

Sustainable Agriculture Intensification (SAI)

Background

The global demand for food is on rise from an ever-decreasing resource base, both in terms of quality and quantity, primarily due to an ever-growing population and changing consumption patterns. Overall demand for agricultural products (including food, feed, fiber, and biofuels) is expected to increase 1.1% per year from 2005/07 to 2050, down from 2.2% per year in the past four decades. Good quality agricultural land that was previously productive is gradually being lost to rapid urbanization and other human uses, as well as to desertification, salinization, soil erosion, and other consequences of unsustainable land management. Further losses of agriculturally productive land and degradation of natural habitats are most likely, and this situation will be exacerbated due to climate change. Therefore, agriculture production systems of most of the developing countries will need to be more productive in order to attain self-sufficiency in food production.

It is now a fact that more foods need to be produced sustainably without adversely affecting biodiversity and natural ecosystems. It has become an increasingly unlikely and costly solution to bring new land into cultivation due to a huge competition for land from other human activities. Thus, the most likely scenario is that more food will need to be produced from the same amount of or even less amount of land. Increasing factor productivity is widely accepted as a means to this end. Producing more food from the same area of land while reducing the environmental impact requires what has been called “sustainable agriculture intensification (SAI)”. SAI is commonly defined as producing more output from the same area of land while reducing negative environmental impacts and at the same time increasing contributions to capital and the flow of environmental services. SAI is mainly based on agro-ecological principles that increase production with a lighter ‘footprint’ on the environment, obtain more output with less input, and increase resistance to abiotic and biotic stresses. By utilizing the concept of SAI, there is a huge scope for enhancing the agricultural potential of currently less productive countries and their smallholders.

Course Aim

This course has been developed to meet the training requirement of entry-level, mid-level and high-level agriculture professionals working in Government, NGOs, CSOs having a background and working experiences in agriculture and allied sectors. Course is designed to provide knowledge and hands-on experiences to enable participants to develop local solutions to the agriculture and allied sectors using utilize the principle and practices of sustainable agriculture intensification. Depending on the duration and background of the participants course is designed in various format to suit the need of the participants.

Course Duration and Location

Course is designed in various time formats ranging from one-month exposure course to a year –long professional master degree program to meet the requirement of entry-level, mid-level to decision and policy makers. The course is offered at Asian Institute of Technology, Pathumthani campus with field trips and exposure visits to the various parts of Thailand and in neighboring countries.

Tentative Course Contents

- Principles of the Sustainable Agriculture Intensification
- Soil Water Plant relationship
- Ecological Farming
- Climate proofing of agriculture production system
- Agriculture Sector and Policy Analysis
- Agriculture, Food Security and Climate Change

Case Studies and Field trip:

- Case studies on various ongoing regional and national projects based on SAI
- Field trips to the project sites working on SAI