

ENABLING FACTORS OF GREEN ENTREPRENEURSHIP: A CASE STUDY OF ORGANIC AGRICULTURE PRODUCE IN THE SINDH AND BALOCHISTAN PROVINCES OF PAKISTAN

Mir Dost Pandrani

Labella University of Agriculture, Water and Marine Sciences (LUAWMS) Uthal Balochistan Pakistan

Phone: +66905492056, Email: pandrani_md@yahoo.com

Dr. David Ferguson

Asian Institute of Technology (AIT) Thailand

Email: dferguson@ait.ac.th

Sažetak:

Ovaj rad istražuje faktore koji omogućuju ekološko poduzetništvo na primjeru organskog uzgoja u pakistanskim pokrajinama Sindh i Balochistan. Istraživanje je provedeno među poduzetnicima koji se već bave ekološkim poduzetništvom te onima koji će se njime možda baviti. Velika većina poduzetnika su se složili da će prihvatiti metode organskog uzgoja te žele dobiti potrebne upute, znanje i vještine. Što se tiče zaštite okoliša, više od polovice ispitanika je bilo umjereno zabrinuto zbog klimatskih promjena, a njih 44% je bilo jako zabrinuto zbog tih promjena te su bili spremni preći na organski uzgoj. Neorganska gnojiva su utjecala na uzgajivače u društvenom i ekonomskom smislu te u smislu zaštite okoliša. Zbog svega navedenog, najveći broj ispitanika je izrazio spremnost na ulaganje u organski uzgoj. Štoviše, rezultati su također uputili na važnost stabilnog tržišta organskog uzgoja, dobrih cijena i poboljšanih uvjeta proizvodnje kao ključnih faktora ekološkog poduzetništva u objema pokrajinama.

Ključne riječi: ekološko poduzetništvo, organski uzgoj, znanje, okoliš, Pakistan

Abstract:

This study investigates enabling factors of green entrepreneurship by referring the farming of organic agriculture production in Sindh and Balochistan provinces of Pakistan. A household survey questionnaire was carried out from the green and potential green entrepreneurs. The outcomes identified that a significant majority of potential green and a convincing proportion was green entrepreneurs invested in organic agriculture produce. A significant proportion of entrepreneurs highly agreed to adopt organic farming methods subject to be provided with required inputs, knowledge and skills. In the environmental context, more than half of the respondents moderately and (44%) were highly concerned regarding environmental changes to convert their current farming into organic. For instance, inorganic fertilizer seemed to have affected the farmers in all context i.e., social, economic and environmental (discussed in paper). Consequently, the highest proportion of respondents seemed attractive to apply and invest in organic methods of farming. Moreover, results also identified importance of reliable organic markets, price premiums and improved production conditions as key enablers of green entrepreneurship in both provinces and its expansion.

Keywords: Green entrepreneurship; organic produce; conventional agriculture; knowledge; environment; Pakistan

1. Introduction

It takes some time to ecopreneur or green entrepreneur to come (Hardin 1968). Ecopreneur emerges as the society confronts with environmental sustainability issues every year, societies direly need entrepreneurs with environmental concerns. Similarly Volery (2002) explains businesses with profit-oriented and pollution-ignorant have been failed, since natural resources are in scarce and world population is growing rapidly, and loss of variety of life. Today society is open to embrace new forms of business models, among all one is sustainable business, which incorporates environmental issues into its good enough consideration at top priority.

In the domain of natural resources, supplementary investigation into green entrepreneurship potentially could take us to understand the way natural resource dependent communities remain in constant state of poverty (Humphrey et al. 1993; Peluso et al. 1994; Carroll 1995), it can gear up to local entrepreneurs to take initiative to create sustainable and profitable businesses. Petrzalka et al. (2006), aligns it with a stronger economy and a source of awareness for consumption of natural resources, encouraging further development in sustainable economic boost tourism and recreation. Lastly, green entrepreneurs may introduce open space policies with clear examples of green thinking among communities.

