

ROLE OF LOCAL INSTITUTIONS IN THE TRANSITION TOWARDS SUSTAINABLE AGRICULTURE: THE CASE STUDY OF THAILAND

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ABSTRACT

Local institutions could play an important role in enhancing social value in the community. One important social impact of local institutions is the development of social capital which can be built and developed through social interactions among social actors. Social capital enhances the connections between people and can lead to a series of behavioral outcomes. That is, social capital in a collective sense characterizes the ways in which community members interact. Social capital consists of three core elements of trust, network and reciprocity. Social networks can be built when trust is created and within the social networks, exchange and reciprocity will occur. Keeping in view the importance of local institutions, Thailand has established a large number of community organizations/associations in every village under the Thai national government program set up by the Community Organizations Development Institute (CODI) since 2000. Various projects (i.e. agricultural productivity improvement, environmental management, saving groups, welfare funds and etc.) have been funded by the government to support communities networking for poverty reduction. The social and human capital necessary for sustainable and equitable solutions to agriculture and environmental management comprise a mix of existing endowments and that which is externally facilitated. Through an empirical study in Prachinburi, Thailand, using a semi-structure, this research aims to understand what and how local institutions can play the role in the transition towards sustainable agriculture. The study focuses on examining farmers' perceptions of sustainable agriculture and their view on how their organization could play a role in promoting sustainable farming practices.

Keywords: farmers, local institutions, perceptions, semi-structured interviews, Prachinburi.

1 INTRODUCTION

After three decades of intensification in agriculture, export-oriented monocrop production in Thailand is a cause of various concerns including environmental degradation (i.e. surface and ground water, soil and air), social disparities, health problems and rural poverty. Thai government has made many efforts to attain more sustainable agriculture through regulations and economic incentives in the last decade. However, farmers commonly revert to old practices when the incentives end or regulations are no longer enforced.

Local institutions could play an important role in enhancing social value in the community. One important social impact of local institutions is the development of social capital which can be built and developed through social interactions among social actors. Social capital enhances the connections between people and can lead to a series of behavioral outcomes. Social capital in a collective sense and characterized the ways in which community members interacted. Social capital consists of three core elements of trust, network and reciprocity. Social networks can be built when trust is created and within the social networks, exchange and reciprocity will occur.

The social and human capital necessary for sustainable and equitable solutions to agriculture and environmental management comprise a mix of existing endowments and that which is externally facilitated. A large number of community organizations/associations have been increasingly established in every village in Thailand under the Thai national government



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Through an empirical study in Prachinburi, Thailand, using semi-structure interviews, this research aims to understand what and how local institutions play the role in sustainable agriculture. The study focused on examining what are knowledge and practices regarding sustainable agriculture that farmers hold and how their knowledge and practices are formed and developed within their organizations.

2 SOCIAL CAPITAL AND SUSTAINABLE AGRICULTURE

There has been a growing recognition of the role of local institutions in development and environmental management process i.e. disaster risk reduction [1] and sustainable agriculture management in the context of climate change [2]. The proposition that environment and human health need protection from the intensive agriculture is widely accepted. Many researches today showed that communities can collaborate for sustainable management of their environment and resources. Local institutions are the ground for the development of social capital. Social capital is “the features of social organization such as networks, norms, and social trust that can facilitate coordination and cooperation for mutual benefit” [3, p. 66]. Social capital for agricultural sustainability reflects social bonding, bridging, and linking social capital [4].

Social capital is beneficial to members in a group in various ways, including economic, social and environmental aspects. Literature showed that social capital can also help fisheries obtain property rights [5] influence knowledge flow and innovation in smallholder farming [6], improve access to innovation and promote adoption of new innovation in agriculture [7], lead to changes in people’s behaviour of using pesticide and chemical fertilizers [8] and enhance natural resources management [9].

The concept of social capital was promoted in Thailand after the 1997 financial crisis. Thai government established the Social Investment Program (SIP) with the World Bank’s support in order to address the crisis and strengthen the communities. SIP made Thai society realized that they neglected what they had such as Thai culture, norm, tradition, organization and network which are important for rural community development.

