



Course Outline

Annual International Training Course

1. Course Title: International Short Course: Sustainable Black Soldier Fly (BSF) Farming for Organic Waste Management and Income Generation

2. Duration:
3 Weeks

3. Background:

Thailand International Cooperation Agency (TICA)

TICA is a national focal point for Thailand's international development cooperation. It was established in 2004 to realize Thailand's aspiration to be a contributor to international development cooperation. Believing that global challenges are best addressed through international cooperation and global partnership, TICA continues to work closely together with its development partners to realize the global development agenda through various capacity-building and human resources development programmes. In response to the recent changes in the global landscape of development cooperation, TICA has strengthened its partnerships to harness the synergy of South-South and Triangular Cooperation to tackle global development challenges, including expediting the implementation of Sustainable Development Goals (SDGs). It also continues to realign our focuses in order to deliver Thailand's commitments as a global reliable partner.

Since 1991, TICA, in collaboration with educational institutions in Thailand, has offered short-term training courses under its Annual International Training Course (AITC) programme. The number of courses offered each year varies between 25 to 35 courses for 20-35 participants per course. AITC not only fosters good and friendly relations which Thailand has already enjoyed with recipient countries across regions, but also helps Thailand to reach out to those countries with which we desire to engage more closely. The courses offered by

TICA in 2023-2025 are categorized into 5 themes: Sufficiency Economy Philosophy (SEP), food security, climate change and environmental issues, public health, BCG Model related.

Organization/Institution

Food Innovation and Packaging Center, Faculty of Agro-Industry, Chiang Mai University, Chiang Mai, Thailand

4. Objectives:

The program is designed to:

- To empower professionals with comprehensive knowledge of BSF to support integrated organic waste management aligned with global sustainability goals (SDGs).
- Improve practical skills in BSF rearing, system design, and post-harvest processing for high-value outputs.
- To promote BSF as a circular economy solution for climate action, waste valorization, and regenerative agriculture.
- To develop community-adaptable and gender-inclusive BSF micro-enterprises for income generation.
- To catalyze South-South knowledge exchange through action-based learning and cross-cultural collaboration

5. Course Contents:

- Lectures by experts
- Hands-on lab practices and demonstrations
- Field visits to local BSF farms and waste-to-resource centers
- Interactive group work and project-based learning
- Country Report preparation and presentation by participants
- Concept Paper / Action Plan development

6. Participants' Criteria:

Applicants must fulfill the following requirements:

- Nominated by their governments or institutions
- Bachelor's degree in agriculture, food tech, environment, or related fields
- English proficiency (speaking, reading, writing)

7. Attendance and Evaluation

- Participants who complete the training will receive a certificate based on:
- At least 80% attendance
- Active participation in discussions and hands-on activities
- Presentation of the Country Report
- Final Capstone Presentation (localized BSF Business Plan)
- Feedback survey and peer evaluation
- The organizing agency (FIN) will prepare a formal evaluation report and submit its findings to TICA.

8. Venue:

Food Innovation and Packaging Center (FIN), Faculty of Agro-Industry, Chiang Mai University, Chiang Mai, Thailand. Laboratory sessions will be held on-site at FIN's pilot facility. Field visits will be coordinated with certified BSF farms and organic waste management operators in Northern Thailand. Selected sessions will be available in a hybrid format to facilitate knowledge sharing and international expert collaboration.

9. Expected Results:

1. Participants gain practical and scientific knowledge of BSF as a tool for sustainable waste management.
2. Increased capacity to design, implement, and scale BSF systems in various community settings.
3. Measurable metrics such as potential GHG reduction, waste diversion, and estimated income increase per household

10. Organization/ Institution:

- **Implementing Agency;** Food Innovation and Packaging Center (FIN),
Faculty of Agro-Industry, Chiang Mai University
- **Contact Person**
Name: Chonthicha Uthaisripadungkul
Email: chonthicha.fin@gmail.com

11. Expenditure/Funding:

Thailand International Cooperation Agency (TICA)
Government Complex, Building B (South Zone), 8th Floor,

