

Prospects and Challenges in Promoting Organic Agriculture in the Upland Communities in the Philippines: Implications to Food Security and Nutrition

Leila D. Landicho ¹⁺, Roselyn F. Paelmo ¹, Rowena D. Cabahug ¹, Roberto G. Visco ¹ and
Maryanne G. Abadillos ¹

¹ Institute of Agroforestry, College of Forestry and Natural Resources, University of the Philippines Los
Banos, College, Laguna, PHILIPPINES

Abstract. This paper highlights the status of organic farming in the upland areas in the Philippines. Using semi-structured interviews, focus group discussions and biophysical characterization, results revealed that majority of the farmers are now moving from conventional agriculture to organic farming practices. The shift was attributed to farmers' concern on health and food safety, cheaper inputs, and the preservation of their local agricultural practices. Similarly, the consumers appreciate the health and environmental contributions of organic farming, thus, the growing demand for organic food products. Despite these prospects, the adoption of organic agriculture is faced with challenges such as the lack of financial and technical capacity of the smallholder farmers; problem on the marketing and product labelling of organic food products; and, the quality of the organically produced agricultural products. These findings, therefore, suggest the need to review the institutional support system for the adoption of organic agriculture; and, enhance smallholder farmers' capacities.

Keywords: smallholder farmers, organic agriculture, institutional support system

1. Introduction

Organic agriculture is defined as all agricultural systems that promote environmentally, socially and economically-sound production of food and fibers [1]. Organic agriculture also reduces the use of chemically-based external inputs, instead, it promotes the law of nature to increase the agricultural yields and disease resistance.

In the Philippines, the adoption of organic agriculture has already been in place even before the promulgation of the Philippine Organic Agriculture Act of 2010. The essence of organic farming was realized when the farmers and even the scientists have observed the negative effects of the conventional agriculture to the environment, land uses of the farm, health and socioeconomic conditions of the farmers, particularly the smallholder farmers.

This paper highlights the different organic farming practices that are currently being employed by the smallholder farmers, including the problems that are being encountered from production to marketing stages. Specifically, this paper dwells on the perceptions of 155 smallholder upland farmers about the technical viability, environmental, socioeconomic and cultural implications of their farming practices; and, the perceptions of 1000 consumers about organic food products, and the emerging relationships between the producers (farmers) and the consumers (traders and consumers).

2. Prospects of Organic Agriculture in the Philippines

⁺ Corresponding author. Tel.: +63 49 536 3809; fax: +63 49 536 3809.
E-mail address: leila_landicho@yahoo.com.

2.1. Farmers' shift from Conventional to Organic Agriculture

Generally, the farmers that were included in this study have already recognized the importance of organic agriculture. Despite the many years of farming which heavily made use of chemical inputs, the farmer-respondents have been starting to adopt the organic farming practices (Table 1) in their agricultural production activities because of the cheaper cost of inputs as mentioned by many (21%) of them (Table 2). The organic farming inputs are just around their farms such as farm wastes, rice hull, animal manure, and composts which can be used as fertilizers. Other plant species with botanical properties that could serve as insect pest repellent are likewise available, if not in their own farm, within the community. These materials do not entail any cost compared when one farmer buys chemical fertilizers and pesticides.

It is noteworthy that the farmers began to recognize their health and safety on the use of organic inputs as indicated by 17% of the farmer-respondents. Because these are chemical-free, then the exposure of the farmers in the application of these inputs would not be harmful to them, and their consumers. They have also realized the need to bring back soil fertility, which has been lost when these were exposed to the different chemical inputs (6.4%). These realizations may have been brought about by their attendance to the seminars and training on organic farming/agriculture.

Table 1. Duration of farmer-respondents' organic farming practices in the Philippines

NUMBER OF YEARS IN ORGANIC FARMING	FREQUENCY	%
<one year	20	12.90
1-3 years	63	40.64
4-6 years	24	15.48
7-10 years	19	12.25
>10years	29	18.70
TOTAL	155	100

Table 2. Motivating factors in the adoption of organic farming practices

MOTIVATING FACTORS	FREQUENCY	%
Seminars and training	30	24
Cheaper cost of inputs	26	20.8
Department of Agriculture	24	19.2
For health reasons	21	16.8
Need to bring back soil fertility	8	6.4
Old practice	5	4
Environmental conservation	3	2.4
Market demand	2	1.6
Experiences of other farmers	1	0.8
Resources are available within the farm	1	0.8
Easy to do	1	0.8
TOTAL	125	

