics	Scoring method	Range Observed (Possible)	Categories	Respondents		Mean	SD
				No.	%		
Age	No. of year	20-45 (Unknown)	Young ( $\leq 35$ )	70	87.5	28.85	5.59
			Middle (36-50)	10	12.5		
			Old ( $> 50$ )	00	0.0		
Educational qualifications	Year of schooling	0.5-15 (Unknown)	Can sign only (0.5)	16	20.0	5.77	3.42
			Primary education (1-5))	17	21.2		
			Secondary (6-10)	45	56.3		
			Above secondary ( $> 10$ )	2	2.5		
Farm holding	Hectare	0.04-3.89 (Unknown)	Marginal ( $< 0.21$ )	6	7.5	0.61	0.54
			Small (0.21-1.0)	66	82.4		
			Medium (1.01-3.0)	7	8.8		
			Large ( $> 3.0$ )	1	1.3		
Organic farming experience	No. of year	2-15 (Unknown)	Low ( $\leq 5$ )	70	87.5	3.80	2.18
			Medium (6-10)	9	11.3		
			High ( $> 10$ )	1	1.3		
Annual income	('000' Tk.)	35.00-782.00 (Unknown)	Low income ( $\leq 63$ )	2	2.5	189.23	125.63
			Medium income (63.01-315)	71	88.7		
			High income ( $> 315$ )	7	8.8		
Training experience	Days	0-15 (Unknown)	No (0)	6	7.5	4.11	2.84
			Short (1-5)	52	65.0		
			Medium (6-10)	19	23.8		
			Long ( $> 10$ )	3	3.8		
Cosmopolitaness	Score	1-8 (0-18)	Low ( $\leq 6$ )	67	83.8	4.68	1.78
			Medium (7-12)	13	16.3		
			High ( $> 12$ )	00	0.0		
Access to extension contact	Score	5-26 (0-30)	Low ( $\leq 10$ )	13	16.3	13.61	3.41
			Medium (11-20)	65	81.2		
			High ( $> 20$ )	2	2.5		

### **Contribution of the selected characteristics of the respondents on their attitude towards organic farming**

Table 3 shows that educational qualification, training experience and access to extension contact of the respondents had significant positive contribution with their attitude towards organic farming. Of these, educational qualification and training experience were the most important contributing factors (significant at the 1% level) and access to extension contact of the respondents were less important contributing factors (significant at 5% level). Coefficients of other selected variables do not have any contribution on their attitude towards organic farming. In this area, women farmers had good communication among them. Therefore, their contact with extension workers was less frequent.

The value of  $R^2$  is a measure of how the variability in the dependent variable is accounted by the independent variables. So, the value of  $R^2 = 0.403$  means that independent variables account for 40.3 percent of the variation with their attitude towards organic farming. The F ratio is 5.98 which is highly significant ( $p < 0$ ). However, each predictor may explain some of the variance in respondents their attitude towards organic farming simply by chance. The adjusted  $R^2$  value penalizes the addition of extraneous predictors in the model, but value of 0.336 is still show that variance is farmer's attitude towards organic farming and can be attributed to the

predictor variables rather than by chance (Table 3). In summary, the models suggest that the respective authority should be considers the women farmers educational qualification, training experience, and access to extension contact on their attitude towards organic farming.

Based on the study finding, it can be said that women farmers had more educational qualification increased women farmers' attitude towards organic farming. Education plays an important role to gain more attitude towards organic farming in many cases. Education enhances knowledge on many aspects such as training, extension contact and so on. Women farmers had more training experience increased their attitude towards organic farming. Therefore, high training experience significantly contributed to the women farmers' attitude towards organic farming. Training helps women farmers to gather more knowledge on organic farming practices, which ultimately helps them gather more knowledge. Women farmers had more access to extension contact increased their attitude towards organic farming. Therefore, access to extension contact has high significantly contributed to the women farmers' attitude towards organic farming. Extension contacts increase women farmers' knowledge about various aspects which helps them make more attitude on organic farming.

Table 3. Multiple regression coefficients of the contributing variables related to attitude towards organic farming.

