

<b>Course title:</b> Governance and Management of Natural Resources			
<b>Course code:</b> NRE 149	<b>No. of credits:</b> 3	<b>L-T-P:</b> 32-10-0	<b>Learning hours:</b> 42
<p><b>Pre-requisite course code and title (if any):</b> Students should have familiarity with basic environmental and economic theories/concepts. The class requires regular reading and update with various discussions and debates pertaining to natural resources management in the country. Thus, only those students really interested in policy, governance and development issues should opt for this course.</p> <p>Each session requires prior reading of 2-3 articles. Where a student is found to have not prepared for the class, marks will be deducted accordingly.</p> <p>The topic for the term paper has to be decided by the second week of the course. This will be a group assignment. Groups will be expected to identify a particular sector or issue (pertaining to natural resources) and work on the governance issues/challenges.</p>			
<b>Department:</b> Department of Energy and Environment			
<b>Course coordinator:</b>		<b>Course instructor:</b> Dr Smriti Das	
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<b>Course type:</b> Elective		<b>Course offered in:</b> Semester 3	
<p><b>Course Description</b></p> <p>In today's rapidly globalizing world and finite resources, society is struggling to find a holistic and balanced approach to managing the interactions between nature and society. The interactions are complex and involve a number of stakeholders. In absence of a balanced approach to managing interests, we witness environmental conflicts that lead to adverse natural and social outcomes.</p> <p>Governance of natural resources entails interaction between array of institutions that regulate the interaction between natural and social systems. These institutions pertain to formal laws, rules and regulations as well as informal norms and customary practices that guide the behavior of individuals and groups with respect to environment/natural resources. Effective institutional interventions would be those that account for this complexity of interests and interactions and aim for sustainable outcome.</p> <p>In this course, the students would be introduced to this complex array of institutions, ideas of collective action in managing environment/natural resources and the role of actors (within the realm of state, market and civil society) in attaining the goal of sustainable management of natural resources.</p> <p>The course would be built on concepts drawn from various academic disciplines (political science, economics, sociology and ecology) to offer an inter-disciplinary lens to the students to examine issues of environmental governance and resource conservation and management. Empirical examples of governance arrangements and challenges would be cited from different ecological context (forestry, water, agriculture) also depicting temporal and spatial variation.</p>			
<b>Course objectives</b>			
<ol style="list-style-type: none"> <li>1. To familiarize the students with complex array of stakeholders, interests and institutions in managing natural resources</li> <li>2. To introduce to the students various conceptual and analytical perspectives (drawn from different academic disciplines) to look at environmental problems</li> </ol>			

3. To offer a nuanced understanding of evolution of governance paradigms and an in-depth explanation of the role of bureaucracy, markets and civil society				
4. To encourage critical thinking skills and interdisciplinary expertise among students				
<b>Course content</b>				
<b>SNo</b>	<b>Topic</b>	<b>L</b>	<b>T</b>	<b>P</b>
1.	<p><b>Module 1: Overview of conceptual issues and approaches</b></p> <p>Conceptual distinctions and nuances Institutions and organizations; Governance and Government; Management and Governance</p> <p>Theoretical approaches to governance and contribution of different disciplines: Rational Choice and New Institutional Economics; Influence of neo-liberal ideologies on governance; Public Administration and Management; Legal anthropological approaches, legal pluralism in governance; Socio-technical perspectives</p> <p>Establishing the rationale for NRM regimes: Introducing concepts of carrying capacity, ecological foot-print, resilience, sustainability, property rights, externalities, power and politics</p> <p>Perspectives like deep ecology, ecofeminism, ecological pragmatism, political economy and political ecology will also be introduced</p>	8	4	
2.	<p><b>Module 2: Bureaucracy and Natural Resource Management</b></p> <p>The relevance and appropriateness of the bureaucratic set-up for NRM (Weberian concepts). Understanding accountability and transparency; rent-seeking perspectives.</p>	4	0	
3.	<p><b>Module 3: Decentralization and changing role of the state</b></p> <p>Distinction between decentralization, devolution and deconcentration. The 'participation' paradigm: emergence, experiences and challenges (Cases from India and other South Asian countries) Policy perspective: reviewing debates and policies- the 73rd and 74th amendments to the Constitution of India, <i>Panchayats</i> (Extension to Schedule Area) Act, 1996- and its implication for management and governance of natural resources Understanding resource user organizations. Lessons from JFM and Irrigation Management in India.</p>	6	2	
4.	<p><b>Module 4: Collective Action and Management of common property resources (CPRs)</b></p> <p>Types of property, emergence of the concept of common property resources, institutional arrangements for managing CPRs Issues in collective management of natural resources Understanding conditions for collective action. Collective action as a socially embedded process- understanding communities and social, power and gender</p>	6	2	

