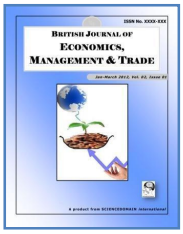

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Factors Influencing Farmers' Decision to Shift to Organic Farming: The Case of Gaza Strip

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Author's contribution

The study was designed, analyzed and discussed by the author. The author takes full responsibility for the whole study including data collation, manuscript drafting and editing.

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ABSTRACT

The building of proper policies for the promotion of organic farming should be based on good understanding of the factors that affect farmers' decision to shift to organic farming. This study aims at defining the determinants of farmers' decision to convert to organic agriculture in the Gaza strip. The analyses of this study are based on data of 100 randomly-selected vegetables farmers in southern Gaza strip. Based on previous studies and focus group discussions, the study hypothesized three factors as the potential determinants of farmers' decision to convert to organic farming. The potential determinants are the socioeconomic and the demographic characteristics of farmers; attitudes towards organic farming; and the perceived economic performance of organic farming. Farmers were categorized into two groups based on their intention to convert to organic farming. Logit regression is then applied to test the hypnotized determinants for their power as predictors of farmers' conversion decision. The estimated logit regression model shows that attitude towards organic farming and farmers' education can be good predictors of the intention of conventional farmers to convert to organic farming. Results suggest that farmers with higher education level and better attitudes towards organic farming are more likely to convert. The study proved the significance of education and awareness on environmental issues affecting the farmers' conversion decisions. Therefore, policies for promoting organic farming should take into

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consideration noneconomic and non-technical factors to enable wider transition from conventional to organic farming.

Keywords: Conversion determinants; attitudes; logit model; conventional farming; organic farming.

1. INTRODUCTION

Intensive agricultural production systems have put a significant pressure on natural resources and caused continuous increase of agrochemicals application. This has resulted in a considerable damage to natural resources and created serious environmental pollution and health hazards. Organic farming became recognized by farmers, policymakers and consumers as one of the possibilities for the farmer to farm in a more sustainable way [1].

Organic agriculture has achieved immense growth in developing countries. It however, still has a great potential even in leading countries such as Uruguay which cultivates only 6.26% of its arable land organically [2]. In several developing countries, organic agriculture is at a very early stage of the application. Gaza strip is one of the locations where intensive agrochemical application is a dominant farming practice. Gaza farmers lack the sufficient land and are therefore under economic obligation to intensify their production system by using an increasing amount of chemical fertilizers and pesticides. The amount of registered pesticides coming into Gaza through legal crossings during 2009 was around 646 tons [3]. Studies on agrochemical effects in Gaza strip demonstrated the link between the intensive use of pesticides in agriculture and health complications to farmers and their families [4,5]. Organic farming is therefore recognized as an urgent need to minimize agrochemical applications and the associated health and environmental risks.

This study is part of a wider research project that investigates potentialities of organic farming in the Gaza strip. The research follows holistic approach to analyze potentialities at three integrated levels. First level is the farm level where investigation of economic performance of organic farming vs conventional farming is conducted. Analyses at this level investigate factors that influence farmers to convert to organic farming. The second level studies the marketing potential of organic products through questioning consumers' preferences and willingness to pay extra for organic products. The third level is a review of possible institutional frames for monitoring and certification of organic products and it examines the optimal model that fits production and marketing settings in the Gaza strip.

Organic farming is not practiced at commercial scale in Gaza strip. Some NGOs run small organic farms models with the aim of promoting the concept. Their production is too small and usually marketed at the farm or in a small shop in Gaza city. Promotion of organic farming would need wider adoption by market-oriented farmers. In this context, conversion to organic farming is seen as an individual decision problem where the individual farmer decides to change his existing farming practice and accepts the organic production standards [1]. Conversion to organic farming is, this way, compared to the adoption of a 'new' idea or innovation on the farm [6].

Knowledge about the factors that affect farmers' decision to convert to organic farming is a prerequisite for the formulation of policies for the support of a widespread transition from the current situation to the wished for safe organic agricultural practices. This study aims at defining the factors that affect farmers' decision to shift to organic farming in the Gaza strip. The study is based on a data of 100 vegetables farmers from southern Gaza and applying logit model analyses.