In the past research, it has been notably found the difference between environmental concern and environmental behavior (Weigel 1983; Diekmann and Preisendorfer 1998). In the past few decades, the belief that economic and social development can no longer be achieved other way around to the nature has got base now. Whereas, results indicated increase in environmental concerns conflict in part with behavioral changes occurred actually. Scores of people perceive in environmental friendly way but act environmental unfriendly way. Averagely, correlation is not higher than $r = .35$ (Hines et al. 1986). It sums up as; change in given values doe not guarantee of change in actual behavior.

This research article seeks to investigate enabling factors of green entrepreneurship with reference to the adoption of organic agriculture produce in Sindh and Balochistan provinces of Pakistan. Much effort has been allocated to validate the adapted conceptual framework originally presented by Barr and Gilg (2007). Further this study focuses on situational and psychological variables which potentially enable lead to become green entrepreneur and adopt organic farming practices in the adapted conceptual framework. The central focus of this research is to identify and validate

2. Literature Review

2.1 Green Entrepreneurs or Ecopreneurs

Ecopreneur is an individual who invest in the green business with the goal of serving the society and protecting the environment in order to earn profit (Isaak 1999) whereas, Green entrepreneurs are individuals who target the opportunities in the market at their best and successfully introduce their innovative products and services accordingly (Dixon and Clifford, 2007). However, there is possibility that both (ecopreneur and green entrepreneur) may have different motivations, whereas both have common goal of focusing on innovative behavior and getting competitive is their core objective. Moreover, entrepreneurs in the green industry have not attracted authors very much, in the same time an author and historian from Harvard Business, Geoffrey Jones, who has taken some efforts in his new paper to put some lights on through writing about individuals who created the industry of wind-turbine. Key concepts include entrepreneurs in many fields of green aspect like, sustainable agriculture, ecotourism, organic food, the built environment, recycling of waste and natural cosmetics. Majority of the business and environmental historians have largely ignored the history of green entrepreneurs. It is a majority perception that there was a significant concern for green business or environment till end of the last (Sean Silverthorne 2011)

2.2 Organic farming, Benefits and Adoption Barriers

Many nations legally enforce the methods of Organic agriculture. It is internationally regulated with the standards set by the International Federation of Organic Agriculture Movement (IFOAM). It was established in 1972 and it is considered as an umbrella organization for organic farming organizations. IFOAM defines the organic farming as:

Organic agriculture is a production system that sustains the health of soils, ecosystems, 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 – International Federation of Organic Agriculture Movements.

Organic farming is considered beneficial method of agriculture production. It allows the farming community to produce quality and healthy agriculture produce at lower cost. Apparently it seems that the inorganic farming is profitable as its yield is higher but it has higher costs and comparatively organic farming is profitable as it has lower cost (Yasir M. et all 2011). In the developing economies like India where farming community is getting involved in the organic farming. Their involvement has not merely boosted their income by 30 percent to 200 percent besides their produce yields are increasing and pesticide-poisoned lands are being repaired due natural farming methods (The Guardian 2011). Others consider organic farming profitable on average when it is compared with conventional forms of similar type.

It is when yields are lower for the cultivatable produce with compensation with the variable input costs and there is the availability of premium prices. However, organic farmers can also maintain their income without reaching for premium prices (Lampkin N.H & Padel S, 1994).

There may be possible barriers for the farming community to adopt the organic farming methods. The method of organic farming can be changed easily but it is often difficult to change farming methods from conventional to organic. In this process of changing from conventional to organic farming an initial loss occurs, particularly when shift is rapid. Mostly it takes three to four years to build the soil through biological controls which are weakened by chemicals. Farming community may be reluctant to adopt organic farming methods without sufficient support from government (Palaniappan SP & Annadurai K, 1999). In another study it was found that the organic systems may not be productive for some enterprises due to misleading gross margins as they do not get sufficient benefits from the premium prices, there would be a difference between the enterprise mix and seen in conventional forms (Dixon and Holmes, 1987; Lampkin, 1990, 1993)

2.3 Organic Markets, Demand and Supply of Organic Produce

It is likely that establishment and development of organic industry highly depends on the development of the market for organic products (Lampkin N.H & Padel S, 1994). There should be establishment of separate markets for the sale of the organic products (Yasir, et al 2011). In terms of retail sales, size of the markets in the United States and European member states are more or less the same but operations of the EU member states are more than US. European Union states have the approach of promoting organic agriculture by developing the policies in order to allocate more land for farming, government is setting the standards and certification policy, educating the farmers, initiating research and marketing the organic products. On the other hand the U.S formulates policies for free market development with the intentions of country level standards and certification where it allocates funds federally in order to support research and marketing for organic produce (Dimitri and Lydia, 2006).

