

**RICE FARMERS' CONCEPT AND AWARENESS OF ORGANIC AGRICULTURE:  
IMPLICATIONS FOR SUSTAINABILITY OF PHILIPPINE ORGANIC  
AGRICULTURE PROGRAM**

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**ABSTRACT**

The paper examined whether organic rice farmers are already equipped with the knowledge of practicing organic agriculture in the country especially with the expected full implementation of the Organic Agriculture Act in 2016 through a survey conducted in 2011. The study showed that rice farmers have only low to medium level of awareness on organic farming activities and markets for organic products. Mostly NGOs and private institutions were the major sources of knowledge and support services. The farmers' low level of awareness and accessibility to support services provided by both the government and private sector and the latter's inadequacy in providing those services resulted in poor farmer compliance to the PNSOA standards. These PNSOA standards cover conversion procedure, requirement on seeds, fertilization, pest and disease management, crop rotation and diversity, soil management practices, labelling, storage and transportation procedures, and processing. The government must therefore triple its efforts in disseminating the proper information on organic agriculture to the stakeholders in the industry to ensure the sustainability of the organic agriculture program in the country.

**Key words:** accessibility, compliance, PNSOA standards

**INTRODUCTION**

As the main staple food, rice is considered as the single most politically important commodity in the country. It accounts for 9% of total household spending and about one-third of total food consumption. It is grown in one-third of the country's cropland or about 4 million hectares out of the total 13 million hectares, contributing 19% of the total output of agriculture. In 2012, palay production accounted for about 21.86% of the gross value added in agriculture. The rice industry employs some 2.5 to 3.0 million farmers and agricultural workers comprising about 30% of the total employed in agriculture (BAS, 2013).

However, the Philippines remains the top importer of rice due to the rapid increase in population and low rice yield compared to its Asian neighbors. The country's population had more than doubled since the first high yielding varieties of rice were developed. Thus consumption and importation of rice had been on the rise vis-à-vis production. Because of the economic and political

importance of rice in the Philippines, rice self-sufficiency has been a major government policy goal. For example, the Agri-Pinoy program hopes to attain rice self-sufficiency through organic agriculture (OA), among other measures.

Although OA only emerged in the Philippines in the early 1980s mainly in response to the negative effect of green revolution, there had been efforts to promote it via the initiatives of farmers, private institutions/individuals and academe, who strongly stressed the need for alternative methods to conventional farming. Concrete government efforts, however, only started in the 2000s (Shimoguchi, et al. 2013).

During this year, the Department of Agriculture-Bureau of Agriculture and Fisheries Product Standards (DA-BAFPS) established the Philippine National Standards for Organic Agriculture (PNSOA) products and processes. In the same year, Administration Order No 13 was issued, providing accreditation guidelines for certifying bodies. The AO requires accredited certifying bodies to comply with the PNS requirements. In 2005, the government issued Executive Order 481 which established the regulations and guidelines, certification and accreditation, market promotion and networking, organic information, R&D and extension in organic agriculture. And in April 2010, the Organic Agriculture Act of 2010 (OAA) was enacted into a law establishing a comprehensive National Organic Agricultural Program (NOAP) for the Philippines.

DA-BAFPS had been in the forefront of promoting OA. Aside from DA's involvement in policy formulation, BAFPS was actively organizing organic conferences. Other bureaus attached to the DA also conducted trainings and seminars, technology demonstrations for farmer-beneficiaries and are involved in the provision of inputs like seeds and fertilizers. These are the Bureau of Plant Industry (BPI), Bureau of Soils and Water Management (BSWM), Fertilizer and Pesticide Authority (FPA) and the Regional Integrated Research Centers (RIARCs). On the other hand, private organizations and NGOs were also promoting organic agriculture as their advocacy programs.

Given these efforts in promoting organic agriculture, have organic farmers been equipped in practicing organic agriculture in the country? Are they prepared in the full implementation of the Organic Act in 2016? This paper seeks answers to the following questions. What is the extent of their awareness on organic farming activities? What are their sources of knowledge on organic farming? Who provides them support and are these support services accessible to them? Answers to these questions are important in crafting strategies for an extension delivery system, capacity building and transformation of conventional agriculture to a sustainable system.