Several studies have discussed factors that influence farmers' decision to shift to organic agriculture [1,7-11]. The studies described a wide range of factors including socioeconomic and demographic characteristics of farmers [1,7-11]; farmers' knowledge, perceptions, attitudes and commitments towards organic farming [1,7-11]; and economic potential of organic farming [1,9,11]. Such set of factors, however, were different in different socioeconomic and socio-cultural settings. This indicates that there is a need to investigate the conversion determinants in locations where organic farming is still at embryonic phase such as the Gaza Strip. The whole system, in the Gaza Strip, is new and needs to be analyzed based on similar studies that investigated determinants of the conversion decision. Previous studies provided good conceptualization of hypothesized determinants and applied methods.

Integration of economic and non economic conversion factors provided strong predicting models to explain conversion decision. De Cock followed this approach by integrating economic and non economic determinants of the intention to convert to organic farming [1]. The determinants include attitude towards organic farming, the perceived attitude of the social environment towards organic farming (or social pressure), the perceived feasibility of organic farming standards; business and personal objectives between organic and conventional farmers; and organic farming information seeking behavior.

Previous studies showed how the conversion decision can be determined by a wide range of determinants. The determinants in previous studies were the basis for hypothesizing determinants in this study and to be further tested using logit model.

2. METHODOLOGY

2.1 Study Areas

The Gaza Strip lies on the southern part of the eastern coast of the Mediterranean Sea with a coastline of 40 km. Gaza borders Israel to the north and east (51 km long), and Egypt to the South (11 km long) with an area of approximately 363 square km (The Applied Research Institute Jerusalem [12]. The analyses for this study are based on data from a random sample of 100 farmers in Western Rafah which is located in the western part of southern Gaza. The economic environment of the study area relies strongly on agricultural production, especially vegetables production.

2.2 Sampling and Data Collection

Data were collected from farmers through family survey using standardized questionnaire. Initial list of 300 farmers who reside in western Rafah area was the basis to the randomly selected 100 farmers. Additional 50 cases were selected as a replacement for the not available or the not willing respondents. Two cases out of the 100 were excluded as they gave extreme and inconsistent answers.

The questionnaire was designed to serve the broader context of the study. It covered a wide range of issues including economic performance of farming activities and farmers' perceptions and attitudes towards organic farming. Additionally, it covered demographic and socioeconomic characteristics of farming families. A focus group discussion was conducted to initially explore potential determinants of conversion decision. The focus group discussion was conducted with a group of 12 vegetables farmers in the study area. The findings of the focus group discussion guided the questionnaire structure.

2.3 Explanatory Variables and Hypotheses

Based on the literature review and the focus group discussion, the study hypothesized three major explanatory variables that are believed to determine farmers' decision to convert to organic farming. These are socioeconomic and demographic characteristics of farmers; attitudes towards organic farming and its impact on health and environment; and the perceived economic performance of organic farming.

As suggested by previous studies famers' wealth status, education, age, family size, farm size, farm assets (assessed through size of owned greenhouses in this study) and diversification of farm activities were found to have an influence on farmers' decision to convert to organic farming. The study pre-hypothesized all these factors in the initial list of determinants. However, descriptive comparative analyses of these factors between farmers who are willing to covert and those who are not willing has resulted in the elimination of four of these factors. The eliminated factors were not statistically significantly different between the two groups [13]. Therefore, only three of them were considered for further logit model analyses. The factors used are family income, education and farm size. The assumption is that wealthier farmers with relatively higher education and bigger farms are more likely to convert to organic farming. This implies that all these factors are expected have positive relationship with the likelihood to convert to organic farming, and therefore, are hypothesized to have positive sign in the logit model.

The hypothesized determinant was presented to the interviewed farmers through three statements in the questionnaire. On a Likert scale from -2 to 2, (-2= strongly disagree and 2 = strongly agree) the farmers were asked how much they agreed with the different statements about organic farming [1]. The statements are: Organic farming ensure healthy work environment for farmers,

Organic farming conserve soil and other natural resources, Organic farming produce health-safe food.

Average answers were used to describe farmers' attitudes towards organic farming and its impact on health, environment and food safety. The averages were calculated for both groups of farmers who are willing and not willing to convert. Comparison between the two groups is presented in the results. To define an attitude towards organic farming, the answers were rescaled from 1 to 5 and a high score reflects a positive attitude [14] cited by [1].

