



The Ministry of Foreign Affairs



Chiang Mai University

International Training Course

On

Promoting Sustainable Rural Livelihood and Food Security through System-based
Diversified Farming Practices under Sufficiency Economy Philosophy

7 – 25 November 2022

Organized by

Thailand International Cooperation Agency (TICA)
The Ministry of Foreign Affairs of Thailand

In Collaboration with

Chiang Mai University

Theme: Sustainable Agriculture for rural livelihood and food security

1. Course Title

Promoting Sustainable Rural Livelihood and Food Security through System- based Diversified Farming Practices under Sufficiency Economy Philosophy

2. Duration

Three weeks

3. Background and Rationale

Sustainable agriculture requires integration of farmers' local knowledge and introduced knowledge to operationalize such practice; diversified farming in particular, enables the better and efficient use of available farm resources, reduces farmers' dependence on external inputs and deterioration of natural resource. Therefore, this practice promotes sustainable agricultural production, food security and household livelihoods. Proper design and management of diversified farming system can contribute to more economically and ecologically resilient, form buffer against market uncertainty and biophysical risks. Diversification can also help smallholders integrate farm business into wider rural economy, generating employment and stimulating start-up of business opportunities. For example, such a biodiversity-based and safe agricultural production system not only provides standard safe produces, but also adds value to processed safe and/or organic food. Together with niche novelty and image of the products, it could bring value adding and generates higher revenue return. Regarding climate threats and pressure to agricultural production system, the diversified farming system, agroforestry system in particular, is an example of a climate smart agriculture that could distribute and absorb the climate risk, performs both climate mitigation and adaptation roles.

Diversified farming performs multiple roles and functions providing environmental, social, and cultural values beyond its primary production. In the context of sustainable agriculture and rural development (SARD), the FAO identified three essential goals for the attainment of SARD. These include food security, rural employment and income generation, and natural resource conservation and environmental protection. The diversified farming can fulfill all these goals.

It has become more concrete that diversified farming practice is a pathway for achieving sustainable development goals related to food security and nutrition, well aligned with the sustainable development goals (SDGs). Meanwhile, the diversified farming practice under the late King Rama the 9th's "Sufficiency Economy Philosophy" (SEP) has been implemented as a national agenda to foster sustainable rural livelihoods. This SEP is also internationally recognized as a principal pathway to achieve the SDGs. However, there has not been much progress on promoting and bringing this into practice particularly by individual and/or group of small holders. The challenges are in both supply and demand sides. Change in practice from non-diversified to diversified farming requires better understanding and appreciating the added value of synergizing among farm activities and resources use, safe food for household and societal consumption, reduce input costs and expenditure as well as foster human and environmental health. Likewise, perceiving the value of the diversified farming's products through the consumer's point of view would encourage smallholders to adapt this practice. Thus consumer literacy on this sustainable agricultural food production is substantially crucial. To overcome these coherent challenges, legal and institutional arrangements are needed, as well as cross-discipline and cross-sectoral collaborations.

The diversified farming context represents a complex and dynamic system where multiple stakeholders, ecosystem components, social-economic and political set up inter-plays important roles in determining the performance of the whole system, of which livelihoods and food security are desirable outcome. Therefore, using system approach together with participatory approach in exploring this complex system could support co-learning process to better understanding the context, situation and intervention gap. This is a prerequisite prior to collectively design such pathway and action to promote diversified farming practice throughout the whole supply and value chain. Bringing this integrated approach encompasses diverse aspects in regard to collective action of multi-stakeholders to tackle food insufficiency, pricing and inequality issues, rising cost of energy and recent food crisis that push the system towards locally produced and healthier alternatives, participatory local technology and innovation generation, as well as integrating production and marketing to improve supply and value chain management.

Thailand is a major agriculture and food exporting country. The agriculture sector accounts for about 10 percent of GDP, and yet the country's economic growth in time

of financial crisis, poverty reduction and food security are being strongly held by agriculture, especially from the smallholder farmers who are practicing wide range of diversified farming systems. Thus Thailand continues to provide strong and convincing case studies of adaptation to changes of smallholder farmers in the globalizing economy, by linking social and ecological systems for sustainable food production and enterprise and market development.

