

Effect of Selected Factors on Adoption of Organic Agriculture Certificate: A Logistic Regression Approach

Pradeep Malhan*, Tika Ram**

*Research Scholar, Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India. Email: pardeepmalhan2010@gmail.com

**Professor, Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India.

ABSTRACT

This study investigates the differences in organic farmers' demographics and marketing between certified and non-certified farmers in India. By analysing these differences, it aims to provide useful information for policymakers to optimise resource allocation for certification of organic products and certification laboratories, the easy process of certification with infrastructural availability, cost- and time- sensitisation, and the centralisation of the certification system for organic farming. In this cross-sectional investigation, both certified and non-certified organic farmers were included. The investigation consists of 300 organic farmers. Before employing logistic regression models to identify the relation between a binary dependent variable (organic certificate adoption) and independent variables, we evaluate the available literature that affects the adoption of different required standards of agriculture to select the most crucial predictor variables. The results of a binary logistic model revealed that the adoption of organic agriculture certification depends on some demographic and marketing factors. Gender, experience, training, marketing infrastructure support, existing distribution and promotion support have a positive and significant effect on the adoption of an organic agriculture certificate. Organic agriculture is becoming increasingly popular around the world due to its growing demand. Indian farmers have a unique opportunity to take advantage of this trend by increasing their profitability while reducing the environmental impact of conventional farming methods. However, uncertified producers struggle to compete in the international market, highlighting the importance of organic certification for long-term sustainability and market access.

Keywords: Organic Agriculture, Certification, Adoption, Organic Products, Market

Introduction

Food has become a global challenge for the world as the population is growing at a rapid rate. After COVID-19, consumers are becoming more aware about the quality of food they are eating. They are consuming more organic food that is beneficial for humans, animals and the environment. To fulfil the increasing consumers demands, standardisation and certification of organic products is required. Organic certification is a process whereby an independent third party gives a written guarantee (both buyer and seller) that the production process follows certain standards (Darnhofer et al., 2010). The standards are established either by the government, civil societies, professional bodies, or service providers. Certificates are important tools for the facilitation of

the market for organic products (Hatanaka et al., 2005). They protect honest organic producers and consumers against misleading organic claims and substandard goods. Because it is difficult for consumers to identify whether the products they buy are fully organic or not. For the sake of standardisation, organic producers, processors and brokers need to be certified by any government or private institution under the regulations established by the International Federation of Organic Agriculture Movements (IFOAM) (Luttikholt, 2007).

Overview of Organic Certification

The escalating organic agriculture movement around the world has also driven the need for the standardisation of its production and marketing. For this, an organisation

named IFOAM was established in 1972, and it is responsible for the standardisation of organic agriculture worldwide. The basic standards were established by IFOAM in 1980 (Luttikholt, 2007). The IFOAM Basic Standards provide a framework for certification bodies. Certification standards should follow local conditions that are specific according to the country, and these should also be followed by the specifications of IFOAM Basic Standards. They protect producers from unfair competition and protect consumers from pseudo-organic products. Standards of organic accreditation are stringent, and they require a complex process, financial cost, lengthy paperwork and a continuous period of three years for conversion (Coulibaly & Liu, 2006; Strohlic & Sierra, 2007; Quatery et al., 2021). The certification process is different for both individuals and groups. Third-party certification is very popular for exporting products, and its process is faster (Poudel et al., 2019), but it is costly for individual and small-scale farmers (Asli et al., 2017; Zhao et al., 2020). A third-party certification agency verifies farmers' conformity according to the standards established by IFOAM. Due to the complexity of third-party certificates, the concept of PGS was developed. IFOAM introduced the concept of the Participatory Guarantee System (PGS) in a conference on alternative certification conducted in Brazil in 2004. IFOAM defines PGS as “*locally focused quality assurance systems that certify producers based on the active participation of stakeholders and are built on a foundation of trust, social networks, and knowledge exchange.*” In recent years, the popularity of PGS has been increasing. Group certification is provided when many small farmers get together to receive the organic agriculture certificate and this process reduces the costs of certification and its processing time, although the time duration for group certification is so lengthy (Tovar et al., 2005). Groups give a platform for interchanging ideas related to the production and marketing plan of organic products (Gonzalez & Nigh, 2005). In another way, it also creates a strong network among the producers which leads to an exchange of information, mutual support, and equipment sharing.