	relationships in Natural Resource Management. Mainstreaming gender and equity considerations in Natural Resource Management. Case studies/lessons from water-surface and groundwater, land and forestry.			
5.	<b>Module 5: Markets as a form of natural resource allocation</b> Equity, efficiency and sustainability implications. Market creation as a reform strategy: Issues and perspectives. Along with market creation, perspectives on ecosystem goods and services (payment for ecosystem services), PPP arrangements will also be discussed extensively in the form of case studies.	4	2	
6.	<b>Module 6: Role of NGOs and civil society in Natural Resource Management</b> Emergence of civil society organizations (and environmental NGOs) and typology of NGOs Emphasis on partnerships for sustainable development	4		
	<b>Total</b>	<b>32</b>	<b>10</b>	
<p><b>Evaluation criteria</b></p> <p>Students are strongly encouraged to read various journal articles and discuss and debate cases from different sectors. The score on class participation is based on students' attentiveness, preparation and participation. Term paper allows the students to carry out research in an ecological context of their choice. Alternatively, they can also analyze the policies in a particular sector. Minor test is oriented towards examining the students' grasp of some of the essential concepts. Final exam is issue based and students are given readings a week prior to the exam so that they can adequately explore the issues and challenges.</p> <ul style="list-style-type: none"> <li>▪ Class preparation and participation: 10%</li> <li>▪ Term paper: 40%</li> <li>▪ One minor test: 10%</li> <li>▪ Final Exam: 40%</li> </ul>				
<p><b>Learning outcomes</b></p> <ul style="list-style-type: none"> <li>• Students will gain an overview of key concepts, theories and analytical frameworks related to natural resource governance.</li> <li>• They will be able to critically evaluate governance approaches in different ecological contexts from a variety of perspectives.</li> <li>• They will be able to explain the relevance of various models of governance to particular issues in different cases</li> <li>• They will be able to carry out interdisciplinary research and evaluate various natural resource based interventions for its social, institutional, ecological and economic outcomes.</li> </ul>				
<p><b>Pedagogical approach</b></p> <p>The course will be delivered through a mix of lectures, class discussions, case studies and documentaries highlighting the environmental challenges and evidences thereof.</p>				
<p><b>Materials</b></p> <p>Required text</p> <p>Suggested readings</p>				

### **Module 1**

1. North D.C. (1990) *Institutions, institutional change and economic performance*, Cambridge University Press.
2. Ostrom E. (1990) *Governing the commons, The evolution of institutions for collective Action*, Cambridge University Press, Cambridge.
3. Menzein-Dick R. and Nkonya L. (2005) *Understanding Legal Pluralism in Water Rights- lessons from Africa and Asia, International workshop on 'African Water Laws: Plural Legislative Frameworks for Rural Water Management in Africa'*, 26-28 January 2005, Johannesburg, South Africa
4. Arrow et al. (1996) Economic Growth, Carrying Capacity and the Environment, *Ecological Applications*, 6(1), pp 13-15.
5. Rees W. and Wackernagel M. (1996) Urban Ecological Footprints: Why Cities Cannot be Sustainable-and Why They are a Key to Sustainability, *Environ Impact Assess Rev*, 16, pp-223-248
6. Moffatt I. (2000) Ecological Footprints and Sustainable Development, *Ecological Economics*, 32, pp-359-362
7. Holling C.S. (1973) Resilience and Stability of Ecological Systems, *Annual Review of Ecology and Systematics*, 4, pp- 1-23
8. Folke C. et al. (2002) *Resilience and Sustainable Development- Building Adaptive Capacity in a World of Transformation*, Scientific Background Paper on Resilience for the World Summit on Sustainable Development on behalf of The Environmental Advisory Council to the Swedish Government
9. World Commission on Environment and Development (1987) *Our Common Future* (The Brundtland Report), Oxford University Press, Oxford.
10. Schlager E. and Ostrom E (1992) Property Rights Regimes and Natural Resources: A Conceptual Analysis, *Land Economics*, 68(3), pp-249-262.
11. Hanna S. and Munasinghe M. (1995) *Property Rights and the Environment-Social and Ecological Issues*, Beijer International Institute of Ecological Economics and The World Bank.
12. Demsetz H. (1967) Toward a Theory of Property Rights, *The American Economic Review*, 57(2), pp- 347-359
13. Dahlman C.J. (1979) The Problem of Externality, *The Journal of Economics*, 22(1), pp- 141-162.
14. Sessions R. (1991) Deep Ecology versus Ecofeminism: Healthy Differences or Incompatible Philosophies?, *Hypatia*, 6(1), pp-90-107.
15. Newell, P. (2008) The Political Economy of Global Environmental Governance, *Review of International Studies*, 34, pp-507-529.
16. Robbins P. (2000) The Practical Politics of Knowing: State Environmental Knowledge and Local Political Economy, *Economic Geography*, 76(2), pp-126-144.

