

A Brief Bibliographical Survey on

**Common Property Resources
and
Community Management of Natural Resources**

December 2002

**Gopal K. Kadekodi
and
Seema S. Hegde**

**Centre for Multi-disciplinary Development Research (CMDR)
D. B. Rodda Road, Jubilee Circle
Dharwad – 580 001
Karnataka State, India**

**E-mail: kadekodi_gk@hotmail.com
cmdr@sancharnet.in**

**This work was commissioned by
South Asian Network for Development and Environmental Economics (SANDEE)
P. O. Box 8975, EPC 1056
Bakhundole, Lalitpur
Kathma
ndu, Nepal**

**Tel: 977 -1- 528761, 528781
Fax: 977 -1- 536786
E-mail: info@sandeeonline.org
Web: www.sandeeonline.org**

Table of Contents

Part A. Common Property Resources

1. Classical Literature (1980 and Before)
2. Recent Literature (After 1980)
3. More Recent Literature (After 1995)

4. Common Property Resources and Poverty
5. Common Property Resources and Economic Development
6. Common Property Resources and their Management

7. Case Studies on Common Property Resources

Part B. Community Management of Natural Resources

1. Community Management of Natural Resources – General

2. Community Management of Forest Resources - General
3. Community Management of Forest Resources – Region Specific
 - 3.1 *Forest Resources in India*
 - 3.2 *Forest Resources in Nepal*
 - 3.3 *Forest Resources in Africa*
 - 3.4 *Forest Resources in Other Countries*
4. Joint Forest Management
5. Community Management of Protected Areas
6. Community Management of National Parks
7. Community Management of Wildlife

8. Community Management of Fisheries – General
9. Community Management of Fisheries – Region Specific
 - 9.1 *Community Management of Fisheries in Asian Region*
 - 9.2 *Community Management of Fisheries in Non-Asian Region*

10. Community Management of Water Resources
 - 10.1 *Community Management of Water*
 - 10.2 *Community Management of Watershed*
 - 10.3 *Community Management of Irrigation*

11. Community Management of Land Resources
 - 11.1 *Community Management of Land*
 - 11.2 *Community Management of Wetland*

Part A. Common Property Resources

1. Classical Literature (1980 and Before)

1. Anderson, Jay M. (1977): "A Model of the Commons", in Hardin, G J. Baden (Eds.): *Managing the Commons*, W. H. Freeman, San Francisco.
2. Beres, L. R. (1973): "Bipolarity, multipolarity and tragedy of the commons", *Western Political Quarterly*, 26: 649-658.
3. Ciriacy-Wanthrop, S. V. and Bishop, R. C. (1975): "Commonproperty as a concept in natural resource policy ", *Natural Resources Journal*, 15: 713-727.
4. Crowe, Beryl L. (1969): "The tragedy of the commons revisited", *Science*, 166: 1103-1107.
5. Edney, Julian J. and Christopher S. Harper (1978): "The commons dilemma: a review of contributions from psychology", *Environmental Management*, 2: 491-507.
6. Godwin, R. Kenneth, and W. Bruce Shepard (1977): "Population issues and commons dilemmas", *Policy Studies Journal*, 6: 231-238.
7. Hardin, G. (1968): "The tragedy of commons", *Science*, 162: 1243-1248.
8. Hardin, Garrett and John Baden (Eds.) (1977): *Managing the Commons*, W. H. Freeman, San Francisco.
9. Horsfall, J. G. (1972): "Agricultural strategy in the tragedy of the commons", *Agricultural Science Review*, 10: 17-22.
10. Ostrom, Elinor (1977): "Collective Action and the Tragedy of the Commons", in Hardin, G. and J. Baden (Eds.): *Managing the Commons*, W. H. Freeman, San Francisco.
11. Stillman, Peter G. (1975): "The tragedy of the commons: a re-analysis", *Alternatives*, 4: 12-15.
12. Wilson, James A. (1977): "A Test of the Tragedy of the Commons", in Hardin, G. and J. Baden (Eds.): *Managing the Commons*, W. H. Freeman, San Francisco.

2. Recent Literature (1980 - 1995)

1. Andelson, Robert V. (1991): "Commons Without Tragedy: The Congruence of Garrett Hardin and Henry George", in Andelson, R. V. (Ed.): *Commons Without Tragedy: The Social Ecology of Land Tenure and Democracy*, Centre for Incentive Taxation, London.
2. Andelson, Robert V. (Ed.) (1991): *Commons Without Tragedy: The Social Ecology of Land Tenure and Democracy*, Center for Incentive Taxation, London.
3. Anderson, Eugene N. (1987): "A Malaysian Tragedy of the Commons" in McCay, B. J. and J. M. Acheson (Eds.): *The Question of the Commons: The Culture and Ecology of Communal Resources*, University of Arizona Press, Tucson, AZ.
4. Anderson, E. N. and Brian R. Warren (1998): "Reevaluating the tragedy of the commons", *Conservation Biology*, 12: 1168-ff.
5. Bauer, Carl J. (1983): "A tragedy of the commons?", *Free Market Magazine*, 3: 18-22.
6. Bell, Frederick W. (1986): "Mitigating the tragedy of the commons", *Southern Economic Journal*, 52: 653-664.
7. Box, T. W. (1995): "A viewpoint: range managers and the tragedy of the commons", *Rangelands*, 17: 83-84.
8. Chakravarty-Kaul, Minoti (1992): "Legal Traditions and Inequality: Customs, Law, and the Commons", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.
9. Chambers, Alan (1991): "The Paradox of the Commons", presented at the second annual conference of the International Association for the Study of Common Property (IASCP), Winnipeg, Manitoba, September 26-29.
10. Chopra, K. and G. K. Kadekodi (1991): "Participatory institutions: the context of common and private property resources", *Environmental and Resource Economics*, 1: 353-372.
11. Conybeare, John A. C., and Todd Sandler (1993): "State-Sponsored Violence as a Tragedy of the Commons: England's Privateering Wars with France and Spain, 1625-1630", *Public Choice*, 77: 879-897.
12. Cornes, Richard, and Todd Sandler (1983): "On commons and tragedies", *American Economic Review*, 83: 787-792.

13. Cox, Susan J. B. (1985): "No tragedy on the commons", *Environmental Ethics*, 7: 49-61.
14. Dahlman, C. J. (1991): "The tragedy of the commons that wasn't; on technical solutions to the institutions game", *Population and Environment*, 12: 285-296.
15. Damodaran, A. (1991): "Tragedy of the commons and comedy of common property resources", *Economic and Political Weekly*, 26(38): 2213-2215.
16. Dutta, Prajit K. and Rangarajan K. Sundaram (1993): "The tragedy of the commons?" *Economic Theory*, 3: 413-426.
17. Edney, Julian J. (1981): "Paradoxes on the commons: scarcity and the problem of inequality", *Journal of Community Psychology*, 9: 3-34.
18. Goldman, Michael (1990): "The Tragedy of the Commons or the Commoner's Tragedy? Toward Understanding Ecological Crisis in India", presented at "Designing Sustainability on the Commons", the first annual conference of the International Association for the Study of Common Property (IASCP), Duke University, Durham, NC, September 27-30 and the annual South Asian Conference, Madison, WI.
19. Hardin, Garrett (1991): "The Tragedy of the Unmanaged Commons: Population and the Disguises of Providence", in Andelson, R. V. (Ed.): *Commons Without Tragedy*, Barnes and Noble, Savage, MD.
20. Hardin, Garrett (1994): "The Tragedy of the Unmanaged Commons", *Tree*, 9: 199.
21. Hasegawa, K. (1989): "Commons dilemma and the tragedy of the commons", *Journal of Mathematical Sociology*, 14: 247-261.
22. Jodha, N. S. (1985): "Population growth and decline of common property resources in Rajasthan, India", *Population and Development Review*, 11(2).
23. Jodha, N. S. (1990): "Rural common property resources: contributions and crisis", *Economic and Political Weekly*, 25(26): A65 – A78.
24. Jodha, N. S. (1991): "Rural Common Property Resources: A Growing Crises", Gatekeeper Series no. 24, International Institute for Environment and Development (IIED), London.
25. Jodha, N. S. (1992): "Common Property Resources, a Missing Dimension of Development Strategies", World Bank Discussion Paper no. 169, The World Bank, Washington D. C.

26. Jodha, N. S. (1995): "Common property resources and the environmental context: role of biophysical versus social stresses", *Economic and Political Weekly*, 30(51): 3278-3283.
27. Kerr, Richard A. (1991): "Geothermal tragedy of the commons", *Science*, 253: 134-136.
28. Knudsen, Are J. (1995): "Reinventing the Commons': New Metaphor or New Methodology?", presented at "Reinventing the Commons", the fifth annual conference of the International Association for the Study of Common Property (IASCP), Bodo, Norway, May 24-28.
29. Kramer, Roderick, and Marilyn B. Brewer (1984): "Effects of group identity on resource use in a simulated commons dilemma", *Journal of Personality and Social Psychology*, 46: 1044-1057.
30. Krier, James E. (1992): "The tragedy of the commons, Part II", *Harvard Journal of Law and Public Policy*, 15: 325-347.
31. Leob, R. E. (1987): "The tragedy of the commons: can urban foresters save city parks?", *Journal of Forestry*, 85: 29-33.
32. Levine, Bruce L. (1986): "The tragedy of the commons and the comedy of community: the commons in history", *Journal of Community Psychology*, 14: 81-99.
33. Loeb, R. E. (1987): "The tragedy of the commons: an update", *Journal of Forestry*, 85: 28-33.
34. Lyne, Mike C. and W. L. Nieuwoudt (1990): "The real tragedy of the commons: livestock production in Kwazulu", *South African Journal of Economics*, 58: 88-96.
35. Mac Allister, Jim. (1985): *Is there a 'Solution' to the Tragedy of the Commons?* East Lansing, Department of Sociology, Michigan State University, MI.
36. Mc Cabe, J. Terrence (1990): "Turkana Pastoralism: a case against the tragedy of the commons", *Human Ecology*, 18: 81-103.
37. Mio, Jeffrey S., Suzanne C. Thompson, and Geoffrey H. Givens (1993): "The commons dilemma as metaphor: memory, influence, and implications for environmental conservation", *Metaphor and Symbolic Activity*, 8: 23-42.
38. Rose, Carol M. (1986): "The comedy of the commons: custom, commerce, and inherently public property", *The University of Chicago Law Review*, 53: 711-781.

39. Runge, C. Ford (1985): "The 'Tragedy of the Commons' and Resource Management in Botswana", Paper no. 124, Land Tenure Center, University of Wisconsin, Madison.
40. Shiva, Vandana (1986): "Coming tragedy of the commons", *Economic and Political Weekly*, 21(15): 613-614.
41. Silvestre, Joaquim (1993): "Distributing the Benefits from the Commons", revision of the paper presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.
42. Singh, Katar (1994): *Managing Common Pool Resources: Principles and Case Studies*, Oxford University Press, New Delhi.
43. Skonhoft, Anders (1995): "On the Exploitation of an Unmanaged Local Common; Hardin's Analysis Reconsidered", presented at "Reinventing the Commons," the fifth annual conference of the International Association for the Study of Common Property (IASCP), Bodo, Norway, May 24-28.
44. Soden, Dennis L. (1988): *The Tragedy of the Commons: Twenty Years of Policy Literature: 1968-1988*, Vance Bibliographies, Monticello, IL.

