ORGANIC SUPPLY CHAIN IN THAILAND

Vitoon R. Ruenglertpanyakul
Earth Net Foundation,
6 Soi Piboonupatam-Wattana Nivej 7,
Suthusarn Rd., Huay-Kwang,
Bangkok 10310, Thailand
e-mail: vitoon.greennet@gmail.com

ABSTRACT

Thai organic agriculture has gone through different stages of development and may have now begun with its growth stage. The export orientation has been the key pull factor fueling its development but domestic market appears to play an increasing role, especially among the fresh organic fruits and vegetables sector. The private sector’s role in organizing the organic supply chain is key to its success. But lack of knowledge and skills in the supply chain management may become the bottleneck in the future development of the Thai organic industries, especially the extension support activities to small-scale farmers. Sharing of knowledge and experiences through various means may help to overcome this constraint. Supporting researches need to be better coordinated to address the needs of the private enterprises in organizing the organic supply chains as well as those of organic farmers.

Keywords: Thailand, Organic Agriculture, Supply Chain Management

INTRODUCTION

Once a predominant agricultural country, Thai agriculture has been on the decline since the 1950s. Over the last 20 years, the contribution of agriculture to the national economy has dropped from 25% to less than 10%. Similarly, agricultural exports have fallen from a dominant role in bringing foreign income into the country. Despite these declines, agricultural production is still expanding, though with a reducing rate, and the majority of people are still employed in this sector.

Rice is the main staple crop and its production occupies more than half of the farmlands. Rice surplus after domestic consumption, is exported and represents a third of the agricultural export value. Fishery exports, both from wild catching and aquaculture, especially shrimps, have been the number one export earning activity. The second most important agricultural export commodity is rubber.

The main feature of Thai agriculture has always been the small-scale farmers. Average land holding size is 25.24 rai (equivalent to 4.04 hectare/family). Over 60% of population is in the agricultural sector. In 1994, there were 5.1 million families whose source of living depends on agriculture. The total population of these families is around 37.8 million, accounting for about 63.9% of Thailand’s total employment.

Thai organic agriculture is rooted in traditional farming which has survived the “green revolution”, introduced to Thailand in the 1970s. The resistant movement was spearheaded by local farmers and local non-government organizations (NGOs) who, since the early 1980s, came together to establish the Alternative Agriculture Network (AAN) to foster sustainable agriculture activism in Thailand. By the early 1990s, these NGOs pioneered organic agriculture development in the country by supporting local farmers to adopt sustainable farming practices, organizing alternative marketing schemes for small-scale farmers, and initiating the organic standards and certification system. Parallel to these initiatives, some mainstream business sector, seeing the business opportunities in...
organic trade, initiated organic farming projects by converting their farms into organic or supporting their farmers to convert.

**CURRENT STATUS OF THAI ORGANIC AGRICULTURE**

Thailand’s organic sector has probably passed the early infancy stage of development and started entering the growth stage. Most organic production systems are simple, without the use of sophisticated farming technologies or machineries. Most organic products are basic unprocessed commodities such as rice, fresh fruits and vegetables. Increasingly, more intermediate processed products are developed, such as sugar, tapioca starch and palm oil. Processed organic produce, as finished consumer products, are relatively few, as the raw material is usually insufficient to supply processing plants, and the supply is often not continuous. Also, the importers prefer to buy organic raw materials from Thailand and do the processing in their own countries in order to ensure high quality and lower import taxes.

Green Net and the Earth Net Foundation estimate that in at the end of 2011, the area under organic farming was around 35,102 ha, (Table 1) representing 0.17% of the total agricultural land area (21 m ha). The number of farms was around 7,499, representing 0.15% of the total number of farms in the country (around 5.1 million farms).