Potential market for the organic products is very large. Organic monitor conducted a research for measuring the size of the world organic market. Results of the research showed that estimated world organic products were 59.1 billion U.S dollars (44.5 billion Euros) in 2010. It increased by 8 percent in United States and Europe in 2009 with 20.2 billion Euros. United States is the leading market for organic products worth 20.2 Euros followed by Europe where 19.6 billion Euros were spent and others were Germany, France and United Kingdom. Further research included the countries with highest annual per capita spending. Switzerland and Denmark were observed with the spending of 140 Euros. In 2010, same research found that the major organic producers were India, Poland, Spain, Bolivia, Turkey and others (FiBL report, 2010).

3. Methods

A household survey questionnaire was developed to investigate enabling factors of green entrepreneurship, referring organic methods of farming practices in the Sindh and Balochistan provinces of Pakistan. It triggered at individuals involved in green farming businesses, potential green entrepreneurs in the provinces. Respondents were selected randomly from the targeted provinces, they included individuals directly involved in the farming practices, holding own land and investing in the organic agriculture production. The targeting of selected districts and organic agriculture growers and investors reduced the potential population of our sample size. Approximately 50 survey questionnaires were conducted. All the responses were gathered through appointments, avoiding biasness, researchers hired well educated assistant during this process.

Likert-type items on a five point scale was used to measure the perception of organic farming practices, impact of knowledge to switch current farming methods, environmental impact and incline to organic farming, potential/current barriers, social influence, annual gross income, land size and ownership type. A little empirical investigation has been conducted on these studies. In this regard, a list of items was borrowed and adapted from the work of Barr and Gilg (2007). Their work supported the primary objective of this research study is to investigate factors enable green entrepreneurship with respect to their farming and/or investment in the organic agriculture production.

4. Results

4.1 Current farming method (Organic or Inorganic)

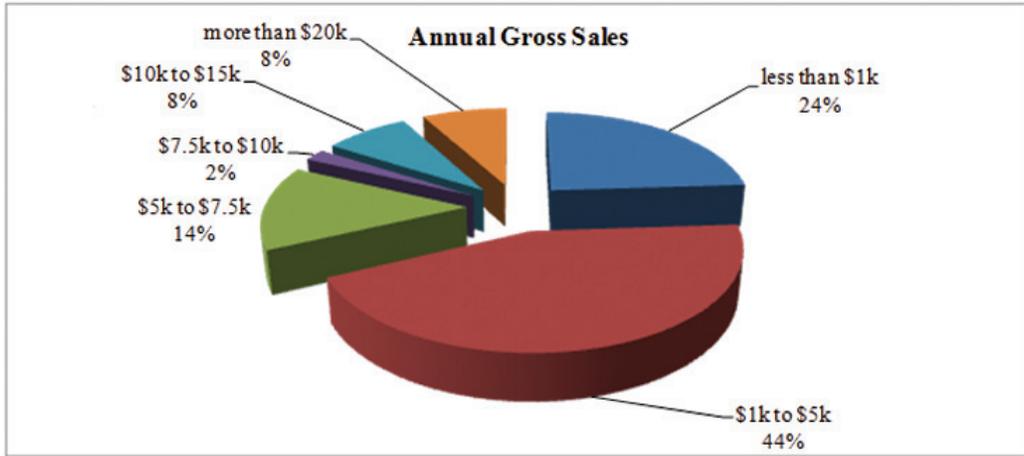
The Results show that majority (64%) respondents were conventional agriculture producers and (36%) were non-certified organic agriculture producers. According to estimates more than one hundred countries have adopted this method of farming formally (IFOAM 2007). Literature about Asia indicates that it is the seven percent producer of world land which is aggregate of almost 2.8 million hectares. China as a country cultivates (1.4 million hectares) followed by India (0.8 million hectares). Figures for number of producers, India is the leading from front with nearly 0.4 million producers from 0.5 million in the Asia (guardian 2011). It is emerging question everyone is asking at home and abroad that biggest producers in terms of land and human are India and China both border with Pakistan. Why Pakistan as country has failed to emerge as a player in the market where it shares same climate conditions as neighbors (Willer H 2012).