3. More Recent Literature (After 1995)

1. Baden, John A. (1998): "Communitarianism and the Logic of the Commons", in Baden, J. A. and D. S. Noonan (Eds.): *Managing the Commons*, Indiana University Press, Bloomington.
2. Baden, John A., and Douglas S. Noonan (1998): "The Federal Treasury as a Common-Pool Resource: The Predatory Bureaucracy as a Management Tool", in Baden, J. A. and D. S. Noonan (Eds.): *Managing the Commons*, Indiana University Press, Bloomington:
3. Barnes, P. (2001): *Who Owns the Sky? Our Common Assets and the Future of Capitalism*, Island press, Washington.
4. Bollier, D. (2002): "The enclosure of the academic commons", *Academe*, 88(5) <http://www.aaup.org/publications/academe/02so/02sobol.htm>
5. Bousquet, Francois, et al., (1996): "Tragedy of the commons, game theory and spatial simulation of complex systems", *Ecological Economics*, 1(8).
6. Briassoulis, H. (2002): "Sustainable tourism and the question of the commons", *Annals of Tourism Research*, 29(4): 1065-1085.
7. Brook, D. (2001): "The ongoing tragedy of commons", *Social Science Journal*, 38: 611-616.
8. Burke, B. E. (2001): "Hardin revisited: a critical look at perception and the logic of the commons", *Human Ecology*, 29: 449-476.
9. Burger, Joanna, and Michael Gochfeld (1998): "The tragedy of the commons thirty years later", *Environment*, 40: 4-27.

10. Campbell, Bruce, Alois Mandondo, Nontokozi Nemarundwe, Bevelyne Sithole, Wil de Jong, Marty Luckert and Frank Matose (2001): "Challenges to proponents of common property resource systems: despairing voices from the social forests of Zimbabwe", *World Development*, 29(4): 589-600.
Summary: There is a fair degree of misplaced optimism about common property resource (CPR) management. In investigating common property issues for woodlands in communal areas in Zimbabwe, we are struck by the numerous case studies showing a breakdown of local institutions for CPR management, and the lack of any emerging alternative institutions for such management. There are a number of contributing economic, social and ecological factors to this phenomenon. We argue that the formal rule-based systems that form the cornerstones of the proposed CPR systems are far removed from the current institutional systems, rooted in norm-based controls. We suggest that advocacy of CPR systems has to be tempered with critical analysis.
Key words: Southern Africa, Zimbabwe, common property, local institutions, governance, woodlands
11. Carlsson, B. (2001): "The tragedy of the commons: arms race within peer-to-peer tools", *Lecture Notes in Computer Science*, 2203: 119-133.
12. Cavendish, William (1998): "The Complexity of the Commons: Environmental Resource Demands in Rural Zimbabwe", Working Paper no. 8, Centre for the Study of African Economies, Institute of Economics and Statistics, University of Oxford, UK.
13. Clancy, Erin A. (1998): "The tragedy of the global commons", *Indiana Journal of Global Legal Studies*, 5: 601-620.
14. Darch, C. (2001): "'The best ideas are common property': copyright and contract law in a contract law in a changing information environment", *Innovation*, 23: 1-12.
15. Elliott, Herschel (1997): "A general statement of the tragedy of the commons", *Population and Environment*, 18: 515-ff.
16. Feeny, David et al., (1998): "The Tragedy of the Commons: Twenty-Two Years Later", in Baden, J. A. and D. S. Noonan (Eds.): *Managing the Commons*, Indiana University Press, Bloomington.
17. Goldman, Michael (1998): "Inventing the Commons: Theories and Practices of the Commons' Professional", in Goldman, M. (Ed.): *Privatizing Nature: Political Struggles for the Global Commons*, Rutgers University Press, New Brunswick, NJ.

18. Hardin, Garrett (1996): "The Tragedy of the Commons (Excerpt)", in Fischman, R. L., M. I. Lipeles and M. S. Squillace (Eds.): *An Environmental Law Anthology*, Anderson Publishing, Cincinnati.
19. Hardin, Garrett (1998): "Extensions of 'the tragedy of the commons'", *Science*, 280:
20. Hardin, Garrett and Scipio Garling (1998): *The Immigration Dilemma: Avoiding the Tragedy of the Commons*, Federation for American Immigration Reform, Washington, D. C.
21. Hazlett, D. (1997): "A common property experiment with a renewable resource", *Economic Inquiry*, 35: 858-861.
22. Herr, Andrew R. (1996): "Appropriation Externalities in the Commons: Theory and Experimental Evidence", Ph. D. Dissertation, Indiana University, Bloomington.
23. Honneland, G. (1999): "Interaction of research programmes in social science studies of the commons", *Acta Sociologica*, 42: 193-205.
24. Hung, N. M. and Y. Richelle (1997): "Trade gains, paretian transfer and the tragedy of the commons", *Economic Studies Quarterly*, 48: 213-ff.
25. Iyengar, S. (1988): "Common Property Land Resources in Gujarat: Some Findings about their Size, Status, and Use", Working Paper no. 18, Gujarat Institute of Development Research, Ahmedabad, India.
26. Kay, Charles (1997): "The ultimate tragedy of commons", *Conservation Biology*, 11: 1447-ff.
27. Krebs, Christopher P., Brion Sever, and Todd R. Clear (1999): "Disparate sentencing: a tragedy of the commons", *Corrections Management Quarterly*, 3: 60-ff.
28. Mc Carthy, Nancy, E. Sadoulet and Alain de Janvry (2001): "Common pool resource appropriation under costly cooperation", *Journal of Environmental Economics and management*, 42(3): 297-309.
29. Mc Kean, Margaret A. (2000): "Common Property: What is it, What is it Good for, and What Makes it Work?" in Gibson, C., M Mc Kean, and E. Ostrom (Eds.): *People and forests: Communities, institutions and governance*, MIT Press, Cambridge, MA.
30. Moxnes, E. (1998): "Not only the tragedy of the commons: misperceptions of bio economics", *Management Science*, 44: 1234-1248.

31. Ostrom, Elinor (2000): "Reformulating the commons", *Swiss Political Science Review*, 6(1): 29-52.
32. Ostrom, Elinor, et al., (1999): "Revisiting the commons: local lessons, global challenges", *Science*, 284: 278-82.
33. Ostrom, E. et al., (Eds.) (2001): *The Drama of the Commons*, National Academy Press, Washington D. C.
34. Rowe, J. (2001): "The hidden commons", *Yes!*, 18: 12-17.
<http://www.futurenet.org/18commons/rowe.htm>
35. Schlager, E. (2002): "Rationality, cooperation and common pool resources", *American Behavioral Scientist*, 45: 801-819.
36. Sengupta, Nirmal (1997): "Structural Adjustment Programme: Relevant Common Property Issues", in Chadha, G. K. and A. N. Sharma (Eds.): *Growth, Employment and Poverty: Change and Continuity in Rural India*, Vikas Publishing House, New Delhi.
37. Vandermeer, J. (1996): "Tragedy of the commons: the meaning of the metaphor", *Science and Society*, 60: 290-306.
38. Yandle, Bruce (1999): "The commons: tragedy or triumph?", *The Freeman*, 49: 30-ff.

4. Common Property Resources and Poverty

1. Beck, T. and Cathy Nesmith (2001): "Building on poor people's capacities, the case of common property resources in India and West Africa", *World Development*, 29(1): 119-133.
2. Beck, Tony, Ghosh, Madan G. (2000): "Common property resources and the poor: findings from West Bengal", *Economic and Political Weekly*, 35(3): 147-153.
Abstract: This article reports on a seven-village study of common property resources (CPRs) carried out between 1993 and 1996 from across the agro-ecological zones of West Bengal. Among our findings are: CPRs made up about 12 per cent of poor households' income; fuel and fodder were the most important CPRs accessed by the poor; and women and girls are mainly responsible for collection of CPRs, which may be why their importance to the poor is largely ignored. Poor people are being systematically excluded from customary access to CPRs, a key element in their livelihoods, at an alarming rate. The main causes of this exclusion are agricultural intensification, commoditisation of CPRs, environmental degradation and population growth. New forms of 'community' management of environmental resources, which have been promoted by governments and aid donors over the last 10 years, may add to the exclusion of the poor.
3. Jodha, N. S. (1986): "Common property resources and rural poor in dry regions of India", *Economic and Political Weekly*, 21(27): 169-181.
4. Jodha, N. S. (1995): "Common property resources and the dynamics of rural poverty in India's dry regions", *Unasylva*, 46(1): 23-29.
5. Johri, Alok, N. Krishnakumar (1991): "Poverty and common property resources: case study of a rope making industry", *Economic and Political Weekly*, 26(47): 2897-2902
6. Madulu, Ndalawa F. (2002): "Safeguarding the Commons: Conflicts over Natural Resource Use and Poverty Alleviation Strategies in Rural Tanzania", presented at "The Commons in an Age of Globalisation", the ninth annual conference of the International Association for the Study of Common Property (IASCP), Victoria Falls, Zimbabwe, June 17-21.
7. Pasha, Syed Ajmal (1992): "CPRs and rural poor: a micro level analysis", *Economic and Political Weekly*, 27(46): 2499-2503.
8. Singh, Chatrapati (1986): *Common Property and Common Poverty: India's Forests, Forest Dwellers and the Law*, Oxford University Press, New Delhi.
9. Srivastava, H. C. and M. K. Chaturvedi (1989): *Dependency and Common Property Resources of Tribal and Rural Poor*, Commonwealth Publications, New Delhi.

5. Common Property Resources and Economic Development

1. Arnold, J. E. M. (1990): "Common Property Management and Sustainable Development in India", Working Paper no. 9, Forestry for Sustainable Development Program, Department of Forest Resources, University of Minnesota, St. Paul, MN.
2. Barik, B. C. and Pushpesh Kumar (1999): National seminar on 'Common Property Resources and Planned Development in Western India: Challenges and prospects', *Indian Journal of Social Work*, 60(3): 419-426.
3. Berkes, F. (Ed.) (1989): *Common Property Resources: Ecology and Community Based Sustainable Development*, Belhaven Press, London.
4. Erskine, John M. (1993): "Common Property Resources in South Africa's Less Developed Areas: Sustainable Development Issues", presented at "Common Property in Ecosystems under Stress," the fourth annual conference of the International Association for the Study of Common Property (IASCP), Manila, Philippines, June 16-19.
5. Runge, C. F. (1986): "Common property and collective action in economic development", *World Development*, 14(5): 623-36.
6. Tornell, Aaron, and Andres Velasco (1992): "The tragedy of the commons and economic growth: why does capital flow from poor to rich countries", *Journal of Political Economy*, 100: 1208-1231.

6. Common Property Resources and their Management

1. Anderson, C. L., L. Locker and R. Nugent (2002): "Microcredit, social capital, and common pool resources", *World Development*, 30: 95-105.
2. Arnold J. E. M, and W. C. Steward (1991): *Common Property Resource Management*, Tropical Forestry Paper no. 24, Oxford Forestry Institute, University of Oxford, UK.
3. Bardhan, Pranab (1993): "Symposium on management of local commons", *The Journal of Economic Perspectives*, 7(4).
4. Bromely, D. (Ed.) (1992): *Making the Commons Work: Theory, Practice and Policy*, Institute for Contemporary Studies Press, San Francisco, CA.
5. Bromley, D. W. (1992): "The commons, common property and environment policy", *Environmental and Resource Economics*, 2(1): 1-17.
6. Charnley, Susan (1991): "Ethnicity and the Commons: Problems of Rangeland Management in an Inter-Ethnic Context", presented at the second annual conference of the International Association for the Study of Common Property (IASCP), Winnipeg, Manitoba, September 26-29.
7. Chopra, Kanchan, G. K. Kadekodi, and M. N. Murty (1988): "Economic Evaluation of People's Participation in the Management of Common Property Resources", Working Paper no. 3, National Institute of Public Finance and Policy, New Delhi, India.
8. Chopra, Kanchan, Gopal K. Kadekodi, M. N. Murty (1989): "People's participation and common property resources", *Economic and Political Weekly*, 24(51-52): A189-195.
9. Chopra, K., Gopal K. Kadekodi and M. N. Murty (1990): *Participatory Development: People and common property resources*, Sage Publications, New Delhi.
10. Dadibhavi, R. V. (2000): "Management of common property resources: a review and some policy issues", *Journal of Rural Development*, 19(2): 199-217.
11. Dana, David (1997): "Overcoming the political tragedy of the commons: lessons learned from the reauthorization of the Magnuson Act", *Ecology Law Quarterly*, 24: 833-ff.