**The development of organic farming**

In response to the declining state of agriculture due to excessive use of agro-chemicals and economic pressure, a group of farmers and local non-government organizations (NGOs) came together to establish the Alternative Agriculture Network (AAN) around the early 1980s to foster sustainable agriculture activism in Thailand. The AAN provides a discussion forum of sharing of experiences and policy advocacy for sustainable agriculture, including organic farming. This initiative had aroused interests among the concerned people to engage in the promotion of sustainable agriculture in many parts of the country as rural development objectives. Organic farming is seen as a form of sustainable farming practices, together with agro-forestry, mix farming, and natural farming. Meanwhile, the growth of organic agriculture in EU and US, especially the emergence of market opportunities, has created some interest for agribusiness to initiate organic projects in order to capture the early market niche abroad.

The development of Thai organic agriculture occurs in two streams, i.e. the rural development oriented and the business oriented organic programs. In the first stream, the key stakeholders are farmers and NGOs with a limited support from local researchers. Their main goals are to support small-scale

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of organic farms</th>
<th>Organic farmland (ha)</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>n.a.</td>
<td>1,005.03</td>
<td>n.a.</td>
</tr>
<tr>
<td>1999</td>
<td>n.a.</td>
<td>881.62</td>
<td>-12.28%</td>
</tr>
<tr>
<td>2000</td>
<td>n.a.</td>
<td>1,683.84</td>
<td>90.99%</td>
</tr>
<tr>
<td>2001</td>
<td>961</td>
<td>2,147.08</td>
<td>27.51%</td>
</tr>
<tr>
<td>2002</td>
<td>1,171</td>
<td>8,958.77</td>
<td>317.25%</td>
</tr>
<tr>
<td>2003</td>
<td>1,653</td>
<td>11,159.80</td>
<td>24.57%</td>
</tr>
<tr>
<td>2004</td>
<td>2,519</td>
<td>13,899.50</td>
<td>24.55%</td>
</tr>
<tr>
<td>2005</td>
<td>7,186</td>
<td>21,701.49</td>
<td>56.13%</td>
</tr>
<tr>
<td>2006</td>
<td>7,564</td>
<td>22,550.40</td>
<td>3.91%</td>
</tr>
<tr>
<td>2007</td>
<td>3,924</td>
<td>19,155.65</td>
<td>-15.05%</td>
</tr>
<tr>
<td>2008</td>
<td>3,545</td>
<td>16,954.74</td>
<td>-11.49%</td>
</tr>
<tr>
<td>2009</td>
<td>5,358</td>
<td>30,755.21</td>
<td>81.40%</td>
</tr>
<tr>
<td>2010</td>
<td>7,405</td>
<td>34,079.26</td>
<td>10.81%</td>
</tr>
<tr>
<td>2011</td>
<td>7,499</td>
<td>35,102.51</td>
<td>3.00%</td>
</tr>
</tbody>
</table>

Source: Green Net / Earth Net Foundations, 2013
farmers to adopt sustainable farming practices in order to improve their livelihood and agro-ecological conditions in the rural areas. Their conversion strategies emphasize on raising farmers’ awareness on the negative impacts of agro-chemicals and the undue dependency on external markets and promoting indigenous knowledge of sustainable farming practices through seminars, research, study tours, and individual on-farm experiments. This approach had a limited success and some NGOs, since early 1990s, had started revolutionizing the strategies through incorporating economic (market) incentive and revising extension methodologies. As part of the strategies of this approach, a local organic certification body was founded to provide inspection and certification services to ensure better market access. This new approach is proven to be more effective as a large number of farmers had joined in the organic programs.

The second stream is led by local entrepreneurs who have linkages to overseas markets. With such linkages, they (or their trading partners overseas) have noticed the emerging organic markets and have seen this as a business opportunity. As they normally lack the knowledge in production, especially organic farming, they have engaged local researchers and government agencies in helping them with farmers’ conversion. They also tend to use services of foreign organic certification bodies as suggested by their overseas trading partners. These early pioneers appear to be the large-scale business with export facilities. However, when the domestic market emerges, more and more of smaller local business and entrepreneurs come into the scene.

