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**Asian Farmers'
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Agroecology and Advocacy: Innovations in Asia

**By Institute for Agriculture and Trade Policy and
the Asian Farmers' Association for Sustainable Rural Development**

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By Institute for Agriculture and Trade Policy (IATP) and Asian Farmers' Association for Sustainable Rural Development (AFA)

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The Asian Farmers Association for Sustainable Rural Development (AFA) is a regional alliance of 10 farmer federations and organizations in 8 Asian countries, representing around 10 million farmers.

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Executive Summary

Rising food prices, increasing climate instability and food riots have sparked profound political changes around the world and put agriculture high on the international agenda. What kind of agriculture is best suited to respond to those challenges, however, is the subject of profound disagreement. Too much of the current policy debate on food security, climate change and agriculture assumes that industrial agriculture and related biotechnology are the only options for feeding a growing global population. Agribusiness and agrochemical companies have created and supported this image through aggressive advertising, lobbying and support for research institutions.

Alternatives do exist. The three case studies presented in this report represent successful approaches, both in terms of the techniques they have applied, and because of the active involvement of farmers' organizations in changing the policies needed to ensure their success. Agroecological systems, which start from the interplay between the natural environment and agriculture, and build on local priorities and knowledge about site-specific conditions, are at the center of proposals advanced by farmers', environment and human rights movements and advocates around the world. The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) (Available at www.agassessment.org), among other studies, provide sound scientific grounding to this approach.

Miguel Altieri, a pioneer in the development of agroecology, defines it as "the application of ecological concepts and principles to the design and management of sustainable agroecosystems." The global farmers' movement La Via Campesina promotes agroecology to advance food sovereignty, which establishes each nation's right to democratically determine its own path to ensure stable food supplies for its people under conditions that "feed the world while cooling the planet." The U.N. Special Rapporteur on the right to food published a report on agroecology and the right to food that advises donors to consider these alternative approaches and to support farmers' organizations and their efforts to build on local knowledge. And family farmers' associations in both industrialized and developing countries have long fought to have their environmentally friendly practices recognized and supported by government policies and programs.

Despite this growing movement around the world, there is a persistent misperception that the choice is between "high" technology and no technology, between advanced biotechnology and backwards subsistence agriculture. The reality is that farmers are not only producers, they are innovators, particularly when the right conditions exist to build on their knowledge of the specific techniques that work in their individual situations, taking into account natural resource constraints, soil conditions and weather patterns, as well as social and cultural considerations.

These innovations also need the right kind of public policy environment to allow them to flourish. At the international level, trade policies should be reformed to allow developing countries to shield local production from floods of cheap imports. This issue has been debated extensively at the World Trade Organization, where a key reason for the collapse of the Doha Round was developed-country opposition to proposals by the G-33 to allow for variable protections called Special Safeguard Mechanisms and Special Products measures, which would allow countries to protect agricultural production that is important for food security, rural livelihoods and sustainable development. While agroecological production will lower the use of imported inputs derived from fossil fuels, and has the potential to lower production costs, it could require additional measures to reduce unfair competition from goods that are imported at prices lower than the cost of production (dumping).

Foreign assistance programs should also support these efforts to strengthen local food systems, rural economies and natural environments. There has been a resurgence of interest in development assistance for food security since the 2008 food crisis. While renewed attention to agriculture, as well as the recognition that existing policies were failing, has generated new kinds of funding and programs, too much of that has emphasized increasing yields through dubious new "Green Revolution" technologies that disregard local innovations and undermine local ecosystems.

This is not to say there is no role for foreign assistance, but rather that it should be reformulated to support local processes. Agroecology is knowledge intensive, so it requires support for information exchanges and knowledge platforms at the national, regional and international levels to share best practices. Investments in public agricultural research and extension services in developing countries that work directly with farmers as innovators, as well as funding for the development of native crops and inputs that reduce the use of imported inputs and enhance local environments could also be important elements of effective food security programs.

In the end, however, what matters most is what happens on the ground, both in terms of production techniques and the national advocacy efforts needed to create the right policies and markets to allow agroecological innovations to flourish. In the cases studies that follow, members of the Asian Farmers Association for Sustainable Development have documented three important national experiences:

- In Cambodia, the Center for Studies and Development of Cambodian Agriculture (CEDAC) and Farmer Nature Net (FNN) have promoted the System of Rice Intensification (SRI), which increases yields and incomes while lowering the use of agrochemicals, maintaining ownership of local seeds and enhancing soil fertility.
- In the Philippines, the local organic movement emerged as an element of resistance to the Marcos regime and the dominance of transnational corporations in local production. Since then, national networks of producers and NGOs have evolved to develop organic standards and to advocate for the legislation necessary to promote it.
- In Indonesia, the Boyolali Organic Rice Farmers Association (APPOLI) and the Indonesian Peasant Alliance (API) joined forces to address a key dilemma: how to make organic certification processes affordable and culturally acceptable to farmers while at the same time meeting consumers' needs. The Participatory Guarantee System links farmers and consumers to ensure farmers get a fair price, while consumers are able to buy organic products at lower cost.

These cases illustrate effective local and national actions. International advocacy is also needed, both to establish the norms that define sustainable agriculture and to influence funding priorities. The Rio+20 Summit in 2012, for example, focuses on how best to define the Green Economy, including sustainable agriculture. New initiatives at the UNFCCC, and by international financial institutions and donors, to address the impacts of climate change on agriculture will also serve to establish the kind of agriculture best suited to confront environmental challenges while feeding the planet. The Asian Farmers Association and the Institute for Agriculture and Trade Policy hope that these studies will contribute to work with allies in the farm, faith and development communities to influence these processes and support agroecology around the world.

BUILDING EXPERIENCES WITH SRI DEVELOPMENT AND DISSEMINATION IN CAMBODIA (2000–2010)

by Yang Saing Koma (CEDAC/FNN)¹

The System of Rice Intensification (SRI) is an agroecological innovation in rice cultivation used in Cambodia and in many parts of the world. SRI allows farmers to increase their rice production through a shift in the management of plant, water, soil and nutrients toward a more favorable environment for the growth of rice plants.

Cambodian farmers utilizing SRI techniques over the past ten years have experienced an increase in rice yields from 30 to 150 percent, depending on the farmers' levels of SRI implementation and productivity, and on natural conditions for rice farming. They are also able to reduce the amount of seeds they use by 50 to 70 percent, and can lessen or end their dependence on chemical fertilizers and pesticides.

SRI was developed in Madagascar in the 1980s by a French Jesuit priest, Henri de Laulanié. CEDAC learned about SRI from the *LEISA Newsletter* in December 1999 (Rabenandrasana 1999). In 2000, CEDAC received more information on SRI from CIIFAD in the U.S. (Uphoff 1999 and 2000). The organization then introduced SRI ideas to farmers during the wet season of 2000. Twenty-eight farmers, who were initially skeptical, participated in the SRI experiment.

By 2010, due to the success of SRI and support from the national government, more than 130,000 farmers were using SRI concepts and methods. The Cambodian government officially endorsed SRI in 2005, and included it in the national strategy for agricultural development in 2006. The Ministry of Agriculture, Forestry and Fisheries (MAFF) set up a secretariat to coordinate and promote SRI in Cambodia.

This paper reviews the process, activities and experiences in SRI development and dissemination in the country, especially the experiences of CEDAC and its affiliated Farmer and Nature Net (FNN) in advocating for wider support and implementation of SRI as an agroecological innovation in Cambodia.

Data for this paper were from a review of experiences of CEDAC and FNN, and interviews with SRI farmer-pioneers in the villages and SRI promoters from government and NGOs.

Historical, socio-economic and political challenges in implementing agroecological approaches to food security

Around 65 percent (1.8 million families or 9 million individuals) of the Cambodian population depends mainly on rice farming for their livelihood. Most rice farmers are subsistence-oriented, i.e., rice is produced mainly for family consumption and only surplus is sold in the market. A 2009 CEDAC field survey revealed that on average, sixty percent of farmer families produced rice mainly for household consumption, while the rest produced rice surplus for the market.

On average, landholdings for rice farming are about 1.30 hectares, and based on official MAFF data, the national average yield was 2.9 tons per hectare in the 2009–10 season.

Rice productivity has increased in the past 10 years, resulting in the production of surplus rice at the national level. MAFF data reveal rice production increased from 3.82 million tons in 2002 to 7.97 million tons in 2009–10, with the average rice yield for both wet and dry seasons increasing from 1.91 tons to 2.90 tons per hectare. For wet season rice, on the other hand, the yield increase was from 2 tons to 2.5 tons per hectare in the same periods. This increase in rice productivity has been attributed to SRI (EIC, 2011).

With the increasing rice surplus, the government shifted some policies from an emphasis on national food security to potential export markets. The current goal is to export one million tons of milled rice by 2015.

