

Course Code : ECO 403

Course Title : Agro-biodiversity Conservation and Climate Change

Credit Hours : 2(2+0) Full Marks: 50 Theory 50 Practical: 0

OBJECTIVES

Upon the completion of this course, the students will be able to understand agrobiodiversity conservation and climate change in the local, regional, and worldwide perspectives.

I. SYLLABUS

Introduction to agricultural biodiversity: Concepts, history, importance and prospects; centers of origins of crops and animal diversity, Components of Agricultural biodiversity, Status of Agricultural biodiversity, Threats to agricultural biodiversity: documenting and assessing, Conservation of Agricultural Biodiversity, Policies and Laws for Agrobiodiversity conservation, Economic value of Agrobiodiversity, Social and ethnical aspects in agrobiodiversity, Different on-farm conservation and management practices in Nepal, Forest and agrobiodiversity, Introduction to Climate change and its historical overview, Earth's climate system, Interpreting past climate from geologic records and its effect on agrobiodiversity, Long-term climate change related to plate tectonics, the last ice age and last deglaciation, history of climate change, orbital control on monsoons and ice sheets, instrumental period of Climate Change, agrobiodiversity and climate change, food security and climate change, Climate Change Adaptation, climate change resilience, different institutional mechanism in Agrobiodiversity conservation, different institutional mechanism in Climate Change, climate induced disasters, Intellectual Property Rights, Farmers' Rights, local innovation and practices on Agrobiodiversity conservation, local innovation and practices on Climate change adaptation, Research trends on agrobiodiversity conservation and climate change

II. COURSE OUTLINES

A. Lecture

S.N.	Topic	No. of Lecture
1.	Introduction to agricultural biodiversity: Concepts, history, importance and prospects; centres of origins of crops and animal diversity	1
2.	Components of Agricultural biodiversity	1
3.	Status of Agricultural biodiversity	1
4.	Threats to agricultural biodiversity: documenting and assessing	1
5.	Conservation of Agricultural Biodiversity	1
6.	Policies and Laws for Agrobiodiversity conservation	1
7.	Economic value of Agrobiodiversity	1
8.	Social and ethnical aspects in agrobiodiversity	1

9.	Different on-farm conservation and management practices in Nepal	1
10.	Forest and agrobiodiversity	1
11.	Introduction to Climate change and its historical overview	1
12.	Earth's climate system	1
13.	Interpreting past climate from geologic records and its effect on agrobiodiversity	1
14.	Long-term climate change related to plate tectonics	1
15.	The last ice age and last deglaciation	1
16.	History of climate change	1
17.	Orbital control on monsoons and ice sheets	1
18.	Instrumental period of Climate Change	1
19.	Agrobiodiversity and climate change	1
20.	Food security and climate change	1
21.	Climate Change Adaptation	1
22.	Climate change resilience	1
23.	Different institutional mechanism in Agrobiodiversity conservation	1
24.	Different institutional mechanism in Climate Change	1
25.	Climate induced disasters	1
26.	Intellectual Property Rights	1
27.	Farmers' Rights	1
28.	Local innovation and practices on Agrobiodiversity conservation	1
29.	Local innovation and practices on Climate change adaptation	1
30.	Research trends on agrobiodiversity conservation and climate change	1
Total		30

REFERENCES

- Hardy, J. T., 2003. Climate Change - Causes, Effects, and Solutions, 1st Edition, John Wiley & Sons
- T. Houghton 2004. Global Warming - (3rd edition) Cambridge University Press.
- Keith, A. (ed), 2005. Global Change and the earth system, Springer, Publication Ltd, London.
- Altieri, M.A. 1987. Agro-Eology. The Scientific Basis of Alternative Agriculture, Westview Press Colorado, USA.
- Arungam N. 1994. Concepts of Ecology, Sras Publication, Nagorcoil.
- ABPSD. 2006. Statistical Information of Nepalese Agriculture, MOAC, Agri-Business Promotion and Statistic Division, Kathmandu, Nepal.
- Jodha N, S. Baskota and U. Pratap. 1992. Sustainable Mountain Agriculture (Vol. 1 and 2), ICIMOD, Kathmandu, Nepal.
- Ya Tang and P.M. Tulachan. 2001. Mountain Agriculture in the HK-regions ICIMOD, Kathmandu, Nepal.