The development of Thai organic agriculture has gone through an upward and downward periods with the local and international political and economic environments (Table 2). The collapse of the Thai economy in 1999 had both positive and negative implications, e.g. it encourages more organic conversion as agro-chemical farm inputs became more expensive and Thai organic exports were more competitive but it slowed down the growth of domestic markets due to tight financial flow. The active engagement of the government in organic agriculture since the early 2000s helped to also promote more farm conversion for both domestic market and exports. The oil crisis in the mid-2000s encourages the conversion of producers and slows down the domestic market development. Overall, Thai organic agriculture has been growing at quite a steady rate fueled by the expansion of export opportunities, especially in the EU and US in recent years. Domestic markets though had emerged quite long time ago, have not developed well due to domestic politico-economic conditions.

**Organic market development**

Reliable sources of data on the trade of organic produce are hard to find. The situation is confused by the various standards or systems of certification for organically produced and other safe produce (with no organic certification). This made it impossible to categorically differentiate between the two markets. Despite such limitation, Green Net and Earth Net Foundation have made their own estimate of the production quantity and value. From the table below, Table 3 the production quantity of 2011 was estimated to be 49,541 tons with farm gate value of 1804.6 THB million. The non-certified organic and health food market is much harder to quantify, but some had estimated the market to be as high as US$ 83.33 million (3,000 million baht). The local organic products carry around 10-50% premium prices. The premium has gone down as more producers offering new organic products enter the market.

The development of domestic market is only a short history. Like many other developing countries, the Thai pioneers of organic producers in the very early phase were targeting overseas markets, especially the EU, because of the traditional trade linkage and because the domestic market was virtually non-existent during that time. Domestic markets in Thailand probably began since the early 1990s when Thai consumers became more concerned about their health and environmental problems. In response, many healthy foods, especially functional and medicinal foods, were introduced into the local markets. The health food market later expanded the concept to include safe foods which allowed organic foods to become more visible. However, due to active promotion of
Table 2. Chronology of Thai organic agriculture development