Prior to SRI, the mainstream approach to rice intensification focused on the promotion and proper use of fertilizers, safe use of pesticides or the use of pesticides as a last resort, the use of improved seeds, and the promotion of integrated pest management (IPM). Development programs and projects carried out by MAFF, bilateral aid agencies and NGOs focused on training and advising farmers on the use fertilizers, making compost, and use of improved seeds from the Cambodia IRRI Australia Project (CIAP), Cambodia Agriculture Research and Development Institute (CARDI). This approach convinced farmers and other stakeholders that rice productivity could be increased quickly, reliably and profitably using these techniques. High external inputs with corresponding high outputs were widely accepted as the mainstream strategy for rice intensification.

The introduction of SRI gave small-scale farmers an alternative solution to the high cost of external inputs under the earlier approach. SRI allows farmers to increase their rice productivity at a lower external input cost, and to maintain ownership of local seeds, even as the system enhances soil fertility.

SRI challenges the existing belief about rice cultivation and intensification in two ways. First, many SRI practices are different from commonly accepted practices. Second, SRI is a high-output and low-external input system. It is more about improving knowledge and skills of farmers in managing plants, water, soil and nutrients.

The success of SRI has engendered a more favorable political environment towards its further development and dissemination. As mentioned, the government officially endorsed SRI in 2005. The challenge now is to ensure that SRI is adopted and practiced by as many farmers in different agro-ecosystems as possible.

Contributions to the right to food, right to water, and food security

Interest in SRI among development professionals, researchers, policymakers and even students has increased since the introduction of the system in the country. As mentioned, the government established the SRI secretariat in 2005 to coordinate activities on SRI such as meetings, workshops, exchanges and information sharing through web-based systems.

SRI is highly beneficial to farmers with small landholdings who practice rain-fed agriculture. It promotes the use of local seeds and the management of available water resources more efficiently and productively. As farmers gradually increase seed selection from their own familiar and valued seeds, they can achieve higher yields, thus strengthening their ownership of such seeds.

Increased rice production results in improved access to food by farm households and improved farmers' net income. Table 1 presents a comparison of rice production before and after SRI. (Data came from 107 farmers in Takeo and Kampong Speu provinces).

Table 1: Comparison of rice production before and after SRI ²

| | Before SRI | With SRI (2010) | Remarks |
|-------------------------------------|-------------|-----------------|---|
| Rice yield | 1,921 kg/ha | 3,100 kg/ha | 61% increase; one farmer achieved a yield of 7 tons/ha |
| Amount of seeds used | 79 kg/ha | 37 kg/ha | 53% decrease; some farmers still used 2-3 seedlings per clump |
| Amount of organic fertilizers used | 2,260 kg/ha | 4,182 kg/ha | 85% increase |
| Amount of chemical fertilizers used | 152 kg/ha | 42 kg/ha | 72 % decrease; 32 farmers stopped using chemical fertilizers |

Source: Ung Vuthy (2011)

Rice yields continue to improve annually mainly due to the following factors:

- Improved farmer skills for planting and managing rice with SRI methods.
- Improved seed through continuous selection of good seeds (selecting good panicles and then the good seeds from the good panicles).
- Improved soil fertility through increased organic matter in the topsoil.
- Rice fields are gradually leveled better, contributing to improved on-farm water management.

Development of sustainable family-based rice farming

As mentioned, SRI is an agricultural innovation that relies on better use of natural resources, and on basic agronomic principles and biological processes to increase agricultural productivity while maintaining environmental sustainability, especially soil fertility and bio-diversity. It allows small-scale farmers to achieve higher production and incomes; it also

contributes toward developing farmers’ capacity and ownership of resources and technologies, and promoting cooperation and mutual help among farmers.

SRI also contributes to environmental sustainability and enhancing farmers’ capabilities through:

- Use of local materials for the production of organic manure, including production and use of bio-slurry from cattle and pig manure.
- Growing green manure and trees to increase availability of organic materials (green leaf) for soil improvement.
- Using local seeds which can be improved by farmers on a continuous basis (through seed selection and purification).
- Using available rain water to ensure higher production by developing on-farm water-management systems (ponds and canals in the rice fields).
- Using local skills and knowledge to grow rice and manage soil and water.

Description of SRI approach

SRI aims to create optimal conditions for the growth of **roots and tillers**. As root growth increases, so also tillers and grains per plant increase. The basic SRI ideas or principles include:

- Growing healthy, vigorous and **younger seedlings** for transplanting by using **healthy, full-grained seeds** sown in an **upland nursery bed** (similar to that of a vegetable bed).
- **Wider spacing** between each rice plant, preferably with *one seedling per hill and with wider and equal spacing between each hill* in a square pattern.
- **Shallow** transplanting (just 1–2 cm deep).
- Improved **soil aeration** by avoiding continuous field saturation with flooded water.
- Frequent **weeding** to control weed competition and for active **soil aeration**.
- Increased **organic matter** in the soil through application of compost, which along with the soil aeration increases **soil biological activity**.

The recommended SRI practices include: *raised unflooded seed-beds; selecting only good seeds for sowing in the nursery and use of strong seedlings from the nursery for transplanting; using younger*

seedlings (preferably 8–15 days for the short-term variety, and 8–20 days for medium- or long-term variety) transplanted immediately after uprooting; fewer seedlings and preferably just one seedling per hill; shallow and careful transplanting; wider spacing between plants, preferably transplanting in a square pattern to expose plants more to the sun and air and to facilitate weeding; keeping minimum water levels in the field when transplanting and during the vegetative stage of rice growth; early and frequent weeding (to aerate the soil as well as to remove weeds); and application of compost, as much as possible.

Some of the above-mentioned practices go against generally-accepted practices. For example, rice farmers are used to transplanting older seedlings (more than one month old), many seedlings per clump (more than five), placing the roots in very deeply when transplanting, and waiting for the field to be flooded with water before transplanting.

Table 2: Key differences between traditional and SRI practices²

| | Key Practices | Traditional | SRI |
|---|---------------------------------------|--|---|
| 1 | Nursery preparation | Lowland, it can be flooded | Upland, not allowed to be flooded |
| 2 | Density of seed in nursery beds | High seed density | Low seed density |
| 3 | Quality of seedling for transplanting | Mixture of all kinds of seedlings | Only thick and healthy seedling are uprooted and transplanted |
| 4 | Age of seedlings | Older seedlings, generally more than 30 days | Younger seedlings, younger than 15–20 days, even 8–12 days old |
| 5 | Number of seedlings per clump | Many, more than 5 or even 10, mixing strong and weak seedlings | Only 1 seedling as a rule, 2 seedlings are also possible |
| 6 | Spacing | Triangular, not equal spacing, close spacing | Equal spacing or planting in rows, with wider spacing |
| 7 | Depth of planting | Very deep, more than 3 cm | Very shallow rooted, less than 3 cm, and preferably 1–2 cm |
| 8 | Water management | Try to maintain water standing in the field during planting and tillering stages | Maintaining only a minimum water level or keeping the soil moist during planting and tillering stages |

The implementation of SRI ideas should be on a step-by-step basis. Generally, farmers implement the following two approaches:

1. Properly implement SRI ideas on a smaller plot to evaluate the results, and yearly expand the size of the field.

2. Implement only simplest and most practical ideas first, then include more ideas or practices. The most common practical ideas farmers initially apply are selecting only good seedlings for transplanting, transplanting only 1–3 seedlings, and shallow transplanting.

SRI ideas are applied not only for transplanted rice, but for direct-seeded rice as well. The process of adaption of SRI ideas to direct-seeded rice is summarized as follows:

For upland rice

Reduce the number of seeds per planting hole to only a few seeds from more than 10 seeds, and shallower planting, plus adding a small amount of compost, and mulching between the planting holes. Rattanakiri and Pursat provinces recorded yield improvements of 25–50 percent under the upland conditions.

For paddy rice

Reduce the amount of seeds from more than 100 kg/ha to less than 60 kg/ha, or change from direct seeding to direct planting of seeds with wider spacing (20–30 cm, depending on variety, timing, and soil fertility). CEDAC is now working on developing SRI under direct-seeded conditions to find out the appropriate amount of seeds to combine with other good practices in a direct-seeded system.

Strategies and activities undertaken to mainstream SRI

In 2000, CEDAC initially introduced SRI to one farmer-innovator; later in the same season, twenty-seven more farmer-innovators participated in the experimentation. The success of this experimentation influenced other farmers in the same village and in neighboring villages to adopt and adapt SRI. It also attracted the interest of local government authorities and officials in SRI. Table 3 presents the progress of SRI adoption/adaption by farmers from 2000 to 2002.