## **REVIEW OF LITERATURE**

Previous studies had shown that economic, technical and institutional factors affect the farmers' decision to adopt organic agriculture. Farmers' concern about the adverse effects of farming on the environment made farmers in England to adopt conservation practices (McCann et al. 2002). Schneeberger, et al. (2002) revealed that Austrian farmers did not adopt organic practices due to fear of decreased income and marketing problems. High prices and limited markets have historically curtailed the demand for organic agriculture (Scialabba and Hattam 2002). In South Africa, however, the lack of marketing opportunities, no premium prices, and the lack of subsidies had kept the farmers from adopting organic practices (Niemeyer and Lombard 2003). In India, the lack of domestic markets also explains why farmers find it difficult to convert to organic methods in agriculture but about 85 per cent of the total organic production in the country are sold in the export market due to premium prices (Suresh Reddy 2010).

Scialabba's and Hattam's (2002) review of developing countries' efforts in organic agriculture points out the weakness of institutional support for nurturing existing knowledge and

exchange in organic agriculture. For example even if farmers are aware of some of the basic facts of farming they were not aware of all the aspects related to certification and standards given by different agencies (Singh and George, 2012). Sarmiento’s country report on organic agriculture (2007); production practices (Nocon et al. 2002); production and constraints confronting organic agriculture in the country (Piadozo and Quicoy 2009); and documentation of organic vegetables production and supply chain improvement (Conrado 2010, Mojica and Cresino 2010, Sim et al. 2010; Malab 2011) in the Philippines likewise pointed out these observation. These support the argument that farmers in developing and transition countries still face institutional and economic constraints to reach the stage of being certified organic producers, making it particularly costly for smallholders to participate in this market (Santacoloma 2007).

**MATERIALS AND METHODS**

The study covered Regions 3 and 4 in Luzon which contribute about one-fourth of the total volume of palay produced and 22.1% of the total area harvested to palay in the Philippines. It covered the following provinces: Zambales, Tarlac, Nueva Ecija, Bulacan, Pampanga, and Bataan in Region 3 (Central Luzon); and Cavite, Laguna, Batangas, Quezon, Rizal, Oriental Mindoro, and Marinduque in Region 4 (Southern Tagalog) (Fig. 1). Except for a few farmers who were not available during the survey, almost all of the rice organic farmers in these two regions were interviewed for the study in 2011. A total of 78 full organic farmers were included in this survey. These farmers have access to organic technology primarily from research institutions and the academe such as University of the Philippines Los Baños (UPLB) and Central Luzon State University (CLSU). Farmers’ cooperatives and producer groups that could collectively support organic farming are also present in the area. These areas are the production sites of organic agriculture based on previous studies. The farmers were classified into benchmark and typical based on 3.74 metric tons per hectare rice yield reported for organic farmers who belonged to *Magsasaka at Siyentista Tungo sa Pag-unlad ng Agrikultura* (MASIPAG). The latter is a farmers’ organization whose members were among the pioneers in organic rice farming in the country. Respondents whose yields are at least 3.74 mt ha<sup>-1</sup> were benchmark farmers; those below were typical farmers.

**RESULTS AND DISCUSSION**

*Producers’ Concept of Organic Farming*

Majority of the farmer-respondents define organic agriculture as the absence of chemicals used in farming. The farming method used must be both environment and health friendly. Some farmers even call it natural farming. Benchmark farmers have more advanced view of organic farming than typical farmers (Table 1).

**Table 1.** Farmers’ concept about organic farming by farm classification, 78 rice farmer-respondents, Regions 3 and 4, Philippines, 2012

Concept of Organic Farming	Farm Classification						
	Region 3	Benchmark (n=20)		Typical (n=23)		All (n=43)	
		No.	%	No.	%	No.	%
No chemicals used	5	25	10	43	15	35	
Natural farming, not harmful to the environment	7	35	5	22	12	28	
Use of organic inputs	2	10	-	-	2	5	
Safe food production	4	20	1	4	5	12	

Concept of Organic Farming	Farm Classification						
	Region 3	Benchmark (n=20)		Typical (n=23)		All (n=43)	
		No.	%	No.	%	No.	%
No answer	2	10	7	30	9	21	
All	20	100	23	100	43	100	
Region 4	Benchmark (n=20)		Typical (n=15)		All (n=35)		
	No.	%	No.	%	No.	%	
No chemicals used	19	95	11	73	30	86	
Natural farming, not harmful to the environment	1	5	1	7	2	6	
Use of organic inputs	-	-	2	13	2	6	
Use of indigenous materials	-	-	1	7	1	3	
All	20	100	15	100	35	100	
Both Regions	Benchmark (n=40)		Typical (n=38)		All (n=78)		
	No.	%	No.	%	No.	%	
No chemicals used	24	60	21	55	45	58	
Natural farming, not harmful to the environment	8	20	6	16	14	18	
Use of organic inputs	2	5	2	5	4	5	
Use of indigenous materials	-	-	1	3	1	1	
Safe food production	4	10	1	3	5	6	
No answer	2	5	7	18	9	12	
All	40	100	38	100	78	100	