Agriculture is a main economic sector in rural areas of Thailand, which employs around 35% of the country’s workforce. Thailand is one among the top exporters of agricultural commodities in the world. It was the largest rice exporter, occupies around 3–5% of the world’s rice [10]. However, the contribution of agriculture to Thai’s GDP has decreased overtime. Farmers face low income from agricultural activities, estimated around 148,000 Baht per year [11] because of low productivity environmental degradation and climate change, no market channels and low prices of agriculture products [12]. Consequently, the share of agriculture in Thai total employment has declined from 42.5% in 2008 to 33.2% in 2016 [10].

There are three main typologies of agriculture in Thailand including traditional small farm-holder agriculture, industrial conventional agriculture and new “trend” sustainable agriculture. Thai government has issued different measures to reduce production costs, promote high quality agricultural products and increase competitiveness in the agriculture sector. Several important strategies/plans include Agricultural and Rural Development Plan (2012–2016) focusing on the Farmers Development Strategy and the Production Development Strategy and the Agricultural Resources Development and Management Strategy and the Development Plan (2017–2021). Although many efforts have been made to



improve agricultural productivity, Thai productivity still remains below regional averages [10]. To promote sustainable agriculture, the National Economic and Social Development Plan 8–9 (2007–2016) centres upon the sufficiency economy philosophy, aiming at improving quality of farmers' life, producing high productivity and environment friendly agriculture. Agriculture in Thailand step by step moves to the direction of being competitive, conservation of natural resources and sustainable development. Suksri et al. [13] classified sustainable agriculture system in Thailand into five types: integrated farming, organic farming, natural farming, agroforestry and New Theory farming so-called “Self-sufficiency Economy” philosophy introduced by the late King Bhumibol Adulyadej, among which organic farming is the most focused one in the policy of Thai government. The national Organic Agriculture Development Strategy (2017–2021) and the Agricultural and Cooperative 20-year strategy has been recently launched by Thai government aiming at enhancing a per per capita income for farmers of more than THB 416,000 per year.

Thai government has invested in establishing and/or strengthening local community groups/organizations to implement those national agriculture-related-policies on the ground. The aim to build social capital within local organizations and groups which helps farmers to reduce market uncertainty as farmers have more bargaining powers thanks to their united actions. It also facilitates learning and mediating positive attitudes and behaviours towards environment. However, the positive role of local institutions in promoting sustainable agriculture in Thailand has been proven through a very few local researches, for an example, community forum in Suphanburi province was found as a place of farming knowledge sharing [14].

3 RESEARCH METHODS

Semi-structured interviews were conducted in Ban Sang district, Prachinburi province, Thailand (Fig. 1). Ban Sang district has nine sub-districts. Most of local people in Ban Sang district are agriculturist and the main crop is paddy. Five industries exist within this district. Ban Sang district has a total population of 31,362 people. The total number of males and females are 15,491 and 15,871, respectively. (Ban Sang District Community Development Department, 2016). There are 3,169 farmers with the total areas of holding 19,711.36 ha (NSO, 2014). The main economic activities in Ban Sang are rice production, reed cultivation, herb cultivation, aquaculture and agri and aqua product processing.

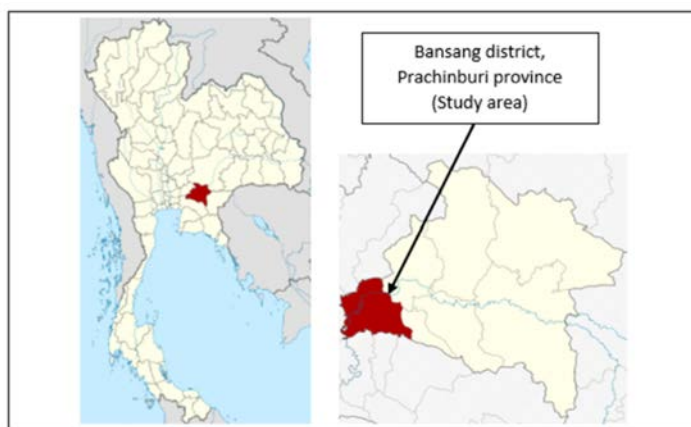


Figure 1: Map of study area (Ban Sang district).