<table>
<thead>
<tr>
<th>Year</th>
<th>Key milestone events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>• Chai Wiwat Agro-industry and Capital Rice Co started organic rice project in Chiang Rai and Phayao. Production was certified by Bioagricert, Italy.</td>
</tr>
</tbody>
</table>
| 1992 | • Alternative Agriculture Network organized its first national conference, requesting the government to promote sustainable agriculture and organic farming  
• First Fair Trade rice from Surin was exported to Fair Trade groups in Europe. |
| 1993 | • Green Net established |
• Capital Rice began selling organic jasmine rice in Thailand and overseas |
| 1995 | • ACT was established, and first Thai organic crop standards were drafted. |
| 1996 | • Organic rice project established in Yasothon, certified by the Swiss Institute for Market Ecology (IMO).    
• IFOAM-Asia Regional Workshop on “Certification for Organic Agriculture and Alternative Market” |
| 1997 | • ACT commenced organic farm inspection and certification. |
| 1999 | • Thailand Institute of Technological and Scientific Research (TISTR) / Export Promotion Department of the Ministry of Commerce, and the Department of Agriculture (DOA), started drafting organic crop standards. |
| 2000 | • ACT obtained IFOAM accreditation from the International Organic Accreditation Service (IOAS), and its first certified products appeared in Thai markets.  
• The Cabinet approved US$ 15.8 million (633 million baht) to support a 3-year pilot project on Sustainable Agriculture for Small-Scale Producers. The project was coordinated by the Sustainable Agriculture Foundation and covered 3,500 farming families |
| 2001 | • DOA gazetted organic crop production standards.  
• First IFOAM Organic Shrimp Consultation held in Thailand |
| 2002 | • Ministry of Agriculture and Cooperative (MoAC) established National Office of Agricultural and Food Commodity Standards (ACFS), responsible for implementing/enforcing national agricultural and food standards as well as accreditation.  
• ACFS completed drafting of “Organic Agriculture: the Production, Processing, Labeling and Marketing of Organic Agriculture”. They cover crop production, livestock and aquaculture.  
• Swiss Government recognized the competency of ACT, allowing ACT to conduct organic inspection and certification according to the Swiss government’s organic standards.  
• First produce bearing “Organic Thailand” label appeared in the Thai market. |
• Surin Province set up a large-scale organic project, planning to convert 16,000 households (with 37,760 ha.) into organic jasmine rice farming, of which 2,735 households (covering 2,735 ha) would apply for organic certification from ACT.  
• ACT was recognized by the Swedish competent authority for organic certification according to EU regulation 2092/91. |
| 2004 | • ACFS launched an accreditation programme for organic agriculture. ACT was the first agency to apply for the accreditation.  
• Organic Agriculture Fair was organized by the MOAC and the Cabinet adopted a resolution to put organic agriculture on the national agenda. |
| 2005 | • The government set aside a 1,215.9 million baht budget for the implementation of National Agenda on Organic Agriculture for 2005/06. 23 public agencies were involved.  
• The main objective was to reduce the use of agro-chemicals in conventional farms.  
• Many governors started organic project in their provinces, but two large scale conversion projects were in Surin and Burirum where thousands of organic rice farming were planned. |
| 2006 | • 1.2 billion THB was allocated for National Agenda on OA, mainly focused on organic fertilizers  
• Thai Organic Trader Association (TOTA) registered  
• National organic development plan was drafted  
• Siam Paragon introduced Gourmet Market with organic ranges
“safe” conventional foods by the government under various programs such as “hygienic” food or “toxic-safe” food, the Thai consumers were unable to differentiate these produce with organic products. Efforts by local NGOs to raise consumer awareness about the differences and the benefits of organic foods began to gain grounds in the domestic market. However, the collapse of the Thai economy in the late 1990s had depressed the emerging market and put some pause to the market development until a couple of years later when Thailand began to see an economic recovery and some signs of a revitalized growth for the local organic market.

High end supermarkets are the main sale channels of organic products followed by specialized health food supermarkets (e.g. Lemon Farm) and small independent health shops. Once dominated the market during the early period, had closed down in a large number especially since the mainstream supermarkets started selling organic products. Currently only a handful of independent health shops survive and sell in a localized area of Bangkok. For farmers’ market, there exists a few in some major provinces outside Bangkok but only a small amount of organic produce is sold via this channel. Direct sell exists in a very limited scope, with only one or two groups practicing it. No institutions have yet made a commitment to purchase organic produce though there has been a lot of discussion about the possibility of doing this in hospitals, and kindergarten and private schools. The key obstacles are the lack of regular and reliable supplies, especially for fresh vegetables, limited product varieties,

<table>
<thead>
<tr>
<th>Year</th>
<th>Production estimate (ton)</th>
<th>Production value (THB million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>9,756</td>
<td>375.13</td>
</tr>
<tr>
<td>2004</td>
<td>15,966</td>
<td>608.79</td>
</tr>
<tr>
<td>2005</td>
<td>29,415</td>
<td>920.39</td>
</tr>
<tr>
<td>2006</td>
<td>30,374</td>
<td>948.03</td>
</tr>
<tr>
<td>2007</td>
<td>33,677</td>
<td>976.84</td>
</tr>
<tr>
<td>2008</td>
<td>26,564</td>
<td>806.09</td>
</tr>
<tr>
<td>2009</td>
<td>44,688</td>
<td>1,354.42</td>
</tr>
<tr>
<td>2010</td>
<td>47,547</td>
<td>1,752.1</td>
</tr>
<tr>
<td>2011</td>
<td>49,541</td>
<td>1,804.6</td>
</tr>
</tbody>
</table>

Source: Green Net / Earth Net Foundations, 2013
higher costs of the procurement, and lack of commitment of the kitchen staff to accommodate the seasonal variation of fresh produce. In fact the first two problems also constrain the expansion of organic market in the country and some supermarkets have started importing organic fresh products to fill their shelves and expand the assortments.