Majority of the farmers perceived the low input cost, improvement in soil fertility and the high price received for organic products as the major advantages of going into organic farming (Table 2). The low input cost was most especially true for 90% of Region 4 farmers while improvement in soil fertility was cited by 70% of the farmers in Region 3 side by side with low input cost. Since organic farming encourages the use of indigenous materials, lower costs are incurred. Also, organic farming does not employ synthetic fertilizers and pesticides which cost more or less a thousand pesos for a liter of liquid fertilizer or a bag of complete fertilizer. Instead, farmers are encouraged to produce their own inputs using materials that can be easily found from their farm surroundings.

Apart from lower costs, one advantage of organic farming is its benefits to health and environment. Health benefits are enjoyed not only by the consumers through eating chemical free products but also by the farmers and their families since they avoid the inhalation or ingestion of chemicals which can cause serious ailments. Minimizing chemical contamination also benefits the environment. On the other hand, the least perceived advantages of organic farming are secured market, increase in demand, higher yield and greater government support.

Generally, there is a higher proportion of benchmark than typical farmers who reported the advantages of organic farming based on the different aspects considered. It is noted that higher yield and greater government support are perceived more by the benchmark than the typical farmers. Most benchmark farmers in fact obtained higher yield compared to typical farmers. Moreover, some benchmark farmers are beneficiaries of government programs through the *Magsasaka Siyentista* or Farmer-Scientist program.

**Table 2.** Perception of advantages of organic farming by farm classification, 78 rice farmer-respondents, Regions 3 and 4, Philippines, 2012

Advantage <sup>a/</sup>	Farm Classification					
	Region 3		Region 4		Both Regions	
	Benchmark (n=20)		Typical (n=23)		All (n=43)	
	No.	%	No.	%	No.	%
Lower input costs	17	85	13	57	30	70
Improves soil fertility	14	70	16	70	30	70
Higher price	15	75	12	52	27	63
Producers not exposed to chemicals	6	30	12	52	18	42
Uses indigenous materials	9	45	7	30	16	37
No chemical residues in crops <sup>b/</sup>	9	45	9	39	18	42
Crops have more nutritional value	3	15	5	22	8	19
Secure market or contract	2	10	6	26	8	19
Increasing demand for organic products	2	10	5	22	7	16
Higher yield	3	15	1	4	4	9
Greater government support for OF	1	5	1	4	2	5
	<b>Benchmark (n=20)</b>		<b>Typical (n=15)</b>		<b>All (n=35)</b>	
Lower input costs	18	90	14	93	32	91
Crops have more nutritional value	7	35	13	87	20	57
Higher price	9	45	10	67	19	54
Improves soil fertility	12	60	7	47	19	54
No chemical residues in crops <sup>b/</sup>	15	75	9	60	23	66
Uses indigenous materials	11	55	4	27	15	43
Producers not exposed to chemicals	10	50	4	27	14	40
Greater government support for OF	4	20	3	20	7	20
Higher yield	3	15	3	20	6	17
Increasing demand for organic products	1	5	3	20	4	11
Secure market or contract	1	5	2	13	3	9
	<b>Benchmark (n=40)</b>		<b>Typical (n=38)</b>		<b>All (n=78)</b>	
Lower input costs	35	88	27	71	62	79
Improves soil fertility	26	65	23	61	49	63
Higher price	24	60	22	58	46	59
Producers not exposed to chemicals	16	40	16	42	32	41
Uses indigenous materials	20	50	11	29	31	40
No chemical residues in crops <sup>b/</sup>	24	60	18	47	41	53
Crops have more nutritional value	10	25	18	47	28	36
Secure market or contract	3	8	8	21	11	14
Increasing demand for organic products	3	8	8	21	11	14
Higher yield	6	15	4	11	10	13
Greater government support for OF	5	13	4	11	9	12

<sup>a/</sup> Multiple responses

<sup>b/</sup> Including beneficial to health and environment, production of safe food, better quality produce

*Producers' Awareness on Organic Farming Activities*

The farmers were first classified into their level of awareness and familiarity on the right seeds, fertilizer and pesticide to use; production of organic fertilizer and pesticide; and marketing practices. The level of awareness was categorized into high, medium and low. If they are familiar about all the mentioned production and marketing activities, their level of awareness is high; medium if familiar on 4 - 5 categories; and low if on 1 - 3 categories only.