Table 3: Progress of SRI adoption/adaption by farmers in 2000–02

(Yang Saing Koma and Suon Siny, 2004)

| | 2000 | 2001 | 2002 |
|---------------------------------------|------|------|-------|
| Number of farmers | 28 | 500 | 3,000 |
| Number of villages | 18 | 122 | 350 |
| Number of provinces | 4 | 7 | 11 |
| Average yield (t/ha) | 5.0 | 3.2 | 3.5* |
| Average area used for SRI (ha/family) | 0.06 | 0.07 | 0.30 |
| Total areas under SRI | 1.6 | 28.7 | 900 |

Note: Based on the results of a survey of 171 SRI farmers.

After three years of experimentation (2000–02), CEDAC was able to get more farmers to test SRI. Also, CEDAC supported and trained selected farmers to become key SRI farmers and farmer-promoters. These farmers played an important role in demonstrating and advising other farmers and other stakeholders on SRI. CEDAC field staff, on the other hand, gained more confidence in introducing SRI to other farmers.

To enable more farmers to use SRI and expand its circle of influence, CEDAC organized SRI farmers into groups and associations, and introduced collective saving to bind them together. These associations linked together to form local networks and a national network, known as **Farmer and Nature Net (FNN)**. FNN played an important role in promoting SRI and farmer interest, especially at the local level.

CEDAC conducted an evaluation study tracking the experience of 120 farmers using SRI for three years (CEDAC, 2004). The data provided a solid foundation for CEDAC advocacy work on SRI. Also, it paved the way for SRI to gain support from the GTZ (German development agency)-funded national food security program, resulting in the commissioning of an external evaluation on SRI (Anthofer, 2004).

CEDAC has been proactive in organizing field visits for high-ranking government officials, including senior officials (e.g., chairperson, vice president and general secretary) of the Council of Agriculture and Rural Development (CARD, chaired by Prime Minister Hun Sen) and the Minister of Agriculture to SRI farms in Tramkok District. The Agriculture Minister learned about SRI prior to the official field visit through the deputy director of the Provincial Department of Agriculture (PDA) in Takeo. Meanwhile, CEDAC was able to get the support of the director of PDA in Kampong Thom and the deputy director of PDA in Takeo for SRI within the ministry.

Highlights of strategies and activities towards the mainstreaming of SRI into national agriculture development policies and strategies include:

- Initial success of SRI experimentation with 28 farmers in 2000.
- PRASAC II, Cambodia Agriculture Sector Support Program (a project funded by the European Union, and implemented by GTZ) engaged CEDAC in introducing SRI in its project area in 2001–03.
- SRI workshop in Prey Veng in January in 2003 with the first visit of Professor Norman Uphoff (CIIFAD) in Cambodia.
- Field visits by senior officials of CARD in 2004.
- CEDAC evaluation study on SRI impacts in 2001–03 with farmers with three years experience.
- Independent evaluation in 2004 funded by GTZ based on random selection of 500 SRI and non-SRI farmers in five provinces (Anthofer, 2004).
- SRI workshop organized by CARD and funded by GTZ in 2004, especially to present and discuss the result of SRI evaluation.
- Establishment of SRI Secretariat in 2005 at MAFF, with CEDAC providing technical assistance and GTZ (now GIZ) providing initial funding support, later on Oxfam America also provided funding support.
- Official exposure trip to SRI in Tamkok district, Takeo, led by the Minister of Agriculture in 2005 after an official endorsement of SRI by the Prime Minister. Since then, the Minister of Agriculture has officially instructed all PDAs to promote SRI throughout Cambodia.
- SRI promotion by the Minister of Environment after the SRI SEED awards by UNDP/IUCN in 2005.
- In 2006, SRI was introduced in the National Social Development Program 2006–10.
- The Minister of Agriculture produced and distributed a booklet on SRI in 2006.

CEDAC was involved in coordinating and facilitating two networks contributing to the promotion of SRI development and dissemination in Cambodia: Promoting Local Innovation

Network (Prolinnova), and Network for the Ecological Agriculture Development in Cambodia (NEDC). NEDC is an NGO network. Prolinnova, on the other hand, consists of different stakeholders, including provincial departments of agriculture, agricultural education institutions, NGOs, and Farmer and Nature Net (FNN).

Challenges and responses

There are technical, political and implementation challenges to the adoption of SRI, including:

1. Technological / technical challenges

■ Weeding

CEDAC has been working with farmers and experts to develop simple tools for weeding. It assists farmers to make decisions on investing in weeding through cost and benefit analyses of weeding, i.e., to assess if cost of investment in labor is justified by the expected increase in yield.

Mulching can also be a very good solution, as it helps to suppress weeds and covers the soil with the decomposed material adding nutrients to the plant. Field experimentation revealed that mulching could increase yields from 20 to 30 percent over SRI fields without weeding. The difference is bigger under drought conditions, as mulching helps to maintain soil moisture in the field. However, there is still a need to compare SRI fields with weeding to SRI fields with mulching on a wider basis.

For mulching, the challenge is how to find sufficient organic materials such as rice straw, rice husks, green leaf and other agricultural residues. Farmers are encouraged to collect these agricultural residues and to grow fast-growing trees and plants to cut the leaves for mulching their fields. It is worthwhile to invest time and labor to collect agricultural residues and to cut green plant materials to mulch the field.

■ Water management

How to ensure that soil has sufficient moisture, when not continuously flooded, is a main challenge, especially as most farmers are growing rain-fed rice. To address this issue, farmers dig canal and furrow systems which can be linked to a pond. During heavy rains, rain water drains into the furrows and canals; in the dry season, farmers can irrigate water from the canals to the rice fields. Such measure requires substantial investments in labor and allocating part of the rice field to be used for water reservoir and dikes. Farmers lose about 15

percent of their rice land for canals and ponds, but their total yield is higher than without the systems. Also, farmers can collect fish and other aquatic vegetables (e.g., kangkon and water lily) from these systems. Raised beds are also possible solutions, as with raised beds the fields can avoid continuous flooding, and water remains available for the roots in between the beds.

■ Organic fertilizers

Initially, farmers complained about lack of materials for organic fertilizers and the difficulty of transporting organic matter to their remote fields. Many options are available for farmers to increase the availability of organic fertilizers. These options include the cultivation of green manure, cultivation of fast-growing trees, increase of awareness on the use of organic matter, maintaining rice stubble rather than burning it and use of bio-slurry.

2. Political and governance challenges

Political and governance challenges center more on the financial support the government provides towards SRI development and dissemination. The lack of budgetary support cuts across all government agricultural extension programs, including SRI, at the national and local levels. The establishment of an SRI Secretariat within MAFF is seen as an important mechanism to mobilize resources and to coordinate the activities to support SRI implementation. Local governments have access to resources, but there is a need to ensure that these governments allocate budget for the training of farmers in SRI. Strong farmers' organizations and networks can play an important role to influence the government at the national and local levels to allocate more resources to support SRI development and dissemination.

3. Implementation challenges

Challenges in implementation center on making people understand SRI ideas and practices and ensuring that SRI opportunities are accessible to a maximum number of farmers. Listening to and reading success stories of SRI farmers are not enough to convince other farmers to engage in the system. Field visits to SRI farms are a more effective strategy.

The main challenges in SRI implementation and dissemination include:

- Identifying pioneering farmer-innovators willing and able to experiment with SRI in a particular community.

- Encouraging a sufficient number of good SRI farmers to be trained to work as SRI farmer-promoters.
- Finding resources to support farmer-to-farmer exchange and cross visits.
- Maintaining support to a community for three to five years before innovation can be widely disseminated to the majority of farmers therein and SRI can develop as a commonly accepted practice among farmers.

Conclusion: Towards a more effective SRI dissemination and implementation

The following lessons from SRI experiences are relevant for future advocacy:

- SRI opens possibilities and options to increase rice production; with SRI, traditional/local varieties can produce more yields than previously thought.
- A group of genuinely interested farmers should be encouraged to participate in the process of innovation development, and regular meetings among farmer-innovators should be conducted to allow farmers to share their experiences and inspire one another. SRI farmers should be associated and form a wider network at the local and national levels in order to expand their circle of influence.
- Good development facilitators who are skilled in assisting farmers to make well-informed decision on the adoption/adaption of new innovation are needed. In the case of SRI, the analysis of improvement options and of the benefits from implementation of such improvements will help farmers to make decisions on the gradual adoption/adaptation of SRI practices and the size of the field to be devoted to SRI.
- In order to influence change at the higher level, there should be a critical number of SRI or ecological farmers in different locations that will develop and apply the innovations successfully. SRI farmers are the best advocates for policy and strategy changes, as they have firsthand knowledge and experience of the benefits of the innovation.
- Exposing government decision-makers to farm innovations through field visits and engaging them to meet with farmer-innovators are important.

- Proactive critical analysis of the impact of the innovation, through internal and external evaluation studies, is also important.
- Engaging mass media to cover the experiences of SRI farmers can contribute to bringing the message to the wider public.
- Conducting independent evaluations and widely sharing the results of which in order to reach government decision-makers and funding agencies is needed.
- Supporting network of like-minded people inside government agencies and CSOs should be done.
- Support of local governments to SRI is crucial.

