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Perceptual and Motivational Factors Affecting the Practice of Organic Farming

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Abstract: The present study is an attempt to know the perceptual and motivational factors affecting the organic paddyfarmers registered under the Paramparagat Krishi Vikas Yojana (PKVY) scheme in Kamrup district, Assam.For the study, 50 suchorganic farmers were selected randomly out of a total population of 519. The socio-economic characteristics of the respondents were analysed using frequencies and percentages. Five-point Likert scale was used to know the perceptual and motivational factors affecting their farming practice. The responses were analysed through median values and Mann-Whitney U test. The respondents were found to have positive perception regarding organic farming, with its effect on soil fertility and health drawing the most favourable responses. Family health, soil sustainabilityand self-reliance for inputs were found to be the most important factors motivating the practice of organic farming. Small and medium farmers showed significant difference in perception towards stabilization of yield and pollution of air, water and soil under organic farming. No significant difference was observed between small and medium farmers regardingthe motivational factors affecting their practice of organic farming.

Keywords:factors, motivation, organic farming, perception.

1. Introduction

IFOAM Organics International, the umbrella organization promoting the organic farming movement around the world has defined organic agriculture as "a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved**" (IFOAM Organics International, 2008)**.According to the report released by the Research Institute of Organic Agriculture (FiBL) and IFOAM Organics International on February 12, 2020 in the statistical yearbook "The World of Organic Agriculture", a total of 71.5 million hectares were organically managed at the end of 2018, representing a growth of 2 million hectares over 2017. It is practiced in 186 countries by approximately 2.8 million farmers. The worldwide sales of organic food and drink crossed 96 million euros in 2018**(Willer, et al., 2020)**. A number of studies have shown the superiority of organic farming over conventional farming in several aspects. Organic farming has been found to have a more positive effect on biodiversity, cause lesser risk to human health, increase rural employment because of higher and

more evenly distributed labour input requirements, contribute to a better image of rural areas and thus boost tourism and other sectors, motivate young people to remain in farming rather than choosing other employment opportunities, conserve soil and water resources, bring higher revenues due to premium pricing and lower input cost, and so on**(Haring, et al., 2001; Pimentel, et al., 2005, Green, et al., 2006; Fuller, et al., 2005; Mendoza, 2008**). All these benefits have led both farmers and consumers to adopt the 'organic way' and this is well reflected in the rising demand for organic food around the world. The global organic market is expected to grow at a CAGR of 16.15% in value terms, between 2017 and 2022 and touch a whopping $262.85 billion by 2022. So far as India is concerned, it has the largest number of organic producers in the world (1,149,000) and its organic market is estimated to grow at a CAGR of 23% by 2023, primarily because of supportive government policies and growing area for certified organic cultivation**(Arora, 2019)**.

The above figures are indicative of the tremendous opportunity existing in the organic food sector. If the potential of the different regions of India in this sector are compared, the northeastern states of the country emerge as the most suitable. This is due to the significantly lesseror negligibleuse of agrochemicals in this region,particularly its tribal farmers being averse towards the applicationof chemical fertilizers and pesticides in their farming practices. The region is estimated to have 18 lakh hectares of land suitable for organic farming**(Munda, et al., 2014)**. Several government sponsored schemes have been implemented time and again in the region but the results have been far from what was initially desired. It is important to understand that such goals can be carried out only if there is proper knowledge of factors that influence the perception and motivation of organic farmers of the region. There is dearth of studies onthe perceptual and motivational factors affecting the level of application of organic standards and innovation and the resultant productivity. The present study is a significant endeavour in this regard and its results can be fruitful in designing policies and schemes that ensure the greater adoption and continuation of organic practices among farmers of the region.

2.Objectives of the Study

- To find out the perception of farmers towards the practice of organic farming.
- To examine the motivational factors influencing the practice of organic farming.

3. Research Questions

- Whether the farmers hold a positive perception towards the practice of organic farming?
- What are the motivational factors influencing the practice of organic farming?