The Center for Agricultural Resource System Research (CARSR), Faculty of Agriculture, Chiang Mai University has adapted systems approach in agricultural research, education and development since 1980s. The center has offered the International Master of Science program in “Agricultural Systems” since 1988 and operated the doctoral degree in “Agricultural Systems Management” program since 2008. In the 2012, both master and doctoral degree programs were entitled “Agricultural System Management”. The program had trained over 125 graduates from 11 countries from South Asia (Bangladesh, Bhutan, Nepal, and Sri Lanka), East Asia (China), and Southeast Asia (Cambodia, Indonesia, Laos, Myanmar, Philippines, Vietnam).

The CARSR has been collaborating with the Faculty of Agriculture to provide a number of short-term international training courses relevant to sustainable agriculture that fit to specific audiences and demand. The CARSR’s supporting facility consists of fully-irrigated experimental station working on biodiversity-based production systems, community-based market development through the network of small- farmers pesticide- free vegetable producing group and consumers in Chiang Mai province. Moreover, the CARSR has been implementing research and development projects linking integrated system and participatory approach into practices covering diverse agro- ecosystem contexts. Knowledge and experience gained were integrated and accumulated into academic curriculum as well as the training course taking into account the relevant and evolving issues such as sustainable agriculture, food security, decision support system, precision agriculture, and climate smart agriculture. This capital provides favorable and convenient learning environment for participants who came attended the short- term training program. Developing and providing the international training course on employing this agro-ecosystem-based diversified farming practices under SEP to promote sustainable rural livelihood and food security during the past three years with the support from TICA, has received positive feedbacks from the participants, indicating that continuation of

sharing this knowledge and experience would extend community of practice in other developing countries fostering rural economies, livelihood and food security as well as strengthening further partnership and collaboration with Thailand.

4. Objectives:

The training course aims at sharing Thailand's knowledge and experiences in promoting and implementing diversified farming and practices for sustainable food production. At the end of this course, participants are expected to;

- Familiarize the concept and appreciate the importance of sustainable agriculture and its linkage to the Sufficiency Economy Philosophy (SEP) contributing to the rural economies and livelihood security;
- Gain knowledge on diverse sustainable agricultural practices, their systems properties, and enabling conditions under which the systems operate;
- Understand how such practice could contribute to, and enhance food safety and food security of smallholders and community;
- Obtain virtual experience on how farmers manage their farming diversification and improve their market access;
- Learn approaches, method and tools for better understanding complex agro-eco system, identifying means for intervention and actions pathway for desirable outcomes, with emphasis on system and participatory approach in diversified farming.

5. Course Contents

The course will be facilitated through a number of interactive virtual teaching and learning methods, including lectures, group discussion and presentation, case studies and virtual field studies.

5.1 Course outline:

The course will be facilitated through a number of interactive teaching and learning methods, including lectures, group discussion and presentation, case studies and virtual field studies. The online lecture and exercise contents consist of 6 modules.

I. Agro-ecosystem, sustainable agriculture and rural livelihood & food security

This module aims at making participants familiarize with the concept of agro-ecosystem, complexity of agro-ecologically based farming systems on which interaction between agriculture, social and natural ecosystem take place. This will provide insight knowledge on structure, function and process of farming systems that contribute to system performance, sustainability in particular; and linkages to rural livelihoods and food security.

- Exploring a farming system through the lens of systems approach and agro-ecosystem concept.
- Sustainable livelihood framework and rural development
- Linking agro-ecosystem, sustainable livelihood framework to food security
- Sustainable agriculture and contribution to the SDGs

II. Sufficient Economy Philosophy (SEP) and sustainable agriculture

This module expresses the gratefulness to the late King Rama the 9th's novelty that has been providing Thai smallholder farmers the direction and pathway to achieve self-reliance and sustainable livelihood. It provides philosophy, principles and concrete examples illustrating how the SEP is being put into practices.

- Sufficiency Economy Philosophy (SEP) and contributions to sustainable farming-based livelihoods and SDGs
- Success stories of SEP-based farming enterprises and their common principles and practices

III. Diversified farming systems and sustainable livelihoods

The module provides fundamental of diversified-farming-based practice, alignment with agro-ecosystem concept and its linkage to sustainable agriculture. Selections of cases gathered from the CARSR's research experience are provided to accompany the concept lecture.

- Linking diversified farming principles and practices to rural livelihood and food security.

- Integrated approach: benefits, strengths and limitations.
- Diversified farming systems: an agro-ecological systems-based practice to enhance food security and poverty reduction.