Organic Certificate in India

Organic agriculture certification in India was authorised by the National Programme for Organic Production (NPOP) under the Ministry of Commerce and Industry in

2001 (GOI, 2016). After that the next step was to establish a National Centre of Organic Agriculture (NCOF) which is answerable for the implementation of PGS, a free certification program suitable for the domestic market. In India, PGS was set up in 2006 and it entered in April 2011 (Reddy, 2017). For the online certification system, a web portal www.pgsindia-ncof.gov.in has been launched. Under the PGS scheme, farmers keep a check on each other's work, and this scheme is applicable across the whole nation. The NPOP issues organic standards for organic production, criteria for the accreditation of the certification body, the certification logo (PGS-India Green and PGS-India Organic), and its regulation use. There are three types of certification facilities available in India, i.e., under the Agricultural and Processed food Products Export Development Authority (APEDA) for exporting products, under PGS-India (for local and domestic markets); and under the scheme of Parampragat Krishi Vikas Yojana (PKVY).

Research Gaps

Although there is growing interest in organic agriculture, there are still substantial research gaps. In the past, research has frequently concentrated on either demographic or marketing factors in isolation, without a comprehensive approach. Furthermore, the specific function of marketing support factors is underexplored, and there is a scarcity of empirical evidence from India, particularly from the state of Haryana. It is necessary to conduct more micro-level studies addressing the challenges and opportunities in this sector, especially at the levels of individual farmers and households in rural areas. Additionally, the necessity of this investigation is underscored by the relatively uncommon application of logistic regression to evaluate the combined effects of these variables.

The study considers the following research questions:

- How do demographics (age, gender, experience, income, education, and training) impact farmers' adoption of organic agriculture certifications?
- What impact do marketing elements such as infrastructure, distribution, and advertising have on farmers' adoption of organic agriculture certification?
- Which demographic and marketing variables are most important in predicting acceptance of organic agriculture certification?

- Does combining demographic and marketing characteristics improve the forecast of organic agriculture certification acceptance compared to analysing each separately?

Accordingly, the remaining part of the paper is divided into four sections. In the second section, a brief review of the literature is presented along with some supporting conceptualisation. Section three discusses the data and methodology used in this study. Section four focuses on the results and discussion. Section five concludes the paper by summarising the insights and making policy implications for future research.

Review of Literature

Numerous studies cited above reflect that the marketing of organic products influences farmers to adopt organic farming certification. The adoption of an organic farming certificate depends on the farmers' willingness to choose the market or depending on the available choices of getting a certificate. For example, farmers may choose to sell their products in local markets and through direct sales to final consumers.

Theoretical Framework

The theoretical framework provides the conceptual structure for any research, outlining the key variables, their relationships, and the theories that explain these relationships. It serves as a blueprint, guiding the design, methodology, and analysis of the research study, and demonstrating an understanding of relevant concepts and literature.

Application of the Theory of Planned Behaviour (TPB)

For the current study on the adoption of organic farming certification, the Theory of Planned Behaviour (TPB) is an appropriate and widely used theoretical foundation. TPB posits that an individual's intention to perform a behaviour (such as adopting organic certification) is influenced by three constructs, attitude: the extent to which a person's behaviour is evaluated favourably or unfavourably, subjective norms: the social pressure felt to perform or not perform a behaviour and perceived behavioural control: the perceived ease or difficulty of

performing the behaviour, reflecting past experience and anticipated barriers (Ajzen, 1991; Dissanayake et al., 2022).

