

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

Course Profile

Course code: CSA 5114

Course title: Climate Change and Agricultural Policy

Credit hour: 2; Total Lecture: 32

Course type: Elective Course; Total Marks: 100 (CT20 +CT20 +Assignment20 +Final Exam.40)

Rationale: Agricultural policies play a key role in climate mitigation and adaptation connecting scales and, by determining and using different natural resources endowments, different sectoral developments. Students will gain an understanding of the way national level agricultural policies link to adaptation and mitigation of climate change action through farm level production and international trade and agreements.

Learning Objectives: At the end of this course, the students will gain considerable-

- (i) Knowledge of existing linkages between agricultural policies and climate change action
- (ii) Knowledge on how the agricultural sector can contribute to achieve climate change goals
- (iii) Knowledge of the main approaches and experiences to promote agricultural contribution to climate change goals in the global south
- (iv) Knowledge of the narratives and linkages between national and international policies and agreements regarding the role of agricultural policies in climate change goals

Learning Outcomes	Course content	Teaching-Learning Strategies	Assessment tools
Analyse agricultural policies linkages to climate change	Setting the stage: Introduction to agricultural policies of related to inputs (water, labor, fertilizers, extension, pesticides, etc.), outputs (food trade) and their relation to climate change mitigation and adaptation objectives. Definition of agricultural policies, brief overview of paradigm shifted from production focus to system perspective and the linkages to climate change adaptation and mitigation.	Lecture Reading assignment Presentation QA	-Short Answer -Checklist -Essay

Understand the importance of systemic perspective applied to agricultural policies to address climate change objectives	Analytical system-focused frameworks linking agricultural policies with climate relevant social and environmental objectives. Overview of narratives on system perspective relevant for climate change adaptation and mitigation in the agricultural policy context (e.g. food systems, ecosystem services, nutrition, public health, poverty alleviation)	Lecture Reading assignment Presentation QA	-Short Answer -Checklist -Essay
Understand the relevance of agricultural policies for reducing greenhouse gases emissions in different types of food value chains	Agricultural policies and mitigation of climate change. Overview of the concepts of greenhouse gas mitigation in a value chains perspective (e.g. Life Cycle Assessment), the importance of the land use sector in the global south	Lecture Group discussion Presentation QA	-Short Answer -Checklist -Essay -Report presentation
Understand the relevance of agricultural policies for reducing the risks and vulnerability of different types of producers	Agricultural policy and adaptation to climate change (e.g. to minimize the climate risks, increase adaptive capacity, reduce vulnerability). Overview of the concepts of risk, adaptation, vulnerability, sensitivity and exposure in the context of agricultural sector of the global south.	Lecture Group discussion Presentation QA	-Short Answer -Checklist -Essay -Report presentation
Analyse the relevance of lessons learned around the global south on linking agricultural policies and action with	Innovations in linking agricultural policy and climate change mitigation and adaptation. Overview of case studies and lessons learned from experiences in the global south agricultural private and public policy innovations on food trade, payment for ecosystem services, sustainable food certification, etc.)	Lecture Group discussion Presentation QA	-Short Answer -Checklist -Essay -Report presentation

climate change objectives			
Understand the existing narratives on how agricultural policies are linked to climate change objectives	International climate change targets, policies linked to agricultural production. Overview of UNFCCC Koronivia process, Multi-lateral Agreements, the Global Alliance of Climate Smart Agriculture, etc.	Lecture Reading assignment Presentation QA	-Short Answer -Checklist -Essay -Report presentation

Reference books/ Literature sources

- Loboguerrero, A.M., Campbell, B.M., Cooper, P.J., Hansen, J.W., Rosenstock, T. and Wollenberg, E., 2019. Food and earth systems: priorities for climate change adaptation and mitigation for agriculture and food systems. *Sustainability*, 11(5), p.1372.
- Tomich, T.P., Lidder, P., Coley, M., Gollin, D., Meinzen-Dick, R., Webb, P. and Carberry, P., 2019. Food and agricultural innovation pathways for prosperity. *Agricultural Systems*, 172, pp.1-15.
- Rahman, M.M., 2011, December. Country report: Bangladesh. In ADBI-APO Workshop on Climate Change and its Impact on Agric. Seoul, Republic of Korea (pp. 1-18).
- Mausch, K., Hall, A. and Hambloch, C., 2020. Colliding paradigms and trade-offs: Agri-food systems and value chain interventions. *Global Food Security*, 26, p.100439.
- Khoury, C.K., Jarvis, A. and Jones, A.D., 2020. Trade and its trade-offs in the food system. *Nature Food*, 1(11), pp.665-666.