12. Feeny, David (1994): "Frameworks for Understanding Resource Management on the Commons", in Pomeroy, R. S. (Ed.): *Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences*, International Center for Living Aquatic Resources Management (ICLARM), Manila, Philippines.
13. Fernandez, G. M. E. (2002): "Protecting the commons: a framework for resource management in the Americas", *Ecological Engineering*, 19: 83-ff.
14. Gaudet, G., M. Moreaux and S. W. Salant (2002): "Private storage of common property", *Journal of Environmental Economics and Management*, 43: 280-302.
15. Heltberg, Rasmus (2001): "Determinants and impact of local institutions for common resource management", *Environment and Development Economics*, 6: 183-208.
Abstract: In this article, local institutions for forest conservation and management are analysed. The discussion is based on data from 37 villages and 180 households randomly sampled from a protected area in Rajasthan, India. Local management institutions are described, factors affecting inter-village differences in management institutions and collective action are analysed in a logit model, and the impact of institutions and other variables on common resource dependency and forest outcomes is tested using instrumental variable regression. Village population size has a positive effect and prior institutional experience a negative effect on the probability of collective action. It is concluded that efforts at improving forest management should not be confined to the poorest farmers. Large landowners are heavily involved in degrading use practices, especially when resources have good market potential. Local management institutions play a positive role in the area, but their impact appears insufficient to safeguard forests and commons from continued degradation. Conservation policies should target win-win options through interventions aimed at improving technologies for private and common lands as well as institutional changes.
16. Hopa, Ngapare, and Angela Cheater (1996): "Trusteeship and Maori Commons", presented at "Voices from the Commons", the sixth annual conference of the International Association for the Study of Common Property (IASCP), Berkeley, CA, June 5-8.
17. Jodha, N. S. (1994): "Management of common property resources in selected dry areas of India", in Kerr, John et al., op cit, pp. 339-361.
18. Jodha, Narpat, and Anupam Bhatia (1998): "Community Management of the Commons: Re-empowerment Process and the Gaps", presented at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14, 1998.

19. Joshi, Yogesh C. (1995): "Management of Commons in Arid Areas of India and Role of Local Government", presented at "Reinventing the Commons", the fifth annual conference of the International Association for the Study of Common Property (IASCP), Bodo, Norway, May 24-28.
20. Kadekodi, Gopal K. (1998): "Common pool resources: an institutional movement from open access to common property resources", *Energy Resources*, 20: 317-332.
21. Kadekodi, Gopal K. (2002): "Common Property Resource Management: Reflections on Theory and Indian Experience", Monograph, Centre for Multi-disciplinary Development Research (CMDR), Dharwad, India.
22. Karanth, G. K. (1992): "Privatisation of common property resources: lessons from rural Karnataka", *Economic and Political Weekly*, 27(31-32): 1680-1688.
23. Kissling-Naf, I., T. Volken and K. Bisang (2002): "Common property an natural in the Alps: the decay of management structures", *Forest Policy and Economics*, 4: 135-147.
24. Mc Kean, M. A. (1992): "Success on the commons: a comparative examination of institutions for common property resource management", *Journal of Theoretical Politics*, 43: 247-281.
25. Mirovitskaya, Natalia, and Marvin S. Soroos (1995): "Socialism and the tragedy of the commons: reflections on environmental practice in the Soviet Union and Russia", *Journal of Environment & Development* 4: 77-110.
26. Mishra, V. K. (1992): "The Tree Growers' Co-operatives and the Village Commons", in Singh, K. and V. Ballabh (Eds.): *Workshop on Co-operatives in Natural Resources Management*, Institute of Rural Management, Anand, India, (Symposium on Management of Rural Cooperatives, Institute of Rural Management, Anand, India, December 7-11).
27. Murthy, M. N. (1994): "Management of common property resources: limits to voluntary collective action", *Environmental and Resource Economics*, 4: 581-594.
28. Ostrom, Elinor (1990): *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, Cambridge.
29. Ostrom, Elinor (1994): *Neither market nor state: Governance of common-pool resources in the twenty-first century*, International Food Policy Research Institute, Washington, D. C.
30. Ostrom, Elinor (1998): "How Communities Beat the Tragedy of the Commons", presented at the International Workshop on Community Based Natural Resource Management, The World Bank, Washington, D. C., May 10-14.

31. Ostrom, Elinor (1998): "Reformulating the Commons", paper presented at the fifth Biennial Conference of the International Society for Ecological Economics (ISEE), Santiago, Chile, November 15-19.
32. Ostrom, Elinor (1999): "Coping with tragedies of the commons", *Annual Review of Political Science*, 2.
33. Ostrom, Elinor (2000): "Collective action and the evolution of social norms", *Journal of Economic Perspectives*, 14(3): 137-158.
34. Roemer, John E. (1989): "A public ownership resolution of the tragedy of the commons", *Social Philosophy and Policy*, 6: 74-92.
35. Seabright, P. (1993): "Managing local commons: theoretical issues in incentive design", *Journal of Economic Perspectives*, 7(4): 113-134.
36. Sengupta, Nirmal (2001): *New institutional theory of production*, Sage Publications, New Delhi.
37. Shah, S. A. (1992): "Participatory Management of Common Property Resources", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 18-20.
38. Simmons, Randy T. (1997): "Law, custom and the commons", *The Freeman*, 47: 67-70.
39. Simmons, Randy T., Fred L. Smith, and Paul Georgia (1996): "The Tragedy of the Commons Revisited: Politics Vs Private Property", Center for Private Conservation, Competitive Enterprise Institute, Washington, D. C.
40. Singh, Katar (1991): "People's Participation in Managing Common Pool Natural Resources: Lessons of Success in India", presented at the second annual conference of the International Association for the Study of Common Property (IASCP), Winnipeg, Manitoba, September 26-30.
41. Somma, Mark (1994): "Ideology and Local Solutions to the Tragedy of the Commons: West Texas Groundwater Policy", presented at the 1994 annual meeting of the Southwest Political Science Association, San Antonio, Texas, March 31-April 2.
42. Steins, N. A. and V. M. Edwards (1999): "Collective action in common pool management: The contribution of a social constructivist perspective to existing theory", *Society and Natural Resources*, 12: 539-557.

43. Wade, R. (1987): "The management of common property resources: collective action as an alternative to privatisation or state regulation", *Cambridge Journal of Economics*, 11(2).
44. Wade, Robert (1987): "The management of common property resources : finding a cooperative solution", *Research Observer*, 2(2): 219-234.
45. Warren, L. M. (2001): "Protecting the global commons", *Forum for Applied Research and Public Policy*, 16: 6-13.

7. Case Studies on Common Property Resources

1. Babu P. V. and Subhash Chandra (1998): "Common Property Resource Management in Haryana State, India: Analysis of the Impact of Participation in the Management of Common Property Resources and the Relative Effectiveness of Common Property Regimes", presented at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14.
2. Babu, P. V., Subhash Chandra, and J. B. Dent (1996): "Common Property Resource Management in Haryana State, India: A Success Story of the Rehabilitation of Degraded Village Common Lands", presented at "Voices from the Commons", the sixth annual conference of the International Association for the Study of Common Property (IASCP), Berkeley, CA, June 5-8.
3. Bon, Emmanuel (2000): "Common property resources: Two case studies", *Economic and Political Weekly*, 35(28-29): 2569-2573.
4. Chakravaty-Kaul, Minoti (1999): "Market success or community failure?: common property resources in colonial north India and a case illustration from a cluster", *Indian Economic and Social History Review*, 36(3): 355-387.
5. Tietzel, M. (2001): "In praise of the commons: another case study", *European Journal of Law and Economics*, 12: 159-172.

Part B. Community Management of Natural Resources

1. Community Management of Natural Resources - General

1. Agarwal, A. (1997): "Community in Conservation: Beyond Enchantment and Disenchantment", Working Paper no. 1, Conservation and development Forum, University of Florida, Gainesville.
2. Agarwal, A. and C. Gibson (1999): "Enchantment and disenchantment: the role of community in natural resources management", *World Development*, 27(4): 629-649.
3. Arnesen, Odd Eirik (Ed.) (2000): "Partners in Conservation? Participation in Natural Resource Management", Report no. 2, Norwegian Institute for Urban and Regional Research (NIBR), Oslo.
4. Arnesen, Odd Eirik, and Caroline Rusten Rugumayo (2000): "Participation in Natural Resource Management: A Review", in Arnesen, O. E. (Ed.): *Partners in Conservation? Participation in Natural Resource Management*, Report no. 2, Norwegian Institute for Urban and Regional Research (NIBR), Oslo.
5. Bonifacio, Manuel F. (1993): "Perspective and Experiences in Community Based Resource Management", in Fellizar, F. P. (Ed.): *Community Based Resource Management: Perspectives, Experiences and Policy Issues*, Report no. 6, Environment and Resource Management Project (ERMP), Laguna, Philippines.
6. Bromley, D. W. and Cernea, M. M. (1989): *The Management of Common Property Natural Resources: Some Conceptual and Operational Fallacies*, The World Bank, Washington, D. C.
7. Christie, Patrick et al., (2000): *Taking Care of What We Have: Participatory Natural Resource Management on the Caribbean Coast of Nicaragua*, International Development Research Centre, Ottawa.
8. Drucker, David, (Ed.) (1986): "Community participation: now you see it, now you don't," *UNICEF News*, 124, United Nations Children's Fund, New York.
9. Edmonds, E. (2000): "Building Institutions to Manage Local Resources: an Empirical Investigation", Mimeo, Department of Economics, Dartmouth College.
10. Hughes, David Mc Dermott (2001): "Cadastral politics: the making of community based resource management in Zimbabwe and Mozambique", *Development and Change*, 32(4): 741-68.
Abstract: Projects promoting community based management of natural resources frequently encourage local smallholders to share flora, fauna, or land forms with state agencies and/or private companies. Ideals of common property and moral

economy have inspired this agenda and helped spread it globally. In Southern Africa, however, the general model of shared landscapes has collided with a bitter history of white colonization and land grabbing. This article recounts the rise and fall of one CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) project in eastern Zimbabwe. There, cadastral politics--struggles over the bounding and control of land--overwhelmed negotiations for joint management and eco-tourism. Across the border, in Mozambique, community based resource management has engaged with cadastral politics in a more fruitful fashion. In the midst of latter-day Afrikaner colonization, this project mapped smallholders' claims to land. Thus, the Zimbabwean project ignored territorial conflict and ultimately succumbed to it. The Mozambican project jumped into the fray, with some success. On past or current settler frontiers, community based management may learn from this lesson: dispense with an ideology of sharing and join the rough-and-tumble of cadastral politics.

11. Infield, M. and W. Adams (1999): "Institutional sustainability and community conservation: a case study from Uganda", *Journal of International Development*, 11: 305-315.
12. Kellert, Stephen R. Jai N. Mehta, Syma A. Ebbin and Laly L. Lichienfeld (2000): "Community natural resource management: promise, rhetoric and reality", *Society and Natural Resources*, 13: 705-715
Abstract: Community natural resource management (CNRM) has been extensively promoted in recent years as an approach for pursuing biological conservation and socioeconomic objectives. The rationale for CNRM is often compelling and convincing. Relatively little data exists, however, regarding its implementation, particularly the reconciliation of social and environmental goals. This article summarizes empirical evidence regarding the implementation of CNRM, based on five case studies in Nepal, the U.S. states of Alaska and Washington, and Kenya. Six social and environmental indicators are used to evaluate and compare these cases, including equity, empowerment, conflict resolution, knowledge and awareness, biodiversity protection, and sustain-able resource utilization. The results of this analysis indicate that, despite sincere attempts and some success, serious deficiencies are widely evident. In especially Nepal and Kenya, CNRM rarely resulted in more equitable distribution of power and economic benefits, reduced conflict, increased consideration of traditional or modern environmental knowledge, protection of biological diversity, or sustainable resource use. By contrast, CNRM in the North American cases was more successful. Institutional, environmental, and organizational factors help explain the observed differences.
Keywords: biodiversity, community resource management, Kenya, Nepal, sustainability, USA
13. Knudsen, Are J. (1995): "Living with the Commons: Local Institutions for Natural Resource Management", Report no. 2, Chr. Michelsen Institute (CMI), Development and Human Rights Studies, Bergen, Norway.