Prachinburi has a typical tropical climate characteristic. The annual average temperature is around 27.7 °C and around 1960 mm of annual precipitation. The province has hills, mountains, forests and low-lying plains. It is a famous place as there are two national parks, Khao Yai and Tab Larn National Park located in. The province has great potential for agriculture, agri-tourism and eco-tourism development. However, many young people of the province chose to work in industrial areas in the vicinity.

Semi-structured interviews were conducted with 16 community organizations/ groups. The total number of interviewees is 48 people consisting of 20 females and 28 males, with an average age of 54. Three people in each organization/ group, including one leader, one female member and one male member were interviewed for 40–60 minutes. All questions deployed for the interviews were open ended questions to understand (i) their organization's structure, relations of trust, rules, norms, connectedness etc., (ii) their awareness of sustainable agricultural practices and what has been change in their farming practices.

4 RESULTS

4.1 Description of interviewed organizations

Sixteen interviewed organizations are formal economic organizations (Table 1). Among them, ten organizations were initiated by people in the community, five organizations were initiated by the government and one organization was initiated by a private company. Most of the organizations receive support from government in terms of training, money and investment in infrastructure or provision of physical materials like land or varieties. Currently, only Bangtan organic rice group and Kutanop organic rice production group are receiving money support from the private company.

Table 1: Basic information about 16 organizations participating in the interviews.

Name	No. of members	Year of launch	Reasons of establishment	Main activity
Bangtan organic rice group***	33	2015	A private company supported farmers to do organic farming	Rice production/rice milling
Bangtaen large scale rice production scheme*	61	2015	Un the government's Agriculture Large scale pilot scheme	Rice production/rice variety distribution
Sufficient economy learning center group*	5	2016	To generate income after rice harvest season from a collective capital.	Diversified crop production/processing
Bangyang large scale rice scheme*	65	2016	Under the government's Agriculture Large scale pilot scheme	Rice cultivation
Kutanop organic rice production group*	50	2002	Leader and member recognized the water contaminated due to excessive use of chemical fertilizers and pesticides	Rice production/ processing
Ban-klong-song processing group**	22	2002	Under the initiative of Agriculture extension Dept on establishing community enterprises	Reed cultivation/ processing



Table 1: Continued.

Name	No. of members	Year of launch	Reasons of establishment	Main activity
Kra-tum-paew reed mat weaving group*	14	2008	Under the initiative on community enterprises of Agriculture extension Dept	Reed cultivation/ Processing
Nikomattana curry paste group*	20	2018	To generate incomes from a collective capital	Herb cultivation/ processing
Suwanna Krayasart processing group**	7	2004	The leader had his own activity at the beginning but Community development Dept encouraged to involve more member	Agri-product processing
Nikomattana fishery cooperative group	225	1976	Being member of a cooperative is qualified to be allocated land by the	Aqua-product collection/ aqua input supply/ Credit and saving group
Bang Phluang fisheries group**	66	2012	Under the initiative of Fishery Dept	Aquaculture and processing/ Bio-fertilizer production
Bansang farming cooperative group**	581	170	Under the initiative of Agri Dept.	Credit and saving group/ Agri input supply
Fish-shrimp farming and processing group*	25	2017	To provide added value to their product and increase income	Aquaculture and production
Bang-pla-ra fish processing group*	9	2016	Under the initiative on community enterprise of Agri extension Dept	Aquaculture and processing
Water user group**	150	1989	Drought and water need for agriculture	Collect water from river and distribute to farmers for irrigation

Note: *Initiated by people of the community, **initiated by the government, ***initiated by a private company.

Ten of sixteen interviewed organizations developed their operational regulations by themselves and asked for the approval of the government. Bangtan organic rice group, which was initiated by a private company, the regulation was made by that company. The other five just follow the regulation of Department of Agriculture Extension.

Most of the organization has meeting once a month to discuss about their activities and update knowledge about market price and farming techniques. The monthly meetings often include only committee members. The meetings for all members are organized less regularly, only several times a year. Some organizations like the Water user group, Ban Bangyang large scale rice scheme and Kra-tum-paew reed mat weaving group only have meeting once a year. Suwanna Krayasart processing group does not have official meeting because members meet each other at work every day.