Farmers are presented with four statements to assess their expectation on the economic performance of organic farming. The statements are Organic farming has lower production costs; Organic farming has high product prices; Organic farming has high market demand; Organic farming produces high yield. The same analyses approach as the above described determinant was applied to assess farmers' perceived economic performance of organic farming.

2.4 Logit Model

As shown in previous studies, several methods were used to define determinants of farmers' decision to convert to organic farming. Among these are discriminant analyses; and ordinal and logistic regression models [1,7-11]. In this study, logistic regression model was applied to test the impact of the pre-hypothesized determinants on farmers' decision to covert to organic farming. In this case, the dependent variable which is the intention to convert to organic farming is described by a categorical variable, while the explanatory variables are continuous and categorical. Probability models such as logit and probit are the most frequently used regression models in socio-economic applications to investigate such situation of binary dependant variables [15-18]. In this case, dependent variable is a dummy variable representing farmers' intention to convert to organic farming. The analysis has a straightforward statistical test, with a high capacity to incorporate non-linear effects and wide range of diagnostic power [19]. The dummy conversion willingness variable was analysed against the pre-mentioned hypothesized explanatory factors.

The model can be expressed by the following form:

$$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = Z_i$$

Where

Li = log of adds ratio
Pi = the probability of converting to organic farming for the I^{th} farm.
1-Pi = the probability of not converting to organic farm for the I^{th} farm

$$P_i = \frac{1}{1+e^{-z_i}}$$

Where the value of Z_i is calculated with the following function

$$Z_i = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5$$

Where;

B_0 = The intercept
B_1, B_2, B_3, B_4, B_5 = The slope parameters of the model which measures the change in Li for a unit change in the explanatory variables Hence, it tells how the log-odds in favour being converting as the value of the variable Xi changes by a unit.
X_1 = Farm size (in dunum =0.1 Hectare)
X_2 = Family monthly income (1NIS=0.29 US$)
X_3 = Education (illiterate, elementary, middle, high, University)
X_4 = Farmers' attitudes towards organic farming (calculated average)
X_5=Farmers expectations on economic performance of organic farming (calculated average)

The suggested model is testing the following null-hypotheses:

1. There is no relationship between the farmers' decision on converting to organic farming and any of the pre hypothesized variables listed above.
2. Farmers' decision on converting to organic farming is not affected by any of the suggested factors.

3. RESULTS AND DISCUSSION

3.1 Sample Description

The age and the gender compositions of a family determine the availability of labour for the various activities undertaken by the family [20]. The average family size of the interviewed sample is 7 while the average number of adults is 3. Usually, field work in the Gaza strip is neither gender nor age restricted as women and children participate in the farming activities as well [17]. Results revealed that 52% of the interviewed farmers rely on family labor as major source for farm human resources while 24% hired labors on constant base and 23% hire seasonal labor to perform farm activities. Shifting to organic farming requires more labourers [10,21]. Therefore, family size was hypothesized as potential determinant of decision to convert to organic farming.

Results revealed that 24% of the interviewed farmers have low education as they did not attend middle or high school, 20% completed middle school while around 39% completed high school. Only 17% of interviewed farmers obtained university degrees. Education is a major determinant in conversion to organic farming in particular [8].

All the interviewed farmers run vegetables production in their farms. However, not all of them considered it as their major source of income. 49% of the interviewed farmers stated their major career as plant production farmers while 16% of them considered livestock production as the main occupation. The remaining 35% stated off farm activities as their major source of income. This indicates the significance of vegetables production as major sources of income for at least half of the interviewed farmers. Integration between plant production and animal production represents good potential for conversion to organic farming as plant production under organic farming depends on manure to fertilize crops and produce compost. Diversified farm activities encourage farmers to take innovation risks. Therefore, it was included as hypothesized determinant for farmers' decision to convert to organic farming.

Almost all of the interviewed farmers ranked themselves in income categories that have income less than 2000 NIS a month. 52% of them had an income of 800 NIS or less per month. Such figure reflects very low living standard or at least as farmers see themselves as very poor and needy. Family income was proved to be a major determinant of farmers' decisions to convert to organic agriculture [10]. Therefore it was considered as a potential conversion determinant.

