



## Policy Recommendations

Steps in five main policy areas can help moving government and society towards change in the higher education system and advance sustainable agriculture in the Thai context.

### 1. Transform the curriculum and teaching of agricultural education

- Design interdisciplinary courses and curricula. Programmes should provide farming knowledge in different fields and from across disciplines, since implementing sustainable agriculture in practice requires integrated knowledge and understanding of science, economics, the environment and social values. Students will then have a holistic, integrated knowledge about sustainable agriculture.
- Incorporate all the subjects and courses related to sustainable agriculture into existing programmes. Each programme or course should incorporate topics or subjects on sustainable agriculture, such as, organic farming, in both theory and practice.
- Increase the number of educated farmers. Encourage and support the new generation that wishes to enter the agricultural sector by supporting scholarships and other incentives for students.
- Build a strong experiential learning project into the students' final year and introduce internships with stipends for graduates to give them experience of learning by doing. Students could learn farm planning and budgeting through simulations of real situations with the support from their teachers who could act as their academic advisers or field mentors. Graduates could do internships on real farms practicing sustainable agriculture, with guidance from experienced farm owners and university teachers.
- Introduce or incorporate the concepts of sustainability and social responsibility into all higher education programmes and curricula in order to root the ideas and values of sustainable agriculture into students. Provide incentives and support through: (a) four-year scholarships for students who wish to study sustainable agriculture; (b) start-up support for new graduates who are willing to work in rural areas as farmers; (c) extension services and support, such as the necessary tools and equipment to carry on sustainable agriculture.
- Build and encourage a strong network between local people, government, NGOs and experts to provide useful guidance and spiritual support on sustainable agriculture.
- Undertake social and community embedding. Being given an opportunity for field practice or farming experience in their final year could help students to understand rural culture and the significance of sustainability and agriculture.

### 2. Research and development

- Support scholars or experts to conduct more research on sustainable agriculture through more funding.
- Emphasize applied research in both science and technology,

focusing on how sustainable agriculture can be beneficial for wider society and communities.

- Promote community- or area-based research / Participatory Action Research (PAR), especially in universities that are already in the Thai government designated target areas for PAR. Increase community engagement research using the budget allocated for PAR and funding for sustainable agriculture. This type of research should be recognized and scholars should be able to cite it as part of their academic achievements.
- Set up a national centre of excellence for sustainable agriculture which would be a place to gather experts and scholars, and will be used for accumulation of knowledge about sustainable agriculture in Thailand.

### 3. Outreach

- Recognize the importance of sustainable agriculture technology and the need to transfer the related knowledge to the community. Focus on the use and application of sustainable agriculture technology in local and site-specific contexts.
- Enhance academic services on sustainable agriculture and provide sufficient tools for both universities and communities.
- Provide training for government extension officials and other government staff. Precise and up-to-date information and knowledge is necessary to help farmers.

### 4. Networking and Collaborations within the ASEAN region through the ASEAN University Network

- Establish a regional network and international partnerships to implement collaborative exchanges of students, academic scholars and experts in sustainable agriculture.
- Share knowledge, problems and information among members of sustainable agriculture education programmes and conduct collaborative research.

### 5. General Recommendations to the Government Concerning the Development of Sustainable Agriculture

- Initiate and provide opportunities for bottom-up policies, incorporating public opinion and encouraging the participation of the community in future policy formulation.
- Provide motivation and create incentives, supporting crop pricing and insurance.
- Support the entire production chain of organic agriculture, including production, marketing and pricing, and promote awareness of its importance for health and well-being. Encourage consumers to buy organic products.
- In collaboration with Thai sustainable agriculture scholars and practitioners conduct a comprehensive evaluation of the existing sustainable agriculture programmes, curricula, teaching, research and extension services in Thai higher education in order to assist the future national planning.

## Background

The Government of Thailand is currently taking steps to promote sustainable agriculture as an alternative to conventional high-input, intensive agriculture systems in Thailand. The government sees sustainable agriculture as a helpful way to sustain the way of life of rural people in Thailand. It is not yet clear, however, whether the government can expand the concepts within sustainable agriculture and apply them to the wider conventional agricultural system, especially in the short term. This policy brief suggests that focusing on post-secondary education could be important for advancing the concepts and approaches of sustainable agriculture and implementing best practices in order to bring about long-term change.

