

Profitability

Crop yields, production costs and price of produce varied across farm types. Ampalaya, okra and pole sitao yielded high in FOFT, eggplant and squash yielded high in ICFT while tomato and finger pepper yielded high in CFT. Production costs are generally higher in FOFT and ICFT than CFT. The high price and generally high yield in FOFT and ICFT more than compensate the high production costs hence income was still higher than CFT.

Average Yield

Crop	Full Organic		In Conversion		Conventional	
	Mean	SD	Mean	SD	Mean	SD
Ampalaya	6.06	8.25	0.82	1.60	1.29	1.18
Eggplant	1.48	2.05	2.64	4.55	1.63	3.46
Finger pepper	0.27	0.25	0.67	0.91	1.48	0.79
Okra	1.38	1.82	0.90	0.92	0.55	0.59
Pole Sitao	1.63	1.96	0.89	1.76	0.33	0.23
Squash	1.3	1.02	1.84	4.85	0.25	0.07
Tomato	1.25	1.50	1.51	11.98	8.54	13.07

Net Income (Php/1000 m²)

Crop	Full Organic	In Conversion	Conventional
Ampalaya	61215	11319	25175
Eggplant	13613	24624	2022
Finger pepper	32582	16298	42736
Okra	13371	24623	2022
Pole sitao	52871	9460	9366
Squash	22912	37026	2610
Tomato	29624	24647	25672

Concluding Statements

Organic agriculture offers substantial opportunities for improving the productivity and quality of “pinakbet” vegetables and consequently, the farmers’ income in Region 1. Farmer’s socio-economic characteristics and technical aspects of the component technologies fully support its region-wide adoption. Its promotion has been accelerated by the availability of institutional support services from both government and non-government agencies and/or organizations. There are however, pressing concerns that need to be addressed. Some of these are:

1. Farmers’ negative perceptions on organic farming such as lower crop yields and limited availability of organic inputs should be set right;
2. Other perceived disadvantages of the technology and related technical concerns should be evaluated/validated. R&D could play an important role along this line;
3. Their awareness on the organic certification and verification processes should be enhanced;
4. Risk-taking ability of the farmers should be enhanced. Trainings can be conducted to re-orient farmers’ behavior towards cooperatives and agri-entrepreneurship; and
5. More importantly, institutional support services should be refocused to include marketing concerns. Sustainable technology adoption should not merely end in production but equally important is the marketing of the outputs. So far no serious effort had been done along this line. In other regions of the Philippines and in other countries, an organized marketing and pricing scheme for organically produced vegetables and other products is already available and well defined.

For more information, contact;

Prof. Beatriz S. Malab

Mariano Marcos State University
College of Agriculture, Forestry and
Sustainable Development
Batac 2906, Ilocos Norte

Tel No. (077)792-2660/792-2563

E-mail ad: rddirectorad@yahoo.com

SOCIOECONOMIC, INSTITUTIONAL, and TECHNICAL ENVIRONMENT of ORGANIC VEGETABLE PRODUCTION in REGION I



Beatriz S. Malab
Marilou P. Lucas
Margarita P. Caluya
Epifania O. Agustin
Lovely Joy M. Viloria
Cherrie Mae R. Puyaoan



Mariano Marcos State University
Batac City 2906, Ilocos Norte
Philippines

Indiscriminate use of chemical inputs specifically fertilizers and pesticides is very rampant in vegetable growing areas. In Magnuang, Batac, Ilocos Norte for example, N application rate exceeding 400 kg per hectare was very common in vegetables such as tomato, sweet pepper, and eggplant (Agustin *et al.*, 2000 and Lucas *et al.*, 1999). In the said area, Gumtang *et al.* 1998, observed water NO₃ levels in agricultural tube/deep wells exceeding the World Health Organization's tolerable limit of 10 parts per million. The literature is also loaded with similar alarming reports.

In response to the above situation, the Department of Agriculture is now massively promoting organic farming particularly in vegetable production. The Food and Agriculture Organization or FAO defined organic farming as a "holistic production management system which promotes and enhances agro-ecosystem health including biodiversity, biological cycles and soil biological activity. The system is gaining ground and consumers' preferences are now inclined towards organically produced food items including beauty products and medicines. These are highly promoted as being safe, healthy and environment friendly.

Despite the extensive efforts for the promotion of organic farming, its adoption is not widespread. To ensure that current and future promotional efforts will not be wasted, a farm level survey was conducted among farmers from three farm types: full organic (FOFT), in conversion (ICFT) and conventional (CFT). Exactly seven vegetables, so called "pinakbet" vegetables such as ampalaya, eggplant, finger pepper, okra, pole sitao, squash and tomato were considered. The activity led to an understanding of the interplay of socioeconomic, institutional and technical environment and its effects on the adoption and implementation of organic vegetable production. Issues and concerns related to its sustainable adoption were identified and recommendations to address them were provided.

Socioeconomic Environment

Demographic Characteristics

The farmers' demographic profile, landholding and household income did not show specificity to a particular farm type. The limited landholding did not pose impediment to the adoption of organic vegetable production. However, land tenure appeared to be a determinant factor. FOFT farmers own bulk of their landholding whereas bulk of ICFT and CFT farmers' landholdings are on leasehold and share-tenancy status. Agustin (1993) mentioned that a farmer who owns the land he is tilling is more likely to adopt technologies that are soil-conserving like organic farming than one who is only a tenant or a leaseholder.

Farm Type	Area (ha)			Total
	Owned	Leased	Tenanted	
Full Organic	0.80	0.13	0.22	1.15
In conversion	0.28	0.52	0.34	1.14
Conventional	0.45	0.23	0.35	1.03

Farmers' Perceptions on the Technology

Farmers whether under FOFT or ICFT shared the same perceptions as to the benefits of organic farming. The top ranking perceived benefits are on food safety, reduction in production capital, soil condition/fertility improvement and environmental condition/safety. Literatures very well support these perceived benefits.

Farmers perceived common disadvantages such as lower crop yields, the technology being laborious and longer time to see the beneficial effects. However they have conflicting views on some disadvantages such as pest proliferation and increase crop water requirements among others. Some of them have not perceived any disadvantage. Further, crop yield data which they reported do not support lower crop yields as a perceived disadvantage. In fact, yields of pole sitao and squash are higher in both ICFT and FOFT than CFT.

Institutional Environment

Farmers in all farm types benefited from the support services of government agencies, LGUs and NGOs such as trainings on organic farming, technical assistance, credit, material input/equipment subsidy. A farmers' festival was likewise organized.

Only a few farmers availed of the credit assistance whether cash or noncash. Majority of the FOFT farmers availed in group; majority of the ICFT and CFT farmers availed individually.

Technical Environment

Farmers' Production Practices

There was no discernible difference on the organic technologies adopted by both the FOFT and ICFT farmers. These are mainly concerned on nutrient and pest management such as production and utilization of solid organic fertilizers, liquid biofertilizers, biopesticides, effective microorganisms and indigenous microorganisms. These practices conform to the Philippine National Standards Specification (PNSS) except in few cases where FOFT farmers exceeded the allowable application N rate of 170 kg per hectare and ICFT farmers used inorganic fertilizers as supplemental source of nutrients and decomposition enhancer and at the same exceeded the allowable application rate of N.

Farmers' Awareness to the PNSS and OCP

Although the production practices conform to set standards and despite farmers' attendance in organic agriculture trainings, majority of them, either under FOFT or ICFT, are not aware of the PNSS and the organic certification process. (OCP).