Farmers in the study area varied in their farm size. However, farm size in general is small as 87% of the interviewed farmers operate less than half hectare and 98% of them have less than 1 hectare. The small size of the operated land reflects the need to intensify production to generate sufficient income for farming families. This implies the need to apply intensive agriculture techniques which rely, to wide extent, on the use of chemical fertilizers. Cost structure of vegetables crops shows that 40% of the variable costs are spent on agrochemicals including chemical fertilizers, pesticides and soil sterilizers. This indicates the potential technical complications for shifting to organic farming in small farms. Farm size was frequently identified as major factor that affect farmers decision to convert to organic farming [8,9]. Therefore, farm income was considered as a potential determinant of farmers' decision to convert.

3.2 Comparative Analyses

Farmers are classified based on their intention to shift to organic farming into two groups. The first group consists of 68 farmers who wish to convert to organic farming while the other group of 30 farmers is not willing to convert. The pre-hypnotized explanatory variables are presented for both groups to illustrate differences between them.

3.2.1 Socio-economic and demographic characteristics

Table 1 presents a comparison between farmer who are willing to covert and those who are not willing in term of five continuous variables. Results indicated that famers in the two groups are not different in terms of age, family size or farm assets. Based on this results farmer age, family size and farm assets will not be considers in the logit model. Both family income and farm size will be included. On the other hand, results indicated that farmers who are willing to convert have significantly higher family income and land sizes.

Education level of farmer and diversification of farming activities were presented in a categorical form. Farmers with only vegetables production activities were categorized as plant production farmers while farmers who integrate one type of livestock production in their farm were described as mixed farmers. Farmers with more than one livestock production type are categorized as diversified farmers. Results of comparative analyses indicated that diversification of farm activities was not significantly different between the two groups. Therefore, it was not considered for further analyses in the logit model.

Education level of farmers who are willing to convert to organic farming is significantly higher as compared to the group of farmers who are not willing to convert. As shown in Fig. 1, 100% of the illiterate farmers and 80% of farmers with elementary school education level are located in rejecting farmers group. In contrast, 80%, 92% and 83% of relatively higher education levels belong to the accepting farmers group. The differences were statistically significant between the two groups. Education therefore is considered for the logit model analyses.

Table 1. Socioeconomic and demographic characteristics of vegetables farmers across farmers groups accepting and rejecting organic farming

Farmers group	Accepting group	Rejecting group
% of families	**70**	**30**
Family size	7^{a} (±0.57)	6.57^{a} (±0.92)
Age of farmer	42^{a} (±2.25)	40^{a} (±3.07)
Land size (dunum = 0.1ha)	3.33^{a} (±1.26)	1.37^{b} (±0.3)
Size of owned greenhouses (ha)	0.84^{a} (±0.4)	0.53^{a} (±0.2)
Monthly family income (NIS= 0.29 US$)	673^{a} (±135.6)	289^{b} (±153.9)

Figures in parentheses are 95% confidence interval of the mean, a,b Groups with similar letters have no significant difference at 95% and groups with different letters have significant difference according to Mann-Whitney test

