

MS in Climate Smart Agriculture
Institute of Climate Smart Agriculture
Patuakhali Science and Technology University, Dumki, Patuakhali

Course Profile

Course Code: CSA 5112

Course Title: Farming Systems

Credit Hour: 2

Student Level: Level-6, Semester 1

Rationale

Climate Smart Agriculture is a relatively new discipline, but it builds upon many older aspects of (scientific) knowledge, a major one being Farming Systems Research (FSR). In general, a system can be defined as any number of components connected and interacting, with a certain common goal or purpose. Major farming systems components are: the household, land, crops, livestock, with multiple nutrient and/or resource flows between them, such as labor, nitrogen and cash. In this course, students get familiar with the basic principles of farming systems, and the application of FSR, by learn about examples from across the world as well as from Bangladesh, in order to design and apply such research themselves.

Objectives

At the end of this course, students will have gained sufficient knowledge on:

1. The basic principles of Farming Systems Research
2. Several examples of applications of Farming Systems Research (and outcomes)
3. Apply farming systems thinking into new or ongoing research
4. Design research proposal to apply Farming Systems Research to the local context

| Learning Outcomes | Course Content | Teaching-Strategy | Assessment Strategy |
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| Define systems thinking, describe general examples | (i) Introduction to Systems Thinking: Concept, definition, main aspects, and benefits | Lecture, reading, assignment, group discussion | True-false, short answer |
| Define FSR, describe history, benefits, limitations, and | (ii) Introduction to Farming Systems Research: Concept and definition, history, major components of farming systems, system boundaries; benefits and limitations | Lecture, reading, assignment, group discussion | Multiple choice, short question |

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| Describe several examples of FSR globally | (iii) Examples of FSR globally: Learn details of the design, application and outcomes of several examples of farming systems research across the globe, discuss context-specific differences and similarities, lessons learned and options for improvement | Lecture, reading, assignment, group discussion | Short question, multiple choice |
| Describe several examples of FSR in South East Asia and Bangladesh | (iv) Examples of FSR in SEA and Bangladesh: Learn details of the design, application and outcomes of several examples of farming systems research, applied more locally, discuss context-specific differences and similarities, lessons learned and options for improvement | Lecture, reading, assignment, group discussion | Questionnaire, short answer |
| Design short FSR proposal | (v) Design of short proposal to apply FSR in Patuakhali area: | Assignment, group discussion | Presentation |