4.2 Trust, norm, network, reciprocity inter and intra-organizations

All interviewees of most organizations revealed that in their organizations everyone has the right to express their opinions and decisions are made based on voting mechanism in which one person has one vote and the majority determines the final decision. However, in the Water user group, members do not make decisions together. And in Bang Phluang fisheries group, the committee has the power over making decisions and only permanent members can vote. Forty-seven interviewees stated that there is trust in their organizations/groups, everyone can be trusted and trust to each other. One interviewee shared that only some members can be trusted in his organization. Regarding trust with people belonging to other organizations, 43 interviewees confirmed there is trust in their community, but another four people thought that there is no trust with other organizations because they are competitors and one person was not sure about this.

Both formal and informal interactions/exchanges occurred among members within all organizations/groups as stated by most interviewees. However, seven confirmed they did not have any formal interaction with other members in their organizations/groups. Formal interaction occurred via period meetings, while informal interaction happened in village meetings, markets, home and mainly through phone and Line but very less through other social networks like FB or Twitter etc. The informal interaction also happened with other members of other organizations as mentioned by 33 interviewees. During the interactions, people are willing to share knowledge, experiences and skills of farming, processing, packaging, market information, etc.

4.3 Farmers' perceptions of sustainable agriculture

Interviewees were asked to express what they know about the concept of sustainable agriculture. The highest number of interviewees (approximately 15%) defined sustainable agriculture as self-sufficiency philosophy introduced by the late King Bhumibol Adulyadej. The same number of interviewed farmers expressed sustainable agriculture must be able to allow farmer to continue doing agriculture forever. 12% of interviewees thought sustainable agriculture must be low production cost and high income and 10% had no idea (Fig. 2).

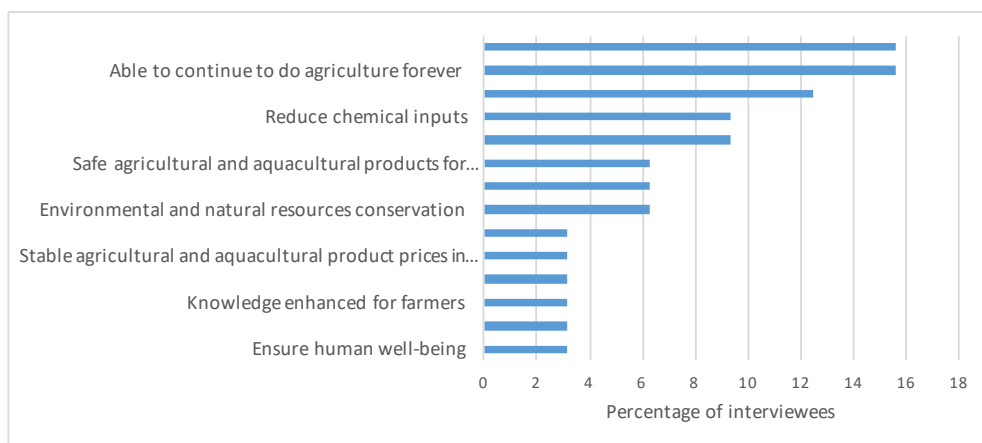


Figure 2: Farmers' perceptions of sustainable agriculture concept coded from farmers' statements.

4.4 Farmers' view on the role of local institutions in the transition towards sustainable agriculture

When being asked, what is the main role of your organization, most interviewees stated that they could learn from members and inter and intra organizations/ groups to sustain their farming activities. Their organizations/group could help them to access to market, get government support, bargain market prices, get loan for new crop investment, diversify crops to increase income. A highest number of interviewees mentioned that thanks to participation in local groups/organizations they can learn to do sustainable farming practices and organic farming by interactions and/or trainings provided by their organization/group to do organic farming to make use of the local resources, reducing chemical inputs to protect environment, water use efficiency and climate change adaptation (Fig. 3).