4.2 Annual gross sales

Figure 4.2 interprets the results of annual gross sales of agriculture producers in provinces. Currency used for survey was converted in local currency and asked accordingly. Each dollar is almost equal 98 Pakistani rupees (that time).

A very high proportion of respondents (44%) had annual gross sales from \$1000 to \$5000; nearly quarter of them had less than \$1000, with (14%) were with from \$5000 to \$7500, with (8%) had from \$10000 to \$15000 and meager (8%) had more than \$20000 annual gross sales respectively.

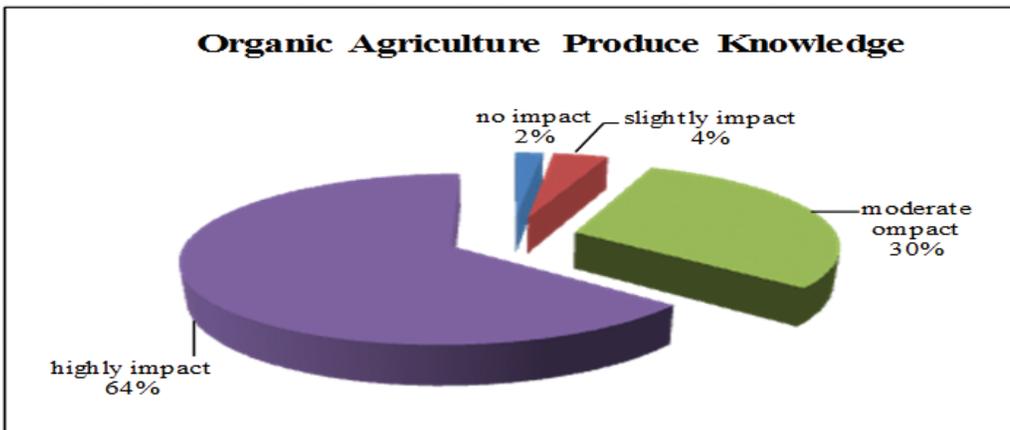
Figure 4.2: Annual gross sales of the agriculture producers in the both provinces



4.3 Organic farming know-how and its adoption

Figure 4.3 suggests that a high majority, with (64%) perceived very high impact of organic farming knowledge for becoming green entrepreneurs, with (30%) identified this knowledge could bring moderate impact for their possible adoption, with (4%) considered it to add slightly impact and smallest (2%) thought that organic farming will not contribute any impact to convert their current farming practices.

Figure 4.3: Impact of organic farming knowledge on its adoption



4.4 Environmental concerns

Investigations into environmental concerns, various researches conducted research around the globe, including surveys in United States and other international institutions, have identified that respondents identified environmental concerns at top among social problems (Dunlap, 1991; Dun-lap et al., 1993; Bosso, 1994; Kempton et al., 1995, Schultz, 2001). Similar to other studies in the past, results of this survey indicate that majority of respondents (34%) with highly concerned, with (44%) were identified as moderately concerned, with (14%) slightly concerned and smallest group with (8%) were not concerned in environmental issues to become green entrepreneurs.

4.5 Barriers to adoption

4.5.1 Market conditions

Frequency Table 4.5.1 presents aggregate results of all factors of market conditions as a barrier where, statistical majority, with (43%) identified those factors as definite barriers to adopting organic farming, with (27%) considered as possible level barrier, with (16%) found them some level of barrier, with (10%) thought as a barrier and smallest portion of respondents (3%) responded that market conditions might be some issue in their way to switch their current farming methods.