In the context of the current research: demographic factors (such as age, gender, income, education and training) and marketing factors (marketing infrastructure support, distribution support, and promotional support) are considered as background variables that influence the TPB constructs, particularly attitudes and perceived behavioural control and they are considered as independent variables and adoption of organic farming certificate is measured as dependent variable. Since the current study does not directly measure social pressures or influences (e.g., expectations of family, peers, or community), the subjective norms construct may not be fully representative. Gender, despite being a demographic variable, is not sufficient in itself to capture subjective norms. The theoretical framework grounds the study in the theory of planned behaviour, positing that farmers' attitudes toward organic certification and their perceived ability to adopt it are shaped by demographic and marketing factors. While subjective norms are a core construct of the TPB, this study acknowledges the limitation of directly measuring social pressures, focusing instead on the influence of personal and contextual factors on adoption behaviour. The model can be visually represented as follows:

“Demographic Factors + Marketing Factors → Adoption of Organic Agriculture Certificate”

Need for Certification

This is the main concern of consumers: how they can know whether the products they buy are organic or not. Many outlets have organic sections and many claim that the product is fully organic. That is why consumers are suspicious of claims regarding the growing methods of production. Organic products provide premium prices to the producers (Onken et al., 2011). Consumers are willing to pay premium prices for pesticide-free products because they are giving too much importance to their health and get information about the food and nutrition from their experts/doctors (Botonaki et al., 2006; Yin et al., 2019). Since buyers have limited options for inspection of quality of organic products before purchasing these products. They are certification of products, reputations, and signalling. The literature suggests that only certification

can solve this problem if it is credible and trusted, as it increases consumers' trust in organically grown food (Teng & Wang, 2015). Certificates open opportunities for new market access and improving the livelihoods of rural farmers' communities (Tran et al., 2020). However, another study revealed that only certification does not influence the consumers purchase intention (Lemeillleur et al., 2020; Watanabe et al., 2021).

Demographic Factors and Organic Certification

Existing literature shows that organic agriculture certification has been adopted by young and less experienced farmers compared to older farmers. Younger farmers tend to be more inventive, risk-takers, and more flexible in converting organic practices to meet the new market provisions and familiar with innovative technological adoption in farming (Kersting & Wollni, 2012). Less educated farmers were less aware of implementing the certificate requirements. Previous literature also reported that education is positively related to the adoption of organic standards (Asfaw et al., 2009). Gender plays an important role in the adoption of organic agriculture and women were more concerned about it, they were more aware of the health benefits of organic products. Many studies revealed that females were engaged in assisting activities of the agriculture. The decisions have been made by their male counterparts either of production of crops or marketing activities itself (Majumder & Shah, 2017; Maheshwari & Mangtani, 2018). Their contributions have declined due to illiteracy, lack of knowledge and improper training. This made them aware of health concerns and worried about the usage of inorganic agriculture in decision-making (Wozniak, 1993). The demographic structure of the population reflects disparities in the engagement of agriculture. Rural women are working in the field but their roles are not recognised due to land ownership, low social, economic, and political indicators (Lal & Khurana, 2011).

Marketing Factors and Organic Certification

The location of a farm influences the decision of organic certification for production and marketing grounds. Producers who sell their products at farm, farmers markets, and through community supported agriculture have direct relation with customers and convey

their practices personally which is an alternative for certification. In addition, consumers have expressed their willingness to pay higher prices for locally fresh grown organic products at farmers' markets which reduces the cost of certifying (Onozaka & Mcfadden, 2011). Farmers who are closer to the market, especially small-scale farmers prefer DTC marketing channels because of personal contact with customers and get higher prices for their homemade products, specific crop varieties, better customer services and recognisable organic practices (Hu et al., 2012).