The variants of organic farming practices are shown in Table 3. Majority (50.85%) of the farmer-respondents use organic fertilizers, while a few makes use of botanical pesticides (9.40%), produce free-range chickens (7.69%); use chemical-free forage crops as feeds for the livestock (5.98%), and plant alternate hosts of pests (5.12%) such as madre de cacao (*Gliricidia sepium*), marigold (*Calendula officinalis*) and tanglad (*Cymbopogon ciatrus*). These species exude odors that attract some insect pests. Majority of the farmer-respondents (40.58%) have been employing these organic farming practices for 1-3 years only. These practices may have been adopted by these farmers after they were trained by the Department of Agriculture and the local government units, when the Organic Agriculture Act was put into law in 2010. There are some farmer-respondents (18%), however, who have been engaged in these practices for more than 10 years

already. The continuous use of these practices, therefore, indicates their effectiveness in the agricultural production activities of the farmer-respondents.

Table 3. Organic farming practices employed by the farmer-respondents.

ORGANIC FARMING PRACTICES	FREQUENCY*	%
Use of organic fertilizers	135	57.69
Use of vermicast/compost	10	4.27
Use of botanical pesticides	22	9.40
Planting of alternate hosts	12	5.12
Use of chemical-free forage crops as feeds	14	5.98
Production of free range chickens	18	7.69
Use of indigenous varieties	3	1.28
Use of green manure	12	5.12
Mulching	8	3.41
TOTAL	234	

*multiple response

2.2. Perceived Contributions of Organic Farming System on the Environmental and Socioeconomic Conditions of the Farming Communities

The farmer-respondents have already observed the effects of their organic farming practices to their agricultural production. These include the improved soil conditions, less incidence of pests and diseases, and improved crop growth (Table 4). The farmer-respondents also believed that organic farming practices, are environment-friendly, and therefore, would not contribute to the air pollution or greenhouse gases emissions. This, therefore, would contribute to a healthy society. Meanwhile, 77% of the farmer-respondents realized that organically-grown products ensure food safety and health of both the farmers and the consumers. These findings are validated by the argument that organic agriculture can produce safe food and support a varied diet; increase income and/or return on labor; reduce costs of production; reduce the risk of crop failures and their effects; make farmers and consumers more aware of the need for sustainable production and consumption, importance of clean and safe food and the need for environmental protection; and, recognize the value of traditional knowledge [2].

Table 4. Observed effects of organic farming practices on the soil condition of the farms.

EFFECTS OF ORGANIC FARMING ON SOIL CONDITIONS	FREQUENCY	%
Ensures food safety and health of farmers and consumers	184	100
Improved crop growth	154	99
Environment-friendly	148	87
Improve soil conditions	126	79
Less incidence of pests and diseases	117	72
Provides higher income	101	68
Less cost of inputs	47	32
More pests and diseases	37	23
Soil acidity decreases	34	21
Enhances biodiversity	6	5

*multiple responses

2.3. Potential Market Demand for Organic Food Products

A survey of 1000 consumers indicates that the consumers are already aware about organic farming. This could be explained by the fact that most of the consumer-respondents have higher educational attainment and whose occupation may have exposed them to these kinds of agricultural developments. Except for the issue on certification of organic food products, the consumers are already aware about organic agriculture including its health benefits. They are also aware that organic food products command higher prices than the

conventional products. Most of them are also aware that there are farmers within their locality that are engaged in organic farming, and there are organic food products that are available in the supermarkets.

The market of organic products is growing as the number of people willing to eat organic food and pay premium price is increasing [3]. Table 5 shows that majority of the consumers recognize the benefits of organic food products. They believed that organic food products are safe and healthy. While they viewed that there is no assurance whether these organic food products are 100% chemical free, they said that these products taste better than conventional food products. However, these are not always available in the market, and still, many of them believe that since there is no proper labelling that these are indeed certified as organic food products, then there is no assurance of its authenticity. Despite these, however, the consumers also claimed that these products are more expensive compared to the conventional food products. Considering their health and environmental benefits, the respondents argued that it is fair to put premium on the organic food products. While organic food products are usually smaller in size compared to conventional food products, they taste better than the latter. In addition, their shelf-life is longer than the non-organic food products. These findings validate the argument that people who purchase organic food have been classified into four groups, namely: the greens or those who are concerned with the environment; food phobic or people who are concerned about chemical residues in food; humanists or those who are pre-occupied with factory farming methods; and, hedonists or those who believe that premium products must be better if these importantly taste better [4].