14. Korten, F. F. (Ed.) (1985): *Community Management: Asian Experience and Perspectives*, Kumarian press, Connecticut.
15. Kothari, A., Neema Pathak, R. V. Anuradha, and Bansuri Taneja (Eds.) (1998): *Communities and Conservation: Natural Resource Management in South and Central Asia*, UNESCO and Sage Publications, New Delhi.
16. Kull, Christian A. (2002): "Empowering pyromaniacs in Madagascar: ideology and legitimacy in community based natural resource management", *Development and Change*, 33(1): 57-78.
Abstract: Development practitioners frequently rely on community based natural resource management (CBNRM) as an approach to encourage equitable and sustainable environmental resource use. Based on an analysis of the case of grassland and woodland burning in highland Madagascar, this article argues that the success of CBNRM depends upon the real empowerment of local resource users and attention to legitimacy in local institutions. Two key factors--obstructive environmental ideologies ("received wisdoms") and the complex political and social arena of "community" governance--challenge empowerment and legitimacy and can transform outcomes. In Madagascar, persistent hesitancy among leaders over the legitimate role of fire has sidetracked a new CBNRM policy called GELOSE away from one of its original purposes--community fire management--towards other applications, such as community management of forest exploitation. In addition, complications with local governance frustrate implementation efforts. As a result, a century-long political stalemate over fire continues.
17. Kumagwelo, Guilhermina (2000): "Strengths and Weaknesses of Local Institutions for Natural Resource Management: the Case Study of Goba", presented at "Constituting the Commons: Crafting Sustainable Commons in the New Millennium", the eight annual conference of the International Association for the Study of Common Property (IASCP), Bloomington, Indiana, USA, May 31-June 4.
18. Lindsay, J. M. (1998): "Designing Legal Space: Law as an Enabling Tool in Community Based Management", presented at International Workshop on Community Based Natural Resource Management, The World Bank, Washington, D. C., May 10-14.
19. Marcussen, Henrik Secher (Ed.) (1993): "Institutional Issues in Natural Resources Management", papers from the Researcher Training Course held at Hotel Strandparken, Holbaek, November 16-20, 1992.
20. Meinzen-Dick, R. A. Knox, F. Place and B. Swallow (Eds.) (2002): *Innovation in Natural Resource Management: the Role of Property Rights and Collective Action in Developing Countries*, John Hopkins UP, Baltimore MD.

21. Mishra, G. P. and B. K. Bajpai (Eds.) (2001): *Community Participation in Natural Resource Management*, Rawat Publications, Jaipur and New Delhi.

22. Murombedzi, James C. (1999): "Devolution and stewardship in Zimbabwe's CAMPFIRE programme", *Journal of International Development*, 11: 287-293.
Abstract: Zimbabwe's CAMPFIRE programme is widely regarded as one of Africa's most successful contemporary conservation initiatives. It permits the residents of communal lands-basically poor, black people-to share in the benefits generated by wildlife utilization on those lands. Despite its achievements the programme still faces fundamental challenges. In particular the development strategies of households in CAMPFIRE areas are focusing on land uses that are incompatible with wildlife -population in-migration, the extension of cropping and increased livestock numbers. To a significant degree these problems arise because CAMPFIRE has only been able to devolve authority over natural resources from the central government to rural district councils. If the programme is to be effective then a further devolution of authority is required so that producer communities, those who live directly beside wildlife, are given full control of the natural resources on their lands.

23. Plas, Jeanne M. (1996): *Person-Centered Leadership: An American Approach to Participatory Management*, Sage Publications, California.

24. Raju, G. (1992): "Joint Management Strategies: Showing Seeds of Hope in the Commons", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.

25. Rathore, B. M. S. (1997): "New Partnerships for Conservation", presented at the South and Central Asian Regional Workshop on Community Based Conservation, Policy and Practice, Indian Institute of Public Administration, New Delhi, February 9-11.

26. Rupasingha, Anil Y. H. (1997): "Community Participation in Managing Natural Resources", Ph. D. dissertation , A & M University, Texas.

27. Rupasingha, Anil, Boadu, Fred O. (1998): "Evolutionary theories and the community management of local commons: a survey", *Review of Agricultural Economics*, 20(2): 530-556.
Abstract: This article examines the evolution of economic theory to explain the emergence and maintenance of cooperation among users of local commons. The conventional view that "free riding" prevents cooperative solutions to the commons dilemma is challenged under new theories rooted in evolutionary paradigm and the institutional matrix within which individuals find themselves. Contrary to the prediction of the conventional view, modern evolutionary theories provide ample empirical and theoretical evidence in support of a community's ability to self-organize to preserve the local commons.

28. Singh, Katar and Vishwa Ballabh (Eds.) (1996): *Cooperative Management of Natural Resources*, Sage Publications, New Delhi.

29. <http://www.ciesin.org/decentralization/English/Issues/NRM.html>

Natural Resource Management and the Environment

Participatory Processes for Establishing Community Based Groups

Abstract: Evidence suggests that community based groups are an effective means of managing the free-rider problems associated with most resource management regimes. Decentralization policies on their own, however, are not necessarily sufficient to result in the formation of these community based groups. Catalytic external agencies using participatory processes are also required to facilitate and build local organizational capacity, effective community participation, and local control and authority over decisions and resources. Important issues to consider in strengthening local organizational capacity are:

30. <http://www.worldbank.org/wbi/sdnaturalresources/index.html>

Natural Resources Management

Abstract: Sustainable development and poverty reduction depend on the protection and sustainable management of the regional and global commons, including forests, biodiversity, and water resources. Improved management of natural resources is key to achieving sustainable development. The poor, especially in rural areas, heavily depend on the productivity and environmental services of these natural resources for the livelihoods and quality of life. The Natural Resources Management program promotes awareness and builds capacity in client countries to manage resources that support the livelihoods of the poor and have significant national and global value.

31. <http://www.doc.govt.nz/Community/index.asp>
<http://www.doc.govt.nz/publications/index.asp>

Department of Conservation, New Zealand Publications

Abstract: Conservation in New Zealand is increasingly becoming a collaborative effort between the public, non-government organisations, businesses, and all levels of government. Involving the community in caring for their heritage through education, sponsorships, awards, community involvement programmes, partnerships and events such as conservation are a key part of the Department's work.

The Department of Conservation publishes a wide range of documents on the work it does, from scientific notes and species recovery plans to management plans and annual reports. Many of these publications are available on this web site, under the relevant subject heading, or can be sourced from Department offices or libraries around the country.

32. <http://www.usaid.gov/gn/nrm/background/>

Natural Resources

Abstract: This Strategic Objective is the principal US Government contributor to the Mission Performance Plan goal to "encourage community involvement in the conservation of natural resources and biological diversity in agro-ecologically fragile zones." Improved natural resource management practices such as controlled burning have been adopted, cash crops have been introduced, and new village enterprises have brought additional income to villagers. Evidence that farmers are adopting productivity-enhancing practices is significant.

2. Community Management of Forest Resources - General

1. Arnold, J. E. M. (2001): *Forests and People: 25 Years of Community Forestry*, Food and Agriculture, Rome.
2. Bhattacharya, B., U. Scheuermeier, and D. Sen (1994): "The elephant and the butterfly: a functional model for participatory extension", *Forests, Trees and People Newsletter* 24: 14-20.
3. Brown, G. (1992): "National forest management and the 'tragedy of the commons': a multidisciplinary practice", *Society and Natural Resources* 5:67-83.
4. Campbell Jeffrey Y. (1992): "Participatory forest management", *Wastelands News*, 7(3): 34-36.
5. Cernea, Michael M. (1989): "User Groups as Producers in Participatory Afforestation Strategies", The World Bank, Washington, D. C., (World Bank Discussion Paper no. 70).
6. Deeney, J. and W. Fernandes (1992): "Tribals: their Dependence on Forests, their Traditions and Management System", in Fernandes, W. (Ed.): *National Development and Tribal Deprivation*, Indian Social Institute, New Delhi.
7. Jackson, W. J., M. C. Nurse, and H. B. Singh (1994): "Participatory Mapping for Community Forestry", in Jackson, W. J. et al., (Eds.): *From the Field*, Paper no. 17e, Rural Development Forestry Network, Overseas Development Institute (ODI), Regent's College, London, UK.
8. Klooster, D. J. (2002): "Toward adaptive community forest management: integrating local forest knowledge with scientific forestry", *Economic Geography*, 78: 43-70.

9. Lise, W. (1998): "Empirical Support for People's Participation in Forest Management", presented at "Beyond Growth: Policies and Institutions for Sustainability", the fifth biennial meeting of the International Society for Ecological Economics (ISEE), Santiago, Chile, November 15-19.
10. Lynch, O. J. and K. Talbott (1995): *Balancing acts: Community based forest management and national law in Asia and the Pacific*, World Resources Institute, Washington, D. C.
11. Mahapatra, R. (2000): "A quiet revolution", *Down To Earth*, 8(21): 24-26.
12. Nadkarni, M. V., Syed Ajmal Pasha and L. S. Prabhakar (1999): *Political Economy of Forest Use and Management*, Sage Publications, New Delhi.
13. Poffenberger, Mark (1990): *Joint Management of Forest lands, Experiences from South Asia*, Ford Foundation, New Delhi.
14. Poffenberger, Mark (Ed.) (1996): *Communities and Forest Management: A Report of the IUCN Working Group on Community Involvement in Forest Management with Recommendations to the Intergovernmental Panel on Forests*, Gland, Switzerland, IUCN.
15. Sen, D. and P. K. Das (undated): *Participatory Forest Management*, National Institute of Rural Development, Hyderabad, India.
16. Sen, D. and P. K. Das (1987): "The Management of People's Participation in Community Forestry: Some Issues", Social Forestry Network Paper 4d , Overseas Development Institute (ODI), London, UK.
17. Shannon, Margaret A. (1998): "The People's Forest': Using Participatory Approaches to Create Strong Networks for the Stewardship of the National Forests", presented at a Plenary Session at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14.
18. Vijn, R. (1993): *Economics of Rope Making Under Participatory Forest anagement*, Tata Energy Research Institute, New Delhi.

19. <http://www.rainforest-alliance.org/programs/cg/>

Conservation Programmes: Catalyst Fund

Abstract: The Catalyst Fund works *to improve the quality of life* in the tropics by empowering local organizations and community members to protect their resources and stimulate a sustainable economy. An improved quality of life includes a clean environment, economic opportunities, cultural integrity and protection of natural resources. Catalyst grants help raise the quality of life in tropical communities by: supporting community-initiated conservation projects that promote protection of local forests, and providing grants of \$500 to \$2,000 to start or expand an innovative business that ascribes a value to local natural resources, encouraging their protection

20. <http://www.vso.org.uk/volunt/nr.htm>

**Natural Resource Specialists
Forestry**

Abstract: "The community itself decides which trees can be cut for firewood and fodder. When trees are planted by villagers, they are properly maintained; where government officers have planted, the hills are still barren. Cattle grazing, one of the most destructive practices is now managed and controlled by villagers."
James Billings, Community Forester, Nepal.