This policy brief was drafted by the Thai SIANI Higher Education for Sustainable Agriculture (HESA) expert group, which held its first meeting and national dialogue in Bangkok on 19 March 2015. Experts representing eight universities and one academic institute offering agriculture programmes attended from across the country. While discussing various definitions of sustainable agriculture in a Thai context, each member shared and exchanged ideas and perspectives on the problems and issues related to researching, teaching, learning about and providing extension services for sustainable agriculture in Thailand. The group exchanged further ideas and discussed policy issues while drafting the outline for this policy brief at its second meeting—a ‘write-shop’ held at the School of Agricultural Resources, Chulalongkorn University, Bangkok, on 27–28 July 2015.

In particular, the group discussed the role of higher education in helping to find possible solutions to the problems of sustainable agriculture and address broader national and institutional policy concerns. Everyone agreed to use the word ‘transform’ instead of ‘promote’ with reference to higher education in Thailand. It was also agreed that the term ‘food security’ would be used instead of ‘food sovereignty’, as the latter was more difficult to operationalize and had more obvious and challenging political implications. One concern was that politicians and officials might use it differently. The group’s interest was in advancing new policy ideas that could promote practical, targeted and effective higher education reforms to better support sustainable agriculture in Thailand.

### A Brief History of Thailand’s Agricultural System

In recent decades, Thailand has become one of the leading exporters of agricultural commodities in the world. Much of its population is still engaged in and relies on food and agricultural production for their livelihood or employment. Before the adoption of new technologies, such as seeds, irrigation, industrial equipment, agrochemicals, and so on, during the so-called green revolution of the 1960s, small farmers were at the heart of Thai agricultural production. Prior to the green revolution, farmers followed more



Boys from a local soccer team joined Radical Grace project to help plant beans at the home of a family living with HIV in Mae Dtaeng, Northern Thailand. Photo by SIM Central and South East Asia via Flickr CC BY-NC-SA 2.0

local, traditional, self-sufficient subsistence practices. Since the 1960s, however, the Thai economy has become more globalized and Thai national policies have shifted agriculture towards more ‘modern’, or so-called conventional, approaches to agricultural development, which are more dependent on larger-scale farms and external inputs such as fertilizers, pesticides and herbicides, while also being subject to greater influence from agribusinesses with strong links to global export markets.

Thailand’s economic growth and integration into global markets has also coincided with a decline in the number of farmers, as the rural population has moved increasingly into the industrial sector. Moreover, many of the younger generation no longer wish to farm and the average age of farmers has increased year on year, resulting in a drastic reduction in the number of small-scale farmers. At the same time, the country has faced many environmental and socio-economic problems resulting from the unsustainability of its agricultural sector. Deforestation, inappropriate land use and use of natural resources, and pollution have had huge ecological impacts, as have the overuse of and dependency on agrochemicals by farmers. This situation has alarmed many in Thailand, resulting in calls for a more sustainable way of farming.

### Thai National Policy for Sustainable Agriculture

Thailand’s National Economic and Social Development Board (NESDB) is the principal government planning office in the country. The NESDB has issued a number of five-year national development plans since its inception in the 1960s. Most NESDB plans have been generally focused on economic growth, the utilization of natural resources and the development of human capital among the workforce. The NESDB did not pay much attention to sustainable agriculture until the launch of the Eighth Development Plan for 1997–2001, when sustainable agriculture was incorporated into the rural development plan. There was no serious action as a result of the plan, however, as its statement on sustainable agriculture was too vague to be implementable.

In the Eighth to Tenth Development Plans, the NESDB and the government began to promote the concept of the sufficiency economy, a philosophy initiated by His Majesty King Bhumibhol Adulyadej. It suggested a more moderate approach to development that aims to promote farmer and family independence, community cooperation and food security with less reliance on external inputs or assistance. Such ideas have tended to emphasize sustainable development as a holistic concept.

The eleventh NESDP, for 2012–2016, is still mainly focused on increasing agricultural productivity, establishing food security and the development of bio-energy. Some issues specific to sustainable agriculture are included, however, such as expanding the area devoted to sustainable agriculture, encouraging a better culture



Rice fields at Thai Song Dam village. Photo by suphanburi via Flickr CC BY-NC-SA 2.0





Students from University of Denver are helping the Karen people to harvest rice. Karen people have been using shifting cultivation for growing rice for more than 100 years to live in harmony with their forest. Photo by Francesca Aguirre-Wong via Flickr CC BY-NC-SA 2.0

of promoting sustainable agriculture as a way of life and using the concept of sustainable agriculture as a tool to strengthen rural and local communities.