Endnotes

1. Dr. Yang Saing Koma is the President of CEDAC (the Center for Studies and Development of Cambodian Agriculture). CEDAC supports the efforts of the Farmer and Nature Net (FNN), which has more than 40,000 members in 1,100 village farm associations. FNN, in turn, is a member of the Asian Farmers Association for Sustainable Development and La Via Campesina.

2. 107 SRI farmers were interviewed in June 2011, who on average had been implementing SRI for five years.

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SETTING THE STAGE: THE PHILIPPINE EXPERIENCE MAINSTREAMING ORGANIC AGRICULTURE

by Tony Santos, PAKISAMA¹

Introduction

The Philippines is largely an agricultural country. Agriculture and agribusiness constitute the backbone of the economy. Agribusiness accounts for 71 percent of the country's gross domestic product (GDP), while primary agriculture and fisheries contribute about 21 percent.² Nevertheless, the Philippines is locked in a chronic food crisis, with widespread lack of access to food in adequate quantities and of nutritional value. Falling incomes, inadequate food production vis-a-vis population growth, land tenure, and peace and order issues all contribute to the situation. In addition, lopsided government priorities, including public-sector spending, lackluster pursuit of, and low investment in, asset/agrarian reform and rural infrastructures and services, debt crisis, and ambivalence on the food and rice sufficiency issue all contribute to the difficulties.

One government after another has attempted to address the growing food crisis through legislation and programs. More often than not, these proposals have served to promote the interests of the politically and economically powerful rather than of the weak. For instance, the Masagana 99 and Green Revolution programs were showcased as the flagship programs of the 20-year Marcos dictatorship. However, these programs proved to be more detrimental rather than beneficial to the country as a whole, as they promoted the interests of transnational corporations instead of the Philippine people—especially farmers, who became highly dependent on costly synthetic chemical inputs that increased their indebtedness, irreparably damaged their resource base, and endangered human and environmental health and safety.

The Ramos Administration's 1997 Agricultural and Fishery Modernization Act (AFMA) attempted to correct the weaknesses of the Marcos regime's food programs with its aim to "empower the agriculture and fisheries sectors to develop and sustain by themselves."³ AFMA, however, was similarly weighed down by policy holes: its execution a mere front, without sufficient budgetary support.

The government's failure to effectively address the food security issue, however, has served as impetus for concerned individuals and groups from various sectors to come together, conduct mobilization activities and find viable alternatives to address the issue. In fact, the promotion and development

of organic agriculture by civil society organizations (CSOs) and farmers' groups in the country began in reaction to the highly chemosynthetic-dependent green revolution program carried out by the Marcos regime.

This paper explores the experiences of farmers' groups in advancing organic agriculture and agroecology, including opportunities and challenges. In doing so, it traces the history and development of the local organic movement, including turning points and constraints, and summarizes key messages and strategies employed towards the adoption of agroecological practices by mainstream society in general, and the promulgation of the Philippine Organic Law in particular.

The Philippine agroecological experience can be viewed from various angles and lenses. This paper, however, starts from the perspective of practicing farmers. Primary and secondary data for this study were largely culled from key informant interviews and documents review.

The Philippine approach to organic farming

The Philippine organic movement derives much inspiration from the International Federation of Organic Agriculture Movements (IFOAM) and the Codex Alimentarius. The term, *organic* is used interchangeably with biological or ecological farming as described in the PNSOAP and RA 10068. *Organic* also denotes products considered organic by Philippine organic standards (AO# 13 series of 2002 and EO 481). The principal guidelines for organic production are the use of materials and employment of practices towards the enhancement of natural systems, and integration of the different parts of the farming system into an ecological whole.

In the Philippine context, organic farming is the marriage of indigenous knowledge with science and technology. It is a reaction to the hazards chemosynthetic inputs and genetically modified products pose for human beings and the environment. It aims to: negate a situation in which food is available but not accessible, particularly to the poor; bring back the parts of the farming system into an ecological whole to augur with closed nutrient cycle; avert the continuing loss of water, which is essential to life⁴; help reduce greenhouse gas emission while helping to build carbon sinks; and provide for the renewal of the degrading biodiversity and productive ecosystems.

This marriage was forged in the early years of the organic movement, when advocates and scientists tried to build on indigenous knowledge to guide crop and animal production. In crop production, the campaign theme called for the preservation of

traditional seed varieties, east-west planting orientation and use of traditional practices for pest control. In animal production, the advocacy focused on ethno-veterinary practices.

A full organic management systems does not only mean the use of organic fertilizers and biologic; it also emphasizes sustained improvement of the farming environment, allowing for the renewal of biodiversity, soil and water resources through natural cycles. Farmers' experience involves farm diversification in time (crop rotation) and space (intercropping).

Basic in local organic practices are: installation of appropriate soil conservation and erosion control measures; complete avoidance of synthetic fertilizers, toxic chemicals and genetically modified organisms; building up of soil life through recycling of farm wastes, composting, and crop rotation and diversification; allowing of animals to pursue their innate behavior in an uncontrolled environment; and other techniques predisposing the conservation of the natural environment.

Historical, socioeconomic and political challenges to implementing agroecological approaches to food security

The emergence of the organic movement in the Philippines cannot be dissociated from the overall resistance against the Marcos dictatorship. Nonetheless, there are four milestones in this metamorphosis. These can be divided into four distinct stages: 1.) the first half of the 1980s; 2.) from the late 80s to the mid-90s; 3.) from the mid 90s to 2001; and 4.) from 2001 to present.

First Stage: (First half of the 1980s) Birth of the Philippine organic movement

This stage was marked by a series of coalition-building efforts, protest actions, and other mobilizations by farmers' groups and civil society organizations (CSOs) against the Marcos dictatorship. The so-called "parliament of the streets" was at its height at this stage. In the field of agriculture, highlights were: the launching of the BIGAS national conference; establishment of MASIPAG; and the emergence of the Philippine organic movement.

The 1985 BIGAS (Bahanggunian Hinggil sa Isyu ng Bigas) national conference gathered various experiences and reactions of different political groups and CSOs regarding the green revolution program, pesticide use and the Marcos-backed control of Philippine agriculture by TNCs. The conference precipitated the establishment of MASIPAG, (*Magsasaka at Sayentipiko para sa Agham or Farmers and Scientists for Rural Development*), a group of farmers and scientists

working together for organic agriculture. The group's foundation formally unveiled the country's entry into the global organic movement.⁵

The organic advocates proposed: the avoidance of synthetic fertilizers and pesticides; the establishment of rice breeding stations and demonstration farms; training on organic rice production; and a campaign for bio-intensive gardening and zero application of synthetic fertilizers and pesticides. The main achievements during this period were the generation of improved seed lines from cross-breeding, and adoption of some largely experimental organic practices in rice production.

Second Stage: (Late 80s–mid-90s) Interface with the call for sustainable development

As the call for sustainable development swept the world, it also became a rallying point that characterized the movement's second stage. *Our Common Future*, also known as the 1987 Brundtland report by the United Nations World Commission on Environment and Development (UNWCED), was the main influence. The report defined sustainability as the conservation and nurturance of natural ecosystems. This approach found allies among advocates for the return to environment-friendly farming practices.

Also marking this period was the integration of environmental issues into politics, and of sustainable agriculture-related topics in the school curricula. Advocacy work gave the globalization issue an added dimension, explaining it as it related to amplified capitalist onslaught of natural ecosystems and agriculture. In the field of food and agriculture, varying views on organic farming tried to strike a convergence. In the political sphere, on the other hand, divisions persisted. Accordingly, the varying political perspectives carried over into the budding organic movement, leading to the gathering of like-minded groups to challenge the dominant approach.

The emergence of new networks on sustainable agriculture broke the dominance of the so-called MASIPAG approach in the organic landscape. The new formations were: the Philippine Sustainable Agriculture Coalition, the Forum on Sustainable Agriculture, *Pambansang Kilusan ng mga Samahang Magsasaka* (PAKISAMA or national confederation of peasant organizations), and church-based networks. With this change, the terms of engagement with the government gradually improved. Predicated on patent socio-economic and political reforms under the Cory Aquino administration, engagement shifted from confrontational to critical collaboration, and, subsequently, toward building partnerships. The strategy progressed from purely campaign activities against government policies and programs to more proactive engagements with clear-cut propositions.

Third Stage: (Mid 90s–2001) Standardization and government involvement

This period saw the standardization of new organic approaches, the establishment of networks or associations engaged in organic farming and marketing, and official involvement of concerned government agencies in the organic movement. The issues that emerged in this period were: marketing, the need to distinguish pure organic management systems from low external input agriculture (LEIA)⁶ and government involvement.