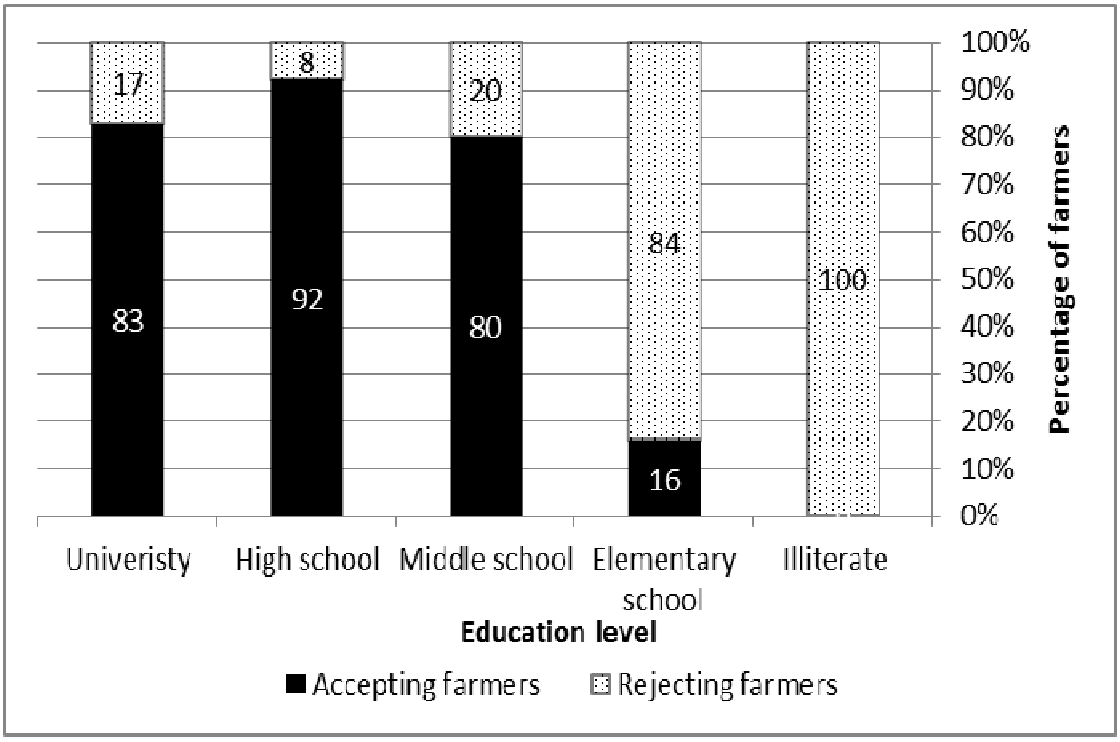

Fig. 1. Education level among farmers groups

3.2.2 Attitudes towards organic

Farmers are presented with three statements on the effect of organic farming on health and environment and asked to rate their level of agreement on them using the Likkert scale. Table 2 shows the average sample scores for each statement of both accepting and rejecting farmers groups. Also, it presents the calculated total average score that represent the overall attitude towards organic farming across the two groups of farmers. As shown in the results, the perceived attitude towards organic farming is significantly different between accepting and rejecting farmers groups. Rejecting farmers are still, to certain extent, believe in the positive impact of organic farming on conserving natural resources with an average score >3. Their total attitude score is 3.1 which reflect neutral attitude towards organic farming. Accepting farmers group however, has significantly better attitude towards organic farming. This was obvious in average scores on each statement as well as the total calculated score for both groups that differed significantly. The calculated total score is calculated for each respondent separately and thus are aggregated to calculate the total score presented in Table 2.

3.2.3 Perceived economic performance of organic farming

Similar approach of presentation, rating and calculation was applied to assess farmers' attitude towards economic performance of organic farming. Results on farmers perceived economic performance is presented in Table 3.

Both groups believed that organic farming will reduce their production costs as their average scores exceed 4. Still, the accepting group farmers have significantly higher score on this statement. Expectations on higher price for organic products were >3 for both groups with significant higher scores for accepting group. Rejecting farmers group has low average score of less than 2 on the statement 'Organic farming has high market demand'. The average score was significantly higher for the accepting farmers group. Both groups were similar in their low average score on production expectation. As shown in Table 3, there was no significant difference between the two groups in their average score.

The calculated total average was significantly different between the accepting and the rejecting groups. Total score for the rejecting farmers was <3 which reflects their expectation of low economic performance of organic farming. The score was significantly higher for the accepting farmers which reflect relatively positive expectation on economic performance of organic farming.

3.3 Results and Interpretation of Logit Model

As shown in Table 4, the Omnibus test has a highly significant value which gives a strong statistical justification to reject the null hypothesis, i.e. farmers' decision on converting to organic farming is not affected by any of the suggested factors. The model is able to correctly predict 83.3% of rejecting cases and 97.1% of accepting cases. The overall correct predation of the model is 92.9%. Based on these statistical evidences, one can accept the hypothesized factors as efficient predictors of organic conversion decision [22].

Table 2. Average sample score for different statements reflecting perceived attitude towards organic farming across the farmers groups

Farmers group	Accepting group	Rejecting group	P- value
% of families	**70**	**30**	
Organic farming ensure healthy work environment for farmers	3.76^{a} (1.11)	2.97^{b} (0.72)	0.000
Organic farming conserve soil and other natural resources	4.16^{a} (0.78)	3.63^{b} (0.96)	0.000
Organic farming produce healthy safe food	4.41^{a} (0.63)	2.8^{b} (0.89)	0.005
Total score of perceived attitude towards organic farming	4.1^{a} (0.53)	3.1^{b} (0.62)	0.000

Standard deviations in parentheses, ^{a,b} Groups with similar letters have no significant difference at 95% and groups with different letters have significant difference.0

Table 3. Average sample score for different statements reflecting the perceived economic performance of organic farming across the farmers groups