4. Hypotheses of the Study

- There is no significant difference between small and medium farmers regarding their perception towards organic farming.
- There is no significant difference between small and medium farmers regarding the motivational factors influencing their practice of organic farming.

5. Research Methodology for the Study

The present investigation was conducted in Kamrup district, Assam. In Kamrup district, the Boko block was purposively selected for the study as the Paramparagat Krishi Vikas Yojana (PKVY) scheme is currently being implemented in this block. For data collection, 50organic paddy farmers registered under the PKVY scheme were selected randomly out of a total population of 519. Farmers have been categorized into small and medium scale based on their land holdings for paddy cultivation. Land holdings for paddy cultivation ranged from 2 bigha to 18 bigha. Those farmers with land holdings below 7.5 bigha were categorized as small farmers while those with land holdings ranging from 7.5 bigha to 18 bigha were categorized as medium farmers.

Data collection was done using a pre-tested schedule. Responses were collected using 5-point Likert scale. Responses in relation to perceptual and motivational factors affecting organic paddy farmers were collected using the following ratings: Strongly agree = 5, Agree = 4, Neutral = 3, Disagree = 2 and Strongly Disagree = 1. Data concerning the socio-economic characteristics of the respondents were analyzed using frequencies and percentages and for analyzing data relating to perception of organic farming and motivational factors influencing the practice of organic farming, median values were obtained and Mann-Whitney U test was conducted.

6. Limitations of the Study

The study is confined to a specific district in the northeastern state of Assam in India. As farmers in North-East India sharesimilar mindsets, the study results would be helpful in knowing the perceptual and motivational factors affecting organic farmers in this region. However, the findings may not be true for organic farmers residing in other regions of India or the world.

7. Results and Discussion

7.1 Socio-Economic Characteristics of Sample Respondents

From Table 1, we can interpret that organic farming in the study area is mainly headed by the male members of the family as 100% of the registered respondents were males. Women were mainly engaged as family labour in nursery plot preparation, sowing, weeding and harvesting activities. A majority of the respondents (54%) were between 40 to 60 years of who which implies that it is mostly the middle-aged who did organic farming. 60% of the respondents had only primary level education which indicates that high level education is not an important requirement in the adoption and practice of organic farming. All the respondents had agriculture as their primary occupation and only 28% of them were involved in off-farm activity and therefore, it can be said that the practice of organic farming requires adequate time and attention. In 50% of the cases, 3-5 family members were engaged in farming which shows the considerable involvement of family labour in organic farming. 80% of the respondents had more than 15 years of experience in organic farming. They were traditionally organic farmers which is a common phenomenon in the northeastern states of India. 60% of the respondents had below 7.5 bigha of land for paddy cultivation which implies that organic farming is mainly practiced by farmers having smaller land holdings. In 54% of the cases, farmers used wholly owned lands for paddy cultivation and this indicates that organic farmers of the region depend more on owned land resources for cultivation. Only 20% of the respondents had their own power tillers which shows that organic farmers lack financial resources to purchase their own machineries. All the respondent farmers owned livestock, which is an essential for the supply of

organic manures. Majority of the respondents (46%) earned an annual income between Rs.50,001 to Rs.1,00,000 from organic farming which shows that much development is required before farmers can have sufficient economic benefits from the practice of organic farming.

Table 1: Socio-economic characteristics of sample respondents

Characteristics	Frequency	Percentage (%)
Gender		
Male	50	100
Female	0	0
Age		
Below 40 years	15	30
40-60 years	27	54
Above 60 years	8	16
Education		
No formal education	2	4
Primary	30	60
Matriculation	12	24
Higher secondary	5	10
Graduation	1	2
Agriculture as-		
Primary occupation	50	100
Secondary occupation	0	0
Involvement in off-farm activity		
Famers involved in off-farm activity	14	28
Farmers not involved in off-farm activity	36	72
No. of family members engaged in farming		
Less than 3	21	42
3-5	25	50
6 and above	4	8
No. of years of experience in organic farming		
Below 5 years	3	6
5-10 years	1	2
11-15 years	6	12
Above 15 years	40	80
Farm holdings (paddy)		
Below 7.5 bigha	30	60
7.5 bigha – 18 bigha	20	40
Nature of ownership of land for cultivation of		