To fulfil the increasing demand, many certified organic growers are united to access the high-volume organic market (Park, 2009). The important benefits of certification were the consumers' willingness to pay premium prices for organically grown products in local markets (Dimitri, 2012). Certification provides an important opportunity for farmers to sell their farm products directly to the customers and gaining a large share of the market with sustaining relationships and receive feedback (Park & Lohr, 2006). One study reported that certification alone does not provide a guarantee of higher prices in the case of coffee (Poudel et al., 2019). Ernest and Woods (2011) showed that it is the label that has positively affected consumers' preference and willingness to pay for organic products. Cases of mislabelling and cheating in organic products has been reported by many studies, and these negatively affects the demand for organic products. In addition to this, consumers are willing to support small family farms that are doing organic practices, prefer to buy locally grown organic products directly from farmers (Dimitri, 2012; Hu et al., 2012; Gumirakiza et al., 2017). Increased demand for organic foods through local and international markets has a high impact on the supply side and certification of food. Local food is gaining popularity among small organic farmers who reject certification and give priority to trust-based relationships with consumers. When farmers sell their products to wholesalers, they will receive premium prices only if the products are certified. It is the certificate that enhances production standards, labelling also produces profitable and environmental benefits (Waibel & Zilberman, 2007).

Why Farmers are Not Certifying Their Products

The key factors influencing organic certification are the demographic characteristics of farmers, environmental concerns, profitability, marketing factors, and their belief

in organic agriculture (Kumar et al., 2023; Mzoughi, 2011; Veldstra et al., 2014). Production and certification laws are the main deterrents for producers in the adoption of the organic certificate (Torres et al., 2016). Apart from this, there are many hurdles to organic certification such as the certification process, reliability and market availability, financial costs, extensive paperwork, and relationships with certifying agencies (Strochlic & Sierra, 2007; Dimitri et al., 2007). Costs connected with the process of certification, i.e., bureaucratic, and economic costs, adversely affect farmers' satisfaction and a defective investigation structure may harm the farmers' expectations related to the performance of the controller scheme. It is the process of certification that discourages certification (Veldstra et al., 2014).

Data and Methodology

Questionnaire Design

All the statements in the questionnaire are based on a review of existing literature. A semi-structured questionnaire was prepared with the help of some well-known organic farmers. In addition to this, more observations are carried out by the researchers in different organic farmers group meetings (these meetings and local training programmes operated by the expert such as *Bharat Bhushan Tyagi* in a particular area just like in Rohtak and Khanda-kheri village of Hisar Haryana) and training sessions conducted by the different groups of organic farmers. The respondents who were identified differed in terms of age, gender, education, experience, income, certificate holding, training received, and location. The questionnaire was divided into two sections. The first section was composed of demographic details of the respondents, i.e., gender, age, education, annual income, experience, and their

training received for organic farming. The second part of the questionnaire comprised 12 statements related to (1) marketing infrastructure support (four items), (2) existing distribution support (3 items), and (3) availability of promotion support (five items). All the statements in the questionnaire were framed on the five-point Likert scale with one indicating "very low extent" and five indicating "very high extent." This study focused on organic products and their certification.

Sample Design and Data Collection

The sample of the present study was taken from 9 districts of the three administrative zones of Haryana State, which are representative of all the north-south and east-west region of Haryana. The sample size of 300 organic farmers consists of 95 certified and 205 non-certified farmers. The researcher followed the snowball sampling technique for data collection. The data was collected through interviews and focus group discussions (FGDs) during the period from October to December 2024. Several farms were visited for data collection. Due to the difficulty of reaching the respondents, the researcher also conducted telephonic interviews and questionnaires in Google Forms under the study, as the organic farmers were scattered throughout the districts and minimal in numbers. The meaning of every statement was made clear to the respondents before asking them questions. Most male respondents were working in the agricultural sector. In most families, females were involved in agriculture with their husbands and individually they did not start any agricultural practices. All the statements asked of the respondents related to the marketing facilities of organic products were rated on a five-point Likert scale from very high extent (1), high extent (2), undecided (3), low extent (4), and very low extent (5).

Table 1: Constructs and Items with Their Mean Score

Sr. No.		Statements	Mean
Marketing Infrastructure support	1	No localised market/organic mandi for organic products.	1.673
	2	Unorganised market system.	1.903
	3	Research and development information centre is not available.	1.687
	4	Unavailability of Minimum Support Price for organic products.	1.213
Existing Distribution support	1.	Lack of processing facilities.	1.427
	2.	Non availability of packing facilities.	1.700
	3.	Lack of labelling of organic products.	1.537

Sr. No.		Statements	Mean
Availability of Promotion support	1.	Organic trade fares are conducted regular.	2.106
	2	Exhibitions are shown of organic products.	2.413
	3	Seminars and workshop are organised.	2.143
	4	Mass media campaign.	2.123
	5	Product demonstrations are conducted.	2.310

Source: Author's own work.