### The Role of Higher Education and Sustainable Agriculture

Understanding and practicing sustainable agriculture requires knowledge and skills development that can be applied from different fields, ranging from the scientific to the social or the technical. The United Nations Educational, Scientific and Cultural Organization (UNESCO), for example, in promoting the idea of Education for Sustainable Development (ESD), suggests that human beings need to acquire the right knowledge, skills, attitudes and values to shape a more sustainable future. Building on UNESCO's assumptions, this Policy Brief suggests that higher education in Thailand could be an important means for helping to promote the correct competencies, create the right motivations and empower people to change attitudes and learning behaviours in ways that can make a difference in the real world of farming and other spheres.

### General Recommendations: Points to Consider when Drafting Policies

#### 1. Definition and scope of sustainable agriculture in the Thai context.

A mutual or common understanding of the term sustainable agriculture must be established. Its current vague and unclear definitions mean that many people, from policymakers and government officials to scholars, have interpreted the concept in different ways, leading to misconceptions and arguments about the development of sustainable agriculture at all levels. If a clearer definition could be established of sustainable agriculture in the Thai context, clear indicators and assessment procedures would follow.

This policy brief builds on the definitions of sustainable agriculture of the Sustainable Agriculture Foundation (Thailand) and the Office of Agricultural Economics (OAE) at the Ministry of Agricultural and Cooperatives. They define sustainable agriculture as an agricultural system that plays an important role in farmers' way of life. This includes all types of production and farm management that aim to maintain an environmental balance while also ensuring that farmers can be self-reliant both financially and socially in order to improve their own quality of life.

The five to eight<sup>1</sup> systems of sustainable agriculture in the Thai context are: organic farming, integrated farming, natural farming, agroforestry and the New Theory farming, inspired by His Majesty the King of Thailand, King Bhumiphol.

<sup>1</sup>NGOs and governments have different numbering systems and types of system.

This definition covers almost all aspects of sustainable agriculture, but there are concerns that it is still quite broad and may only be implementable by small-scale farmers. It is not clear—and there is substantial disagreement about—how this concept could be applied or adapted to large-scale farming.

There are government plans to restructure Thailand's agricultural system along two different paths: a 'mainstream' agriculture path that focuses on larger businesses and industries, and an 'alternative/sustainable agriculture' path that emphasizes organic farming for trade and the adoption of sustainable agriculture based on the sufficiency economy. Problematically, this implies that a universal notion of sustainable agriculture can never be applied to Thailand's mainstream model. The issue has not attracted much attention since the government considers sustainable agriculture to be only suitable for small-scale farmers, and optional for those who wish to practice it and are able to pursue a balanced way of life.

This policy brief suggests that Thailand should adopt a clearer definition of sustainable agriculture that should be implemented for both industrial and small-scale farming purposes. Sustainable agriculture should encompass the entire system so that larger businesses can also make their farming more sustainable.

It is evident that the government, the private sector, extension workers and farmers all need enhanced knowledge of sustainable agriculture ideas and practice. However, the focus of most Thai universities in relation to teaching and research around sustainable agriculture and how this affects the practice of farmers, other producers, processors and traders, is largely unknown. Higher education faces three major challenges. First, more systematic documentation and analysis of the universities and colleges in Thailand is required in order to better understand the policies, curricula, research and impacts of sustainable agriculture teaching, training and learning. Second, improved documentation is essential to help better assess the existing capacities and new needs of sustainable agriculture programmes, curricula and research in higher education institutions, while offering more informed recommendations to guide reform and innovation. Third, capacities must be strengthened to enable students and other scholars to make a more informed choice and a practical, applied contribution to sustainable agriculture practices in Thailand while improving the lives of farmers.

#### 2. Compilation of information on sustainable agriculture programmes, curricula and research carried out in Thai academic institutions.

Much detailed work is required beyond that which can be outlined in this policy brief. This brief only identifies the key challenges evident from previous research on sustainable agriculture in Thailand, and highlights a few pitfalls and lessons learned about sustainable development theory and practice as applied to agriculture and food security.

However, it is important to understand what research on sustainable agriculture has already been carried out and assess the gaps that need to be filled in order to improve sustainable agriculture policy and practice across Thailand. There is no pooled, accessible or synthesized data that can be referred to in order to conduct a proper analysis of the current state of sustainable agriculture education in Thailand. Basic data collection is a task that both scholars and government entities could contribute to and collaborate on in order to gain a more accurate, empirically sound and holistic view of sustainable agriculture education in the country. New knowledge could enable better informed and more evidence-based planning for a nationwide transformation of agriculture practices.