Farmers group	Accepting group	Rejecting group	P value
% of families	70	30	
Organic farming has lower production costs	4.59[a] (6.29)	4.03[b] (1.06)	0.002
Organic farming has high product prices	3.78[a] (1.25)	3.07[b] (1.17)	0.01
Organic farming has high market demand	3.78[a] (1.28)	1.43[b] (0.68)	0.000
Organic farming produces high yield	1.57[a] (0.63)	1.47[a] (0.63)	0.441
Total score of perceived economic performance of organic farming	3.21[a] (0.47)	2.6[b] (0.37)	0.000

Standard deviations in parentheses, [a,b] Groups with similar letters have no significant difference at 95% and groups with different letters have significant difference

Table 4. Logit regression results of the farmers' decision on conversion to organic farming

Variables	Coefficient	S.E.	Wald	Sig.	Exp (B)
Intercept	-33.755	10.05	11.3	0.001	0.000
Education of farmer (categorical)	1.59	0.57	7.73	0.005	4.910
Land size (dunum=0.1 hectare)	0.001	0.001	2.75	0.097	1.001
Monthly income (NIS=0.29 US$)	0.001	0.001	1.23	0.258	1.001
Attitude towards organic farming	3.962	1.203	10.85	0.001	52.55
Perceived economic performance of organic farming	4.235	1.61	6.91	0.09	69.05

Omnibus test of model coefficients: $\chi 2 = 86.52$, sig = 0.000, Percentage of correct predictions = 92.9 %, NagelkerkeR2 = 0.666

All the independent variables have the expected direction of relationship with the dependent variable, i.e. the odds ratio of farmers' conversion to organic farming. The model indicates that attitudes towards organic farming and education level have substantial effects on farmers' decision to convert to organic farming. This is shown by the coefficients and level of significance for these two factors in the logit model. This leads to the interpretation that farmers' education and awareness on health and environmental issues have greater impact on their decision to convert to organic farming than wealth status, land size or expectation on economic performance of organic agriculture. The low significance of the coefficients for farmers' wealth status, land size and perceived economic performance indicate the minor role of those three factors in farmers' decision to convert to organic farmers.

4. CONCLUSION

Agricultural practices in the Gaza strip are, to a wide extent, dependent on the intensive use of agrochemicals. This has caused serious negative implications on environment and health of producers and consumers of the agricultural products. Shifting to organic agriculture is therefore recognized as a possible solution to the problem. Dissemination of organic farming in the Gaza strip needs further knowledge on the determinants that affect farmers decision to convert to organic agriculture. Based on literature review and focus group discussion, the study introduced three potential factors that can influence farmers' decision to convert to organic agriculture. The factors are farmers' socio-economic and demographic characteristics, attitudes towards organic farming and the perceived economic performance of organic farming. Comparative descriptive analyses were used to initially assess the suitability of these factors as potential conversion determinants. Among seven hypothesized socio-economic variables, only three were significantly different between farmers who accept organic farming and those who reject it. Family wealth, farm size and education level were significantly different between the two groups of farmers. Similarly,

comparative analyses showed that accepting farmers group has significantly better attitude towards organic farming and its role in protecting the environment and health. Farmers' expectations on the economic performance of organic farming were also different between the two farmers groups. Accepting farmers group has significantly higher expectation on economics performance of organic farming when compared to the rejecting farming group.

The estimated logit regression model shows that the attitude towards organic farming and farmers' education can be used as a strong predictors of the intention of conventional farmers to convert to organic farming methods. Other factors such as farm size, family income and farmers' perception of economics of organic farming were found to be of a less importance when determining conversion decision. The results suggest that farmers with higher education level and better attitudes towards organic farming are more likely to convert to organic farming.