Table 1 depicts the results of mean values alongside their observed items. There are three constructs i.e., marketing infrastructure support, existing distribution support and availability of promotion support. All the statements are shown with their mean values and fall within the range of 1.213 to 2.413. The unavailability of minimum support price (MSP) for organic products have lowest mean value (1.213) and exhibitions are shown of organic products have highest mean value (2.413). Mean value of all the statements being less than 2.413 indicates that respondents have a high extent of agreement with these statements.

Method of Data Analysis

The descriptive data were analysed using frequencies and percentages to summarise masses of data and inferential analysis was done using a binary logistic model using SPSS V.21.

Common Method Bias

Common method bias (CMB) can occur when data for both the independent and dependent variables are collected from the same source, potentially inflating or reducing the observed relationships (Podsakoff et al., 2003). To assess the presence of CMB, Harman's single-factor test was conducted. The variance explained by a single factor should not be more than 50 percent. Results indicated that no single factor accounted for the majority of the variance, indicating that CMB is not a significant concern in this study.

Under this section, demographic characteristics such as respondents' gender, farmer's experience, training undertaken by the farmers, level of education, and the age of group members were presented. The detailed data regarding this are summarised in Table 2.

Table 2: Demographic Characteristics of the Respondents

Label	Category	Frequency	Percentage
Gender	Male	292	97.3
	Female	8	2.7
Experience of farmers	Less than 1 year	3	1
	1 to 3 years	85	28.3
	3 to 5 years	95	31.7
	5 to 10 years	78	26
	Above 10 years	39	13
Training Taken by Farmers	No formal training	132	44
	Organic farming course	42	14
	Farm visit & demonstration	126	42
Education Qualification	Up to 12 th	164	54.7
	Graduate	84	28
	PG and above	52	17.3
Annual Income	Less than 3 lakhs	186	62
	3 to 6 lakhs	79	26.3
	6 to 9 lakhs	14	4.7
	Above 9 lakhs	21	7
Age	18 to 36	78	26
	16	16	16
	16	16	16

Source: Author's own work.

Table 2 reveals that 97 per cent of respondents were male, whereas three per cent were female, which shows a high disparity between male and female farmers. The participation of female farmers was very low (3 per cent) of the total respondents. The reason for this is that most women share agriculture responsibilities with their husbands and families. In contrast, previous literature reports higher female participation than male participation in organic agriculture practices (Burton et al., 1999; Padel, 2001; Walz, 2004; Veldstra et al., 2014). They are not doing agriculture separately from their family. Regarding respondents' experience, most of the respondents have more than one year's experience. From a total of 300 respondents in this study, 29 per cent of them had experience of 1-3 years, followed by 32 per cent with experience of 3-5 years, 26 per cent have five to 10 years of experience, and the remaining 19 per cent respondents have experience of more than 10 years. In this study, 44 per cent of respondents have not taken any formal training, 14 per cent have completed organic agriculture courses from agriculture colleges and universities, and the remaining 42 per cent of respondents had started organic agriculture after a field visit from another farmer.

Out of the total 300 respondents, 55 per cent of respondents had completed their school education, 28 per cent were graduates, and 17 per cent had post-graduation or higher degrees. From the total, 62 per cent of respondents fell in the category of income less than 3 lakhs, 26 per cent have lie in the category of 3 to 6 lakhs, five per cent were in the category of 6 to 9 lakhs and the remaining 7 per cent have the income of above 9 lakhs. Out of 300 respondents, 26 per cent of respondents are between 18 to 36 age group, 57 per cent of the respondents lie between 37 to 55, and the remaining 17 per cent respondents fall in the age group of above 55.