The formation of the FOODWEB network in 1996 and the involvement of the Organic Producers and Traders' Association (OPTA) in that network were born out of the growing need to address marketing issues related to organic food products. Similarly, the growing concern on marketing and preserving the integrity of organic products served as impetus for FOODWEB to formulate standards for organic agriculture. The FOODWEB-formulated standards were ratified in a general assembly of major organic practitioners and advocates. This general assembly also gave birth to the Organic Certification Center of the Philippines, which was mandated to implement these standards.

With the movement gaining ground, government agencies such as the Agribusiness and Marketing Assistance Service of the Department of Agriculture (AMAS-DA) and Center for International Trade and Expositions and Missions of the Department of Trade and Industry (CITEM-DTI) started to become involved at the official level.

CITEM's support made possible the holding of a national organic congress in June 2001 with three significant outputs, namely: sectoral consensus on action plans; ratification of the standards and launching of the Organic Certification Center of the Philippines; the establishment of an organic pavilion in the exhibit area which gained a favorable response from the public, including agriculture and trade ministry officials.⁷

This critical collaboration, which later evolved into cordial relations and greater cooperation among stakeholders in this period, became a crucial factor in the scaling up and institutionalization of the movement in the succeeding period. At this time, the business sector began to make its presence felt as well.

Fourth Stage: (2001–present) Enactment of legislations and institutionalization

Two trends marked the fourth stage of the movement, namely: the enactment of policies towards the promotion of organic agriculture, and serious efforts to build the market.

Policy support and influence in governance structures are manifested by:

- Issuance of Administrative Order (AO) No. 13 in 2002, known as the Organic Rule, by the Department of Agriculture.
- Adoption of the Philippine National Standards on Organic Agriculture (which had been formulated by Foodweb).
- Issuance of Executive Order (EO) No. 481 providing for the establishment of a national organic agriculture program and the formation of the National Organic Agriculture Board (NOAB) under the DA.
- Formation of the NOAB, composed of representatives from private and public sectors, NGOs and farmers' groups.
- Enactment of Republic Act 10068 or the Philippine Organic Law.

Developments at the national level were further buttressed by developments at the local level:

- Declaration of the Benguet State University as the first organic university.
- Declaration of Baras Municipality in Rizal as first organic municipality.
- Adoption of an environmental code in Bohol.
- Ratification of the Bohol Organic Act.
- Adoption of an organic ordinance in Davao del Norte.
- Adoption of an environmental code in Camarines Norte.

In the marketing scene, developments were as follows:

- Sustained export of Philippine organic products to Japan, EU and U.S.
- Scaled up distribution of Pecuaría's organic rice to 300 outlets all over the country.⁸
- Strengthening of Philippine Development Assistance Program (PDAP) initiatives towards carving a market niche for Philippine organic products.
- Establishment of Global Organic Wellness Corporation (GLOWCorp) to complement Upland Marketing

Foundation, Inc. (UMFI) in distributing and selling organic rice and *muscovado* in domestic and international markets.

- Regular participation in international food exhibits (IFEX), trade fairs and road shows with support from concerned GOs (e.g., DA, DTI, DOH and DOST).
- Regular assembly of organic producers, traders and government advocates in annual national organic congress.

Meanwhile, amidst these encouraging developments, a spate of scandals in government was wracking the country—plunder charges against former Pres. Joseph Estrada, a fertilizer scam, broadband deal, rigging of national and local elections, and other scandals involving former Pres. Gloria Macapagal-Arroyo and family. These scandals, however, were perceived to have made the policy environment favorable to the movement, i.e., facilitating the adoption of policy reforms on organic agriculture. Consider, for instance:

- Administrative Order # 13 was issued immediately after Estrada's ouster from and Arroyo's assumption to the presidency.
- Adoption of the PNSOAP took place at a time when confidence in government was rapidly cascading.
- Executive Order 481 was issued at the height of public uproar against Arroyo's alleged involvement in rigging the 2004 election exercises.

Key messages at this stage were: the establishment of organic agriculture as a regular fixture in the agricultural landscape; and the competitive edge of organic agriculture over industrial agriculture in terms of economic, financial, and environmental benefits, yields and productivity.

Lessons from the Philippine Organic Law

The experience leading to the enactment of Republic Act 10068 offers a concrete example of the political and substantive factors involved in advocacy for agroecology. The law provides for the promotion, propagation and further development of the practice of organic farming in the Philippines. It establishes a comprehensive National Organized Agricultural Program (NOAP) which will promote, commercialize, and cultivate organic farming methods through farmers' and consumers' education.

A number of converging factors facilitated the enactment of RA 10068. These are: a series of consultations among stakeholders; support of influential individuals in both private and public sectors; intensified lobbying at Congress; and a favorable political environment.

1. Consultations among stakeholders

The campaign began with the drafting of the proposed measure by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) in consultation with OCCP, and gathering of stakeholders to public consultations in Luzon, Visayas, and Mindanao. These consultations, however, were marked by debates due to the conflicting interests and perceptions of participating stakeholders.

For instance, in Mindanao, Go Organic Mindanao (GOM) alleged several versions of the proposed law were prepared; it further averred a traders' association influenced the drafting of the bill authored by former Rep. Proceso Alcala (now Secretary of Agriculture). Four GOM delegates walked out of the consultation as sign of protest. OCCP, in response, maintained that BAFPS actually took effort in preparing the proposed law with its support.

The GOM later admitted that it had planned everything, including the walk-out of its four delegates. The organization used the attention as an excuse to draft and submit its own version of the proposed law. The walk-out was meant to put weight behind the organization's counter proposal, and to project itself to the local media. As a result, GOM started to receive daily radio spot. The local media association even joined GOM, thus propelling it to dominate the local organic landscape.

2. Support of influential individuals in both public and private sectors

The current Undersecretary of the Department of Agrarian Reform (DAR), Jing Pacturan, was highly instrumental in the enactment of RA 10068. USec. Pacturan used to be the executive director of the Philippine Development Assistance Program (PDAP) and the chairperson of the Organic Certification Center of the Philippines (OCCP). He used his dual positions to steer the two organizations into taking critical roles in organic industry development.

PDAP's facility allowed the steady flow of assistance to small farmers' cooperatives and farmer-based marketing organizations. This assistance enabled these groups to step up the promotion of two major products, namely, organic rice and muscovado, connect with government and private financing institutions, and interact with potential organic markets. OCCP, on its part, intensified its training activities with

BAFPS-DA, and installed various internal control systems towards the certification and entry of smallholders' products in local and international markets. With these initiatives, the CSO community managed to build influence inside government, which proved crucial in pushing for the enactment of the proposed organic law. PDAP's "Proposed Philippine Organic Agriculture Road Map (2007–2010) outlined plans towards the enactment.

3. Intensified lobbying at Congress

Both GOM- and BAFPS-prepared proposed laws found their way to Congress. GOM sent some members to Manila for lobbying work. They approached Rep. Rizza Hontiveros and former House Speaker Nograles to seek support for its version of the proposed law. To bolster its lobby work, GOM intensified its campaign activities, even as it tightened its partnership with the Regional Field Unit of the DA in training exercises and public information drive.

Meanwhile, BAFPS approached the head of the Oversight Committee on Agriculture and Fisheries, Sen. Ramon Magsaysay Jr., for sponsorship of the bill. Sen. Magsaysay was actually about to vacate his position at the time. Sen. Juan Miguel Zubiri took over the reins from Sen. Magsaysay. The turn of events was seen as more favorable towards the passage of the bill in both houses of Congress.

USec. Pacturan, counting on his friendship with Sen. Zubiri, closely monitored the progress of the bill. Meanwhile, BAFPS saw to the circulation of the draft bill among organic advocates and stakeholders, including OPTA and GOM, for review, comments and solicitation of counter proposals. Congress ratified the BAFPS version of the bill.

4. Favorable political environment

The ratification of RA 10068 did not encounter any strong opposition in Congress. Then Pres. Arroyo signed the bill into law in April 2010. Stakeholders surmised, even before it was filed, that the bill already enjoyed the tacit approval of Arroyo; she would not have dared to be acrimonious to her own issuance of EO 481.

Challenges to organic conversion

Despite the advances in organization and legislation, more than two decades after the launching of the organic movement, the agricultural landscape has barely improved. Legislation sets the stage, but implementation by a broader range of farmers is another important challenge. More needs to be done to overcome several limiting factors on the ground.

1. Farmers' resistance

Negative attitudes of farmers towards organic farming have constrained the promotion of ecological and organic farming in the country. Farmers are mulish at breaking the fertilizer and pesticide habit, and are apprehensive of any approach to counter the program. Despite recognizing and acknowledging problems associated with the use of agro-chemicals, many farmers are still hesitant to give up the practice.