paddy	27	54
Wholly owned	3	6
Wholly leased	20	40
Partly owned and partly leased		
Nature of ownership of agricultural machinery (power tiller)	10	20
Owned	40	80
Leased		
Ownership of livestock		
Farmers owning livestock	50	100
Farmers not owning livestock	0	0
Annual income from organic farming		
Below Rs. 50,000	19	38
Rs. 50,001- Rs.1,00,000	23	46
Rs. 1,00,001- Rs. 1,50,000	5	10
Above Rs.1,50,000	3	6

Source: Field Survey

7.2 Perception of Respondents Towards the Practice of Organic Farming

From Table 2, we can interpret that both small and medium farmers had a favourable perception towards the practice of organic farming as the median scores obtained on most statements to study perception were above 3. The statements which drew the most favourable responses from both groups of farmers were those related to the potential of organic farming to protect and improve soil fertility and provide healthier lifestyle through safer and better-quality food.

A significant difference in perception (at 5% level) was noticed between small and medium farmers in relation to the following two statements – i) Yield stabilizes after the initial drop when converting from conventional farming to organic farming and ii) Organic farming is a better cultivation option for lesser pollution of air, water and land. In case of both these statements, the p-values obtained from the Mann-Whitney U test were below 0.05. For the remaining statements, the p-values obtained were above 0.05 and therefore no significant difference in perception (at 5% level) exits between the two groups of farmers in relation to these statements.

Table 2: Perception towards the practice of organic farming

Statements	**Median Values**		**p-value obtained from Mann-Whitney U Test at 5% level**
	Small farmers	**Medium farmers**	

1. Yield stabilizes after the initial drop when converting from conventional farming to organic farming.	3.5	4	0.03846*
2. Organic farming can match the productivity level of conventional farming.	4	4	0.57548
3. Organically grown crops are more pest resistant than those grown under conventional farming.	3	3	0.93624
4. Organic farming protects and improves soil fertility.	5	5	0.1031
5. Organic farming makes a farmer self-reliant by encouraging the use of on-farm inputs.	4	5	0.28914
6. Organic farming has a positive influence on biodiversity.	4	5	0.2113
7. Organic farming can provide people with healthier lifestyle through safer and better-quality food products.	5	5	0.1556
8. Organic farming makes more rational use of water compared to conventional farming.	3	3	0.07346
9. Organic farming is a better cultivation option for lesser pollution of air, water and land.	4	5	0.00672*

Source: Computed Data

***Significant @ 5% level**

7.3 Motivational Factors Influencing the Practice of Organic Farming

From Table 3, we can interpret that for small farmers, family health, self-reliance for inputs and soil sustainability were the most important motivational factors encouraging the practice of organic farming, while for medium farmers, the most important motivational factors were family health, self-reliance for inputs, soil sustainability and neighbourhood effect. However, it was found that premium price, grants from organic farming schemes and export opportunities were not perceived as factors motivating the practice of organic farming by both groups of sample respondents. This shows that organic farmers of the region are more driven by sustainability, community and subsistence needs

rather than the need for economic gains. However, during the field survey, the farmers admitted that the various government-sponsored schemes implemented in the region had failed to deliver the promises initially made to the them regarding the development of organic farming in commercial terms such as linking them to buyers, providing them exclusive markets and processing facilities, offering timely training and inputs, etc. This is another reason why farmers seemed less motivated by economic incentives and profits.

No significant difference (at 5% level) was found between small and medium farmers regarding the motivational factors influencing their practice of organic farming as the p-values obtained on the different factors were all above 0.05.