Most farmers interviewed had medium level of awareness on organic farming activities (Table 3). Awareness is higher in Region 4 than in Region 3 with 80% and 51% of farmers having medium to high, respectively. As expected the benchmark farmers were more familiar with these activities than the typical farmers. However, 32% of the farmers in both regions still have a low level of awareness. In fact, there are 3 typical farmers in Region 3 who reported lack of awareness on the various aspects of organic farming. This aspect must be addressed for the furtherance of organic agriculture in these regions.

**Table 3.** Level of awareness on organic production and marketing practices by farm classification, 78 rice farmer-respondents, Regions 3 and 4, Philippines, 2012

Awareness Level	Region 3				Region 4				Both Regions			
	Benchmark (n=20)		Typical (n=23)		Benchmark (n=20)		Typical (n=15)		Benchmark (n=40)		Typical (n=38)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
High <sup>a/</sup>	3	15	3	13	6	30	2	13	9	23	5	13
Medium <sup>b/</sup>	11	55	5	22	10	50	10	67	21	53	15	39
Low <sup>c/</sup>	6	30	12	52	4	20	3	20	10	25	15	39
None	-	-	3	13	-	-	-	-	4	-	3	8
All	20	100	23	100	20	100	15	100	40	100	38	100

(Categories for determining level of awareness: seeds to use; fertilizer to use; pesticide to use; organic fertilizer production; organic pesticide production; and marketing practices)

<sup>a/</sup> Farmers are aware on all 6 categories

<sup>b/</sup> Farmers are aware on 4-5 categories

<sup>c/</sup> Farmers are aware on 1-3 categories

It should be noted that majority of farmers were not aware about the recommended marketing practices for organic products. This was actually due to the lack of markets for organic products. The farmers' produce is sold in local markets alongside with conventional products.

Farmers also cited their lack of awareness on organic pesticide production. They regard pesticides as a means of destroying pests but in organic farming, botanical sprays considered as pesticide, only eliminate pests and might result to the recurrence of pest infestation. Therefore, some farmers resort to the manual removal of pests from their plants.

*Producers' Knowledge on Organic Farming and Information Source*

Rice farmers were mainly knowledgeable about what seeds and fertilizer to use (94-96% reporting), followed by the kind of pesticide to use (84%), then by production of organic fertilizer/pesticide (49-54%), and lastly by marketing (29% only) (Table 4). Although the farmers

were aware of the appropriate fertilizer and pesticide to use, they were not knowledgeable in producing their own inputs since the cooperative/organization in their respective areas provided them with these inputs. Also, most farmers had no or limited market outlets for their organic produce; hence only a few indicated they have knowledge on marketing. By region, it seems that more farmers in Region 4 know how to produce organic fertilizer and pesticides compared to Region 3. Quezon farmers (Region 4) consistently have higher knowledge on these aspects vis-à-vis other farmers. This could be due to Quezon's proximity to academic and research institutions like UPLB-Biotech and the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD). On the other hand, Nueva Ecija farmers in Region 3 had an edge on these aspects probably due to the trainings conducted by training service providers in this area.

**Table 4.** Knowledge about organic farming by farm classification, 78 rice farmer-respondents, Regions 3 and 4, Philippines, 2012.

Knowledge About Organic Farming	Region 3				Region 4				Both Regions			
	Benchmark (n=20)		Typical (n=23)		Benchmark (n=20)		Typical (n=15)		Benchmark (n=40)		Typical (n=38)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Seeds to use	20	100	20	87	19	95	14	93	39	98	34	89
Fertilizer to use	20	100	20	87	20	100	15	100	40	100	35	92
Pesticide to use	16	80	13	57	20	100	15	100	36	90	28	74
Production of organic fertilizer	11	55	5	22	15	75	11	73	26	65	16	42
Production of organic pesticide	7	35	6	26	15	75	10	67	22	55	16	42
Marketing practices	7	35	7	30	6	30	3	20	13	33	10	26

The farmers' major source of information on the appropriate seeds to use is the NGOs (Tables 5 and 6). The NGOs are very active in their respective organic advocacies through trainings and seminars. In Region 3, the active NGOs are the *Kooperatibang Likas ng Nueva Ecija* (KOOL-NE), Social Action Center Gratia Plena (SAC-GP) and Saliraya; while in Region 4, these are MASIPAG and SUSI Foundation, Inc. At the time of study, very few farmers learned what seeds to plant from government agencies such as the DA-Agriculture Training Institute (ATI) and Philippine Rice Research Institute (PhilRice). Farmers still relied on their own effort. These were largely typical farmers who made their own research when it comes to the use of the appropriate varieties to plant. However, there were slightly more benchmark than typical farmers who sourced information from NGOs or government sources.

