

Environmental Issues in South India (PSC 3994)

Fall Semester 2016

Course Facilitators : Dr.Priya Rajendran & Dr. Priscilla Jayasingh

Course Description

This course is designed to help students achieve an appreciation for the environmental issues of South India – with particular reference to Madurai District – and the complexity of responses to those issues. The course design explores environmentalism, conservation and sustainability in the study area through a set of readings, classroom discussions and field visits. The course begins with an examination of the Madurai environment in its historic, economic and global contexts. For the final course project, students will address a specific environmental issue in Madurai.

Course Objectives

By the end of the course, students will be able to:

- Knowledgeably discuss the challenge and response to environmental issues currently facing South India in general and Madurai in particular,
- Analyse the debates surrounding development strategies, environmentalism and conservation in the Indian context,
- Compare the conservation strategies of South India and the US, and
- Appreciate the contributions of select Indian environmentalists.

Course Requirements

The course comprises of both theoretical and practical exposure in the form of readings, classroom discussions and field visits. Students will be required to participate in the following:

Found Objects: Classroom discussions would include presentation and critical analyses of news events and '**Found Objects**'(items of interest) in an environmental context. Five to ten minutes is allotted at the start of each class for the presentation and discussion of found objects. Each student is encouraged to bring one object per class. Presentations made and discussions engaged in are a part of the continuous assessment.

Photo Essay: During the course, we will work to incorporate the political, historical, cultural and ecological dimensions of environmental issues in South India, even as we attempt to assess the situation on the ground as part of a larger narrative of ecological and cultural sustainability. Students are required to select a theme as early as possible and capture digital images of their observations for their '**Photo Essay**' which will be due for presentation in the tenth class.

Readings and Home assignments: Course **readings** will include theoretical pieces, case studies, and government/policy documents. It is important that students complete all assigned readings before class, as they will be expected to participate in discussions during class time. **Home assignments** are a means through which we can gauge your engagement with the major issues of the course in a systematic way. All assignments should be handed on the due date. (submit either

a hard copy or a soft copy).

Field trips: This course is designed to promote active engagement and, when possible, hands on learning. As such, we will venture out of the classroom for select *field trips*. Students are required to attend each field trip. Following each trip, we will discuss the major themes and our findings at each site.

Final Project: The *final project* will consist of an analysis of an environmental issue in Madurai. Students must choose any one environmental concern in Madurai that they would like to research for their final paper. Please plan and carry out a survey of at least 3 English-speaking respondents, as you will not be provided with translators for this project. You may use the model of activity sheets given on the CSE Website or create your own.

<http://www.cseindia.org/node/322>

The final report should demonstrate a theoretical understanding of the issue followed by a presentation of a survey undertaken by the student to study local awareness, perceptions, and responses to the same environmental issue. Students will then analyse the environmental debates arising from your survey, if any, and conclude by suggesting appropriate responses based on the insights gained through this course.

The paper should be 7-10 pages, typed and double spaced, 12 point font following MLA guidelines. All papers should include bibliography citing at least 3 resources used in researching the issue.

The Paper will be graded on quality of research to support the topic, effective use of information gained through research, credibility of sources, content, grammar and mechanics, and bibliography.

A Suggested List of Topics (with reference to Madurai) for Final Papers

1. Waste Disposal
2. Plastics-popular practice
3. Noise Pollution
4. Air Pollution
5. Water-related Issues - availability/supply, purity, overuse, misuse
6. Power cuts
7. Special Economic Zones
8. Farmers' Market
9. Organic farming methods
10. Sacred Groves/Parks in Madurai
11. Eco-tourism in Madurai - Prospects and Problems
12. Religious and Cultural Practices in Madurai with an environmental impact
13. Health/Occupational hazards-an environmental perspective

Evaluation Components

Class Participation and Attendance	10%
Home Assignments	20%
Found Objects	20%
Class Presentation	10%
Photo Essay	20%
Final Project	20%

The grading scale runs:

93% - 100%	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
65% - 69%	D
Below 65%	F

Course Outline

Class 1 *Introduction*

1. Course Introduction: Hand out syllabus
2. Prisoner's Dilemma applied to Environmental Issues: Co-operate or Compete?
3. A Glimpse of the Indian /Tamil Nadu /Madurai environment - A First Glimpse of the Madurai Rural &Urban Environment (ppt)

Post-Session Readings and Home Assignment:

Please submit either a hard copy or a soft copy of your answer to the following questions:

1. Miller, George Tyler (2000). *Living in the Environment: Principles, Connections and Solutions* (11th ed.), Pacific Grove. Brooks/Cole, pp. A15-A17
 - Carefully evaluate 3 environment-friendly actions from the list given by Tyler and check whether it fits in with your beliefs and practice.
 - Are there suggested actions in this list that you will not definitely practice? Explain any 3 that you perceive as 'not feasible'.
2. Take the Centre for Science Environment Green Sense Survey, <http://www.cseindia.org/content/cses-green-sense-survey>
Make a member of your host family take it too. Compare your answers. Do cultural differences surface in your comparative analysis? Submit a written report of similarities and differences.