Results and Discussion

Logistic Regression Model

Logistic regression works very identically to linear regression but with a binomial response variable.

The equation is derived as follows:

$$\log \left(\frac{P}{1-P} \right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9$$

Explanation with Variables

- P is the probability of adopting an organic agriculture certificate
- α : Intercept term
- $\beta_1, \beta_2, \dots, \beta_3$: Coefficient for each dependent variables
- X_1, X_2, \dots, X_3 : Independent variables of study

Table 3: Model Summary

-2 Log Likelihood	Cox & Snell R ²	Nagelkerke R ²
312.115 ^a	0.188	0.264

Source: Author's own work.

Table 3 provides the model summary of R² (an approximate) statistics in logistic regression. The common method for evaluating of the model fit in binary logistic regression is the likelihood ratio test, which is the difference of chi-square between the null model (with constant) and the model containing the independent variable. Under the model summary of Table 3, the log-likelihood statistics is 312.115, which is considered suitable for the model. The figures measure how the model forecasts the perception of organic producers in positive status. The results of Cox & Snell R² and Nagelkerke R² which are 18.8 and 26.4 respectively. The output of the table shows that the demographic and marketing variable involved in this study accounts for 19 to 26 per cent explained for the adoption/non-adoption of the organic agriculture certificate.

Logistic regression analysis was conducted to identify factors influencing the adoption of organic agriculture certification among farmers. Table 4 presents the results, highlighting both demographic and marketing-related variables. Gender emerged as a significant determinant ($p < 0.05$) of organic certification adoption. The odds ratio shows that male farmers are 7.64 times more likely to adopt organic certification than female farmers. This suggests a substantial gender gap in adoption, possibly reflecting differences in access to information, resources or decision-making power within households. These findings are consistent with previous studies (Azam & Banumathi, 2015; Okon & Idiong, 2016; Diggle et al., 2018), which also reported a positive and significant effect of gender on technology adoption in agriculture. Farmers' experience was also found to be statistically

Table 4: Logistic Regression Results (Variables in the Equation)

Independent Variable	β	S.E.	Z(Wald)	Sig.	OR/Exp(β)
Gender	2.034	0.806	6.360	0.012*	7.643
Experience	0.357	0.148	5.812	0.016*	1.430
Training	0.651	0.162	16.081	0.000*	1.917
Education	-0.081	0.193	.174	0.677	0.923
Age	-0.126	0.227	.309	0.578	0.882
Annual Income	0.091	0.163	.314	0.575	1.096
Marketing Infrastructure Support	0.649	0.168	14.946	0.000*	1.913
Existing Distribution Support	0.243	0.138	3.074	0.080**	1.274
Availability of Promotion Support	0.450	0.172	6.855	0.009*	1.568
Constant	-7.659	1.399	29.951	0.000	0.000

Source: Author's own work.

β = beta S.E. = Standard Error Exp(β) = Exponential Beta OR = Odd Ratio

* Significance at P-value <0.05

** significant at P-value <0.10. The derived equation is as follows:

Certificate of Organic Agriculture = -7.659 (Constant) + 2.034 (Gender) + 0.357 (Experience) + 0.651 (Training) - 0.081 (Education) - 0.126 (Age) + 0.091 (Income) + 0.649 (Marketing Infrastructure support) + 0.243 (Existing Distribution support) + 0.450 (Availability of Promotion support)

significant ($p < 0.05$). More experienced farmers are 1.43 times more likely to adopt organic certification than their less experienced counterparts. This is consistent with the notion that accumulated knowledge and familiarity with agricultural innovations increases the likelihood of adoption (Torres et al., 2016; Genius et al., 2006; Albersmeyer et al., 2009). Experience enables farmers to better understand the benefits and requirements of certification, thereby facilitating informed decision making.

