



DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE

(Autonomous)

College with Potential for Excellence, Linguistic Minority Institution

Affiliated to University of Madras

Arumbakkam, Chennai – 600 106

COURSES RELEVANT TO ENVIRONMENT & SUSTAINABILITY

ENVIRONMENTAL ECONOMICS

ENVIRONMENTAL STUDIES

PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.



DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE
(Autonomous)
College with Potential for Excellence, Linguistic
Minority Institution Affiliated to University of
Madras
Arumbakkam, Chennai – 600 106

PG & RESEARCH DEPARTMENT OF ECONOMICS

ENVIRONMENTAL ECONOMICS

SUBJECT CODE- 01623

Total hours-90 hrs Credits -5

Course Description-The course deals with the understanding of the resources available in the economy, utilization of the resources and measures for its sustainability.

UNIT – I

Economics and Environment – Definition and role of Environmental Economics – Scope and significance of Environmental economics – Ecology and Ecosystem – Relationship between the environment and the Economic system – Environment as a Resource – Environmental Quality.

UNIT – II

Resources – Concepts and definition – Classification of Resources – Renewable and non-renewable resources – Atomic Energy - Definition and meaning of Conservation of Resources – Material Substitution – Product Life Extension – Recycling – Waste reduction .

UNIT – III

Environmental Regulation in India - Evolution of environmental policy in India; Preservation and conservation of water resources - Air and water Acts; fiscal incentives; enforcement and implementation issues; emerging options – Eco-taxes and eco-subsidies; case studies on pollution control in India

UNIT – IV

Pollution as an Economic problem – Pollution Control – Optimum level – Moral suasion – Direct control – Regulation – Fiscal technique – Effluent charges and subsidies compared.

UNIT – V

International Environmental policy – Transfrontier pollution – International Agreements – Stockholm Conference on Human Environment – Recommendations – United Nations Conference on Environment and Development at Rio- De Janerio (Agenda 21, june,1992) – An assessment.

Recommended Texts:

1. Hanley, N., J.F. Shogren, and B. White, Environmental Economics: In Theory and Practice , Oxford University Press, 2006.
2. Kolstad, C., Environmental Economics, Oxford University Press, 2000.
3. Conrad, J.M. and C. Clark, Natural Resource Economics – Notes and Problems, Cambridge University Press, 1987.

PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.

4. Dasgupta, P.S. and G.M. Heal, Economic Theory and Exhaustible Resources, University Press (Selected chapters), 1979.
5. Bhattacharya, R.N. (2001), Environmental Economics – An Indian Perspective, Oxford University Press, Delhi.

Reference Books:

1. Karpagam .M, Environmental Economics- A text book
2. Sankaran. S, Environmental Economics.
3. Pearce. G.W, Environmental Economics.
4. Joseph J.Sereca & Michael K. Taussing, Environmental Economics

Course Outcomes

CO1	Demonstrate comprehensive knowledge and understanding of environmental economics
CO2	Apply the principles, and identify environmental resources that are vital for economic development.
CO3	Ability to Analyze, interpret, and draw conclusions of environmental policy in India.
CO4	Capability to set up vision and mapping of tasks for pollution control, to prevent environmental degradation.
CO5	To understand the impact of economic policies in society and international environment in context to sustainable development,

Mapping of CO v/s PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
CO1	3	3	3	3	3	3	3
CO2	3	3	1	3	3	3	3
CO3	3	3	3	2	3	3	3
CO4	3	3	2	1	3	3	3
CO5	3	2	2	3	3	3	3

Correlation levels: 1- Weak 2-Medium 3-High



PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.



DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE

(Autonomous)

College with Potential for Excellence, Linguistic Minority Institution

Affiliated to University of Madras

Arumbakkam, Chennai – 600 106

SYLLABUS – ENVIRONMENTAL STUDIES

Unit 1 : Multidisciplinary nature of environmental studies Definition, scope and importance (2 lectures) Need for public awareness.

Unit 2 : Natural Resources : Renewable and non-renewable resources : Natural resources and associated problems. a) Forest resources : Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies. f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification. • Role of an individual in conservation of natural resources. • Equitable use of resources for sustainable lifestyles. (8 lectures)

Unit 3 : Ecosystems • Concept of an ecosystem. • Structure and function of an ecosystem. • Producers, consumers and decomposers. • Energy flow in the ecosystem. • Ecological succession. • Food chains, food webs and ecological pyramids. • Introduction, types, characteristic features, structure and function of the following ecosystem :- a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) (6 lectures)

Unit 4 : Biodiversity and its conservation • Introduction – Definition : genetic, species and ecosystem diversity. • Biogeographical classification of India • Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values • Biodiversity at global, National and local levels. • India as a mega-diversity nation • Hot-spots of biodiversity. • Threats to biodiversity : habitat loss, poaching of wildlife,

PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.

man-wildlife conflicts. • Endangered and endemic species of India • Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity. (8 lectures)

Unit 5 : Environmental Pollution Definition • Cause, effects and control measures of :-
a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution
f. Thermal pollution g. Nuclear hazards • Solid waste Management : Causes, effects and
control measures of urban and industrial wastes. • Role of an individual in prevention
of pollution. • Pollution case studies. • Disaster management : floods, earthquake,
cyclone and landslides. (8 lectures)

Unit 6 : Social Issues and the Environment • From Unsustainable to Sustainable
development • Urban problems related to energy • Water conservation, rain water
harvesting, watershed management • Resettlement and rehabilitation of people; its
problems and concerns. Case Studies • Environmental ethics : Issues and possible
solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclear
accidents and holocaust. Case Studies. • Wasteland reclamation. • Consumerism and
waste products. • Environment Protection Act. • Air (Prevention and Control of Pollution)
Act. • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest
Conservation Act • Issues involved in enforcement of environmental legislation. • Public
awareness. (7 lectures)

Unit 7 : Human Population and the Environment • Population growth, variation among
nations. • Population explosion – Family Welfare Programme. • Environment and human
health. • Human Rights. • Value Education. • HIV/AIDS. • Women and Child Welfare. •
Role of Information Technology in Environment and human health. • Case Studies. (6
lectures)

Unit 8 : Field work • Visit to a local area to document environmental
assetsriver/forest/grassland/hill/mountain • Visit to a local polluted site-
Urban/Rural/Industrial/Agricultural • Study of common plants, insects, birds. • Study
of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours)



PRINCIPAL
Dwaraka Doss Goverdhan Doss
Vaishnav College
Arumbakkam, Chennai - 600106.