21. http://www.rupfor.org/jfm_india.htm

Local Initiatives for Forest Protection

Abstract: In addition to the JFM promoted by the Forest Department, there is also a grass roots forest protection movement in the country. There are several villages that have started protecting forest patches adjoining their villages on their own without any outside help or advice (Forest Department or NGO). These are commonly referred to as Self-Initiated Forest Protection Groups or SIFPGs. This protection movement has emerged as a response to growing forest degradation and the consequent hardship people were facing. These groups usually have well-developed institutional mechanisms for sharing costs and benefits among all members.

22. http://www.vso.org.uk/volunt/NRNews_spring-sum2002.pdf
<http://workingpapers.vso.org.uk/agr.htm>

People, plants and participation

Abstract: VSO volunteers and their colleagues using PA with coastal and upland communities throughout the Philippines. PA helped to identify the strengths, assets, strategies and needs of disadvantaged communities as defined by local people themselves, which enable appropriate responses and support to be jointly designed and implemented. Johan, a Dutch volunteer who has been working in the Philippines for over four years, took me on a seven-hour drive across the southern

island of Mindanao to experience a five-day community planning event using participatory exercises. The key to running participatory activities is to facilitate, rather than instruct. Johan gave us a master class in PA, facilitating community action through his Filipino colleagues. It was tremendous to see a community so committed to improving their livelihoods, exploring more sustainable options, and articulating their rights.

3. Community Management of Forest Resources – Region Specific

3.1 Community Management of Forest Resources in India

1. Adrian, Martin and Mark Lemon (2001): “Insights and applications challenges for participatory institutions: the case of village forest committees in Karnataka, South India”, *Society and Natural Resources*, 14: 585-597.
Abstract: This article finds that the recent enthusiasm for participatory resource management institutions must be tempered by an ongoing critique of the problems that frequently hinder successful practice. Two key obstacles to effective participation are considered. First, new institutional arrangements often reproduce the social relationships that marginalize certain groups of people in the first place. To this end, the role of gender is examined in some detail, as an example of the problems associated with participation and empowerment. Second, new participatory institutions are often embedded within wider legal and policy frameworks that make it difficult for them to develop the capacity for self-management. Through a study of joint forest planning and management in the Western Ghats of Karnataka, it is argued that local contexts require fuller understanding and that local agency can only be facilitated where policies and legal frameworks are more receptive to local negotiation.
Keywords: gender, joint forest management, local knowledge, new institutionalism, participation, process-oriented development, resource management, structure and agency, Western Ghats
2. Agrawal, Arun (1997): "Forest Management Under Common Property Regimes in the Kumaon Himalaya", in Shivakoti, G. et al., (Eds.): *People and Participation in Sustainable Development: Understanding the Dynamics of Natural Resource Systems*, Bloomington, Indiana and Kathmandu, Nepal, Workshop in Political Theory and Policy Analysis, Indiana University and Institute of Agriculture and Animal Science, Tribhuvan University.
3. Agrawal, Arun (1999): "Community-in-Conservation: Tracing the Outlines of an Enchanting Concept", in Jeffery, R. and N. Sundar (Eds.): *A New Moral Economy for India's Forests? Discourses of Community and Participation*, Thousand Oaks, Sage publications, CA.
4. Agarwal, A. (2001): “Common property, forest management and the Indian Himalayas”, *Contributions to Indian Sociology*, 35: 181-212.

5. Agarwal, Chetan and Katar Singh (1996): "The Village Cooperative Forest Societies in Himachal Pradesh", in Singh, K. and V. Ballabh (Eds.): *Cooperative Management of Natural Resources*, Thousand Oaks, Sage Publications, CA.
6. Arora, Dolly (1994): "From state regulation to people's participation: case of forest management in India", *Economic and Political Weekly*, 29(12): 691-698.
7. Ballab, V. and Katar Singh (1988): "Managing forests through peoples institutions: a case study of van panchayats in Uttar Pradesh hills", *Indian Journal of Agricultural Economics*, 43(3): 296-ff.
8. Banerjee, U. (1989): "Participatory Forest Management in West Bengal", in Malhotra, K. C. and M. Poffenberger (Eds.): *Forest Regeneration through Community Protection: The West Bengal Experience*, Ford Foundation, New Delhi.
9. Gadgil, Madhav and V. D. Vartak (1976): "The Sacred Groves of Western Ghats in India", *Economic Botany*, 30 (1): 152-160.
10. Godbole, A., A. Watve, S. Prabhu, and J. Sarnaik (1998): "Role of Sacred Groves in Biodiversity Conservation with Local People's Participation: A Case Study from Ratnagiri District, Maharashtra", in Ramakrishnan, K., G. Saxena and U. M. Chandrashekhara (Eds.): *Conserving the Sacred: For Biodiversity Management*, Oxford and IBH Publishing Co., New Delhi.
11. Haripriya, Rangan and Marcus B. Lane (2001): "Indigenous peoples and forest management: comparative analysis of institutional approaches in Australia and India", *Society and Natural Resources*, 14: 145-160.
Abstract: This article examines recent institutional approaches that address questions of access to forest resources and issues of redistributive justice for indigenous peoples in Australia and India. For over two decades, both countries have seen the emergence of claims to forest access and ownership made by indigenous communities that have been historically disadvantaged and marginalized from the benefits of mainstream social and economic development. The analysis focuses on regional forest agreements (RFA) in Australia and joint forest management (JFM) experiments in India through a comparative analytical framework defined by three concepts—access, control, and substantive democracy to assess the relative strengths and weaknesses of institutional processes that aim to engage in sustainable management of forest resources.
Keywords: access, Australia, control, democracy, distributive justice, forest policy, India, indigenous peoples, joint forest management, management processes, regional forest agreements

12. Hedge, Pandurang and T. Somasekhar Reddy (1999): "Saving the Western Ghats: Blueprint Solutions Versus Villagers' Rights and Responsibilities", in Wolvekamp, P. (Ed.): *Forests for the Future: Local Strategies for Forest Protection, Economic Welfare and Social Justice*, St. Martin's, New York.
13. Lise, Wietze (2000): "People's Participation in Forest Management in India", presented at "Constituting the Commons: Crafting Sustainable Commons in the New Millennium", the eighth annual conference of the International Association for the Study of Common Property (IASCP), Bloomington, Indiana, USA, May 31-June 4.
14. Mishra, Rajeev (1997): "Conserving the Kumaun forests through people's participation: a case study", *The Indian Forester*, 123(6), special issue on *Participatory Forest Management*.
15. Nadkarni, M. V. and Syed Ajmal Pasha (1993): "Social Forestry in Karnataka", in Saldanha, Cecil J. (Ed.): *Karnataka State of Environment Report – IV*, Centre for Taxonomic Studies, St. Joseph's College, Bangalore, India.
16. Palit, S. (1991): "Participatory Management of Forests in West Bengal", *Indian Forester* 117(5): 343-349.
17. Panda, A. (1992): *Impact of participatory forest management on the ecology of Shivalik hills in Haryana State*, Tata Energy Research Institute, New Delhi.
18. Prakash, Sanjeev (1995): "Informal Institutions, CPR's and the Social Context of Fairness; Forest and Pasture Management in a Village in the Indian Himalaya, 1987-92", presented at "Reinventing the Commons", the fifth annual Conference of the International Association for the Study of Common Property (IASCP), Bodoë, Norway, May 24-28.
19. Saxena, N. C. (1997): *The Saga of Participatory Forest Management in India*, Center for International Forestry Research (CIFOR), Bogor, Indonesia.
20. Sen, D., A. P. Purandare, and P. K. Das (1986): "People's participation in community forestry: a case study in Maharashtra", *Journal of Rural Development* 5: 129-173.
21. Sen, D., P. K. Das, and A. P. Purandare (1985): "People's participation in farm forestry: a case study in West Bengal", *Journal of Rural Development*, 4(4): 441-481.
22. Singh, Katar and Suresh Subramaniam (1996): "People's Participation in Organising and Managing Tree Growers' Cooperative Societies: A Case Study from Orissa", in Singh, K. and V. Ballabh (Eds.): *Cooperative Management of Natural Resources*, Thousand Oaks, Sage Publications, CA.

23. Singh, R. K. (2000): *Participatory Forest Management in Madhya Pradesh*, FAO, Rome.

1.2 Community Management of Forest Resources in Nepal

1. Acharya, Krishna Prasad (1997): "The Management of Common Forest Resources: An Evaluation of Bharkhore Forest User Group, Western Nepal", Masters' Dissertation, University of Edinburgh.
2. Anonymous (1996): "Community Based Forest Management Overview and Key Development Indicators: Nepal", Hindu Kush-Himalaya Country Profile Series no. 1, Participatory Natural Resources Management Programme, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal.
3. Fisher, R. J. (1994): "Indigenous Forest Management in Nepal: why Common Property is not a Problem", in M. Allen (Ed.): *Anthropology of Nepal: Peoples, Problems, and Processes*, Mandala Book Point, Kathmandu, Nepal.
4. Inserra, A. E. (1989): "Women's participation in community forestry in Nepal", *Banko Janakari*, 2(2): 119-120.
5. Pokharel, Ridish K. (2000): "Participatory Community Forestry: an Option for Managing Terai Forest in Nepal", presented at the National Workshop on the Management of the Terai and Inner Terai Forests, February 11-12.
6. <http://www.odifpeg.org.uk/publications/rdfn/23/e-i.html>

The Flow and Distribution of Costs and Benefits in the Chuliban Community Forest, Dhankuta

Abstract: This paper presented a careful appraisal of the local costs and benefits of one community forest in Nepal. Surprisingly, a measure of the forest's overall discount rate suggested that investing in the forest was less profitable than keeping money in a savings account at a local bank - though the author provided several caveats to this calculation. Of more concern was the inequity of distribution of the costs and benefits among members of the community. In particular, poor users, who were most dependent on the forest, did not gain enough direct benefits to compensate for the associated opportunity costs. To counteract the current trend of decreasing participation, the forest user group would first have to resolve problems of distribution and then improve productivity and profitability of the forest.

7. <http://www.odifpeg.org.uk/publications/rdfn/14/d-iii.html>

The Concept of User Groups in Community Forestry: the Case of Nepal

By: Bijay Kumar Singh, 1992

Abstract: At a time when forest user groups were just becoming the focal point for Nepal's community forestry, the author briefly outlined the various models that had been tried before. He then highlighted the advantages as well as the limitations of the user group concept in more detail

8. <http://www.odifpeg.org.uk/publications/books/index.html>

Participatory Forestry: The Process of Change in India and Nepal

By: Mary Hobley, 1996

Abstract: Over the last decade there have been significant shifts in forestry practice in South Asia, away from protection of forests from people to the inclusion of people in their management. This Study Guide discusses and reviews the development of these participatory forest management (PFM) approaches in India and Nepal

9. <http://www.odifpeg.org.uk/publications/rdfn/12/g-iii.html>

Introduction to a Comparative Study of Forest User Groups in Nepal

By: Donald Messerschmidt, 1991

Abstract: This brief piece provided an introduction to a new national study carried out by Yale University and the Nepal Institute of Forestry of the factors that promote success of user groups

10. <http://www.odifpeg.org.uk/publications/policybriefs/nrp/nrp-11.pdf>

What makes a local organisation robust? Evidence from India and Nepal

By: Mary Hobley, Kishore Shah, 1996

Abstract: The move towards decentralisation of resource control and management promises more efficient, equitable and sustainable resource use. Debate centres on what type of institutional arrangement in a given context is most appropriate and will lead to the fulfilment of the above ideal. Aspects of these arrangements include property rights structures as well as organisational structures. Following two decades of experience in India and Nepal with development of local forest management organisations, this paper analyses the factors that contribute to the effectiveness of local organisations as resource managers. It outlines gaps in our knowledge and concludes with a discussion of the implications for policy and practice.