Table 5. Consumers' perceptions about organic food products.

PERCEPTIONS	AGREE	DISAGREE
Organic food products are safe	734	44
Organic food products are healthier	718	75
There is no assurance whether there is zero chemicals	631	144
Organic food products taste better than conventional products	570	164
Producing OFP is environment-friendly	504	23
Organic food products are not always available in the market	498	219
There is no proper labelling, hence, no assurance of good quality	483	322
Organic food products are more expensive than non-organic	472	249
It is fair to put premium on OFP because of health and environmental benefits	390	322
Shelf life of organic food products is longer than non-organic	302	209
Organic food products are smaller in size compared with non-organic	301	215
I do not see benefits of organic food products	81	682

2.4. Legal Mechanism in Promoting Organic Agriculture

The Philippine Organic Agriculture Act was put into law in 2010 and is currently being implemented by the Department of Agriculture and other concerned national government agencies and local government units. Because of this law, a budget is allocated for the promotion of organic agriculture throughout the country. Thus, training and seminars and other information and education campaign activities are available and accessible to the smallholder farmers. The local government units have also facilitated the organization of farmers engaged in organic farming. As such, the smallholder farmers could enhance their social and financial capitals that would help sustain their farming system.

3. Dilemmas and Challenges in Promoting Organic Agriculture

While organic agriculture offers opportunities that are geared towards ensuring food security and safety of the populace, the promotion of this farming system is also constrained by some challenges at the farm and institutional levels. These are as follows:

- ***Lack of financial and technical capacity of the smallholder farmers to meet the certification required by the Organic Agriculture Act of 2010.*** The smallholder farmers are those who cultivate an average of 1.5 hectares of farms, with limited farm income, and whose production orientation is on a small-scale level, and who do not have control over the market prices. However, the Organic Agriculture Act of the Philippines requires the certification of organic farms by a third-party certifier, to facilitate labelling and marketing their products to supermarkets. Such certification requires big financial capital, which is not be affordable among the smallholder farmers. As such, the smallholder farmers could not compete with the conventional food products, because of the lack of label.
- ***Problem on the emerging marketing arrangements with the traders.*** Because of certification standards, the big supermarkets could not just accept organic food products which are not labelled accordingly. Thus, only the commercial-level organic farms could access the big market. The smallholder farmers transport their products to the nearest market within their communities. In most cases, these organic food products are mixed with conventional food products, and therefore, the price is almost similar. There are some communities, however, where the local government units organize an “Organic Market/Tiangge” regularly to help promote the organic farm products of the farmers. In this way, the organic food products could command higher prices. However, not all the communities organize this kind of marketing strategy, and thus, the problem on marketing continues to persist in most of the upland communities.
- ***Insufficient supply of organic inputs/fertilizers.*** There are farmers’ groups who reported that at present, the organic farming practices are laborious, which imply the need for more capital to meet the labor requirement. They have also an insufficient supply of organic fertilizers, because it takes time to produce organic inputs, and sometimes, they could not follow the recommended rate because of the insufficient supply.

4. Implications to Food Security and Nutrition

Organic agriculture offers good opportunities to ensure food security and nutrition. Foremost, organic agriculture promotes the use of natural and farm-based resources and inputs which abound within the community, and therefore, it does not require high input costs on the part of the farmers. It encourages integrated farming (multiple cropping), which promotes multiple harvests all year round, and thus, ensures food availability. This farming system prevents the use of chemical-based inputs, and thus, it ensures environmental integrity and enhances food safety and human nutrition. As defined during the World Food Summit in 2009, food security is the physical and economic access to sufficient, safe and nutritious food that meets the individual’s dietary needs and food preferences for an active and healthy life [5]

With these potentials, therefore, there is a need to intensify the promotion of organic agriculture not only in the developing countries like the Philippines, which serve as the food producers, but also among the developed countries which serve as the consumers and market of the organic food products. In the Philippines, the wider adoption of organic agriculture would only be possible if appropriate institutional support systems will be set up by the concerned national government agencies. These include the provision of technical assistance to enhance the technical capacities of the smallholder farmers; effective linkage-building between the producers and the consumers to ensure the sustainable marketing of organic food products; and, review and amendment of the existing Organic Agriculture Act particularly the certification standards that would be fit to the existing conditions of the smallholder farmers who constitute a big chunk in the farming sector of the country.

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