IV. Area-based and participatory approaches for fostering collective planning and implementation toward sustainable agriculture.

Bringing the above-mentioned approaches and concepts into practice is a challenge. This training session provides essential elements of exploring complex agro-ecosystem; introduces methods to support strategic intervention design of the pathway and stakeholder engagement to enhance sustainable rural livelihood and food security.

- Participatory approach for food security and sustainable rural development.
- Integrated system and participatory approaches for promoting sustainable agriculture
- Area-based and participatory approaches for locals' capacity building: approaches into practices.
- Integrating strategic stakeholder analysis, Theory of Change (ToC) and Outcome Mapping (OM) to support rural livelihood security development

V. Decision support system for agricultural resource system management

This module introduces analytical framework for exploring social-ecological components that drive the performances of an agro-ecosystem that determine rural livelihood and sustainability and food security; thus guiding the effective intervention for improvement.

- Decision support systems in agricultural resource management:
 - a) Agro-ecosystem analytical framework for understanding biophysical and social economic factors that enhance or constraint livelihoods of smallholder farmers.
 - b) Small farm precision agriculture to improve productivity, food security, and farmers' livelihoods: A case study in Thailand.
- Spatial information systems for agricultural and resource management
 - c) Spatial information systems for improving site-specific management with resource conserving production systems

- d) Application of spatial information systems to improve land use alternatives, farmers' choices and livelihood security: A case study in northern Thailand

VI. Economics, marketing and collective management of diversified farming systems

Marketing has been one of the challenges in putting diversified farming idea into practice. This module gives concrete reason on how economic factors constraining or supporting this movement toward sustainable agriculture, as well as provides example on promoting inclusive marketing for safe local food system. The participants will have opportunity to experience in investigating a real operational and functional safe food market of the smallholder farmers with support from the CARSR.

- Economic factors affecting diversified farming system
- Inclusive marketing system for building capacity and resilience of local food systems
- Organic and safe food markets: opportunities and challenges
- Farmers' and farmers' organizations capacity building and networking for scaling up sustainable food production

VII. Technological and social innovations on agricultural resource management for food security and sustainable agriculture

This module provides ranges of social and technological innovation enhancing sustainable agriculture derived from the CARSR's expertise and experience, altogether with experience from other research and academic partner.

- Integrated pest management for clean and safe production systems
- Integrated nutrient management for sustainable crop production systems
- Climate smart agriculture: Idea and practices contribute to the SDGs, rural livelihood and food security.
- Agro-biodiversity design for sustainable agro-eco-tourism: when permaculture principles guides eco-resort development

5.2 Practical exercise

In parallel with the lecture, the participants will be assigned to explore the system and issue of interest relevant to promoting diversified farming by applying the above mentioned systems and participatory approaches, methods and tools using the bring-in country case study. The exercise sessions cover:

- Exploring an agro-ecosystem using systems thinking and accompanying approach & tool.
- Identification of issues, and an issue of interest.
- Contextualization of the issue of interest: stakeholder analysis, actors and interaction analysis.
- Identification of desirable change and design potential intervention.
- Project intervention design using outcome mapping and theory of changes.

5.3 Field study

A number of selected sites will be organized to expose participants with different organizational arrangement and management in promoting sustainable agricultural and rural livelihood.

1st week (1 day): Diversified farming practices under sufficiency economy philosophy

The one-day field work will expose two concrete cases that have taken diversified farming concept and SEP into practices. These two cases have long and interesting stories to share with and inspire the participants.

- Small-scale pesticide-free vegetables producers --consumer networking and marketing.
- SEP: from subsistence crop production to supermarket shelves.

2nd week (1 day): Integrated whole-supply-chain livestock production system toward BCG and SDGs.

A farmer group with cross-sectoral collaboration and support co-develop pathway and co-implement integration of the semi-free-ranch indigenous chicken into rice and fruit

orchard based farming system. This chicken production system is GAP certified, it's product is supply to both local and high-end consumers. This contributes to household income, social- and eco-friendly align with BCG and SDGs direction.

3rd week (1 day): Community-based agricultural system transformation toward food and livelihood security

This one-day virtual field study will bring the participants to experience social-ecological setup and institutional management by a mixed-ethnicity community to co-create a paradigm shift from mono-cultural and highly external input dependency into the more sustainable diversified farming system cover upstream production and downstream marketing as well as maintaining natural resource.