11. <http://www.odifpeg.org.uk/publications/rdfn/12/b.html>

From Mistrust to Participation: The Creation of a Participatory Environment for Community Forestry in Nepal

By: Jane Gronow, N. K. Shrestha, 1991

Abstract: The government of Nepal passed legislation to allow community management of plantations and indigenous forest in 1976, but by the time this paper was written, success was limited. The authors argued that in order to foster true participation in control and decision-making by local residents, forestry extension workers should act as catalysts to break the cycle of deep-rooted dependency relations. This in turn required that extension workers themselves should be involved as collaborative partners, with authority, recognition and support. A re-orientation of extension training and management was needed, in which a taught blueprint was replaced by participatory workshops, field support from senior staff and advisers and appropriate institutional change. Experience in two districts showed that this was possible to achieve, albeit only with great dedication.

1.3 Community Management of Forest Resources in Africa

1. Adams, Martin E. (1992): "Participatory Management of Tanzania's Mangroves", in Jackson, W. J. et al., (Eds.): *From the Field*, Paper no. 13e, Rural Development Forestry Network, Overseas Development Institute (ODI), Regent's College, London, UK.
2. Banana, Abwoli Y. and P. G. Turiho-Habwe (1998): "Participation in Use and Management of Forest Resources in Uganda", in Gibson, C., A. Y. Banana, and J. Ntambirweki (Eds.): *Common Property Resources Management in East Africa: Proceedings of the Regional Symposium on Common Property Resources Management in East Africa*, Makerere Institute of Social Research (MISR), Kampala, Uganda.
3. Barrow, Edmund G. C. (1996): *The Drylands of Africa: Local Participation in Tree Management*, Initiatives Publishers, Nairobi, Kenya.
4. Becker, L. C. (2001): "Seeing green in Mali's woods: colonial legacy, forest use, and local control", *Annals of the Association of American Geographers*, 19: 504-525.
5. Campbell, Bruce, Neil Byron, Pauline Hobane, Elias Madzudo, Frank Matose and Liz Wily (1999): "Moving to local control of woodland resources—can CAMPFIRE go beyond the mega-fauna?", *Society for Natural Resources*, 12: 501-509.

Abstract: Devolution of authority over natural resource management is now well advanced for the mega-fauna in Zimbabwe, through the CAMPFIRE program. We ask whether models like CAMPFIRE can be applied to a broader spectrum of woodland resources. Problems in applying CAMPFIRE to woodland resources relate to a legal and policy framework that is not enabling to local management; weakened local institutional structures; a high degree of differentiation with respect to woodland resource use within communities; problems of defining resource user groups; and, the potentially low market value of woodland products. In identifying circumstances where CAMPFIRE may be applied successfully to woodland resources, economic, sociological, and ecological circumstances must be considered.

Keywords: forest products, legal framework, local institutions, markets, wildlife

6. Gombya-Ssembajje, William S. and Abwoli Y. Banana (Eds.) (2000): *Community Based Forest Resource Management in East Africa*, Uganda Forestry Resources and Institutions Centre (UFRIC), Kampala, Uganda.
7. Seth, Afikorah-Danquah (1997): "Local resource management in the forest-Savanna transition zone: the case of Wenchi District, Ghana", *IDS Bulletin*, 28(4): 36-46.
8. Wily, L. A. (2002): "The political economy of community forestry in Africa: getting the power relations right", *Forest Trees and People Newsletter*, 46: 4-12.
9. <http://www.odifpeg.org.uk/publications/rdfn/25/b-ii.html>

The Forestry Taxation System and the Involvement of Local Communities in Forest Management in Cameroon

By: Timothée Fomété, 2001

Abstract: Cameroon's forest sector is of great national importance, accounting for 25% of exports in 1998/99. This paper looks specifically at how the forest taxation system can benefit local communities. It begins by outlining some of the changes the sector has seen since the passing of the 1994 Forest Law, and the ban on log exports in ??? These have included an unprecedented expansion in primary processing activities, which alongside the decline in forest formally available for logging, has led to a large increase in illegal logging.

10. <http://www.odifpeg.org.uk/publications/books/matdf/index.html>

Managing Africa's Tropical Dry Forests: A Review of Indigenous Methods

By: Gill Shepherd, 1998

Abstract: Identifies and analyses a range of indigenous forest management practices in dryland Africa, to encourage the forestry profession to take more account of them in planning forest management. Includes extensive bibliographic summaries. The author points out that the State's ability to protect forests in this

region may now be so diminished that the best solution is to pass management and ownership to appropriate groups of local people.

11. <http://www.usaid.gov/gn/nrm/news/forest/forest.htm>

**Protecting Guinean Forests through Co-Management
Empowering communities to preserve their own natural resources.**

Abstract: In 1999, DNEF, representing the Guinean Government, signed the first five year contract with an inter-village committee, representing the local population, to co manage the Nialama Forest. The forest is located in the Linsan-Saran Sub-Prefecture of Lelouma Prefecture, on the border with Gaoual Prefecture. This forest is approximately 10,000 hectares in size. It was classified by the French colonial government 55 years ago, in 1943, to protect the watershed. Today it is surrounded by approximately 30 villages and hamlets, home to more than 5,700 people.

12. http://www.usaid.gov/gn/nrm/news/020414_aparfe/index.htm

Empowering Local Populations

Abstract: Young people in USAID-sponsored Village Forest Committees have been particularly active in reforestation and fire prevention activities in the Forest Region of Guinea. Through community based forest management, villagers are managing and protecting their own forest resources.

13. <http://www.easternarc.org/html/nwmp.html>

Community Based Natural Woodlands Management Project (NWMP)

Abstract: The aim of the Project is to introduce and promote community based natural resources management that provides long-term environmental benefits by safeguarding the future existence of selected natural woodlands in Iringa District as well as directs benefits to the rural communities in line with the new Forest Policy (1998), the Wildlife Policy (1998) and the proposed Land Bill and the Village Land Act (1998). If successful during the first phase the Project will be extended into a second phase during which the experiences gained will be applied to other woodlands in Iringa region. During phase one, models for management of natural woodlands and local structures will be developed and strengthened for initially one village owned forest area and one national forest reserve. The management plans will be developed and implemented jointly by the villagers, forestry staff at district level with support from Iringa District Council and technical assistance from Danida.

- Joint Forest Management Plans prepared and agreed upon by relevant stakeholders in 2 pilot areas and initial implementation under way;
- Village structures capable of assuring future natural woodland management; fulfilling the associated legal requirements and managing benefit sharing in a socially sustainable way;

- Substantial income realised in 2 pilot areas from marketing of natural resources to the benefit of all sections of the local communities;
- Community based micro-projects initiated in the pilot areas in order to relieve pressure on the natural resources;
- Community based monitoring, reporting and evaluation system on natural woodlands management established and functioning;
- Upgraded skills (qualified staff) in technical and participatory woodland management matters for relevant District and Divisional natural resources staff;
- Systems contributing to more effective Royalty Collection, focusing on forest and other natural resource products arriving at Iringa town for further sale established and operating;
- Arrangements with other organisations, projects and institutions established to secure improved monitoring and controlling of trade on natural resource/ forestry related products within the District.

1.4 Community Management of Forest Resources in Other Countries

1. Bhatia, A. (Eds.) (1999): *Participatory forest management: implications for policy and human resources' development in Hindu Kush-Himalayas*, Volume V, Nepal, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal.
2. Bhatia, A. and S. Karki (Eds.) (1999): *Participatory forest management: implications for policy and human resources' development in Hindu Kush-Himalayas*, Volume I, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal.
3. Bhatia, A. and Ya T. (Eds.) (1999): *Participatory forest management: implications for policy and human resources' development in Hindu Kush-Himalayas*, Volume II, China International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal.
4. Haley, David (2002): "Community forests in British Columbia: the past is prologue", *Forest Trees and People Newsletter*, 46: 54-61.
5. Klooster, Daniel (2000): "Institutional choice, community and struggle: a case study of forest co-management in Mexico", *World Development*, 28(1): 1-20.
Summary: Change in the commons remains poorly understood. This essay analyzes a comparative case study of community forestry in Mexico. In a primary case study, corruption in a community-owned logging business legitimates timber smuggling, and this situation contrasts with several forestry communities having internally-legitimate social institutions able to control such problems. A discussion assesses the institutional choice model for understanding change in the commons and contrasts it with an approach that views individual choices and

actions as embedded in communities and cultures. The commons exists in a value-laden social context, and this requires a theory "thicker" than current versions of institutional choice

Key words: Latin America, Mexico, common property, institutional choice, co-management

6. Lynagh, Flona M. and Peter B. Urich (2002): "A critical review of buffer zone theory and practice: a Philippine case study", *Society and Natural Resources*, 15: 129-145.
Abstract: As populations increase and forest areas decline, protected areas are being defined in an attempt to preserve remnants of original flora and fauna. This is problematic where local populations exist within or close to protected area boundaries. These people are often compelled to exploit protected area resources to survive. Theoretically, socioeconomic activities and projects directed at buffer areas can decrease pressure on protected areas and provide opportunities for local populations to become active in their management. This research studied a group of rice farmers and laborers in a remote village in the Philippines to ascertain whether potential increases in farmer income affect pressure for production within the national park. From in-depth interviews, field visits, and wealth and status ranking, our case study substantiates some of the claims made by other authors, but goes further to more comprehensively implicate land tenure as a central issue in this particular situation.
Keywords: buffer zones, conservation, development, environmental degradation
7. Montoya, Felipe (1991): "From Private Property to Common Property: Costa Rican Peasants Mobilize to Protect their Forested Mountains", presented at the second annual conference of the International Association for the Study of Common Property (IASCP), Winnipeg, Canada, September 26-30.
8. Richards, Michael (1997): "Tragedy of the Commons for Community based Forest Management in Latin America?", *Natural Resource Perspectives* no. 22, Overseas Development Institute (ODI), London, UK.
9. <http://www.odifpeg.org.uk/publications/rdfn/23/rdfn-23d.pdf>
How Appropriate is Certification for Small Scale Timber Producers in Melanesia
By: Andrew Tolfts, 1998
Abstract: The community based timber production (CTP) projects of Melanesia could potentially benefit a great deal from certification, which allows access to foreign ecotimber markets. Examining circumstances in the Solomon Islands, this paper found that CTP projects were hard pressed to meet some of the principles and criteria required for certification through the Forest Stewardship Council. For example, the system of customary land tenure typical of Melanesia meant that they could not prove the necessary level of security of tenure. Certification was also expensive to achieve because of the costs of monitoring and record-keeping.

Among ways to overcome these difficulties, the author suggested that a national certification body be formed.

10. http://www.oregonsolutions.net/forestry/comm_stewardship.cfm

What is Community Based forestry?