2. Lack of confidence in the results of organic farming

Farmers largely depend on informal moneylenders for subsistence and in sustaining their farm activities. Loans based on expected harvests are typical. Thus, the farmers' expected produce is already dispensed to the moneylenders even prior to harvest. Moneylenders do not give loans if repayment is uncertain; farmers who use organic farming cannot access loans, as moneylenders believe organic farming does not assure them of repayment.

Farmers themselves doubt the effectiveness of organic practice in producing good yields. They believe conversion to organic practices compromises their production; they are intimidated by the alleged yield reduction associated with conversion to organic systems. They are doubtful of recovery if inadvertent losses occur in the absence of capital to initiate new production activities.

3. Scarcity of organic inputs in the market and lack of capital

Among farm inputs, there is higher demand for organic fertilizer, as many farmers find it more convenient to buy than to produce their own compost. But, these farmers often have to deal with a scarcity of organic inputs in the market.⁹ To address the problem, they make use of a combination of mechanical methods and plant-based sprays to control pests, weeds and diseases. Unfortunately, for very serious infestations, farmers are sometimes compelled to revert to synthetic chemical use.

Related to the above is the lack of capital among small farmers to procure such inputs. Small farmers usually are disadvantaged due to lack of capital, lack of access to information and technology, uncertainty over production results, unfamiliarity with organic market and lack of capacity to take additional risks.

To address the issue of capital, some NGOs tried to provide micro credit to small farmers, but many failed to recover their investments due to low repayment rate, due at least in part to a culture of non-repayment established under previous government

programs.¹⁰ Farmers generally cited reduced crop yields and crop failures as chief reasons for non-repayment. NGOs could not compel farmers to settle their obligations, because either loan contracts were without “teeth” or they were reluctant to pursue the case in court out of fear of losing clientele.

4. Lack of standardization control

The sustained effort in promoting organic agriculture has converted public awareness into growing market demand. Intensified campaigns on consumers’ rights to safe food, weekend displays of organic produce in selected outlets in key urban centers and active participation in trade exhibits have churned out growing numbers of patrons. Organic rice, muscovado, vegetables, coffee, eggs, coco nectar and cacao-based products, confectioneries, and even meat and fish have found niches in big malls and supermarkets.¹¹ Although premium prices of organic products are arbitrary, such prices are seen as reasonable payment for food safety and product quality.

With the increasing demand for organic products, new players and stakeholders entered the organic arena. Government, trade associations, certification bodies with their battery of inspectors and certifiers, consulting and training groups, producers’ groups, advocates and extension workers brought with them their respective contributions to industry development.

Unfortunately, standardization of organic products has not been properly implemented, even as some original players have been avoiding the certification system.¹² Similarly, some networks of advocates, who initially carried out intense advocacy and leadership in technology development and dissemination, became reluctant to take further steps to allow the generally accepted standards and certification procedures to filter through their respective organizations.

In 2010, top producers, traders and advocate groups conducted a cursory review of organic rice marketing. The results are quite revealing:

- Slow movement of inventories.
- Aggregate supply capacity limited to approximately 2,500–2,800 households (on a daily basis) across the Philippines.
- Sporadic contraction of an already limited market size.
- Inability to monitor repeat purchases.
- Burgeoning question about organic integrity.

The problem on market saturation may be a bit early, but the need for serious attention on the matter is valid given periodic market contraction.

5. Lack of budgetary support

Budgetary support from the government is basic in promoting and mainstreaming agroecology. Therefore, generating this support after ensuring the market is an issue to address.

The AMAS-DA and CITEM-DTI were among the earliest government agencies to lend support to the budding organic movement. Subsequently, other agencies followed suit. These are: Bureau of Food and Drugs (BFAD) of the Department of Health (DOH), Department of Science and Technology (DOST), Bureau of Agricultural and Fisheries Products Standards (BAFPS-DA),¹³ Bureau of Export and Trade Promotions (BETP-DTI), and Sugar Regulatory Administration (SRA). Ironically, despite the involvement of these agencies, the government allocated a measly five million pesos (about USD115,000) toward the implementation of EO 481.

Conclusion: lessons from the Philippine organic movement

Advocacy to establish organic standards, programs and legislation evolved from anger over the dominance of transnational corporations and Green Revolution during the Marcos regime to a coordinated legislative and organizational strategy to set the stage for the organic movement in the Philippines. Several imperatives emerge from this experience:

1. Sustained and flexible advocacy

The enactment of RA10068 is a product of protracted initiatives and a resolute struggle to recover local agriculture from continuing defilement by industrial agricultural production. In this struggle, taking into account the changing circumstances and terms of engagement without losing sight of goals and direction is as basic as steadfastness. Flexibility, in this context, implies not only the capability to adjust but also the ability to enrich the initiative.

Advocacy at the national level requires the right balance between pressure tactics and harmonization. It is crucial to know where to sustain the action, to compromise, to take temporary respite, and to deal with strong blows; fully know and understand the weaknesses of the adversary in order to effectively exploit such weaknesses to advantage. Timing is also crucial. The success of any campaign largely depends on the prevailing political climate. If necessary, such a climate should be created.

2. Properly planned campaign messages

Effective advocacy requires messages that are fully substantiated, brief, sharp, direct to the point and easily understood. Issues must be properly communicated to all stakeholders, particularly to those in power, to facilitate bonding and generate further strength and mutual reinforcement. Winning over the mass media is always a requirement, as they can influence opinion and gather support. Openness to feedback is also important to further strengthen position.

3. Well-prepared position papers

Every position paper circulated and transmitted should contain concrete call to action directed either to the public or decision-makers. Especially for submission of proposed measures, due diligence and complete staff work with specific action requested are essential. Otherwise, these submissions may merely end up in filing cabinets.

4. Multisectoral support

Support from various sectors, including GOs, NGOs, POs, academe, church and business is essential. Networks of friends, supporters, and allies must be maintained, strengthened and broadened. Gaining admiration and recognition from the other side is as basic as maintaining the movement's own strength. Building allies particularly within the bureaucracy is an important requirement. Allies will not only wield influence within policymaking centers but also become instrumental in tilting the balance of power.

Complete mobilization of government machinery and resources, as in the case of the Green Revolution program of the Marcos dictatorship, must be harnessed in order to ensure institutionalization. The challenge, therefore, is to engage the government to mobilize resources, including its concerned national and local agencies, and re-direct governance structures towards this objective.

5. Balancing of varied interests and perspectives

A corollary to the preceding imperative is balancing varied interest and perspectives. Advocates for a common issue normally come from varying, if not conflicting, interests, orientations and perspectives. Striking a balance between and among stakeholders' varying interests and orientations is crucial. Opposition, reactions and constraints will always exist. It is crucial, therefore, to know how to transform these hindering factors into advantages. Rush and impulsiveness do not help; patience and perseverance do.

Endnotes

1. Coordinator for Bicol Region, PAKISAMA (Pambansang Kilusan ng Samahang Magsasaka), a Philippine umbrella organization of farmers and fisherfolk and a member of the Asian Farmers Association.
2. Primary agriculture and agribusiness are treated as separate sectors by the National Statistics Coordination Board.
3. Republic Act 8435 or the Agriculture and Fishery Modernization Act of 1997.
4. Irrigation or the application of water to improve the productive capacity of land is blamed for water depletion and loss of water supplies.
5. MASIPAG was the very first network to advocate for the promotion and development of organic rice production but such advocacy was carried out largely in street-based actions against the Marcos dictatorship.
6. LEIA, until Year 2001, was considered as another fragment of sustainable agriculture.
7. Philippine Development Assistance Program. Proposed Philippine Organic Agriculture Roadmap (2007-2010). February 2007
8. The Pecuaría Development Cooperative is an association of agrarian reform beneficiaries.
9. The crops grown organically include rice, vegetables (squash, tomatoes, eggplants, bitter melon, lettuce, herbs, etc.), banana, chico, coffee, egg, meat, coco nectar products, cacao-based products, confectioneries and fish (at weekend markets).
10. After repeated practice of getting away from payment of loan incurred under the Masagana 99 program, many farmers have thought that they could do the same with the small loans offered by non-government groups (especially if these were accompanied by grant support for seeds, training, cross/exposure visits, etc.).
11. By MASIPAG's own estimate, the organic industry reached a value of US \$ 10M (2003). Export earnings accounted for 60% of this worth while domestic sales accounted for the remaining 40%.
12. MASIPAG and OPTA, instead, are pushing for government's acceptance of their respective guarantee systems.
13. In 2003, the Bureau of Agriculture, Fisheries, and Products Standards (BAFPS) of the Department of Agriculture was formally mandated to assume full responsibility for standards development and accreditation of local certifying body in the Philippines.

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PARTICIPATORY GUARANTEE SYSTEM (PGS) OF RICE FARMERS OF INDONESIA PEASANT ALLIANCE (API): A CASE STUDY ON AGROECOLOGY

by Ika Krshnayanti, API¹

Introduction

In Indonesia, farmers are finding new ways to integrate agro-ecological approaches into their farming practices. For many, a key challenge is to create conditions for fair markets for their goods produced under conditions that minimize dependence on external inputs, protect the environment, and develop synergy and harmony with their socio-cultural situations.