Improving farmers' knowledge on organic farming and its positive impact on environment and public health are of equal or even higher importance than solving the economic challenges of organic farming. Thus policies for promoting organic farming should take into consideration noneconomic and non-technical factors to enable widespread adaption of organic farming.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. De Cock L, Determinants of organic farming conversion: European Association of Agricultural Economists; 2005. Accessed 29 May,2014. Available: http://purl.umn.edu/24675.
2. Willer H, Kilcher L (Eds). The world of organic agriculture: Statistics and emerging trends 2011 (FiBL-IFOAM Report). Bonn, Germany: International Federation of Organic Agriculture Movements (IFOAM) and Frick, Switzerland: Research Institute of Organic Agriculture (FiBL); 2011.
3. Ministry of Agriculture -Gaza (MoA), 2010 annual report. MoA Webpage. 2010;44-59. Accessed 28 May 2014 Arabic. Available: http://www.moa.gov.ps/PDFFiles/Annual%20report%20of%202010.pdf.
4. Safi J. Association between chronic exposure to pesticides and recorded cases of human malignancy in Gaza Strip (1990–1999). Scientific total environment. 2002;284:5-84.
5. Yassin M, Abu Mourad T, Safi J. Knowledge, attitude, practice, and toxicity symptoms associated with pesticide use among farm workers in the Gaza Strip', Occupational Environmental Medicine. 2002;59:387-393.
6. Burton M, Rigby D, Young T. Analysis of the determinants of adoption of organic hortiucltural techniques in the UK. Journal of Agricultural Economics. 1999;50(1):47-63.
7. Koesling M. Factors influencing the conversion to organic farming in Norway, Int. J. Agricultural Resources, Governance and Ecology. 2008;7:1/2.
8. D'Souza G, Cuyphers D, Phipps T. Factors Affecting the Adoption of Sustainable Agricultural Practices. Agricultural and Resource Economics Review. 1993;22:159-165.
9. Sarker MA, Itohara Y, Hoque M. Determinants of Adoption Decisions The Case of Organic Farming (OF) in Bangladesh. Extension Farming Systems Journal. 2010;5:39–46.
10. Lokendra A, Rosa B, Ulrich H. Factors influencing a conversion to organic farming in Nepalese tea farms, Journal of Agriculture and Rural Development in the Tropics and Subtropics. 2011;112(2):113–123.
11. The Applied Research Institute- Jerusalem (ARIJ). An Analysis on the Recent Geopolitical Situation in the Gaza Strip (2003). ARIJ Website. Accessed in 29.05.2014. Available: http://www.arij.org/files/admin/2003/2003%20an%20analysis%20on%20the%20recent

%20geopolitical%20situation%20in%20the%20gaza%20strip.pdf.
12. Awad MA. Environmental and socio-economic assessment of arid land farming and rural development: A case for Lake Nasser region in Egypt. In: Doppler W. and Bauer, S. (Eds.) Farming and Rural System Economics, Magraf publishers, Weikersheim, Germany. 2006;79,
13. Van Der Pligt J, De Vries NK. Opinies en attitudes: Meting, modellen en theorie. Meppel, Boom. 1995;309.
14. Greene WH. Econometric Analysis. 4th Edition. Prentice-Hall, Upper Saddle River, NJ; 2002.
15. Karki LB. Impact of Project Intervention on Rural Household in Nepal: Assessment of Socio-Economic and Environmental Implications. In: Doppler W, Bauer S, (eds.) Farming and Rural Systems Economics. Margraf Verlag, Weikersheim. 2004;60.
16. Abu Shaban A. Socio-economic assessment of using treated wastewater in irrigated agriculture: The case of Northern Gaza, In: Doppler W. and Bauer, S. (Eds.) Farming and Rural System Economics, Magraf publishers, Weikersheim, Germany. 2007;79.
17. Katwijukye AK. Socio-Economic Analysis of Land Resource Use and Conservation in Uganda. W. Doppler, S. Bauer, (eds.) Farming and Rural Systems Economics. Margraf Verlag, Weikersheim. 2005;71.
18. Padel S. Conversion to Organic Farming: A Typical Example of the Diffusion of an Innovation? Sociologica Ruralis. 2001;41(1):42-61.
19. Hair JF. Anderson RE, Tathman RL, Black WC. Multivariate data analysis. Prentice Hall inc., New Jersey, USA; 1998.
20. Hijawi T. Economics and Management of the Use of Different Water Qualities in Irrigation in the West Bank. In: Doppler W, Bauer S. (eds.): Farming and Rural Systems Economics. Vol. 50. Margraf Verlag, Weikersheim; 2003.
21. Bahatt GD. Socioeconomic and spatial analyses of small holder peri-urban Farming in the Mountains of Nepal, In: Doppler W. and Bauer, S. (Eds.) Farming and Rural System Economics, Magraf publishers, Weikersheim, Germany. 2010;117.
22. Field A. Discovering Statistics Using SPSS. 2nd Edition. Sage publications, London, UK; 2005.

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