In addition to basic data collection, a further necessary step is to identify the obstacles to achieving the transformation to sustainable

**Table 1. Obstacles and potential solutions**

Obstacles	Solutions and suggestions
<p>1. Resistance from Thailand's scholars</p> <p>Many Thai scholars are much more interested in their own area of expertise or cannot relate their own discipline to other fields. The development of sustainable agriculture is an integrated discipline that requires several areas of expertise.</p>	<p>Acknowledge this issue, and raise awareness among scholars in Thailand about the importance of sustainable agriculture in helping to create a more sustainable society. Appropriate learning techniques would include field study trips and knowledge management by Thai scholars with a successful track record in research and outreach linked to sustainable agriculture.</p> <p>Thailand's Higher Education Commission and universities should develop concrete policy and a plan to encourage teaching and research on sustainable agriculture among Thai scholars. They could provide new incentives, such as increased research funding, new facilities and payments for sustainable agriculture-related work, as well as other mechanisms such as developing collaborative research systems and exchange networks within and between domestic and international institutions.</p>
<p>2. Low prestige of agriculture among parents and students</p>	<p>There is a common mindset among parents and students that sees agriculture as tough, difficult work that provides very little reward. Sharing examples of best practices with parents and students of modern, advanced and innovative agriculture techniques or food processing, which require less labour and fewer inputs but achieve higher returns, might be a way to change minds.</p>
<p>3. Most university administrators are not interested in sustainable agriculture</p>	<p>Demonstrating the need for and importance of sustainable farming and food businesses, as well as successful examples and models to showcase sustainable agriculture teaching and research, would be an important way to highlight a university's service to the community.</p>

agriculture in higher education, as well as possible tools and solutions for overcoming them. Some key obstacles and potential solutions are set out in Table 1.

**Selected Examples of Unique Thai Academic Sustainable Agriculture Initiatives**

At present, Thailand has a number of initiatives that can help to point the way to sustainable agriculture innovation in higher education. One good example of an academic institution beginning to transform itself to become a 'Green University' is Maejo University (MJU) in Chiangmai Province in northern Thailand. MJU aims to be the first national organic university by 2023 and is strategizing to focus more on renewable energy and increased awareness of environmental conservation among both faculty and students.

Obstacles	Solutions and suggestions
<p>4. The bureaucratic rules and regulations of the Civil Service Commission</p>	<p>The laws and regulations that hamper the process of sustainable agriculture development in higher education or research institutions need to be reformed. A flexible administrative process will be required for the development of sustainable agriculture.</p>
<p>5. The lack of a solid action plan for devising, implementing or evaluating policies on sustainable agriculture education, the curriculum and related programmes</p>	<p>In many cases, appropriate and sustainable agriculture policies have been developed by the government and institutes, but suitable methods to convert policies into action and assess their impact have been absent. Knowledge and understanding are needed on how to implement sustainable agriculture policies and curricula in practice, in practical projects with appropriate assessment or evaluation by Thai scholars and universities or their extension services.</p>
<p>6. Corruption and other criminality, false or excessive advertising and self-interest or pursuit of profit, instead of prioritizing community well-being in government, private corporations and cooperatives, adversely affect farmers' knowledge and the provision of extension services</p>	<p>These issues, linked to many others, have prevented the widespread development of sustainable agriculture. An effective assessment and inspection system is required in order to regulate performance and monitor the implementation of activities. Sustainable agriculture scholars in universities could provide technical knowledge and assistance to governments with developing and implementing better regulatory and evaluation systems.</p>



*Thai agriculture minister visits IRRI. Photo by IRRI via Flickr CC BY-NC-SA 2.0*

Another example is a programme launched by Chulalongkorn University, which aims to support and encourage younger generations from farming families in rural areas to be educated in sustainable agriculture by offering them a four-year scholarship. Its curriculum focuses on sustainable farming and agricultural management for small-scale local entrepreneurs. Two learning centres provide opportunities for students to explore and interact with communities in rural areas. Many return home after graduation to support their families and home villages. There are many more





Rooftop garden in Bangkok, Thailand. Photo by Joshua Alan Davis via Flickr CC BY-NC-SA 2.0

such sustainable agriculture education initiatives in Thailand that future work can document and study in order to derive broader policy recommendations and advance sustainable agriculture in the country.

## Conclusions

Thailand faces many multifaceted problems linked to the development of sustainable agriculture, ranging from politics to the mindsets and beliefs of politicians, faculty, parents, students and farmers. Changing mindsets and beliefs is a difficult task that can be done but is likely to take time. Higher education alone may not be able to resolve all of the issues for sustainable agriculture in Thailand, but it would be an important starting point for future improvements.