A study conducted by Green Net (2011) in 2011 found 432 organic products available in the Thai domestic markets. The top five are grain processed products (66 items), beverage (56 items), fresh vegetables (45 items), cooking ingredients (42 items) and snacks (32 items). The surprising finding is that 58% of these organic products in the Thai markets are imported products, and if the fresh produce is excluded, the proportion of imported processed products is as high as 86%. In the same study, Green Net found only 9% of the products claimed to be organic but without organic certification despite the lack of compulsory requirement for organic products labeling in Thailand.

With regards to consumer awareness building, only NGOs and organic traders have taken initiative to organize some activities, though the latter tend to do it on a more narrow sense, e.g. to promote the sale of their own products. However, the media themselves also have keen interests in the issue and sometimes also taken their own initiative to promote organic products among consumers. Consumer awareness activities have been done mainly through traditional mass media means, e.g. articles in newspapers or magazines, short documentary in television are done on a piece meal basis without any coordination or planning. There is no concrete initiative to raise consumer awareness and educate them in a more systematic manner.

The Thai Organic Trader Association (TOTA, 2012) published a policy paper in March 2012 on Thai organic market development. TOTA identified 5 groups of Thai consumers, i.e. Healthy Young Baby Families (29.6% of total Thai organic consumers), Healthy Lifestyle Individuals (20.4%), Patient Families (21.4%), Aging Families (12.2%) and Expat Families (16.3%). Another study found that 62% of the Thai high-end consumers were aware about organic products and 80% of those who know about it already bought organic foods. Their main reasons for choosing organic foods were food safety, followed by the concern for the environment, and its health benefits (Ahnert, 2011).

**Regulatory framework**

There are many organic (third-party) certification bodies offering their services to Thai producers. Two local bodies are the Organic Agriculture Certification Thailand (ACT), a private non-profit foundation, and the Organic Crop Institute, a public agency under the Department of Agriculture, Ministry of Agriculture and Cooperative. The government certification body offers free certification services but due to lack of international recognition, is only used for domestic markets while ACT offers its services on fee-based system. Both of them have their own organic standards (as well as own labeling scheme). ACT offers IFOAM-Accreditation scheme as well as EU, NOP, and JAS, the last two schemes is done in collaboration with Italian-based certification body. Several foreign certification bodies are operating in Thailand and a couple of them have offices or agents in Thailand, e.g. Bioagricert, BCS, Ecocert. Only a quarter of organic producers are certified by local bodies and the rest by foreign certification bodies, mainly EU-based agencies.

A large majority of producers are certified as growers group with an internal control system operating. There is one participatory guarantee system for a local producers group in Chiang Mai.

The National Office of Agricultural and Food Commodity Standards (ACFS) has set voluntary national standard guidelines for organic agriculture but so far, no one has shown strong interest in adopting the ACFS standard guidelines. The introduction of the ACFS national standards guidelines is an attempt to set-up a regulatory framework compatible with the EU system. But so far, no official application has been submitted for EU’s third country recognition yet.

The overall impact of having established an organic certification system is the facilitation of access to export markets and, to a much smaller extent, the development of domestic market. The drawback of this is that many government agencies are
overly preoccupied with the development of the whole guarantee system, i.e. standard, inspection, certification, accreditation and far too much of resources were devoted to this field while less resources were made available to much needed areas like extension, conversion supports, or consumer education. It also reinforces the commonly held myth that the success of organic agriculture is judged by having a national certification and regulatory system.