Community Based Stewardship: an Oregon Perspective

Abstract: "Community based forestry (CBF) is a participatory approach to forest management that strengthens communities' capacity to build vibrant local economies-while protecting and enhancing their local forest ecosystems. By integrating ecological, social, and economic components into cohesive approaches to forestry issues, community based approaches give local residents both the opportunity and the responsibility to manage their natural resources in an effectively and to enjoy the benefits of that responsibility." [[more...](#)]

4. Joint Forest Management

1. Agarwal, Chetan and Sushil Saigal (1996): *Joint Forest Management in India: A Brief Review*, Society for Promotion of Wastelands Development, New Delhi, India.
2. Ahmed, Sara (1995): "Who Participates? the Case of Rural Women, an NGO and Joint Forest Management in Gujarat", Working Paper no. 83, Institute of Rural Management, Anand, India.
3. Aumeeruddy-Thomas, Yildiz, Sushil Saigal, Navin Kapoor, and Anthony B. Cunningham (1999): "Joint, management in the making, reflections and experiences", People and Plants Working Paper, People and Plants Initiative, Division of Ecological Sciences, UNESCO, Paris, France.
4. Bahuguna, V. K. (1997): "Joint forest management: emerging issues", *The Indian Forester*, 123(6), special issue on *Participatory Forest Management*.
5. Datta, Samar K. (1994): "JFM as a Process for Evolving an Appropriate Institutional System for Management of Degraded Forests in India: Lessons from Some Case Studies of West Bengal and Gujarat", presented at National Workshop on Joint Forest Management, Centre for Management in Agriculture, Indian Institute of Management, Ahmedabad, India, August 25-28.
6. Dey, Gautam (1997): "Participation in joint forest management from women's perspective", *The Indian Forester*, 123(6), special issue on *Participatory Forest Management*.
7. Dhanagare, D. N. (2000): "Joint forest management in UP People, panchayats and women", *Economic and Political Weekly*, 35(37): 3315-3324.
Summary: This article reports the experience of joint forest management (JFM) initiatives in Uttar Pradesh. Sustainable use of land and forest produce requires a change in attitudes both of government departments and the people. 'Joint' in JFM remains on paper as forest departments work for, rather than with, the people. The initiative also needs to be integrated with other rural development programmes, and to give women a larger role.
8. Ghate, Rucha (2000): "Joint forest management: constituting new commons", presented at "Constituting the Commons: Crafting Sustainable Commons in the New Millennium", the eighth annual conference of the International Association for the Study of Common Property (IASCP), Bloomington, Indiana, USA, May 31-June 4.
9. Khare Arvind, Madhu Sarin, N. C. Saxena, S. Palit, S. Bathla, F. Vania and M. Satyanarayana (2000): *Joint Forest Management: Policy, practice and prospects*, International Institute for Environment and Development (IIED), London.

10. Lele, Sharachchandra (1998): "Why, Who, and How of Jointness in Joint Forest Management: Theoretical Considerations and Empirical Insights from the Western Ghats of Karnataka", presented at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada June 10-14.
11. Lele, Sharachchandra (2000): "Godsend, Slight of Hand, or Just Muddling Through: Joint Water and Forest Management in India", Natural Resource Perspectives no. 53, Overseas Development Institute (ODI), London, UK.
<http://www.odifpeg.org.uk/publications/policybriefs/nrp/nrp-53.pdf>
<http://www.indiana.edu/~iascp/Final/lele.pdf>
12. Mukherjee, Neela (1997): "Why joint forest management (JFM) failed to deliver? a case study of Arjuni Mouza, Midnapore (West Bengal, India)", *The Indian Forester*, 123(6), special issue on *Participatory Forest Management*.
13. Ogra, Monica V. (2000): "Who's Participating in 'Participatory' Forestry? The Promise and Pitfalls of the Joint Forest Management (JFM) Model in India", presented at "Constituting the Commons: Crafting Sustainable Commons in the New Millennium", the eighth annual conference of the International Association for the Study of Common Property (IASCP), Bloomington, Indiana, USA, May 31- June 4.
14. Pasha, Syed Ajmal (1995): "Joint Forest Planning and Management—An Analysis of Conditions Favoring it", presented at the workshop on "JFPM and Related issues", Institute for Social and Economic Change (ISEC), Bangalore, India, April 11-12.
15. Ravindranath, N. H., K. S. Murali and K. C. Malhotra (2000): *Joint Forest Management and Community Forestry in India: An ecological and institutional assessment*, Oxford and IBH Publishing Co. New Delhi.
16. Ravindranath, N. H., P. Sudha, and K. M. Indu (1998): "Participatory Forestry: Indian Experience in Community Forestry and Joint Forest Management", presented at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14.
17. Sanjay Kumar (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.
Summary: Joint Forest Management (JFM) has succeeded in halting forest degradation in India, but its poverty reduction objective has not fully been evaluated previously. This paper compares FM forests and government-managed forests to assess their respective net social benefits to different groups of local

villagers. It shows that the FM regime reflects the social preference of the rural o poor, and that the poor are net losers over a 40-year time horizon. Future plans for FM need to include suitable compensatory mechanisms to reduce the poverty of the poorest within a village.

Key words: South Asia, India, forestry, participatory development, income distribution, poverty

18. Saxena, N. C. (2000): "Participatory issues in joint forest management in India", *Wastelands News*, 15(2): 42-56.
19. Singh, B. (1993): *Management of bamboo forest under joint participatory forest management in Haryana Shivaliks*, Tata Energy Research Institute, New Delhi.
20. Sundar, Nandini (2001): *Branching Out: Joint Forest management in India*, Oxford University Press, New Delhi.
21. Varalakshmi, V. (1993): *Constraints in the Implementation of Joint Participatory Forest Management Programme: Some Lessons from Haryana*, Tata Energy Research Institute, New Delhi.

4. Community Management of Protected Areas

1. Apte, Tejaswini and Ashish Kotari (2000): *Joint Protected Area Management: A Simple Guide How it will Benefit Wildlife and People*, Kalapavriksh, Pune, India.
2. Badola, Ruchi (1999): "People and protected areas in India", *Unasylya*, 50: 12-14.
3. Kothari, A. (1996): "Is Joint Management of Protected Areas desirable and Possible?", in Kothari, A., N. Singh and S. Suri (Eds.): *People and Protected Areas: Towards Participatory Conservation in India*, Sage Publications, New Delhi.
4. Kothari, A., F. Vania, P. Das, K. Christopher and S. Jha (Eds.) (1997): *Building Bridges for Conservation: Towards Joint Management of Protected Areas in India*, Indian Institute of Public Administration, New Delhi.
5. Suri, Saloni (1997): "People's Involvement in Protected Areas: Experiences from Abroad and Lessons for India", in Kothari, A., Neena Singh and Saloni Suri (Eds.): *People and Protected Areas: Towards Participatory Conservation in India*, Sage Publications, New Delhi.

5. Community Management of National Parks

1. Agarwal, Arun (2000): “Adaptive management transboundary protected areas: the Bialowieza national park and biosphere reserve as a case study”, *Environmental Conservation*, 27(4): 326-333.

Summary: Transboundary protected areas (PAs) currently represent nearly 10% of the world's network of PAs. The protection of their biological wealth poses special challenges because of the need for cooperation among sovereign states. Adaptive management strategies offer hope for a more accurate assessment of ecological conditions within PAs, and have the potential for furthering one of the major objectives of these PAs, namely enhancing environmental cooperation between countries across whose boundaries the protected area complex is situated. This paper examines the implications of adaptive management for transboundary PAs by using the Polish/Belarusian Bialowieza PAs as a case study. Managers of PAs have conventionally aimed at accurate predictions and short-term system equilibrium through ‘top-down’ policies of control and exclusion. In the case of PAs, these objectives have meant limiting use and employing models of linear growth. Adaptive management strategies rely instead on long-term experience, assessment of experimental interventions, and collection of greater amounts of information to assess future outcomes. They aim at the satisfaction of objectives that may include equilibrium changes. These features of adaptive management imply attention over time to the interactions between different key species, greater involvement of local populations in the collection of information about the resources, and experimenting with different levels of use to infer the most suitable protection strategies.

Keywords: transboundary protected areas, adaptive management, community based conservation

2. Baviskar, A., (1998): “The Community and Conservation: the Case of Eco Development in the Great Himalayan National Park, India”, presented at “Crossing Boundaries”, the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14.
3. Borges, Renee M. (1996): “Joint Management of Bhimashankar Sanctuary”, in Kothari, A., Neena Singh and Salonli Suri (Eds.): *People and Protected Areas: Towards Participatory Conservation in India*, Sage Publications, New Delhi, India.
4. Ite, U. and W. Adams (2000): “Expectations, impacts and attitudes: conservation and development in cross national park, Nigeria”, *Journal of International Development*, 11: 325-342.
5. Karen, Archabald and Lisa Naughton-Treves (2001): “Tourism revenue-sharing around national parks in Western Uganda: early efforts to identify and reward local communities”, *Environmental Conservation*, 28(2): 135 -149.

Summary: Throughout much of the tropics, human-wildlife conflict impedes local support for national parks. By channeling tourism revenue to local residents, conservationists hope to offset wildlife costs and improve local attitudes toward conservation. To date tourism revenue-sharing (TRS) programmes have met mixed success. Local conditions and national policies that shape the success of TRS programmes were identified by comparing the experiences of both implementers and beneficiaries of pilot TRS programmes at three parks in western Uganda. Between 1995 and 1998, communities around these parks used a total of US \$83 000 of tourism revenue to build 21 schools, four clinics, one bridge, and one road. In 1996, the Ugandan parliament passed legislation that changed both the amount of money available for TRS and the institutions responsible for sharing the money. The programme was suspended at all three parks while the implementing agency (Uganda Wildlife Authority) struggled to design a programme that complied with the new legislation. TRS funds collected before 1996 were shared through 1998, but since then no revenue has been shared. However, a revised TRS programme is expected to resume in 2001. In semi-structured interviews, both implementers and beneficiaries evaluated local TRS programmes and compared them to other benefit-sharing projects, particularly those promoting sustainable use of non-timber products within park boundaries (n = 44). Both groups of respondents listed revenue sharing as the most important advantage of living next to a national park. Seventy-two per cent of respondents indicated that they thought TRS had improved attitudes towards the protected areas, and 53% thought TRS was more important than sustainable use of non-timber forest products. Although respondents were generally positive about TRS, in informal discussions respondents repeatedly mentioned four potential obstacles to TRS success, namely poorly defined TRS policies and unsteady implementing institutions, corruption, inadequate funds, and numerous stakeholders with differing priorities. From this survey and literature from experiences in other African countries, there are four key components of successful revenue-sharing programmes: long-term institutional support, appropriate identification of the target community and project type, transparency and accountability, and adequate funding. With firm institutional support and realistic expectations, TRS can play an important role in improving local attitudes towards conservation.

Keywords: ecotourism, revenue sharing, community based conservation, wildlife, Uganda, national parks

6. Narayan, Sankar (1996): "Joint Management of Gir National Park", in Kothari, A., Neena Singh and Salonli Suri (Eds.): *People and Protected Areas: Towards Participatory Conservation in India*, Sage Publications, New Delhi, India.

7. <http://www.aenet.org/treks/haribon.htm#community>

Ongoing or Recently Completed Projects - 1996

Community Based Resource Management: Mt. Isarog National Park Conservation Project

Abstract: The Mt. Isarog National Park, with an area of approx. 10,000 hectares, is noted for its rich biological diversity. As a watershed, it also provides a constant supply of water for domestic, industrial and agricultural use for the city of Naga and the surrounding municipalities. Threats to the biodiversity in the park include deforestation due to logging, slash and burn farming, expansion of agricultural land, and encroachment from settlers. The locally formed federation, *Anduyog Isarog*, is actively involved in supporting local community organizations through information and education campaigns, an agroforestry project and micro- credit which seeks to provide ecologically compatible economic livelihood to local communities.