Table 4.5.1: Frequencies — Market Conditions as barriers for organic methods of farming

Market Conditions as Barriers__ Frequencies			
		Responses	
		N	Percent
Market Conditions as Barriers	No Issue	40	10.00%
	May be Issue	12	3.00%
	Some level of Barrier	64	16.00%
	Possible level Barrier	109	27.30%
	Definite Barrier	175	43.80%
Total		400	100.00%

4.5.2 Production conditions

Alike results for market conditions, Table 4.5.2 presents aggregate outcomes of the question as a result, more than (16%) respondents identified production conditions as a definite barrier, with (44%) considered them as possible level of barrier, with nearly (30%) thought them as a barrier but at some level, with more than (10%) considered that those variables might be issue and smallest number, nearly (3%) respondents did not consider those variables as barriers for their personal entry to become green entrepreneurs.

Table 4.5.2: Frequencies — Production Conditions as barriers for organic methods of farming

		Responses	
		N	Percent
Production Conditions as Barriers	No Issue	15	3.30%
	May be Issue	47	10.40%
	Some level of Barrier	133	29.60%
	Possible level Barrier	182	40.40%
	Definite Barrier	73	16.20%
Total		450	100.00%

5. Summary and Discussion

The results of the study identified that a very convincing proportion of agriculture growers were engaged in organic farming practices, they linked this produce with their environmental concerns and health consciousness, and most importantly wanted to get rid of skyrocketing prices of chemical fertilizers, pesticides, transportation costs etc. however, governmental institutions were observed unaware from the current progress in the organic farming in provinces.

Acquiring adequate knowledge and skills was considered essential elements for becoming green entrepreneur, so was proved in the literature and identified by significant majority in this study that conversion into organic farming without sufficient know-how is risky. Changes in climate conditions, pesticide attacks, weed problems and other diseases significantly lower yields and increases expenses, market fluctuation and changes in policy highly effect farming practices. Price and production risks lead farmers to financial losses and most importantly their personal health as working conditions for farming are very hazardous (NIOSH 2004). Further risk is defined by Harwood et al (1999) as a state of uncertainty that leaves an individual in distress and loss (financial, psychological, time etc.). However, besides knowledge, role of social inspiration was also considered a convincing factor to encourage individuals to get into organic farming.

Several factors were identified as barriers for embracing green entrepreneurship, including market and production conditions, results seemed consistent with those of Yussefi and Willer (2002) regarding creation and expansion of the organic markets and opportunities for green entrepreneurs to enjoy comparatively high price premiums for their organic agriculture produce. Market barriers were categorized as; lack of market for organic produce, if a few are at high distance, lack of trust and reliability on those existing markets, price premiums, rigid certification process (expensive and time taking) and lack of local and federal governmental support.

Production conditions as barriers were; unpredictable weather conditions, pest and weed attacks on crops, knowledge of organic farming practices, labor intensive farming methods, lack of organic inputs, initial organic seed capital. Whereas organic and inorganic category producers shared alike responses for market and production barriers

In conclusion, this study is an important step towards understanding enabling factors of green entrepreneurship by promoting organic agriculture production in Sindh and Balochistan provinces of Pakistan. Understanding of such factors will lead provinces to establish markets for organic produce. It will create opportunities for green entrepreneurs to invest more in the organic farming to boost their profits as demand for such products is developing locally and soaring globally. This research vividly indicates that farming community in both provinces is likely to convert their current farming methods and invest in organic farming if their problems are addressed accordingly. Therefore, it is need of the hour to take appropriate governmental and non-governmental steps to support the establishment of reliable and convenient markets besides providing adequate price premiums, price information and favorable support in production conditions i.e. providing production knowledge, organic inputs, provide seed capital, organic pesticides, adequate and timely irrigation water etc. it will open the new era of opportunities for provinces to produce organic agriculture and compete in the international markets.