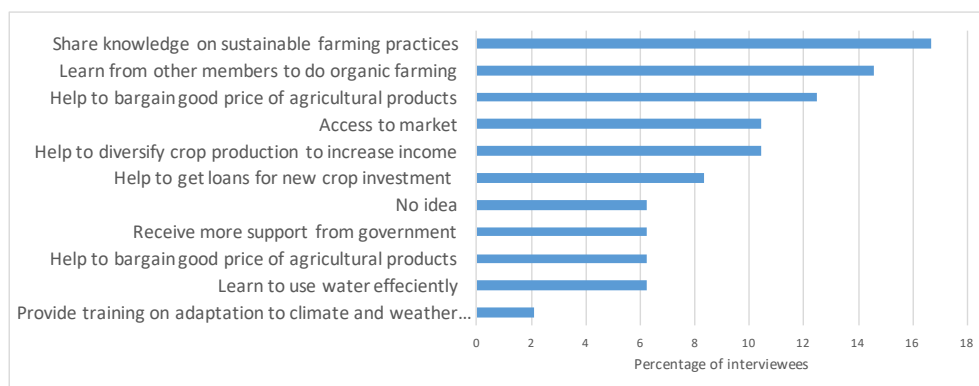


Figure 3: Farmers' view on the role of local institutions for sustainable agriculture coded from farmers' statements.

5 DISCUSSION AND CONCLUSION

The study was designed to explore what are farmers' perception of sustainable agriculture and their view on how their organization could play a role in promoting sustainable farming practices. The highest percentage of interviewees considered sustainable agriculture as self-sufficiency economy. This can be explained by the fact that "sufficiency economy philosophy" was developed by the late King Bhumibol Adulyadej and promoted by Thai Government in 23,000 villages through funded based projects. Thus, the philosophy was disseminated within local groups and organizations.

The findings showed that most interviewed farmers believed that there was trust, exchange and interaction within groups and among groups in the community. Farmers are willing to share knowledge, experiences and skills of farming, processing, packaging, market information among themselves. However, a majority of farmers has partial knowledge about what is sustainable agriculture, and other are not clear about what sustainable agriculture means. It also seems that knowledge on sustainable farming practices circulated and shared within organizations/ groups and among community have been still limited. Only 15 farmers over 48 interviewed farmers mentioned that they can learn to do organic farming and sustainable farming practices from their organizations. This is because Thailand's experience in community based developed is more related to the sufficiency economy concept than environmental sustainability [15]. The role of local institutions has demonstrated in

strengthening communities to cope with external economic shock (e.g. 1997 Asian crisis and 2009 global downturn). However, the existing valuable social capital built through self-establishment and government-supported establishment of numerous local community groups and organizations will provide this country an advantage comparative to transit to a sustainable agriculture rather than many other countries. Social and cognitive factors play important roles in farmers' perceptions and decision making of adoption of sustainable agriculture. Social factors including farmers' interactions with other farmers, advisors and groups, social norms, signaling motives and injunctive norms may push them to adopt more sustainable farming practices [16]. Whereas, cognitive factors are related to learning, reasoning and doing, thus the role of local organizations and groups plays important in enhancing farmers' declarative knowledge of sustainable agriculture, its long-term socio economic and environmental benefits as well as procedural knowledge of sustainable farming practices and skills [17]. Local organizations facilitate the partnership between agricultural researchers, advisors and farmers which will promote the integration of local knowledge and scientific knowledge in navigating sustainable farming practices [18]. The adoption of sustainable farming practices by farmers can be enhanced by raising farmers' awareness and knowledge to improve their perceptions and attitudes towards sustainable agriculture [19]. However, Thai agriculture has been facing the aging farmer population, the high proportion of older people in Thai agriculture sector has effected productive and technical efficiency in Thai agriculture [20]. The fact is also shown by our findings that majority of interviewees have age of above 55. Old farmers were not able to use online social networks and internets to update their everyday knowledge, therefore they have limits in learning new farming techniques, applying technology. In order to move to sustainable agriculture era, there is a need of the participation of young generation in farming as young people are the main actors for sustainable development process [21] and Thai young people have demonstrated to be willing to farm if there are social and financial support from the government [12].

ACKNOWLEDGEMENTS

The authors express appreciation for the support of the AIT/CIRAD project "Farming systems and the role of local institutions in the transition towards sustainable agriculture in Prachinburi province, Thailand".

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