One of the biggest challenges is human nature, which tends to avoid addressing problems that are not immediate or are not seen as having a direct impact. Many Thai people believe that the nation produces enough food, and are not convinced about the relevance of sustainable agriculture to their lives. However, global environmental, social and economic changes make the future uncertain. More systematic study of the teaching of sustainable agriculture, as well as of the research and service provision by universities and colleges in Thailand, could guide curriculum reform, future research and improvements in extension services. More knowledgeable students and other scholars would lead to improvements in agriculture practice and farmers' lives. Improving the teaching, research and service provision on sustainable agriculture in higher education could help Thailand understand how to farm better and protect its natural resources while learning how to support more ecologically, socially and economically sustainable production systems and communities.

The following documents were reviewed for this brief:

Goss, Jasper and David Burch. 2001. From agricultural modernisation to agri-food globalisation: The waning of national development in Thailand. *Third World Quarterly* 22(6): 969–86.

Kasem, S and Thapa G.B. 2012. Sustainable Development Policies and Achievements in the Context of the Agriculture Sector in Thailand. *Sustainable Development* 20: 98–114

National Economic and Social Development Board (NESDB). 2015. Powerpoint presentation to Higher Education for Sustainable Agriculture (HESA) and Food Security in Thailand and Southeast Asia dialogue. School of Agriculture Resources, Chulalongkorn University, Bangkok. 20 March 20 2015, available at <http://www.siani.se/resources/slide/sustainable-agriculture-and-food-security-thailand-national-government-perspectives>

National Economic and Social Development Board (NESDB). 2014. Executive Summary: Resilient and Sustainable Agricultural Production Base Development Project. Presented to the Office of the National Economic and Social Development Board. September.

Nelles, W. and Visetnoi, S. 2015. Thailand's Department of Agricultural Extension and Agrochemical Dependency: Perspectives on Contributing Factors and Mitigation Strategies. *Journal of Agricultural Education and Extension*, online version. DOI:10.1080/1389224X.2015.1063519.

Maejo University. 2012. MJU's Strategic Roadmap, 2012-2017, [www.mju.ac.th/tri\\_versions/eng\\_green\\_university.php](http://www.mju.ac.th/tri_versions/eng_green_university.php)

Office of Agricultural Economics, Ministry of Agriculture and Cooperatives, Thailand. [http://www2.oae.go.th/zone9/KM/km\\_new/Sustainable%20agriculture.pdf](http://www2.oae.go.th/zone9/KM/km_new/Sustainable%20agriculture.pdf)

Sustainable Agriculture Foundation, Thailand, <http://www.sathai.org/>

The Chaipattana Foundation, [www.chaipat.or.th](http://www.chaipat.or.th).

UNESCO, Education for Sustainable Development, [www.unesco.org](http://www.unesco.org), accessed 15 Oct 2015.

UNESCO. 2005 approx. 'Agriculture', Education for Sustainable Development Information Brief, Section for Education for Sustainable Development, Division for the Promotion of Quality Education, Paris.

Visetnoi, S. 2014. Strengthening Thai Sustainable Agriculture Through Education, International Conference on Food Security and Production, 2014, Pingtung, Taiwan.

*This policy brief was written by the Thailand SIANI Experts' Group on Higher Education for Sustainable Agriculture (HESA). Authors: Supawan Visetnoi, Chulalongkorn University; Pradtana Yossuck, Maejo University, Unchalee Sanganpong, Rajamangala University of Technology Thanyaburi Rut Morakot, Suranaree University. Additional Contributors: Thavivongse Sriburi, Chulalongkorn University; Suparek Sooksmarn, Kasetsart University; Kobchai Worrapiumphong; Prince of Songkla University; Abha Mishra, Asian Institute of Technology (AIT), Thammasat University; Theerachai Haitook, Khon Kaen University; and Charnchai Sangchyoswat, Chiangmai University*  
**Editors: Wayne Nelles, SIANI Expert Group on Higher Education for Sustainable Agriculture (HESA) in Southeast Asia; Matthew Fielding, Project Manager, & Rajesh Daniel, Communications Coordinator, Stockholm Environment Institute (SEI), Asia.**

The views and content in this document are the authors' own, and do not necessarily represent the views of SIANI or its members or partners



SIANI's mission is to enable sustainable food security and nutrition for all. SIANI is a member-based network that supports and promotes Swedish expertise and provides an open and interactive platform for engagement and dialogue in a global context



SIANI Stockholm Environment Institute, Linnégatan 87D, Box 24218, Stockholm, 104 51, Sweden

## Notes