Dependent variable	Independent Variable	$\beta$	P	$R^2$	Adj. $R^2$	F
Attitude of the women farmers towards organic farming,	Age	0.169	0.117	0.403	0.336	5.98
	Educational qualification	0.344	0.004**			
	Farm holding	-0.177	0.163			
	Organic farming experience	-0.032	0.747			
	Annual income	-0.130	0.176			
	Training experience	0.396	0.002**			
	Cosmopolitaness	-0.063	0.514			
	Access to extension contact	0.275	0.022*			

\*\* Significant at  $p < 0.01$ ; \*Significant at  $p < 0.05$

### **Problems and Suggestions**

The women farmers identified eight major problems in practicing organic farming (Table 4). The most important problem (77.50 percent) cited by the farmers was "higher amount of insect pest and diseases". This may be a problem when surrounding crop fields are treated with chemical pesticides. Another important problem was the "initial low yield" from organic farming, and it was ranked in the second position (66.25 percent) cited by the women farmers. The land has been degraded due to excessive use of

fertilizers and another agrochemical as well as for mono-cropping. Therefore, crop yield may be lower through organic cultivation than that of through traditional fertilizer and agrochemical-based farming system. The last two perceived problem mentioned by the women farmer was 'Lack of employing labor and time in organic cultivation' (30.00 percent) and "Lack of market facilities" (36.25 percent). This might be due to high demand and shortage of expert labour.

Table 4. Rank order of problems faced by the women farmers in practicing organic farming.

Problems	No. of citation	Percent	Rank order
Higher number of insect pests and diseases	62	77.50	1 <sup>st</sup>
Initial low yield	53	66.25	2 <sup>nd</sup>
Lack of training and knowledge	45	56.25	3 <sup>rd</sup>
Low communication with extension workers	44	55.00	4 <sup>th</sup>
Lack of personal interest	37	46.25	5 <sup>th</sup>
Organic farming is more labor intensive	33	41.25	6 <sup>th</sup>
Lack of market facilities	29	36.25	7 <sup>th</sup>
Lack of employing labor and time in organic cultivation	24	30.00	8 <sup>th</sup>

Eight suggestions were offered by the women farmers to overcome the problems in practicing organic farming. It is noted from the data in Table 5 that the foremost (67.50 percent) suggestion cited by the women farmers was “Developing organic pesticide company through private and government initiatives”. Chemical pesticides are more effective way to control insect and pest. But it is harmful for our environment. Effective organic pesticide is important alternative for this.

“Arranging need based effective training program on organic cultivation” was the second most

important (57.50 percent) suggestion offered by the women farmers. This implies that more will be the training more will be information collected by the women farmers. Training programmes are more helpful in enhancing organic farm knowledge to them. “Providing campaign for organic farming through national printed and electronic media” (32.50 percent) was suggested by the women farmers as the last suggestion. The result might be due to that they need more knowledge on organic farming.

Table 5. Rank order of suggestions offered by the farmers to overcome the problems in practicing organic farming.

Suggestions	No. of citation	Percent	Rank order
Developing organic pesticide company through private and government initiatives	54	67.50	1 <sup>st</sup>
Arranging need based effective training program on organic cultivation	46	57.50	2 <sup>nd</sup>
Advising the farmers effectively by the extension workers about replenishment of soils through organic means	42	52.50	3 <sup>rd</sup>
Providing sufficient extension services for motivating the farmers in organic cultivation practices	35	43.75	4 <sup>th</sup>
Improving credit facilities with low interest for the farmers	31	38.75	5 <sup>th</sup>
Initiating government support for land tenure system for the farmers	29	36.25	6 <sup>th</sup>
Improve market facilities	28	35.00	7 <sup>th</sup>
Providing campaign for organic farming through national printed and electronic media	26	32.50	8 <sup>th</sup>

## Conclusions

Slightly above three-fifth (63.70 percent) of the farmers had moderately favorable attitude towards organic farming. The result might be due to that majority of the women farmers had less organic farming experience and short training experiences. It may be concluded that the practice of organic farming will not be possible to improve to a significant extent unless the concerned authorities (relevant GOs and NGOs) take proper steps to improve women farmers' attitude towards organic farming. Educational qualification of the respondents had significant positive contribution with their attitude towards organic farming. It may be concluded that

education of the study area would give positive attitude towards the innovative agricultural technologies and help extension providers to demonstrate, disseminate, train and motivate women farmers to adopt appropriate technologies. Training experience of the respondents had significant positive contribution with their attitude towards organic farming. Training experience helps the respondents in more practice on organic farming. Therefore, it can be concluded that more the training on farming by the respondents, higher would be the attitude towards organic farming. Access to extension contact of the respondents had significant positive contribution with their attitude towards organic farming. So, there is a

need to take initiative to improve the extension contact of the farmers with various organizations for increasing the practice of organic farming. The most important problem (77.50 percent) cited by the women farmers was “Higher amount of insect pest and diseases”. They did not know well how to prepare or collect organic insecticide and pesticide. The foremost (67.50 percent) suggestion cited by the women farmers was “Developing organic pesticide company through private and government initiatives”.

### Acknowledgements

The author deeply acknowledges the support and heartfelt aid of the concerned personnel of Udayankur Seba Sangstha (USS) and women farmers in the study area.