In terms of the farmers' knowledge on what fertilizer and pesticide to use, there were more benchmark than typical farmers who did their own research. In fact, none among the typical farmers reported having acquired such knowledge from DA-ATI as of the survey period. As with the other farming activities, NGOs were the top source of knowledge for 69% of the farmers. Knowledge on organic fertilizer and pesticide production mostly came from NGOs for both regions. No respondent in Region 4 learned organic fertilizer production from local government units (LGUs). Their knowledge came primarily from their own knowhow and other farmers. Likewise, very few farmers (3%) from both regions obtained their knowledge in bio-pesticides production from their LGUs. As of the time of survey, DA-ATI has not been tapped by typical farmers in producing bio-fertilizer and bio-pesticides; in fact by only 2-3 benchmark farmers. Among those who indicated that they have

some knowledge about marketing practices, NGOs were the primary source of information. These NGOs usually provide the market outlet for the farmers' produce especially for those whom they guarantee through internal guarantee or certification system. Three farmers cited LGUs that buy their produce as another source of marketing-related information.

Overall, the NGOs are very active in promoting organic farming in their respective areas. However, the farmers themselves play a key role since a significant number of respondents gained knowledge through their own resources and initiatives.

**Table 5.** Producer's sources of knowledge on different farming activities on rice production, in percentage, Region 3, 2012.

Source	Seeds to Use		Fertilizer to Use		Pesticide to Use		Organic Fertilizer Production		Organic Pesticide Production		Marketing Practices	
	BM	Typ	BM	Typ	BM	Typ	BM	Typ	BM	Typ	BM	Typ
NGOs	70	60	80	90	56	77	64	60	43	67	57	57
LGUs	5	15	-	10	-	15	9	40	-	33	14	29
DA-ATI region	5	-	5	-	6	-	9	-	14	-	-	-
Own knowledge	15	25	5	-	31	8	9	-	43	-	43	14
Other farmers	5	-	5	-	-	-	9	-	-	-	-	-
No response	-	-	5	-	6	-	-	-	-	-	-	-

BM= Benchmark; Typ= Typical

**Table 6.** Producer's sources of knowledge on different farming activities on rice production, in percentage, Region 4, 2012.

Source	Seeds to Use		Fertilizer to Use		Pesticide to Use		Organic Fertilizer Production		Organic Pesticide Production		Marketing Practices	
	BM	Typ	BM	Typ	BM	Typ	BM	Typ	BM	Typ	BM	Typ
NGOs	58	57	50	53	30	53	47	55	27	50	33	-
LGUs	5	7	5	7	10	7	-	-	7	-	-	-
DA-ATI region	11	-	10		10	-	7	-	13	-	17	-
Own knowledge	21	21	30	20	35	20	27	18	40	20	33	67
Other farmers	5	14	5	20	15	20	20	27	13	30	17	33

BM= Benchmark; Typ= Typical



*Farmers' Awareness on Policies and Agencies*

Farmer respondents were asked about their awareness of important policy measures supporting organic agriculture in the country. These measures have implications for the farmers' practice and advocacy of organic agriculture. Farmers must be very familiar with the Implementing Rules and Regulations (IRR) of the Organic Act of 2010 or RA 10068 enacted for the promotion of organic agriculture. Farmers should also be knowledgeable about the standards and requirements for organic products that are embodied in the PNSOA. On the other hand, Administrative Order No. 13 Series of 2013 provided the guidelines in the accreditation of certifying bodies such as the Organic Certification Center of the Philippines (OCCP) and the FPA for organic agriculture in the event that they will have their farms certified. Meanwhile, Executive Order 481 of 2005 or the Promotion of Organic Agriculture facilitated the creation of the National Organic Agriculture Program and the National Organic Agriculture Board (NOAB). NOAB is the policy-making body that provides direction and general guidelines for the implementation of the national program on organic agriculture while the DA-BAFPS is the national technical and administrative secretariat of the NOAB. The BAFPS implements organic agriculture programs and projects approved by the Board.