Chaengwattana Rd. Laksi District, Bangkok 10210 THAILAND

Website: <https://tica-thaigov.mfa.go.th/en/index>

Email: aitc@mfa.go.th

Schedule for the Training Programme:

Date/ Period /Topic	Time (Thailand time)	Content	Speaker	Note
Week 1 : Introduction to BSF & Global Perspectives				
	09:00– 16:00	Lecture & Practical Activities - Overview of the BSF lifecycle and its adaptive physiology - The role of BSF in promoting environmental sustainability, focusing on greenhouse gas (GHG) reduction and land-use efficiency - Comparative case studies and success models from Asia, Africa, and Latin America - Hands-on Workshop: Construction of a basic BSF rearing unit using locally available materials	Assoc. Prof. Dr. Jiraporn Kulsarin and invited speaker ex: Assoc.Prof.Dr. Longyu Zheng from China or etc.	<ul style="list-style-type: none">- Lecture- Interactive Discussion- Field Observation

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		- Mini Field Visit: Observation of local waste-to- resource initiatives		
Week 2: System Design, Farm Practices, Feedstock Management, and Supply Chain				
	09:00– 16:00	Lecture & Practical Activities - Designing scalable BSF farming systems for urban and rural contexts (low- to high-tech) - Sourcing, pre-treatment, and fermentation of organic waste as feedstock - Microbial dynamics in BSF bioconversion and waste reduction efficiency - Practical Lab: EM fermentation techniques, odor control, and larval feed trials - Group Activity: Comparative analysis of feed	Mr.Jakkrit Chaisongkram and invited speaker.	- Lecture - Laboratory Practice - Group Work

Date/ Period /Topic	Time (Thailand time)	Content	Speaker	Note
		efficiency across organic waste types - Mini Field Visit: Model BSF farms (community-based and hospitality sector applications)		
Week 3: Harvesting, Processing, Product Development, and Entrepreneurship				
	09:00– 16:00	Lecture & Practical Activities - Optimal harvesting time, methods, and standard operating practices - Processing techniques: protein meal production, oil extraction, and frass fertilizer utilization - Hygiene, biosecurity, and quality assurance aligned with Codex and FAO guidelines - Practical Lab: Drying, grinding, and packaging procedures	Assoc. Prof. Dr. Jiraporn Kulsarin and experts from the Faculty of Agro-Industry, Food Innovation and Packaging Center, and Chiang Mai University Business School	- Lecture - Laboratory - Practice - Innovation Lab - Project-Based Learning - Business Pitching

Date/ Period /Topic	Time (Thailand time)	Content	Speaker	Note
		<p>- Demonstration: Application of BSF frass in sustainable agriculture</p> <p>- BSF enterprise management, economics, and financial strategies</p> <p>- Policy, regulation, and certification frameworks for insect-based industries</p> <p>- Market opportunities in pet food, animal feed, and circular bioplastics sectors</p> <p>- Mini Capstone Project: Developing and pitching a localized BSF business model</p> <p>- Site Visit: Food and Feed Processing Facilities at the Food Innovation and Packaging Center (FIN),</p>		

Date/ Period /Topic	Time (Thailand time)	Content	Speaker	Note
		Chiang Mai University		

Remarks : **Proposed Course Schedule**

1.Preferred Period: 4–24 June 2026

The proposed schedule in June offers favorable weather conditions in Chiang Mai, ensuring a comfortable and productive learning environment while minimizing exposure to seasonal air pollution caused by PM2.5 haze, which typically occurs during the early months of the year.

This period also coincides with Thailand’s National Research Exhibition in Bangkok, providing an excellent opportunity for participants to engage in knowledge exchange and observe national-level research and innovation showcases.

2.Alternative Period: 23 March – 10 April 2026

If the June schedule cannot be accommodated, an alternative period from late March to early April is proposed. This timing precedes the annual Songkran Festival, allowing participants to experience Thailand’s unique cultural celebration after completing the training.