Class 2 *Impacts on Environment*

Classwork and Discussion:

- The Story of Stuff - <http://www.storyofstuff.com>
- Urbanisation of Madurai District – Issues (Vaigai – The lifeline of Madurai; Thathaneri – open air cremation)
- About Vaigai River and Lets restore Vaigai – U tube video – Dhan Foundation

Post-Session Readings:

1. Gadgil Madhav, and Ramachandra Guha. (1995). Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi: Penguin Books, Pages 1-33
2. Interactions between urbanization and global environmental change Editorial overview Karen C Seto and David Satterthwaite Current Opinion in Environmental Sustainability 2010, 2:127–128
3. State of India's Environment- 2016 – CSE Publication

Home Assignment: *Please submit either a hard copy or a soft copy of your answers to the following questions.*

- Write a brief note on your reactions to "The Story of Stuff".
- Identify the nature and size of the three ecological classes of the Indian population.
- Identify some positive and negative externalities in the Madurai environment. Are these common in your home environment as well? If not, why not?

Class 3 *Ground realities in Food safety and toxins*

Each person can choose one topic given for class discussion below and read the material and come prepared for a 5 minute presentation in the class followed by interaction

Pre-Session Reading & Resources:

1. Food Safety and Standards Contaminants Toxins and Residues Regulations in India, 2011 (Optional)
2. <http://www.indiaforsafefood.in/pesticideresidues.html>
3. Endosulfan Poisoning and the Struggle of the community in Kasaragod to regain life and the living land, Sridhar R, Thanal, Kerala (India), 2008 ppt
4. Antibiotics in the chicken we eat- D. BALASUBRAMANIAN- The Hindu, September 4, 2014
5. <http://kodaimercury.org/about/>
6. Mercury in the mist by Amuthan R P – A short film [15.03 mts] YouTube video
7. SAY NO to Release of Genetically Modified Crops in India pdf
8. Impact of pollution due to tanneries on groundwater regime N. C. Mondal, V. K. Saxena and V. S. Singh, CURRENT SCIENCE, VOL. 88, NO. 12, 25 JUNE 2005

Discussion:

Food Safety and Standards – Pesticide poisoning – Antibiotics in chicken – Mercury contamination- Genetically modified crops (Bt cotton & Bt Brinjal) – ground water pollution by tanneries

Class 4 *Some Famous Indian Environmentalists*

Class will be split into groups to read about various environmentalists listed below and have a presentation and discussion on them

Readings:

1. Joy A. Palmer, David E. Cooper, Peter Blaze Corcoran (ed.), 2001, 50 Key Thinkers on the Environment, Routledge, London. Pp. 1-7, 143-147, 160-167, 313
2. Guha, Ramachandra. (2000). Environmentalism: A Global History. New York: Longman, The Gandhian View of the Simple Life, Pages 19-24
3. Gadgil Madhav, and Ramachandra Guha. (1995). Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi: Penguin Books, Chapters 4 and 5
4. <http://www.downtoearth.org.in/coverage/g-nammalvar-messiah-of-organic-revolution-43246>

Discussion:

Buddha, Tagore, Gandhi, Vandhana Shiva, Anil Agarwal, Sunita Narain, Medha Patkar, Nammalvar

Class 5 *Water a mismanaged Resource & "The Bitter Drink-A Film on the Adivasi Struggle Against Coca Cola in Plachimada, Kerala (2003)"*

Pre-session Readings:

1. No lesson has been learnt from Chennai floods. Sandhya Ravishankar, Economic times, May 2016.
2. Droughts and Floods: India's water crisis demands more than Grand projects By Bhaskar Vira, June 16, The Wire.
3. Reeling Under drought: 116 farmers commit suicide in 2016, 10 states reeling under drought. April 2016, Hindustan Times
4. Anil Agarwal, Sunita Narain and Indira Khurana (2001): Making Water Everybody's Business: Policy and Practice of Water Harvesting, Centre for Science and Environment, New Delhi.