To guide farmers and traders on how to register organic food and organic inputs, the DA issued AO 14 in 2011. As early as 2008, the government had provided a support mechanism to organic agriculture producers via the Organic Fields Support Program (OSFP). This is embodied in Special Order 470 of 2008. Farmers also have another support mechanism through the Organic Producers and Trade Association (OPTA). It is an existing organization of organic producers in the country whose members are medium and large scale producers of organic products, traders, academicians and other advocates of organic farming. Aside from promoting organic agriculture, its goal is to form a vast marketing network for easier linkage of producers and consumers.

The result of the survey showed that less than half of the rice farmer respondents in both regions are familiar with the various policies or agencies involved in organic agriculture (Table 7). Only 44% and 51% of farmers in Regions 3 and 4, respectively, are aware of the Organic Agriculture Act of 2010. Very few also know about the PNSOA, OCCP, BAFPS and other agencies involved in organic agriculture; even less knows about the various administrative orders issued by the DA. This implies the lack of information dissemination on the part of the agency. Comparatively, there is a higher proportion of benchmark than typical farmers who know about the Organic Agriculture Act and PNSOA. This may partly explain the greater adoption of required farming practices and product standards among benchmark farmers.

Production technologies (40%), input sourcing (31%) and postharvest technologies (23%) were the top support services given by government institutions that farmers are aware of (Table 8). However, there are more support services provided to organic farmers in Region 4 than in Region 3 including the provision of credit, market information and other business development services. For both regions, more benchmark farmers are aware of these existing support services than the typical farmers. As reported earlier, benchmark farmers were mostly beneficiaries of the Farmer-Scientist program which is funded and supported by the government.

In Region 3, Bulacan and Tarlac farmers were greatly aware of production technologies provided by government agencies but about three-fourths of Nueva Ecija farmers had no information coming from their LGUs. The presence of NGOs and peoples organizations (POs) in the province had supplanted the government's role in organic agriculture in the province. On the other hand, about one-fourth of Quezon farmers indicated the role of government agencies especially of the LGU and provincial agricultural office in providing the services they needed. Rizal farmers though had reported the varying services provided by their local government. The province of Rizal also actively promotes organic agriculture especially in the municipality of Baras.

**Table 7.** Awareness on various policies/agencies on organic agriculture by farm classification, 78 rice farmer-respondents, Regions 3 and 4, Philippines, 2012

Policy/Agency	Region 3				Region 4				Both Regions			
	Benchmark (n=20)		Typical (n=23)		Benchmark (n=20)		Typical (n=15)		Benchmark (n=40)		Typical (n=38)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Organic Agriculture Act of 2010	11	55	8	35	22	55	15	39	22	55	15	39
PNSOA	2	10	2	9	5	13	4	11	5	13	4	11
EO 481	-	-	-	-	1	3	5	13	1	3	5	13
DA SO 470 of 2008	-	-	-	-	2	5	1	3	2	5	1	3
DA AO 13 Series of 2003	-	-	-	-	1	3	1	3	1	3	1	3
DA AO 14 Series of 2011	-	-	-	-	1	3	1	3	1	3	1	3
OPTA	2	10	3	13	3	8	5	13	3	8	5	13
BAFPS	-	-	-	-	4	10	4	11	4	10	4	11
OCCP	4	20	1	4	1	5	2	13	12	30	12	32

*Rice Farmers' Awareness on Private Support Services*

Private institutions are more active in the organic agriculture program as compared to the government sector as seen in the producers' awareness of support services given by these institutions. As shown in Table 9, there are more farmers who were aware of services such as production technologies (62%), input sourcing (59%) and postharvest technologies (37%) vis-a-vis those provided by government institutions (Table 8). However there were more typical than benchmark farmers who were knowledgeable of the support services given by private institutions than those provided by the government. A larger number of typical farmers are members of organizations/associations than benchmark farmers. Benchmark farmers are mostly beneficiaries of government-funded projects while organizations involved in organic agriculture advocacy and farmer associations cater mostly to typical farmers. Thus Nueva Ecija and Quezon farmers followed by Rizal farmers were largely informed about these various support services.

*Rice Farmers' Perceived Accessibility to Government Support Services*

In general, the support services provided by government agencies are not highly accessible to the organic farmers. Less than one third of the organic farmers had access to government support. Farmers rarely mentioned credit and marketing-related services.