### References

- Al-Rudaiman, K.B.N. 2004. Introduction to organic agriculture. *Agril. J.* 35(2).
- Carter, M.R. 2002. Soil quality for sustainable land management: Organic matter and aggregation interactions that maintain soil functions. *Agron. J.* 94: 38–47. <https://doi.org/10.2134/agronj2002.3800>
- Chawdhury, S.K. 2015. Farmers attitude towards pariza rice cultivation in Nilphamari district. M.S. Thesis. Department of Agricultural Extension, Hajee Mohammad Danes science and Technology University, Dinajpur.
- Christian, R.V., Kilcher L. and Schmidt, H. 2005. Are standards and regulations of organic framing moving away from small farmers' knowledge? *J. Sust. Agric.* 26(1): 5-26. [https://doi.org/10.1300/J064v26n01\\_03](https://doi.org/10.1300/J064v26n01_03)
- FAO. 1999. Netherlands conference on agriculture and environment. The Food and Agriculture Organization of the United Nations, Rome. <http://www.fao.org/sd/epdirect/epre0023.htm>.
- Goswami, P., Noman, M.R.A.F. and Huda, S. 2021. Women farmers' knowledge and practices on organic farming. *Res. Agric. Livest. Fish.* 8(1): 41-50. <https://doi.org/10.3329/ralf.v8i1.53266>
- Hartmann, M., Saad, K., Bernet, T., Ruhl, F. and Al Ghamdi, A. 2012. Organic agriculture in Saudi Arabia. Report jointly published by GIZ /MoA Organic Farming Project.
- Hossain, M.Z. 2001. Farmer's view on soil organic matter depletion and its management in Bangladesh. *Nutrient Cycling in Agro ecosystems* 61: 197–204. <https://doi.org/10.1023/a:1013376922354>
- Kothari, C.R. 2004. Research methodology: Methods and techniques. 2<sup>nd</sup> Edition, New Age International Publishers, New Delhi.
- Levin, S.A. 2009. The Princeton guide to ecology. Princeton, NJ: Princeton University Press, New Jersey, USA.
- Likert, R. 1932. A technique for the measurement of attitudes. *Archives of Psychology*, No. 140.
- Mader. P., Fliebach, A., Dubois, D., Gunst, L., Fried, P. and Niggli, U. 2002. Soil fertility and biodiversity in organic farming. *Science* 296: 1694–1697. <https://www.science.org/doi/10.1126/science.1071148>
- Mandal, S. 2016. Farmer' knowledge, attitude, and practice regarding watermelon cultivation. M.S. (AEIS) Thesis, Department of Agricultural Extension and Information System, Sher-E-Bangla Agricultural University, Dhaka.
- Mohan, D.J. 2014. Attitude of farmers towards organic vegetable cultivation. 9(3):364-367. <https://doi.org/10.15740/HAS/AU/9.3/364-367>
- Patidar, S.A. 2015. Study of perception of farmers towards organic farming. *Int. J. Appl. Innov. Eng. Manage.* 4(3): 269-277.
- Rana, S., Hasan, M.H., Alam, M.S. and Islam, M.S. 2017. Farmer attitude towards organic vegetable cultivation in Rangunia Upazila, Chittagong, Bangladesh. *J. Biosci. Agric. Res.* 14(01): 1151-1156. <https://doi.org/10.18801/jbar.140117.141>
- Rashed, M.A.R. 2018. Use of best management practices (BMPS) by the farmers of Savar Upazila of Bangladesh. M.S. (AEIS) Thesis, Department of Agricultural Extension and Information System, Sher- E-Bangla Agricultural University, Dhaka.
- Shanto, H.H. 2011. Awareness of the farmers on environmental pollution due to use of pesticides in vegetables cultivation. M.S. Thesis, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- SPAR. 2012. Strategic Priorities for Agricultural Research. Jointly Published by King Abdulaziz City for Science and Technology (KACST) and the Ministry of Economy and Planning. Kingdom of Saudi Arabia. Available at: <http://www.saudi-organic.org.sa/pressdownload/uploads/KSA-SectorStudy2012-English.pdf>
- Tilman, D., Cassman, K.G., Matson, P.A., Naylor, R. and Polasky, S. 2002. Agricultural sustainability and intensive production practices. *Nature* 418: 671-677. <https://doi.org/10.1038/nature01014>
- Uddin, M.M. 2008. Involvement of rural women in home gardening practices in SDS area of Shariatpur district. M.S. (AEIS) Thesis, Department of Agricultural Extension and Information System, Sher-E-Bangla Agricultural University, Dhaka.
- Ullah, S.M.A., Farouque, M.G. and Rahman, M.Z. 2011. Farmers' perception of one house one farm approach. *Bangladesh J. Ext. Edu.* 23(1&2): 75-82. <https://www.researchgate.net/publication/313675334>