The Boyolali Organic Rice Farmers Association (APPOLI) joined forces with the Indonesia Peasant Alliance (API), a member of the Indonesia Organic Alliance (IOA), to address a key dilemma: how to make organic certification processes affordable and culturally acceptable to farmers at the same time assure consumers that their farm produce is healthier and worth the price premium. APPOLI applies a complex system that pays attention to social, economic, and ecological aspects, including designing, managing, monitoring and evaluating production, processing and marketing.

The 2011 IOA survey reveals the increase in the number of new producers, suppliers to supermarkets, trademarks, and the diverse varieties of organic products, including eggs and rice, available in the market. Also, it reveals an 18 percent increase in the price of organic vegetables from the previous year. It noted the average price of organic agricultural products at supermarkets is two to three times higher than the price of conventional vegetables at traditional markets.

Twenty years ago, the global trend in the trade of organic agricultural products was mainly through specialty stores or direct selling to consumer communities. In the last 10 years, however, the trend has shifted to mainstream markets, i.e., supermarkets. The same is true in Indonesia. Most organic products can easily be found in supermarkets. Most of these, however, are not certified.

Based on the IOA's 2010 statistics on organic agriculture, organic agriculture in the country covers a total land area of 238,872.24 hectares (out of an estimated 22 million hectares arable land), a 10 percent increase over 2009. The figure includes those with certification (either organic or conversion), in the process of certification, with certification from

IOA's Participatory Guarantee System (PGS), called PAMOR, and without certification. Most certified products are export commodities such as coffee, cocoa, honey and cashew nuts.

Also growing is the trend among big restaurants to serve organic products such as rice to attract clients. Even fast food chains such as Kentucky Fried Chicken (KFC) have joined the trend. This trend only shows the fast growing market for organic products.

Regulations for organic agriculture

In the last ten years, private companies, NGOs and donor institutions in many countries have been in a kind of a race to implement certification systems for organic agricultural products. Applying for certification is important, as certification enhances the small farmers' income; small-scale farmers whose products are certified can have access to better market and ask higher prices for their produce (called "premium price" in the certification scheme).

Besides getting a premium price for their produce, these farmers are able to learn better agricultural practices and how to meet certification standards. Two separate studies of small-scale farmers engaged in organic farming in Ecuador and East Africa revealed that a learning process takes place in certification. The learning process impacts positively on the quality and quantity of harvest and makes farming system better and more environmentally sound (Boselie et al. in Green Trust Petani Magazine, March-June 2011).

In 2002, the Indonesian government issued the SNI (Standard National Indonesia) 01-6729-2002, regulating the country's organic food system. The regulation provides guidelines for the production, processing, labeling and marketing of organic products. It was renewed in July 2010 under SNI 6729-2010. The SNI stipulates that processed organic product has to consist of at least 95 percent of the total weight of the product, excluding water and salt, and only KAN (National Accreditation Committee)-certified agricultural products can be sold in the market. The government's certification system is meant to protect consumers and organic farmers from fake or counterfeit organic products. SNI standards were patterned after international standards.

The government's Organic Food Certification Institution (LSPO) accredited seven institutions to provide organic certificates. Organic products to be certified should meet the standards set by the National Standardization Body (BSN) through the SNI organic product system (SNI 6729-2010) and by the Competent Authority on Organic Food of the Ministry of Agriculture (OKPO-Deptan) through the General

Guidance on Organic Labeling. Uncertified organic products in the market are sanctioned under the Consumer Protection Law No. 8/1999.

The law on organic products has yet to be enacted. Nevertheless, several supermarkets no longer accept uncertified organic products. Since early 2011, these supermarkets have started requiring certificates on organic products, even on products that have long been a regular fixture on their shelves. Two separate supermarket owners shared that they received a letter from the government requiring them to sell only organic products certified by government-accredited certification body. They, therefore, had to remove uncertified organic products and even unlabelled inorganic products from their shelves.

The development of the market for organic products creates opportunity to enhance farmers' welfare, free small-scale organic producers from poverty and injustice, and assure livelihood sustainability. Ironically, the existing regulations keep small farmers from accessing the market, as they have no means to have their products certified. They are losing out, as they cannot sell their uncertified organic products in the mainstream market. If such a situation continues, these farmers, who have been practicing organic agriculture for generations, would be wiped out, even as demand for organic products increases.

Farmers are not able to get certification for their products due to several factors:

1. High cost of certification

The certification fee is quite expensive, especially if the land to be certified is a small area. For instance, in Java, national certification costs Rp.5-15 million per one unit of farming activity. The cost is higher outside Java. Farmers with less than one hectare of land will not be able to pay the fee. The fee is 3-5 times higher for international certification. The high cost of certification marginalizes small-scale farmers and denies them the opportunity to improve their situation.

2. Unrealistic and culturally unacceptable certification process

The existing certification process requires farmers to verify transactional documents, including seed procurement, compost, and other production inputs. The majority of Indonesian smallholder farmers are illiterate and do not have the capability to prepare the required written documents for certification purposes. They find it difficult to meet the standards in order to be able to sell their products in the market.

Community-based guarantee system for small farmers

The lack of funds among small farmers keeps them from getting involved in the certification scheme. To address the problem, concerned groups in the country have been advocating for the adoption of alternative certification schemes that allow farmers to participate and get certification for their products. These schemes include the Internal Control System (ICS), adopted and recognized by some certification bodies, and the participatory guarantee system (PGS), involving all stakeholders, including farmers and consumers, in developing the guarantee mechanism.

Internal Control System (ICS)

The Internal Control System (ICS) is an alternative way for small farmers to consolidate several agricultural lands into one production area in order to get certification. This model actually delegates the certification process to a group of managers formed by landowners who wish their land to be collectively certified.

ICS is part of a documented quality assurance system that allows an external certification body to delegate the periodic inspection of individual group members to an identified body or unit within the certified operator. This means that third-party certification bodies have only to inspect the system and perform a few spot-checks of individual small farmers. This third party certification bodies issue certificates with one-year validity, and farmers pay for these certificates. In this system, organic farmers themselves develop and implement control mechanisms to ensure the quality of their products. For certificate extension or renewal, a certification body (external inspector) has to re-inspect the land. Such process is even more costly. ICS also offers certification of products for export.

Group certification in ICS has a two-fold objective, namely, 1.) to facilitate smallholder certification, i.e., simplify certification and reduce its cost for smallholders through coordinated documentation; and 2.) to implement and maintain a high quality assurance system for organic standards in smallholder production. Group certification enables small farmers to sell their products in the local and international markets.

Participatory Guarantee System

PGS, on the other hand, offers a complementary, low-cost, locally-based system of quality assurance with heavy emphasis on social control and knowledge building. This system is essential, as it aims to include small farmers who are set to benefit the most from organic agriculture. The

community or the consumers themselves participate in setting or revising the standards and assuring the quality of the products. The ICS is actually part of the PGS.

Both small-scale farmers and low-income consumers can benefit from the system. Since PGS directly links up consumers and farmers, farmers are able to get a fair price for the products, even as consumers are able to buy organic products at a lower cost. For instance, in Brazil, farmers and consumers work together to come up with a fair price for bananas under a PGS. Farmers get higher price for their products, thus get more income when selling directly to consumers instead of to distributors. Similarly, consumers pay less when buying directly from farmers than from retail shops. Similar programs are running in India.

Apart from paying less for organic products, consumers who participate in the implementation of the system learn about organic agriculture, have a stronger sense of community and gain increased confidence in the quality of organic products. Given its benefits to both farmers and consumers, granting national recognition to PGS as a third-party certification body is quite important.

The community-based guarantee system in Indonesia assures the organic process and products. Each community-based guarantee system has its own special characteristics, including standards, guarantee mechanism and diverse marketing system.

Initially, the community-based guarantee system was applied only to certain consumers or communities, and was on a person-to-person basis. Recently, this system has widened its coverage to include consumers who do not know the producers. The system is developed through social bonds among society; it encourages the participation of different stakeholders such as farmers, consumer groups, environmental groups, academics, NGOs, local and regional government agencies, and concerned individuals.

The participation of farmers and local consumers in the certification process is seen as entirely appropriate and necessary towards providing a credible guarantee and certification system. The system also invites farmers to participate in peer review/inspections of their own farm and at least one other farm. This strategy encourages sharing of information among farmers, thus building their capacity. Farmers are also involved in directly deciding on questions of certification and sanctions on irregularities based on agreed upon guidelines. Learning experiences among farmers can lead to new ideas on cropping and improvement of appropriate agricultural techniques, thus engendering strong social bond and solidarity among them.