Discussion:

Sources of water supply - effluents in R. Vaigai - National Water Projects & Dams - Impact on the Marginalised, National Water Grid - Agriculture - Rainwater Harvesting - Storage - Treatment - Water-borne diseases - Religious and Cultural Practices: Water as a Purifying Agent

Class 6 *Lecture and Visit to the Vermicompost Farm, Vadipatti and Banana Waste Recycling, Melakkal*

Pre-session Reading:

1. Yadav, C., Gupta, H., & Sharma, R. (2010). Organic farming and food security: a model for India. Lucknow: Society for Organic Agriculture Movement.

Discussion:

- Vermicomposting-pros and cons
- Organic farming
- Commonly used kitchen fuels in India - gas, kerosene, cow dung and firewood - economic costs and implications, dual pricing mechanism
- Gobar Gas as a kitchen fuel.
- Other alternative fuels (jatropha and solar)

Home Assignment:

Please submit either a hard copy or soft copy of the report of your visit to the Organic Farm at Vadipatti and the Banana Waste Recycling at Melakkal.

Class 7 Special Economic Zones - Sivarakottai, Madurai District**Pre-Session Readings:**

1. Gadgil, Madhav, and Ramachandra Guha. (1995). Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi: Penguin Books: Chapters 6 and 7
2. Ramanathan, Usha. *The Power to Take and Displace*. Infochange News and Features, March 2011
3. Agarwal, Bina, (2001). *A Challenge for Ecofeminism: Gender, Greening, and Community Forestry in India*. Women and Environments, www.weimag.com. Fall 2001

Discussion:

Interaction with an affected farmer (Mr. Ramalingam) - Development at Gunpoint! - POSCO in Odisha - Airport expansion in Madurai - Forests: a Tragedy of Commons

Class 8 Solid Waste Management in Madurai**Pre-Session Readings:**

1. Gadgil, Madhav, and Ramachandra Guha. (1995). Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi: Penguin Books, Chapter 8
2. Kumar, Shailesh. *Adopt Manual Scavengers Act, Human Rights Commission Tells States*. Down to Earth. May 1 - 15, 2007.
3. Paliwal, Ankur. *Centre Launches Bio-Toilets to Curb Open Defecation*. Down To Earth. July 16 - 31, 2012.
4. Down To Earth, February 16-28, 2002. *New Age Approach*.

Discussion:

Collection and Disposal of Household and Municipal Waste - Use of Plastics - Green Waste - Incineration - Manual Scavenging - 'Shit': a documentary on Madurai Corporation's Sanitary Workers

Home Assignment:

- Submit a brief write-up of your reactions to the practice of manual scavenging.

Class 9 The 'Power Crunch' - The Koodankulam Nuclear Power Project

Pre-session Readings:

1. A case study approach on Koodankulam Nuclear power project, Namex International Journal of Management Research, Vol No 2, Issue No1, Jan-June 2012
2. Why We Must Say NO To The Kudankulam Nuclear Power Plant! April,2013, Mahish Kasireddi
3. Jayaraman, Nityanand and G Sundar Rajan. *Nuclear Power: Myths, Realities and FAQs*. InfoChange News and Features, November 2011.

Discussion:

Sources of Energy in the South Indian context - Safe use of nuclear energy - Disaster Management - Impact of erratic power supply - the hardest hit

Class 10 *Photo Essays*

(to be submitted as a soft copy) and *also presented in class*

Pre-Session Reading:

1. Alain Marcoux. (1999). Population and Environmental Change: From Linkages to Policy Issues. FAQ Women and Population Division.

Class 11 *Quarrying and Mining*

Pre-Session Readings:

1. Narain, Sunita, *Mining Bill Gets It Right*, Down to Earth, August 1-15, 2011.p.3
2. Juneja, Sugandh. *Miningfor People*. Down to Earth, August 1-15, 2011, pp.19-22
3. Down to Earth, August 16-31, 2011. *What went Wrong in Bellary? The Wasteland, Governance Failure*, pp.28-37
4. Shah, Bhomik and Aakash Mehrotra. *Mountains of Marble Waste*. Infochange News and Features, November 2011

Discussion:

Damage to Water Bodies - Agricultural loss - Air/Noise/Water Pollution - Costs vs. Benefits - Short run vs. Long run - Case study of PRP Granite Exports - Ecuador's 'unsuccessful' but brilliant strategy - Trickle-Down vs. Trickle-Up Development