Reference

- Blobaum, R. (1983) Barriers to conversion to organic farming practices in the Midwestern United States. In:
- Environmentally Sound Agriculture. Proceedings of 4th IFOAM Scientific Conference Boston 1992. (W. Lockeretz).
- Bosso, C. (1994). After the movement: Environmental activism in the 1990s. In N. Vig & M. Kraft (Eds),
- Environmental Policy in the 1990s. Washington, DC: CQ Press
- Carroll, M. S. 1995. Community and the northwestern logger: Continuities and changes in the era of the spotted owl. Boulder, CO: Westview Press.
- Diekmann, A., and P. Preisendofer. 1998. Discrepancies between aspirations and reality. *Rational. Soc.* 10:79–102.
- Dixon, S. and Clifford, A. (2007), "Ecopreneurship – a new approach to managing the Triple bottom line", *Journal of Organizational Change Management*, Vol. 20 No. 3, pp. 326-45.
- Dixon, P.L. and Holmes, J.C. (1987) *Organic Farming in Scotland*. School of Agriculture, Edinburgh
- Dunlap, R. E., Gallup, G. & Gallup, A. (1993). Global environmental concern: Results from an international public opinion survey. *Environment*, 35, 7¹⁵, 33³⁹.
- FiBL (2010), (ORGANIC FARMING AND CLIMATE CHANGE)
- Harwood, J., Heifner R., Coble K., Perry J. and Somwaru A. 1999. Managing risk in Farming: Concepts, research, and analysis. Markets and Trade Economics Division and Resource Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 774. March.

- Hardin, G. 1968. A tragedy of the commons. *Science* 162:1243–1248.
- Humphrey, C. R., M. S. Carroll, C. Geisler, T. G. Johnson, P. C. West, G. Berardi, S. Fairfax, L. Fortman, J. Kusel, R. G.
- Lee, S. Macinko, N. L. Peluso, and M. D. Schulman. 1993. Theories in the study of natural resource-dependent communities and persistent poverty in the United States. In *Persistent poverty in rural America*, ed. Rural Sociological Society Task Force on Persistent Poverty in Rural America, 136–172. Boulder, CO: Westview Press.
- Isaak, R. (1999), *Green Logic: Ecopreneurship, Theory and Ethics*, Kumarian Press, West Hartford, CT.
- Kempton, W., Boster, J. & Hartley, J. (1995). *Environmental Values in American Culture*. Cambridge, MA: MIT Press.
- Lampkin, H.H (1990) *Organic Farming*. Farming Press, Ipswich
- Lampkin N.H & Padel S, 1994, Book; the economics of organic farming p#114 58
- Lampkin, H.H (1993) The economic implications of conversion from conventional to organic farming systems. PhD thesis, Department of Agricultural Sciences, University of Wales, Aberystwyth.
- Palaniappan SP & Annadurai K, 1999; book "Organic Farming: Theory and Practice"
- Peluso, N., C. R. Humphrey, and L. P. Fortmann. 1994. The rock, the beach, and the tidal pool: People and poverty in natural resource-dependent areas. *Society Nat. Resources* 7:23–38.
- Petrzalka, P., R. S. Krannich, and J. M. Brehm. 2006. Identification with resource-based occupations and desire for tourism: Are the two necessarily inconsistent? *Society Nat. Resources* 19:693–708.
- Sean Silverthorne 2011 "The Untold Story of 'Green' Entrepreneurs"
- Volery, T. 2002. *Ecopreneurship: Rationale, current issues, and future challenges*. University of St. Gallen, Switzerland. http://www.igw.unisg.ch/rencontres/band2002/F_11_Volery.pdf. Retrieved 30 March 2006.
- Weigel, R. H. 1983. Environmental attitudes and the prediction of behavior. In *Environmental psychology: Directions and perspectives*, eds. N. R. Feimer and E. S. Geller, 257–287. New York: Praeger.
- Willer H (2012) "the world of organic agriculture 2012: summary" page#26
- Yasir M. et al 2011 "benefit cost ratios of organic and inorganic wheat production: a case study of district sheikhupura"
- Yussefi M. and Willer H. 2002. *Organic Agriculture World Wide 2002, statistics and Future Prospects*. Stiftung Okologie and Landbau. Bad Durkheim, Germany
- <http://www.guardian.co.uk/global-development/poverty-matters/2011/may/11/organic-farming-india-future->
- incomes-yields
- <http://www.fibl.org/en/media/media-archive/media-release/article/organic-agriculture-worldwide-market-growing-agricultural-land-remains-steady.html>