Related organic agriculture policy

There are both negative and positive policy environments surrounding organic agriculture. General agriculture policies still favor conventional farming with subsidized agro-chemical farm inputs. As Thailand cannot produce her own agro-chemicals, all pesticides and chemical fertilizers are to be imported. The import taxes of these products are set lower compared to other farm inputs. There is also an indirect subsidy for pesticides. For instance, on the perceived outbreak of crop pests and diseases, the government would distribute free pesticides to farmers. Or if there is a special extension project, the government may give away farm inputs, often chemical fertilizers and pesticides, to producers participating in the project.

There have been strong lobbies for allowing GMO crop production in Thailand by some Thai research institutions and private companies engaging in GE technologies. Some unlawful field trials of GMO crops by research institutions also exist, already resulting in GMO contamination at the seed level for at least two crops; papaya and cotton. The push to allow GMO crop production or more GMO field trials will inevitably lead to further GMO contamination, endangering Thailand’s organic agriculture development.

On the positive side, Thai consumers are aware of the danger of pesticides residues in the food chain and there is a general concern about food and human health, thanks to the successful campaign of the public health organizations. This puts pressure on producers to adopt a safer use of agro-chemicals. Also, with the escalation of oil prices, the costs of all agro-chemicals have increased and producers are further pressed to cut down on agro-chemicals spending and adopt some organic farming methods, e.g. organic fertilizers, botanical insecticides.

The efforts by the royal family, especially his Majesty the King, to promote “self-sufficient economy” concept, has led to a proliferation of self-sufficient sustainable agriculture among public agencies and the Thai public at large. As a result, many sustainable agriculture projects were initiated (both pilot production and research projects). The Royal Project has recently started an organic vegetable production program, converting part of its vegetable production to certified organic farms. The organic vegetables are sold in several shops and supermarkets throughout the country.

The Santi Asoke, a Buddhist sect, has, along with the religious preaching, long been promoting “nontoxic” farming, a farming system that does not use chemical fertilizers and pesticides there are many followers of this group throughout the country. They have a strong influence on organic production, especially at the extension level. Like most of the government’s projects, the Santo Asoke’s program only aims at encouraging producers to adopt some organic farming technology, but do not require full farm conversion or organic certification.

Sector organization for organic farming

No specific organic producers’ organization exists at the national level. Small-scale producers are organized at the local level, especially for the benefit of organic certification and logistic arrangements. The Green Net’s producer’s network is the largest network of organic producers’ organizations, representing around half of the organic producers in the country.

The Thai Organic Trader Association (TOTA) was founded, in November 2005. Though with less than 30 memberships in the association, the founding members are all the key players of organic trade, and the members representing more than half of the organic producers in the country.

The development of Thai organic agriculture has so far been driven by private sectors and NGOs. These two play key roles in organizing organic conversion projects and marketing, making a major contribution to the
growth of organic agriculture. The government may have played some supportive role through national regulations and some favorable policy environment.

**ORGANIC SUPPLY CHAIN IN THAILAND**

Unlike conventional production, organic agriculture requires adoption of complete supply chain management so as to ensure product traceability, prevent co-mingling with non-organic products, and ensures that the standards on handling and processing are met. Two types of business models for organic supply chain management have been developed in Thailand, i.e. cooperative entrepreneurship and private business contract farming.

Cooperative entrepreneurship refers to producer groups, normally registered as agricultural cooperatives but in some case, other producer organizations (e.g. community enterprises, farmer organizations). These enterprise cooperatives organize and provide support for their producer members to convert their agricultural productions to organic and arranging for organic certifications (normally under grower group certification scheme). The cooperatives would set guaranteed prices and buy their produce from farmer members, having them collectively processed, packed, and sold to distributors or retailers. Some of them also manage the exportation of their organic products themselves.

Contract farming, according to the Asian Development Bank (ADB), refers to “arrangements whereby development assistance or agri-services are provided to farmers. This could include improved farming practices, provision of extension services, quality control mechanisms, credit, and market for products” (Setboonsarng 2008). In Thailand, agribusiness firms would either contract individual farmers directly or contract their producer groups to produce organic products for them. The agribusiness firms would normally organize the processing, either of their own or contract out the processing activities to private processors, and the firms do the trade of the processed (or packed) organic products themselves.