Training also had a significant positive effect on adoption ($p < 0.05$). Farmers who had attended organic agriculture courses or field visits were 1.9 times more likely to obtain organic certification than farmers without such training. This underscores the importance of capacity building initiatives in promoting organic practices. Training not only equips farmers with technical knowledge but also increases awareness about market opportunities and the health and environmental benefits of organic agriculture (Adhikari et al., 2016; Ayya, 2018; Karki et al., 2011). Marketing infrastructure support was identified as a highly significant factor ($p < 0.05$). The results show that the presence of strong marketing infrastructure increases the likelihood of certification adoption. Specifically, 91 per cent of farmers with access to better marketing infrastructure are more likely to adopt organic certification than those without such support. This finding highlights the important role of market networks, certification agencies, and trust-building mechanisms in facilitating

the adoption process (Tovar et al., 2005; Singh, 2004; Oelofse et al., 2010).

Distribution support was significant at the 10 per cent level ($p < 0.10$), indicating a positive association with adoption. Farmers with access to effective distribution channels are 27% more likely to adopt organic certification. Efficient distribution ensures that certified organic products reach appropriate markets, differentiating them from conventional products through proper packaging and labelling (Eteke, 2015; Adigal & Singh, 2015). Promotional support also showed a significant positive effect ($p < 0.05$). Farmers with better promotional support are 57 per cent more likely to adopt organic certification. Promotional activities help increase awareness among consumers and build trust in organic products, which in turn motivates farmers to pursue certification (Shandini & Ramani, 2016). Effective promotion is essential to differentiate in the market and communicate the value of organic products to both producers and consumers.

In conclusion, the results suggest that both demographic (gender, experience, training) and marketing-related factors (marketing infrastructure, distribution and promotional support) play a significant role in influencing the adoption of organic farming certification. The strong effects of gender and experience indicate that targeted interventions to empower female and less experienced farmers may help bridge the adoption gap. Additionally, enhancing training programmes and strengthening marketing, distribution and promotional support systems

are important strategies to increase organic certification uptake among farmers.

Conclusion and Policy Implications

Organic agriculture is gaining popularity across the world at a faster rate due to its high demand. Indian farmers have an opportunity to take advantage of the high demand for organic products in the market, improve their profitability, and reduce the environmental effects of non-organic agricultural activities. Uncertified producers are unable to sustain themselves in the international market. A certificate does not necessarily guarantee any large premium. Marketing channels for organic products have increased but inadequate infrastructure such as a lack of specific marketplaces, non-availability of MSP, lack of storage, and distribution channels, etc. still constrain producers in expanding their production to serve the local market.

Our findings are similar to a study conducted by Sanders in 2006 that revealed the role of market connections reported that farmers convert their practices towards organic agriculture if there is a more or less guaranteed market available. Farmers can promote their own brands as a substitute for organic certificates. The results also disclosed that other possible advantages such as a good relationship with clients, access to the market, and development in agriscience might not be communicated to organic farmers. The adoption of organic certification standards depends on the information access and viable and continuous communication (Dorr & Grote, 2009). The orientation of local authorities for the adoption of organic certificates play an important role as these are conveniently reachable to the farmers in India. This circumstance is specifically critical when taking into consideration small farmers, who usually have more obstacles to obtaining information. Government should start some initiatives like “know your farmers, know your food” interventions at community level which might increase the awareness of local food among the people.

It is evident that experience and training taken by farmers play a leading role in influencing the producers to move towards organic agriculture certificates notwithstanding their education and income. Therefore, there is a need to generate understanding among the producers for the sustainability and efficiency of organic agriculture.

Government organisations and NGOs play an important role in motivating farmers towards organic agriculture by giving a guarantee to fulfil their losses that occurred during the transforming period in the form of subsidies.

In addition to this, the government should make plans to provide professional services to deal with crop diseases, appropriately utilise organic manure, certification concerns, resolve the problems of marketing organic products, and promote “community agriculture” and farmers’ producers’ organisations (FPOs) which reduces the production and marketing costs. However, the cost of obtaining the certificate is high and its’ long procedure of qualification also adds costs. Reduction of cost barriers motivates farmers to produce certified products. Moreover, the regulations of these certifications are varied according to the agencies, which are not uniformly standardised. So, the standardisation of regulations is required in this field.

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Competing Interest

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