### **Module 2**

1. Wade R. (1988) The Management of Irrigation Systems: How to Evoke Trust and Avoid Prisoners' Dilemma, *World Development*, 16(4), 489-500.
2. Paul S. (1992) Accountability in Public Services: Exit, Voice and Control, *World Development*, 20(7), 1047-1060.
3. World Bank (2003) *Reforming Public Institutions and Strengthening Governance*, A World Bank Strategy Implementation Update.
4. Korten D.C. (1989) From Bureaucratic to Strategic Organisation, In: Frances C Korten and Robert Y Siy, Jr. edited *Transforming a Bureaucracy*.

5. Kumar S. and Kant S. (2005) Bureaucracy and New Management Paradigms: Modeling Foresters' Perceptions regarding Community-based Forest Management in India, *Forest Policy and Economics*, 7, pp- 651- 669.
6. Holling C.S. and Meffe G.K. (1996) Command and Control and the Pathology of Natural Resource Management, *Conservation Biology*, 10(2), pp 328-337.

### Module 3

1. Jeffrey R and Sundar N. (eds.) (1999) *A New Moral Economy for India's Forests? Discourses of Community and Participation*, Sage Publications, New Delhi.
2. Poffenberger M and Singh C. (1996) Communities and the State: Re-establishing the Balance in Indian Forest Policy, in M.Poffenberger and B McGean, eds. *Village Voices, Forest Choices: Joint Forest Management in India*, Delhi: Oxford University Press.
3. Poffenberger M. (1990) Facilitating Change in Forest Bureaucracies in M. Poffenberger, ed. *Keepers of the Forest*, West Hartford, C.T: Kumarian Press.
4. Agrawal A. and Ostrom E. (2001) Collective Action, Property Rights and Decentralization in Resource Use in India and Nepal, *Politics and Society*, 29(4), pp- 485-514.
5. Somanathan E. et al. (2009) Decentralization for Cost-Effective Conservation, [www.pnas.org/cgi/doi/10.1073/pnas.0810049106](http://www.pnas.org/cgi/doi/10.1073/pnas.0810049106).

### Module 4

1. Wade R. (1988) *Village Republics*, Cambridge: Cambridge University Press.
2. Agrawal A. (2001) Common Property Institutions and Sustainable Governance of Resources, *World Development*, 29(10), 1649-1672.
3. Agrawal A and Gibson C.C. (1999) Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation, *World Development*, 27(4), 629-649.
4. Schlager E. and Ostrom E. (1992) Property Rights Regimes and Natural Resources: A Conceptual Analysis, *Land Economics*, 68(3), pp-249-262.
5. Hardin G. (1968) Tragedy of Commons, *Science*, 162, pp-1243-1248.
6. Ostrom E (1999) Coping with Tragedies of the Commons, *Workshop in Political Theory and Policy Analysis*, Bloomington, Indiana.
7. Ostrom E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*, New York, Cambridge University Press.
8. Agarwal B. (2001) Participatory Exclusions, Community Forestry and Gender: An Analysis for South Asia and a Conceptual Framework, *World Development*, 29(10), pp-1623-1648.
9. Somanathan E. et al (2002) Collective Action for Forest Conservation: Does Heterogeneity Matter?
10. Ballabh V., Balooni K. and Dave S. (2002) Why Local Resource Management Resources Decline: A Comparative Analysis of Van (Forest) Panchayats and Forest Protection Committees in India, *World Development*, 30(12), pp-2153-2167.

### Module 5

1. Moore M. (1989) The fruits and Fallacies of Neo-liberalism: The Case of Irrigation Policy, *World Development*, 17(11), 1733-1750
2. Bauer C.J. (1997) Bringing Water Markets Down to Earth: The Political Economy of Water Rights in Chile, 1976-95, *World Development*, 25(5), 639-656.

3. Jack B.K., Kousky C. and Sims K.R.E. (2008) Designing Payments for Ecosystem Services: Lessons from Previous Experience with Incentive based Mechanisms, *PNAS*, 105(28), pp- 9465-9470.

### **Module 6**

1. Shashidharan E.M. (2000) Civil Society Organizations and Irrigation Management in Gujarat, India, In *Water for Food and Rural Development, Approaches and Initiatives in South Asia*, ed. P.P. Mollinga, pp. 247-265, New Delhi, Sage Publications.
2. Blair H. (2000) Participation and Accountability at the Periphery: Democracy and Local Governance in Six Countries, *World Development*, 28(1), 21-39.
3. Korten D. (1987) Third Generation NGO Strategies: A Key to People-Centered Development, *World Development*, 15(1), pp-145-159.
4. Marcussen H.S. (1996) NGOs, the State and Civil Society, *Review of African Political Economy*, 23(69), pp-405-423.
5. Veron R. (2001) The "New" Kerala Model: Lessons for Sustainable Development, *World Development*, 29(4), pp-601-617.