The production technologies were disseminated through trainings, hands-on demonstration, seminars, symposia, and farmers' class on organic farming. Mostly, these trainings are initiated by the provincial agriculture offices, and implemented by LGUs in cooperation with DA-ATI. Also, most municipalities visited are still on the early stages of promoting organic agriculture in their areas. The promotional activity starts with the giving of trainings and seminars. Then the LGUs provide

inputs like seeds, fertilizers and pesticides to organic farmers, making it the second most accessible support service as reported by 28% of the respondents. These inputs may be given for free or with discounted prices by the government. Most municipalities in the survey areas offer seeds and fertilizers at half its price or with 50% subsidy. There are also some municipal offices that sell organic fertilizers. According to key informants interviewed, the giving away of organic inputs is a way to encourage farmers to engage in organic farming. Since planting is the primary source of income for most farmers, they cannot afford to invest on new technologies/inputs without the assurance of good yield. Therefore, to promote organic farming, organic inputs were first distributed to farmers at no cost. Further, accessibility to postharvest technologies was experienced by only 21% of the farmer-respondents. Training on organic farming already includes technologies from production to postharvest, especially on rice production.

These support services, however, are more accessible in Region 4 than in Region 3 since Region 4 especially Quezon had a headstart in promoting organic agriculture than the other regions in Luzon. Moreover, more benchmark than typical farmers reported that these support services were readily available from government agencies.

#### *Perceived Adequacy of Government Services Provided to Farmers*

When the question of adequacy of services provided by government agencies was asked, the proportion of rice farmers who deemed these services as adequate for their needs slightly decreased: 33% on input sourcing, 24% on production technologies and 15% on postharvest technologies from those who indicated that these were accessible at 36%, 28% and 21%, respectively (Table 8). Again, although benchmark farmers perceived government services as adequate more than the typical farmers, the number who did so was low. This implies that first, the government must hasten the delivery of the needed support services to organic farmers and second, there is an urgent need to make their presence felt in the organic rice industry.

#### *Farmers' Perceived Accessibility to Private Support Services*

Again, rice farmers perceived that they also have less accessibility to the support services given by the private sector. Among the support services they are most accessible are: production technologies (38%), input sourcing (37%), and post-harvest technologies (23%) (Table 9). More benchmark than typical farmers have greater access to these services since they are mostly beneficiaries of programs given by both the government and private sectors. These private sectors are mostly organizations, NGOs, cooperatives, and farmer-associations. The most active among them are MASIPAG in Region 4 and SAC-GP and KOOL-NE in Region 3.

#### *Perceived Adequacy of Private Support Services Provided to Farmers*

The same proportion of rice farmers who had access to the various services provided by the private sector also reported that these services are not enough for their needs. More benchmark than typical farmers again perceived private support services as adequate. But there are more rice farmers in Region 4 who perceived these services as adequate at the same time accessible to them compared to Region 3 farmers. This indicates that support services from the private sector are ample to sustain the farming needs of organic rice producers from Regions 3 and 4. Also, most of the private sectors giving support services have long been involved in organic agriculture promotion. Some of them even started organic agriculture in their areas unlike the government sector which just started promoting it when the Organic Agriculture Act became a law.

**Table 8.** Rice farmer respondents' awareness, accessibility and adequacy of government support services received (in percent), Region 3 and 4, Philippines, 2012

Support Services	Awareness				Accessibility				Adequacy			
	Region 3		Region 4		Region 3		Region 4		Region 3		Region 4	
	BM (n=20)	Typ (n=23)	BM (n=20)	Typ (n=15)	BM (n=20)	Typ (n=15)	BM (n=20)	Typ (n=15)	BM (n=40)	Typ (n=38)	BM (n=40)	Typ (n=38)
Production technologies	50	74	65	53	20	17	70	40	20	17	60	40
Input sourcing	60	52	65	60	15	9	55	40	15	9	50	27
Post harvest technologies	35	39	40	33	10	-	60	13	10	-	45	7
Credit	30	61	15	27	-	4	20	-	-	4	15	-
Market information	35	43	-	-	-	4	15	7	-	4	10	-
Standards	-	13	20	27	-	-	15	13	-	-	10	13
Product labeling	5	-	40	33	-	-	10	-	-	-	10	7
Packaging	5	-	10	-	-	-	5	7	-	-	5	7
Advertising	-	-	5	-	-	-	5	7	-	-	5	-
Logistics	45	35	25	3	-	-	5	-	-	-	-	-
Business advisories	35	39	25	20	-	-	5	-	-	-	-	-
Branding	5	-	25	20	-	-	5	-	-	-	5	-
Design	-	-	5	25	-	-	5	-	-	-	5	-
Certification/subsidy	-	-	-	-	-	-	-	-	-	-	-	-
None	35	26	15	20	-	-	-	-	-	-	-	-

**Table 9.** Rice farmer respondents' awareness, accessibility and adequacy of private support services received (in percent), Region 3 and 4, Philippines, 2012.