5.4 Advance assignments

Country report: bring-in case study

Each participant is required to prepare and submit a report on context of a selected case study that addresses issue of concern (or problem) relevant to sustainable agriculture; and (if there have been any, or ongoing) movement/ effort implemented toward sustainable/diversified farming systems, rural livelihood and food security. The report content should be 5-7 pages long with 1.5 line spacing and should be submitted to the Center for Agricultural Resource System Research: CARSRs (see detail in the contact address) at least one week prior to the arrival. A suggested format for the report is as follows:

- Brief introduction of the country and development mainstream
- Biophysical and socio-economic context and farming system of selected case, and the issue of concern at place.
- Characteristics of small farmers who are practicing diversified farming systems
- Production technology and farmers innovation
- Marketing arrangement
- Institutional interventions in farmer capacity building, technology development and market arrangement
- The future of diversified farming in sustaining food security and rural economy.

6. Participants criteria

- Play role(s) in the context of agricultural and or community development.
- be nominated by their respective government;
- be university graduate or have equivalence academic background in agriculture, community development, social sciences, economics, extension or related fields;
- be under forty-five (45) years of age;
- have a sufficient command of spoken and written English

7. Venue

- The training course will be manage via on-line webinar, held at the Chiang Mai University (CMU), Center for Agricultural Resource System Research (CARSR), Faculty of Agriculture, Chiang Mai University, Thailand.

8. Expected Results

- The participants gradually and progressively familiarize and learn concepts and approached relevant to sustainable agriculture and its linkage to the Sufficiency Economy Philosophy (SEP).
- The participants gain knowledge and practical experience on method and tools for promoting diversified agriculture and sustainable agriculture.
- The participants appreciate their participation in this interactive learning-by-doing training design.
- The participants are inspired and capable to adapt and apply the knowledge in their own context to promote sustainable agriculture fostering rural livelihood and food security.
- The participants would bring back home both scientific knowledge & practical experience and positive attitudes toward Thai cultural context and warmed hospitality.

9. Evaluation

Participants will be evaluated based on their class attendance, group discussion and responsibility to the given assignment. Course evaluation will be conducted using a questionnaire-based method as well as self-expression during the training. The result obtained from the evaluation will help us to improve both the design and content of the training to assure the appreciation of all participants toward knowledge-experience gained and joyfulness throughout the training period.

10. Institution (Executing/Implementing Agency)

- The course will be conducted by:
Center for Agricultural Resource System Research (CARSR)
Faculty of Agriculture
Chiang Mai University
Chiang Mai 50200
Thailand
Tel: +66 53-221275 ext.241
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Web: <https://www.carsr.agri.cmu.ac.th/>
- Contact person: Ms.Juthamat Onpraphai, email: onpraphai.j@gmail.com
- The on-line training will be well equipped with online-support devices and stable internet connection to ensure communication and interaction between the trainer and participants.
- Lecturers and staffs are the CARSR and Faculty of Agriculture, Chiang Mai University and research partner from other academic institute.

Instructors	Address - Email	Expertise
Prof. Dr. Attachai Jinrawet	Department of Plant Science and Natural Resources, Faculty of Agriculture, Chiang Mai University	Ph.D (Agronomy and Soil), University of Hawaii at Manoa, USA.
Assoc. Prof. Dr. Benchaphun Ekasingh	Department of Agricultural Economy and Development, Faculty of Agriculture, Chiang Mai University	Ph.D (Agricultural Economics), Michigan State University, USA