### **Additional Readings (for those interested)**

### **Module 1**

1. Folke C and Berkes F. (1995) Mechanisms that Link Property Rights to Ecological Systems, In Susan Hanna and Mohan Munasinghe eds. *Property Rights and the Environment, Social and Ecological Issues*, The Beijer Institute of Ecological Economics and the World Bank.
2. Bac M. ( ) Property Rights Regimes and the Management of Resources, *Natural Resources Forum*, 22(4), 263-269
3. Merry S.E. (1998) Legal Pluralism. *Law and Society Review*, 22(5), 869-896.
4. Shah T. (2005) The New Institutional Economics of India's Water Policy, International Workshop on 'African Water Laws: Plural Legislative Frameworks for Rural Water Management in Africa', 26-28 January, Johannesburg, South Africa.
5. Jayal N.G. (1997) The Governance Agenda: Making Democratic Development Dispensable, *Economic and Political Weekly*, 38(8), pp-407-412.
6. Rhodes R. A.W. (1996) The New Governance: Governing without Government, *Political Studies*, XLIV, pp-652-667.
7. Goodland R. (1995) The Concept of Environmental Sustainability, *Annual Review of Ecology and Systematics*, 26, pp-1-24.
8. Heinzerling L. (2000) Pragmatists and Environmentalists, *Harvard Law Review*, 113(6), pp-1421-1447.
9. Bates R. and Devarajan S. ( ) Framework Paper on Political Economy of African Growth, Harvard University and The World Bank.

### **Module 3**

1. Esman M.J. and Uphoff N.T. (1984) Local Organisations as Intermediaries, Chapter 1 in *Local Organisations, Intermediaries in Rural Development*, Cornell University Press, Ithaca, pp. 15-41.
2. Mollinga P.P. (2001) Power in Motion: A Critical Assessment of Canal Irrigation Reform, with a Focus on India, Indian PIM working paper No. 1.

3. Guha S. (1999) *Communities, Kings and Woodlands: Historical Reflections on Joint Forest Management*, pp. 55-70, in Jeffrey R. and Sundar N.(eds.) (1999) *A New Moral Economy for India's Forests? Discourses of Community and Participation*, Sage Publications, New Delhi.
4. Vira B. (1999) *Implementing Joint Forest Management in the Field: Towards an Understanding of the Community-bureaucracy Interface*, pp. 254-275, in Jeffrey R and Sundar N. (eds.) *A New Moral Economy for India's Forests? Discourses of Community and Participation*, Sage Publications, New Delhi.

#### **Module 4**

1. Meinzen-Dick R. (1996) *Policy Trends in Farmer Participation*, Paper presented at Workshop on Institutional Reform in Indian Irrigation, National Council of Applied Economic Research, New Delhi, November 6.
2. Shah A. (2003) *Women, Water, Irrigation, Respecting Women's Priorities*, *Economic and Political Weekly*, October 26, 4413-4420.
3. Van K.B. (2001) *Gender in Integrated Water Management: An Analysis of Variation*, *Natural Resources Forum*, 25, 299-312.
4. Locke C. (1999) *Women's Representation and Roles in 'Gender' Policy in Joint Forest Management*, pp. 235-253, in Jeffrey R and Sunder N. (eds.) *A New Moral Economy for India's Forests? Discourses of Community and Participation*, Sage Publications, New Delhi.
5. Kumar S. (2002) *Does "Participation" in Common Pool Resource Management Help the Poor? A Social Cost-benefit Analysis of Joint Forest Management in Jharkhand, India*, *World Development*, 30(5), 763-782.
6. Feeny D et al. (1990) *The Tragedy of the Commons, Twenty Two Years Later*, *Human Ecology*, 18(1), pp-1-19.
7. Ostrom E. et al. (eds) (2002) *The Drama of the Commons*, National Academy Press, Washington DC, USA.
8. Ostrom E. (1992) *Crafting Institutions for Self-Governing Irrigation Systems*, San Francisco, CA: ICS.
9. Kumar S. (2002) *Does "Participation" in Common Pool Resource Management Help the Poor? A Social Cost-benefit Analysis of Joint Forest Management in Jharkhand, India*, *World Development*, 30(5), pp-763-782.

The reading list is suggestive. Important readings will be circulated. Students are actively encouraged to regularly browse through journals such as *World Development*, *Public Administration Review*, *The Economic and Political Weekly*, and *Natural Resources Forum*

Case studies

Websites

Journals

1. Natural Resources Forum
2. Public Administration Review
3. The Economic and Political Weekly
4. World Development

**Additional information (if any)**

<b>Student responsibilities</b>
Attendance, feedback, discipline, guest faculty etc