Support Services	Awareness				Accessibility				Adequacy			
	Region 3		Region 4		Region 3		Region 4		Region 3		Region 4	
	BM (n=20)	Typ (n=23)	BM (n=20)	Typ (n=15)	BM (n=20)	Typ (n=15)	BM (n=20)	Typ (n=15)	BM (n=40)	Typ (n=38)	BM (n=40)	Typ (n=38)
Production technologies	50	74	65	53	20	17	70	40	20	17	65	60
Input sourcing	60	52	65	60	15	9	55	40	25	13	65	53
Post harvest technologies	35	39	40	33	10	-	60	13	15	12	35	33
Credit	30	61	15	27	-	4	20	-	5	9	20	20
Market information	35	43	-	-	-	4	15	7	5	4	10	27
Standards	-	13	20	27	-	-	15	13	5	9	30	13
Product labeling	5	-	40	33	-	-	10	-	-	-	25	13
Packaging	5	-	10	-	-	-	5	7	-	-	25	20
Advertising	-	-	5	-	-	-	5	7	-	-	-	-
Logistics	45	35	25	3	-	-	5	-	5	4	-	-
Business advisories	35	39	25	20	-	-	5	-	5	4	-	-
Branding	5	-	25	20	-	-	5	-	-	-	25	13-
Design	-	-	5	25	-	-	5	-	-	-	25	13-
Certification/subsidy	-	=	-	-	-	-	-	-	-	-	-	-
None	35	26	15	20	-	-	-	-	-	-	-	-

*Farmers' Compliance to PNS Standards*

The farmers' lack of awareness and accessibility to support services provided by both the government and private sectors and their inadequacy showed that the farmers have not become compliant to the PNSOA. These standards cover the conversion procedure, requirement on seeds, fertilization, pest and disease management, crop rotation and diversity, soil management practices, labeling, storage and transportation procedures, and processing.

Only 1 out of 7 benchmark farmers and 1 out of 17 typical farmers in Region 3 conformed to the PNSOA (Table 10). This benchmark farmer from Nueva Ecija observed the required procedures except that of processing since he did not perform this function while the typical farmer only complied with 3 out of 10 (conversion procedure, seed requirement and transportation and storage). Meanwhile in Region 4, 2 out of 20 benchmark farmers and 1 out of 15 typical farmers are PNSOA-compliant.

**Table 10.** Rice farmer respondents' compliance with PNSOA, in percentage, Region 3 and 4, Philippines, 2012

Practices	Region 3			Region 4			Both Regions		
	BM (n=20)	Typ (n=23)	All (n=43)	BM (n=20)	Typ (n=15)	All (n=35)	BM (n=40)	Typ (n=38)	All (n=78)
Conversion procedure	5	4	5	10	7	9	8	5	6
Seed requirement	5	4	5	10	7	9	8	5	6
Pest and disease management	5	-	2	10	13	11	8	5	6
Fertilization	5	-	2	10	7	9	8	3	5
Soil management practices	5	-	2	10	7	9	8	3	5
Crop rotation and diversity	5	-	2	10	7	9	8	3	5
Packaging	5	-	2	10	7	9	8	3	5
Storage and transportation	5	4	5	5	-	3	5	3	4
Labeling	5	-	2	10	-	6	8	-	4
Method of processing	5	-	2	5	-	3	5	-	3

BM= Benchmark; Typ= Typical

**CONCLUSION AND RECOMMENDATIONS**

The result of the study showed that much effort has to be exerted to make the organic farmers in the country more aware and compliant to the PNSOA standard. Since organic products cannot be sold in the market without the appropriate label by 2016, the government has to triple its efforts in disseminating the proper information on organic agriculture to the stakeholders in the industry especially to the farmers. Adherence to the PNSOA standards does not only imply that products should be pesticide or chemical free only. Stakeholders should be provided with the needed information on certification, health and environment, adaptability, cultural practices and insecticides/pesticides used in organic farming. Consumers must be informed where organic markets can be found, the prices, physical appearances of organic products, the health benefit and how to identify organic products.

Effective communication strategies to promote organic farming through use of print media, radio, digital media, SMS, TV and online means to achieve national reach should be adopted. A non-formal course online in organic farming and ecclesial intervention on organic agriculture can also promote organic agriculture advocacy. Training on technology and its dissemination should be done.

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