Asst. Prof. Dr. Chanchai Sangchyoswat	Department of Plant Science and Natural Resources, Faculty of Agriculture, Chiang Mai University	Ph.D (Agronomy and Soil Science), University of Hawaii at Manoa, USA
Asst. Prof. Dr. Budsara Limnirankul	Department of Agricultural Economy and Development, Faculty of Agriculture, Chiang Mai University	Ph.D (Technology and agrarian Development), Wageningen University, Netherland
Dr. Panomsak Promburom	Center for Agricultural Resource System Research, Faculty of Agriculture, Chiang Mai University	Ph.D. (Modelisation des politiques agro-environnementales) Lyon 1 University, France
Asst. Prof. Dr. Prathanthip Kramol	Department of Agricultural Economy and Development, Faculty of Agriculture, Chiang Mai University	Ph.D (Economics), University of New England, Australia
Asst. Prof. Dr. Yaowaluk Chanbang	Department of Entomology and Plant Pathology, Faculty of Agriculture, Chiang Mai University	Ph.D. (Entomology), Kansas State University, USA.
Asst. Prof. Dr. Chuchart Santasap	Department of Plant Science and Natural Resources, Faculty of Agriculture, Chiang Mai University	Ph.D. (Applied Bioscience and Biotechnology) , Mie University , Japan
Lect. Dr. Pimpimon Kaewmanee	Faculty of Economic, Maejo University	Ph.D (Economics), Chiang Mai University, Thailand
Asst. Prof. Dr. Suwit Chotinan	Faculty of Veterinary Science, Chiang Mai University	Doctor of Veterinary, Chiang Mai University
Dr. Pierre Echaubard	Global Health Asia Institute, Mahidol University	Ph.D. (Health Ecology), Laurentian University, Canada

Expenditure/Funding

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Promoting livelihood and Food Security through Diversified Farming Practices using Integrated System and Participatory Approaches

7-25 November 2022, CARSR, Chiang Mai University, Thailand



Diversified farming system and sustainable livelihoods

DAY 1 : Monday 7 November 2022		
Time	Topics	Resource persons
09:00-09:20	Opening ceremony	Dean, Faculty of Agriculture
09:20-09:30	Group photo taking	
09:30-10:00	Self-introduction & warm-up	Dr.Panomsak Promburom
09:45-10:15	Introduction and program of the training course	Dr.Panomsak Promburom
	<i>Coffee break</i>	
11:00-12:00	<ul style="list-style-type: none"> Vision and pathway for Community-based food security and food safety 	Dr.Panomsak Promburom
	<i>Lunch break</i>	
13:00-14:30	<ul style="list-style-type: none"> Vision and pathway for Community-based food security and food safety: practice 	Dr.Panomsak Promburom
	<i>Coffee break</i>	
15:00-16:00	<ul style="list-style-type: none"> Sharing of the future vision toward food security 	Dr.Panomsak Promburom

DAY 2: Tuesday 8 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Linking diversified farming principles and practices to livelihood & food security Integrated approach: benefits, strengths, and limitations 	Dr.Panomsak Promburom
	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> Integrated System & System thinking for Complex Social Ecological System Analysis 	Dr.Panomsak Promburom

DAY 3: Wednesday 9 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Sustainable livelihood framework and participatory approached for food security and sustainable development 	Dr.Panomsak Promburom
	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> Participatory approach paradigm shift in smallholder and community development. 	Asst. Prof. Dr.Budsara Limnirankul

DAY4: Thursday 10 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Diversified farming system: An agro-ecological system based practice and pathway. Area-based and participatory approaches for locals' capacity building. 	Dr.Panomsak Promburom
<i>Lunch break</i>		
13:00-16:00	<ul style="list-style-type: none"> System contextualization: Co-construction of a common understanding. 	Dr.Panomsak Promburom

DAY5: Friday 11 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Theory of Change (TOC) and Outcome Mapping (OM) to support rural livelihood security development 	Dr.Panomsak Promburom
<i>Lunch break</i>		
13:00-16:00	<ul style="list-style-type: none"> Farmers' and farmers' organizations capacity building and networking for scaling up sustainable food production 	Asst. Prof. Dr. Budsara Limnirankul

Day6: Saturday 12 November 2022 (Online field study)		
Time	Topics	Resource persons
08:00-10:00	<ul style="list-style-type: none"> Small-scale pesticide-free vegetables producers -- consumer networking and marketing. @ CARSR experimental Station , Faculty of Agriculture, Chiang Mai University 	Asst. Prof. Dr. Prathanthip Kramol Asst. Prof. Dr. P Budsara Limnirankul Dr. Panomsak Promburom
10:30-12:00	<ul style="list-style-type: none"> Sufficient Economic Philosophy: from subsistence to supermarket shelves @ Saraphi, Lamphun. 	Mr.Tupthai Norsuwan Mr.Thakoon Panyasai Mr.Thanit Saltikulnukarn
<i>Lunch break</i>		
13:00-16:30	<ul style="list-style-type: none"> Organic rice production and GABA rice processing for exporting @ San Phi Suea sub-district, Muang, Chiang Mai 	