PGS is already recognized in countries such as France and Brazil as equal to a third party certification body. Australia does not regulate guarantee system in the domestic market; it leaves the control to the existing system and structure.

The Brazilian government accredited six organizations to provide organic certification, three of which are PGS (e.g., ABIO, ANC, and Rede Ecovida de Agroecologia), while the other three are third party certification bodies. This is a big achievement for the global PGS movement; it recognizes the right of consumers to choose which product to buy, and the right of producers to have an alternative certification scheme. PGS supporters and advocates monitor and share information on the progress of the system, including the strategy needed to get adherence and support from government and consumers.

The Indonesian Ministry of Agriculture has been discussing and deliberating on a draft prepared by Minister of Regulation on Organic Food Standard. A focus of the draft is the PGS. The draft has been revised twice in the past two years. IOA has been advocating for the enactment of the said draft.

Lidya Inawati, manager of IOA's quality assurance and market access division, said in an interview that IOA issued a PGS certificate, called PAMOR, to a small group of women farmers, named "Vigor Organic." The group has been practicing organic agriculture in a small piece of marginal land, about a quarter hectare, in their housing complex in Malang, East Java Province. The women produce organic vegetables such as spinach, lettuce, cabbages, etc. They build simple greenhouses to plant organic vegetables and supply these to two supermarkets in town.

Organic rice agriculture in Boyolali District: The case of APPOLI

Located in Central Java, Boyolali district covers a total land area of 101,510 hectares; 41,862, or 41 percent, are devoted to rice. It has a total of 272,000 farmers; 48,000, or 18 percent, practice organic rice farming. Each farmer family owns 0.35 hectare of land. Rice is harvested two to three times a year—twice on irrigated rice land and three times on dry land. In 2007, the total production of rice was 244,000 tons; 49,000 tons, or 20 percent, was organic.

Boyolali, as assessed by the head of the district's agriculture, forestry and plantation extension office, is conducive to organic farming. Spring water suitable for organic rice farming abounds in the area. Besides, cow dung for fertilizer is also abundant, as cattle husbandry is common among

residents. Moreover, the practice enjoys the support of the regional government, which was in the process of formulating local standards for organic rice at the time of the study.

Organic rice agriculture in Boyolali is being developed in two subdistricts, namely Mojosongo and Sambu, covering an estimated total of 800 hectares of land. Even if relatively small compared to the total 42,000 hectares of land of the region, the two subdistricts have achieved considerable success in organic rice farming. It has started exporting rice to other regions such as Yogyakarta and Jakarta. Peasants are now producing their own eco-friendly fertilizers.

At present, efforts are being undertaken to restore the lost soil nutrients due to long use of chemical substances and pesticides in conventional farming. Through the System of Rice Intensification (SRI), soil quality is improving.

Farmers' groups

At least 2,000 farmers belonging to 78 peasant unions in Boyolali have started to engage in organic rice farming. The district has two farmers' organizations, namely APPOLI (*Asosiasi Petani Padi Organik Boyolali* or Boyolali Organic Rice Farmers Association) and Jatari. One of the groups that switched to organic farming, APPOLI, was founded on Dec. 29, 2007. It is a member of the API and supported by LSKBB (*Lembaga Studi Kemasyarakatan dan Bina Bakat*), an NGO working in Boyolali and Solo Raya region.

An APPOLI member, Budhi Rahayu Peasant Union, whose members are women, has been producing organic fertilizer for their own production needs. For APPOLI men and women members, the use of organic fertilizer has reduced their production cost to about 40 percent; and since the price of organic rice in the market is about 20 percent higher than that of conventional rice, more farmers have been encouraged to engage in organic rice farming.

In recent years, according to VECO Indonesia, Boyolali District has produced a surplus of sixty thousand tons of organic rice per year. Efforts are now geared towards developing an efficient and effective marketing system for the produce. Meanwhile, APPOLI has started applying the ICS, thus enhancing the capacity of its members to practice better rice farming practices. Better quality of rice assures them of better price even if they sell to middlepersons.

Government support

The Head of the Boyolali district is quite supportive of organic rice farming practices. He and the extension officer of the Ministry of Agriculture, learned firsthand the positive results, including benefits on the farmers and environment, of such practices. He even expressed his wish to make the district as the organic rice center of Central Java. To realize this dream, he promised to provide facilities for the production of organic fertilizers, including the construction of composting huts. He encouraged the peasant groups to prepare a proposal for the acquisition of hand tractors, which he would endorse and forward to the national government in Jakarta. Also, he encouraged them to produce organic rice for export.

Current status

As mentioned earlier, an NGO in Boyolali, LSKBB, has been assisting APPOLI in applying for certification at the province level. VECO Indonesia, on the other hand, provides assistance in implementing the ICS among peasant groups. With such assistance, APPOLI has become a professional and responsible member-based peasant organization, earning the reputation of producing healthy rice in the district. The organization facilitates the development of healthy rice through innovative and ecologically sustainable agricultural practices, and the cooperation among peasants, government, NGOs, private sector and CSOs. It encourages women members to get involved in many activities such as leadership trainings.

Challenges

Shifting to organic farming has not been without challenges per the experience of the Boyolali farmers. These challenges are: low production due to limited supply of organic fertilizer; poor bargaining positions because of limited capability for collective marketing; a limited number of peasants applying proper ICS; and insufficient funds (micro-credit) for capital.

To address some of the above problems, the farmers have started to produce their own organic fertilizer; conduct collective marketing by establishing cooperatives; and undergo training in implementing proper ICS.

Conclusion: The way forward for small organic farmers

The experience of Boyolali farmers shows that organic farming system can produce relatively high investment returns. With relatively low production cost and high market price, farmers are assured of good income. Apart from its economic benefits, organic farming ensures consumers of healthy food and the sustainability of the environment. Despite this, however, the

development of organic farming in the country is stalled and has not taken off as expected mainly because of a certification process that is not accessible to small organic farmers.

Given thus, IOA recommends:

1. Standards on organic agriculture should consider the reality of the peasants, be culturally acceptable and based on progressive realization, i.e., peasants should be empowered to fulfill the standards.

2. Government should give recognition to community-based guarantee system.

Certification of organic agricultural products is important to protect peasants and consumers. However, such certification should not be done solely by the government accredited-certification bodies. The government should recognize community-based guarantee system as well given its considerable benefits to both farmers and consumers. Peasants should be exempt from applying for organic certificate.

3. Peasants with total income under Rp.50 million per harvest or whose land is less than one hectare should be exempt from applying for organic certificates. They should be allowed to sell their uncertified organic products in the markets.

4. Government should provide a subsidy for certification.

The government should pay the certification fee for small farmers under different terms.

5. Support and campaign for fair trade.

All stakeholders should promote and advocate for a policy of fair trade rather than free trade in organic agriculture towards the development of organic agriculture and the improvement of the plight of organic farmers in the country. Fair trade refers to a trading partnership based on dialogue, transparency and respect that seeks greater equity in international trade. In fair trade, large- and small-scale enterprises—large and small organic farmers in our case—are given equal opportunity to gain success in the trading industry.

Small farmers are considered the main pillars of organic agricultural movement in Indonesia. They have engaged in the field long before the government started to recognize the tremendous socioeconomic and environmental benefits derived from such farming practices. It would be an injustice

to these farmers if they become marginalized from the organic product trade merely because they could not get certification for their products. It is therefore imperative for the government and all stakeholders in the agroecological movement to seriously examine the plight of these farmers and heed their call for an alternative certification process.

Endnotes

1. International Relations Officer for API (Aliansi Petani Indonesia, Indonesian Peasant Alliance), a member of the Asian Farmers Association

Conclusion

The experiences documented in these case studies demonstrate the need to integrate ecological, social and political factors with agricultural production techniques. While the increase in yields in the Cambodian Sustainable Rice Initiative is impressive, for example, it depends on the active involvement of farmer innovators to develop and disseminate those practices. In both the Philippines and Indonesia, effective coalitions were needed to promote organic standards that integrate consumers' and farmers interests.

These successes are not just the result of farmers maneuvering to manage limited resources. They are ambitious programs backed by sound science developed through the sharing of knowledge among experts on the ground and in research centers around the world. Similar, but unique, examples exist in Latin America and Africa, the United States and Europe. Each explicitly recognizes the importance of multidisciplinary approaches that respond to specific ecological and social conditions, recognize and build on traditional knowledge and depend on information sharing, extension services and the development of adequate markets.

Agroecological approaches have gained increasing support among scientists, consumers, and farmers around the world. Unfortunately, official efforts to develop norms and fund “sustainable” agriculture are for the most part still promoting “business as usual” solutions that rely on imported chemical inputs and fail to advance food sovereignty or even environmental sustainability. Concerted action on a few selected processes could help to make a difference. Both the terms of the debates on food security and climate change and the funding priorities of governments and major donors need to be shifted to enable agroecological approaches to reach their full potential.