Table 3: Motivational factors affecting the practice of organic farming

Factors	Median Values		p-value obtained from Mann-Whitney U test at 5% level
	Small farmers farmers	Medium	
1. Premium price of organic products.	3	2	0.87288
2. Lower cost of production.	4	4	0.85716
3. Environmental friendliness	4	4	0.88866
4. Family health	5	5	0.92034
5. Growing consumer demand	4	4	0.70934
6. Soil sustainability	5	5	0.45326
7. Professional challenge	4	3.5	0.60306
8. Grants from organic farming schemes	22		0.85716
9. Neighbourhood effect	4	5	0.0703
10. Export opportunities	3	3	0.28014
11. Self-reliance for inputs	5	5	0.42952

Source: Computed data

8. Policy Implications Based on Findings

- A close connection can be noticed between the perceptual and motivational factors affecting organic farming in the study area. The effect of organic farming on factors like human health, soil fertility and self-reliance for farming inputs drew the most favourable perception on the part of the respondents and the same factors were also found to be among the most important motivational factors inducing the practice of organic farming. Therefore, it can be suggested that **if policy makers wish to motivate farmers based on certain factors, they should start by creating the awareness needed for instilling a positive perception among farmers regarding such factors.** More the factors positively perceived, more the reasons for getting motivated to practice organic farming and more the growth in productivity of the sector.
- As the respondent farmers were mainly motivated by non-economic needs, **policy makers must include the non-economic factors as part of their strategy for accomplishing the targets of organic farming in the region.** As organic farming is deeply ingrained in the social and cultural practices of northeastern farmers, policies should focus on sustaining and expanding this mindset.
- The respondent farmers, though found organic farming both economically and environmentally sustainable, they were primarily motivated by their subsistence needs i.e., health of their families, self-reliance for inputs and soil sustainability. Grants from organic farming schemes, export opportunities and premium pricing for organic products were not found to be important motivational factors inducing farmers to practice organic farming. This calls for a mental revolution on their part. **A profit-oriented mindset is necessary if farmers of the region want to fully realize the potential benefits of organic farming. This should be an important thrust area in the policy making decisions for promoting this sector.**
- **To sustain the profit-oriented mindset of the farmers, it is necessary that the schemes so implemented keep up with the promises made in the context of economic incentives**to be provided such as linking farmers with buyers, offering them exclusive markets, processing facilities, timely inputs, training, premium rates, etc. Only when farmers are provided with the required confidence regarding the long-term reliability of these factors, can they be encouraged to adopt and continue with the standard organic farming practices required for commercial gains.
- As the perceptual and motivational factors affecting their practice of organic farming among small and medium farmers were found to be similar, **homogenous policies and schemes forpromoting the sector among both categories of farmers can be used.**

9. Conclusion

Though a number of schemes have been implemented in the northeastern states of India for the promotion of organic farming, the results have been far from satisfactory. For reaching the goals in this sector, the factors affecting the perception and motivation of organic farmers must be known. This shall help in designing the policies and schemes accordingly. The present study was an attempt in this regard. From the study, it was found that the respondent farmers had positive perception regarding organic farming. Perception ofits effect on food quality and soil sustainability drew the most favourable responses. A significant difference in perception between small and medium farmers was found only as regards to yield sustainability and pollution of air, water and soil under organic farming. Family health, soil sustainabilityand self-reliance for inputs were found to be the

most important motivational factors affecting the practice of organic farming. No significant difference was observed between small and medium farmers regarding the motivational factors affecting the practice of organic farming.

The important policy implications of the study were: Firstly, farmers could be motivated based on certain factors by instilling a positive perception among them regarding the same factors. Secondly, as farmers were primarily motivated by non-economic factors, strategies promoting organic farming must include them. Thirdly, policies should strive to change the mindset of northeastern farmers from being driven by subsistence needs to being driven by commercial needs. Fourthly, there should be necessary follow-up on the economic incentives offered under the schemes so that farmers do not revert back to their original mindset of being only subsistence driven. Lastly, as small and medium farmers were affected similarly by perceptual and motivational factors, similar policies and schemes for both categories of farmers could be used for promoting organic farming in the region. On a general note, it can be concluded that the northeastern states of India possess exemplary potential to be at the forefront of the organic farming movement in the country and if properly directed, farmers of the region can bring the much-awaited socio-economic benefits expected from this sector.

10. References

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