Day7:**Free day**

Economic and marketing of diversified farming system

DAY 8: Monday 14 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Sufficiency Economy Philosophy (SEP) and contributions to sustainable farming-based livelihoods and SDGs 	Lect. Dr.Pimpimon Kaewmanee
<i>Lunch break</i>		
13:00-16:00	<ul style="list-style-type: none"> Success stories of SEP-based farming enterprises and their common principles and practices 	Asst. Prof. Dr.Prathanthip Kramol

DAY 9: Tuesday 15 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Organic and safe food markets: opportunities and challenges 	Asst. Prof. Dr.Prathanthip Kramol

TICA2022 On-line Training Agenda

	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> Economic factors affecting diversified farming system 	Assoc. Prof. Dr. Benchaphun Ekasingh
DAY 10: Wednesday 7 November 2022		
Time	Topics	Resource persons
09:00-10:30	<ul style="list-style-type: none"> Strategic stakeholder management and cross-sectoral collaboration 	Dr. Panomsak Promburom
10:30-12:00	<ul style="list-style-type: none"> Promoting integrated-poultry farming system: smart-farmer pathway 	Asst. Prof. Dr. Suwit Chotinun
	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> "Agro-biodiversity for sustainable tourism: when permaculture principles guides eco-resort development in Krabi, Southern Thailand" 	Dr. Pierre Echaubard

Agricultural resource system management

DAY 11: Thursday 17 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Spatial information systems for improving site-specific management with resource conserving production systems. 	Asst. Prof. Dr. Chanchai Sangchyoswat
	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> Application of spatial information system to improve land use alternatives, farmers' choices and livelihood security: A case study in northern Thailand 	Asst. Prof. Dr. Chanchai Sangchyoswat

DAY 12: Friday 18 November 2022		
Time	Topics	Resource persons
09:00-12:00	Decision support systems in agricultural resource management: <ul style="list-style-type: none"> Agro-Ecosystem analytical framework for understanding biophysical and social economic factors that enhance or constraint livelihoods of smallholder farmers 	Prof. Dr. Attachai Jintrawet
	<i>Lunch break</i>	
13:00-16:00	<ul style="list-style-type: none"> Small farm precision agriculture to improve productivity, food security, and farmers livelihoods: A case study in Thailand 	

Day 13: Saturday 12 November 2022 (Online field study)		
Time	Topics	Resource persons
08:00-16:00	<ul style="list-style-type: none"> "Black-chicken" farmer group, Chomthong district, Chiang Mai Province 	Dr. Panomsak Promburom Asst. Prof. Dr. Suwit Chotinun Mr. Thanit Saltikulnukarn

Day 14:

Free day

Technology and social innovation to promote food security and sustainable social ecological system

DAY 15: Monday 21 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Integrated pest management for clean and safe production systems 	Asst. Prof. Dr. Yaowaluk Chanbang
<i>Lunch break</i>		
13:00-16:00	<ul style="list-style-type: none"> Integrated nutrient management for sustainable production systems. 	Asst. Prof. Dr. Chuchart Santasup

DAY 16: Tuesday 22 November 2022		
Time	Topics	Resource persons
09:00-12:00	<ul style="list-style-type: none"> Integrating TOC & OM for complex and multi-stakeholders involved issue. 	Dr.Panomsak Promburom
<i>Lunch break</i>		
13:00-16:00	<ul style="list-style-type: none"> Project design and participant's case assignment. 	Dr.Panomsak Promburom

DAY 17: Wednesday 23 November 2022		
Time	Topics	Resource persons
09:00-16:00	<ul style="list-style-type: none"> Participant's case development and report (cont.) 	Dr.Panomsak Promburom

DAY 18: Thursday 24 November 2022 (Online field study)		
Time	Topics	Resource persons
09:00-16:00	<ul style="list-style-type: none"> Community-based agricultural system transformation toward food and livelihood security, Maetha-Neua, Mae-On, Chiangmai. 	Dr.Panomsak Promburom Asst. Prof. Budsara Limnirankul Mr.Tupthai Norsuwan

DAY 19: Friday 25 November 2022		
Time	Topics	Resource persons
09:00-11:00	<ul style="list-style-type: none"> Recapitalize the lessons learned, feedback and evaluation 	Dr.Panomsak Promburom
11:30-12:00	<ul style="list-style-type: none"> Closure of the training 	Asst. Prof. Chanchai Saengchyoswat