Lack of knowledge on supply chain management skills is the key factor that needs to be overcome urgently. Training programs to capacitate members of the agribusiness and cooperatives community are crucial but it is equally important to institute support mechanism that assist and coach them through the process of adopting and implementing organic supply chain management. Few experiences of the pioneers in organic supply chain management are documented to provide a lower learning curve for the new comers.

**Extension services as constraints of supply chain**

Both of these business models vertically integrate the supply chain management, partly or the whole chain. However, the weakest link in this supply chain is the farm production level, especially when farm production is managed by independent small-scale producers. Contract farming or cooperative entrepreneurs can serve as business arrangement for managing these independent producers, providing market incentive for their conversion. However, with the need for product certification, producers must also know how to comply with the complex technical standards. Extension and advisory services are therefore key success factors in organic farming.

Very few agribusiness firms or cooperatives in Thailand have their own extension and advisory services for producers. Most rely on public extension systems to deliver such services. However, the public extension systems in Thailand seem not so effective in delivering required services to prospective producers. These systems were created a few decades ago with top-down bureaucratic structure, inadequately funded (especially for field-level programs) and have not been able to keep themselves up-to-date with new technology and challenges (Swanson, 2008). Reforming the public extension system would need to address issues on the lack of incentive and accountability to clients, weak political commitments to extension, and lack of fiscal sustainability in some countries (World Bank, 2007). Such reform may take years and lot of efforts. Meanwhile successful organic agribusiness and cooperatives have either developed their own extension and advisory support or rely on consultancy service provider to do the work. Currently, there are very few consultancy services specializing in organic agriculture in Thailand, except the Earth Net Foundation. Therefore,
most agribusiness and cooperatives are to develop their own in-house organic extension systems, some of them are more effective than others. Limited organic extension services appear to be the key factor limiting the expansion of organic agriculture in Thailand, especially among small-scale producers.

The content and methodology of producer extension are also important. Many organic projects fail because their extension content and methodology are inappropriate or not self-financing. On-going documentation may help the existing and the newcomers to continuously improve their extension works and adapt their works to the fast-changing socio-economic and climatic conditions.

Besides supporting farmers on organic production technologies, successful agricultural extension must also address other needs and requirements of prospective farmers. These could include provision of inputs (e.g. seeds, bio-pesticides and organic fertilizers) which, if not available locally, could also include credits, and the establishment and/or strengthening of producer organization.

CONCLUSION

One of the key features of organic vis-a-vis conventional agriculture is its being “knowledge intensive” as organic farmers must substitute the knowledge of agroecology management to chemical agrochemicals which is prohibited in organic farming. Although generic knowledge on organic farming is normally available, in various publications and internet, specific knowledge on production system appropriate for small-scale farmers is lacking. There is an urgent need for public sector to support adaptive researches.

Although public funding for organic researches have constantly increased because organic agriculture has gained momentum with its recognized benefits for food safety, environmental services, and climate change mitigation and adaptation, organic research will become even less linked with the organic industries and movement in the country. Panyakul (2010) observes that “Research priority is very much dictated by the researchers themselves. This is due to the fact that no overall research priorities have ever been set and researchers are not bound by priorities set by other stakeholder groups”.

His recommendation to address this challenge is for the “Thai organic research would be to define the country’s research needs through broad consultation with stakeholders and end users. Much more dialogue is needed between farmers and researchers. This would allow the research issues and priorities to be established and guide the researchers and research funding agencies to direct the research to areas and issues that are of interest to the organic movement and industries, and not just the researcher’s own interest. Defining research needs should not be on an ad hoc basis, but given a formalized structure such as an organic research platform so that research needs can be reviewed from time to time”.

REFERENCES