Class 12 *Lecture and Visit to the Sewage Farm*

Pre-Session Readings:

1. Central Pollution Control Board. (2007). *Madurai Metropolitan City*. Status of Groundwater Quality in India. GROUNDWATER QUALITY SERIES: GWQS/09/2006-2007, pp 47-49
2. Mekala, G.D.; Davidson, B.; Samad, M.; Boland, A.M. (2008). Wastewater Reuse and Recycling Systems: A Perspective into India and Australia. Colombo, Sri Lanka:

- International Water Management Institute. 35 p (IWMI Working Paper 128)
3. Earth Trends 2001 World Resources Institute. Common Water Pollutants and their Effects
 4. World Bank webpage - Urban Waste Management

Discussion:

Recycling and reuse of waste water - potential and hazards - Environmental Impact Assessment - the role of governance.

Home Assignment:

- Submit a report of your visit to the Sewage Farm.
- Photo Essays to be ready for presentation in the next class.

**Class 13 The Human-Animal conflict – whose fault is it anyway?
Visit to Vettangudi Bird sanctuary where the village protects the Migratory birds.**

Pre-Session Readings:

1. Mitigating Human – animal conflict in India – a participatory approach, Cover story, Terragreen, Vol 7, Issue 9, December 2014
2. Wildlife human conflict, Current Conservation, Vol 4, Issue 4, 2010
3. <http://www.thehindu.com/specials/verminsvictims/article8741554.ece>

Discussion:

Death of Madukkarai Maharaj a 20 year old Tusker- news reports
India is killing thousands of wild animals to apparently protect its farmers Manu Balachandran.
June 16, 2016 Quartz, India.

Class 14 Wrap up Session: Tourism & Some South Indian Religious and Cultural Practices

Pre session Readings:

1. Gadgil, Madhav, and Ramachandra Guha. (1995). Ecology and Equity: The Use and Abuse of Nature in Contemporary India. New Delhi: Penguin Books: Chapter 9
Resources of Hope
2. Guha, Ramachandra. (2000). Environmentalism: A Global History. New York: Longman, Pages 138 -145, Chapter 8
3. Ramakrishnan, P.S. (2001). Ecology and Sustainable Development. New Delhi: National Book Trust: Chapter 3: Traditional Ecological Knowledge
4. Gilbert, Rob. (2003). *Ecotourism and Education for Sustainability: A Critical Approach*. International Review for Environmental Strategies, Vol.4, No.1, pp.75-83,2003

Discussion:

Tourism vs. Ecotourism - Meenakshi Temple - Gandhi Museum - Arvind Eye Hospital - Pandi Koil - Cultural Tourism - 'Jallikattu' (Bull-fight) - Tie & Dye Sarees and Textiles - Kolam (Art) - Sacred Groves - Traditional Occupations - Rickshaw-men, Dhobis and Metal Workers

CLASS SCHEDULE

CLASS	TOPICS	DATES & TIME	STAFF IN CHARGE
1.	Introduction	23 rd August (1.30 - 3.15pm)	Dr.Priya & Dr.Priscilla
2.	Impacts on Environment	25 th August (10.30 – 12.15 pm)	Dr.Priscilla
3.	Food safety & Toxins	29 th August (3.30 – 5.15 pm)	Dr.Priscilla
4.	Indian Environmentalists	1 st Sept (3.30pm)	Dr.Priya
5.	Water a mismanaged resource	2 nd Sept (3.30pm)	Dr.Priya
6.	Visit to vermicompost farm, Banana waste recycling unit	5 th Sept (1.30pm)	Dr.Priya/Dr.Priscilla
7.	Special Economic Zones – Sivarakottai	8 th Sept (3.30pm)	Dr.Priscilla
8.	Solid waste management	19 th Sept (3.30pm)	Dr.Priscilla
9.	Power crunch – Koodangulam	20 th Sept (3.30pm)	Dr.Priya
10.	Photo essays	23 rd Sept (1.30pm)	Dr.Priscilla
11.	Quarrying & Mining	26 th Sept (3.30pm)	Dr.Priya
12.	Visit to sewage farm	28 th Sept (1.30pm)	Dr.Priya/Dr.Priscilla
13.	Human Animal Conflict – Vettangudi Bird sanctuary	30 th Sept (1.30pm)	Dr.Priya/Dr.Priscilla
14.	Tourism, Religious & cultural practices	3 rd Oct (3.30pm)	Dr.Priya
	Final Paper Due	October 7 th (2.00pm)	

Contact

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