7. Community Management of Wildlife

1. Chatty, D. (2001): "Pastoral tribes in the middle east and wildlife conservation schemes: the endangered species?", *Nomadic Peoples*, 5: 104-124.
2. Hulme, David and Marshall Murphree (Ed.) (1999): "Communities, wildlife and the 'new conservation' in Africa", *Journal of International Development*, 11: 227-285.
Abstract: Over the last decade the concepts, policies and practices of conservation in Africa have begun to shift towards what has been viewed as a community based approach. This introductory paper to the Policy Arena argues that the ideas underpinning this shift - a greater interest in local level and community based natural resource management, the treatment of conservation as simply one of many forms of natural resource use and a belief in the contribution that markets can make to the achievement of conservation goals - are better understood as a 'new conservation'. This new conservation is presently diffusing through Africa both challenging 'fortress conservation' and working alongside it. It is no panacea for the problems that conservation faces but it does provide a basis from which more effective policies and institutions can evolve.
3. Jachmann, H. (2001): *Estimating Abundance of African Wildlife: An Aid to Adaptive Management*, Kluwer Academic, Boston.
4. Jones, B. T. B. (1999): "Policy lessons from the evolution of a community based approach to wildlife management, Kunene region, Namibia", *Journal of International Development*, 11: 295-304.
5. Robinson, John G. and Kent, H. Redford (1994): "Community Based Approaches to Wildlife Conservation in Neo-tropical Forests", in Western, D. and R. M. Wright, (Eds.): *Natural Connections: Perspectives in Community Based Conservation*, Washington, D. C., Island press.
6. Smith, Robert J. and Walter N. Thurman (1981): "Resolving the tragedy of the commons by creating private property rights in wildlife", *Cato Journal*, 1: 439-468.
7. Songorwa, Alexander N. (1999): "Community-based wildlife management (CWM) in Tanzania: are the communities interested?", *World Development*, 27(12): 2061-2079.
Summary: The fences-and-fines approach (the American National Park model) to wildlife protection is now perceived by many conservationists to have failed in Africa. An alternative approach whereby rural communities are given ownership rights or custodianship and management responsibilities for the resource has been introduced under the name Community based Wildlife Management (CWM) (also known as Community Based Conservation or CBC). This new approach is currently under experimentation in many parts of Africa. It is based on a number

of assumptions; one being that the communities are interested and willing to conserve wildlife on their lands. Using the Selous Conservation Programme (SCP) in Tanzania and seven other African cases, this paper examines the plausibility of this assumption.

Key words: Africa, community involvement, development, participation, Tanzania, wildlife conservation

8. Thembela, Kepe, Ben Cousins and Stephen Turner (2001): “Resource tenure and power relations in community wildlife: The case of Mkambati area, South Africa”, *Society and natural Resources*, 14: 911-925.
Abstract: Through a case study of Mkambati area, this article analyzes the prospects for community wildlife management (CWM) for communities that neighbor Mkambati Nature Reserve. Two clusters of issues are proposed as being crucial in any community based resource management situation. The first cluster is centered on the idea of ‘resource tenures’, and the need to locate wildlife in a fuller resource/ livelihood/ tenure institutional context. The second cluster is centered on power dynamics, the multilayered struggles between diverse sets of actors, and the process through which resource tenures are continuously renegotiated. It is argued that wildlife management must always be seen in these larger contexts, and that the prospects for successful community based schemes will depend crucially on how wildlife tenure articulates with other resource tenures, on how it impacts on rural livelihoods considered holistically, and on the relationships that exist between local and nonlocal institutions.
Keywords: community wildlife, livelihoods, power relations, resource tenure, South Africa
9. Thompson, M. and K. Homewood (2002): “Entrepreneurs, elites, and exclusion in Maasailand: trends in wildlife conservation and pastoralist development”, *Human Ecology*, 30: 107-138.

8. Community Management of Fisheries - General

1. Butler, James N. et al., (1993): "The Bermuda fisheries: a tragedy of the commons averted?", *Environment*, 35: 7-24.
2. Gordon, S. (1954): "The economic theory of a common-property resource: the fishery", *Journal of Political Economy*, 62: 124-142.
3. Hale, William E. and Dag Fasmer Wittusen (1971): "World Fisheries: A Tragedy of the Commons?", Woodrow Wilson School of Public and International Affairs, Princeton University, Princeton, NJ, (Woodrow Wilson Association Monograph Series in Public Affairs no. 4).
4. Hanna, S. (1998): "Co-management in Small-Scale Fisheries: Creating Effective Links Among Stakeholders", paper presented at International Workshop on Community Based Natural Resource Management, the World bank, Washington, D. C., May 10-14.
5. Holt, Sidney (1992): "Wildlife in the ocean commons: whales and other beasts", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.
6. Jensen, C. L. (2002): "Reduction of the fishing capacity in 'common pool' fisheries", *Marine Policy*, 26: 155-158.
7. Jentoft, S. (1989): "Fisheries co-management", *Marine Policy*, 13:137-154.
8. Jentoft, S. and B. Mc Cay (1995): "User participation in fisheries management: lessons drawn from international experience", *Marine Policy*, 19(3): 227-246.
9. Khakhar, K. K. (1991): "Public Policy, Territoriality and Tragedy of the Commons in Marine Fisheries", presented at the second annual conference of International Association for the Study of Common Property (IASCP), Winnipeg, Manitoba, September 26-30.
10. Leal, Donald R. (1998): "Community-run fisheries: avoiding the 'tragedy of the commons'", *Population and Environment*, 19: 225-246.
11. Mack, Andrew (1991): "Security Regimes for the Oceans: The Tragedy of the Commons, the Security Dilemma and Common Security", Working Paper no. 102' Peace Research Center, Australian National University, Research School of Pacific Studies, Canberra.
12. Mc Cay, B. J. and S. Jentoft (1996): "From the bottom up: Participatory issues in fisheries management", *Society and Natural Resources*, 9(3): 237-250.

13. Munro, G., N. Bingham, and E. Pikitch (1998): "Individual transferable quotas, community based fisheries management systems, and 'virtual' communities", *Fisheries*, 23(3): 12–15.
14. Nielsen, J. R. and T. Vedsmand (1999): "User participation and institutional change in fisheries management: a viable alternative to the failures of 'top-down' driven control?", *Ocean and Coastal Management*, 42(1): 19-37.
15. Pomeroy, Robert S. (1999): "Institutional Analysis, From: Participatory Methods in Community Based Coastal Resource Management, Vol. II", in Langill, S. (Ed.): *Institutional Analysis: Readings and Resources for Researchers, Volume V*, International Development Research Centre, Ottawa, Canada.
16. Pooley, Sam (1998): "Community Ownership and Natural Resource Management: Fisheries", presented at "Crossing Boundaries", the seventh annual conference of the International Association for the Study of Common Property (IASCP), Simon Fraser University, Vancouver, British Columbia, Canada, June 10-14.

9. Community Management of Fisheries – Region Specific

9.1 Community Management of Fisheries in Asian Region

1. Ahmed, Mahfuzuddin, A. D. Capistrano, and M. Hossain (1995): "Fisheries Co-Management in Bangladesh; Experiences with GO-NGO- Fisher Partnership Models", presented at "Reinventing the Commons", the fifth annual conference of the International Association for the Study of Common Property (IASCP), Bodoe, Norway, May 24-28.
2. Ahmed, M., A. D. Capistrano, and M. Hossain (1997): "Experience of partnership models for the co-management of Bangladesh fisheries", *Fisheries Management and Ecology*, 4(3): 233–248.
3. Ahmed, Salehuddin (1992): "Impact of New Technology on Traditional Fishing Communities in Bangladesh", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.
4. Berkes, F. (1986): "Local-level management and the commons problem: comparative study of Turkish coastal fisheries", *Marine Policy*, 10: 215–229.
5. Berkes, Fikret (1992): "Success and Failure in Marine Coastal Fisheries of Turkey", in Bromley, D., et al., (Ed.): *Making the Commons Work: Theory, Practice, and Policy*: ICS Press, San Francisco.

6. Berkes, F. (1994): "Property rights and coastal fisheries", in Pomeroy, R. S. (Ed.): *Community management and common property of coastal fisheries in Asia and the Pacific: Concepts, methods and experiences*, proceedings of the conference International Center for Living Aquatic Resources Management (ICLARM), 45, Manila.
7. Berkes, Fikret and Allan H. Smith (1991): "Coastal Marine Property Rights: The Second Transformation", in Juinio-Menez, M. A. and G. F. Newkirk (Ed.): *Philippine Coastal Resources Under Stress*, Halifax, Nova Scotia and Quezon City, Philippines: Coastal Resources Research Network, Dalhousie University and University of the Philippines.
8. Buhat, Delma Y. (1994): "Community Based Coral Reef and Fisheries Management, San Salvador Island, Philippines", in White, A. T. et al., (Eds.): *Collaborative and Community Based Management of Coral Reefs: Lessons from Experience*, Kumarian Press, West Hartford, CT.
9. Carlos, M. B. and R. S. Pomeroy (1996): *A review and evaluation of community based coastal resource management programs and projects in the Philippines, 1989-1994*, Fisheries Co-management Project Research Report no. 6, International Center for Living Aquatic Resources Management (ICLARM), Manila.
10. Christie, P., A. White, and D. Buhat (1994): "Community based coral reef management on San Salvador Island, Philippines", *Society and Natural Resources*, 7: 103–117.
11. Hanna, Susan S. (1995): "User participation and fishery management performance within the Pacific Fishery Management Council", *Ocean and Coastal Management* 28(1-3): 23-44.
12. Hviding, Edvard and Graham B. K. Baines (1994): "Community based fisheries management, tradition and the challenges of development in Marovo, Solomon islands", *Development and Change*, 25(1): 13-39.
13. Johnson, C. (2001): "Community formation and fisheries conservation in southern Thailand", *Development and Change*, 32: 951-974.
14. Khakhar, K. K. (1995): "Staging Divine Comedy on Waters: Swadhyaya Experiment in Indian Fisheries", presented at "Reinventing the Commons," the fifth annual conference of the International Association for the Study of Common Property (IASCP), Bodoe, Norway, May 24-28.
15. Lim, C. P., Y. Matsuda, and Y. Shigemi (1995): "Co-management in marine fisheries: the Japanese experience", *Coastal Management*, 23(3): 195–222.

16. Mc Elroy, J. K. (1991): "The Java sea purse seine fishery: a modern-day 'tragedy of the commons'?", *Marine Policy*, 15: 255-272.
17. Pomeroy, R. S. (Ed.) (1994): "Community Management and Common Property of Coastal Fisheries in Asia and the Pacific: Concepts, Methods and Experiences", proceedings of the conference, 45, International Center for Living Aquatic Resources Management (ICLARM), Manila.
18. Pomeroy, R. S. (1995): "Community based and co-management institutions for sustainable coastal fisheries management in south-east Asia", *Ocean and Coastal Management*, 27(3): 143-162.
19. Pomeroy, R. S., R. B. Pollnac, C. D. Predo, and B. M. Katon (1996): "Impact Evaluation of Community Based Coastal Resource Management Projects in the Philippines", Fisheries Co-management Project Research Report no. 3, International Center for Living Aquatic Resources Management (ICLARM), Manila.

9.2 Community Management of Fisheries in Non-Asian Region

1. Begossi, Alpina (1993): "Fishing Spots and Sea Tenure in Atlantic Forest Fishing Communities", presented at "Common Property in Ecosystems Under Stress", the fourth annual conference of the International Association for the Study of Common Property (IASCP), Manila, Philippines, June 15-19.
3. Bender, A., W. Kaji and E. Mohr (2002): "Informal insurance and sustainable management of common-pool marine resources in Ha'apai Tonga", *Economic Development and Cultural Change*, 50: 427-440.
2. Berkes, F. (1989): "Co-management and the James Bay Agreement", in Pinkerton, E. (Ed.): *Co-operative management of local fisheries*, University of British Columbia Press, Vancouver.
3. Durrenberger, E. Paul and Gisli Palsson (1987): "The Grass Roots and the State: Resource Management in Icelandic Fishing", in Mc Cay, B. J. and J. M. Acheson (Eds.): *The Question of the Commons: The Culture and Ecology of Communal Resources*, University of Arizona, Tucson, AZ.
4. Finlay, J. (1995): "Community Based Sea Use Management in the Grenada Beach Seine Fishery: Current Practices and Management Recommendations", MS thesis, Marine Resource and Environmental Management Program, Faculty of Natural Resources, University of the West Indies, Cave Hill.

5. Mann, G. (2002): "Class consciousness and common property: the international fishermen and allied workers of America", *International Labour and Working Class History*, 61: 141-160.
6. Maurstad, Anita (1992): "Closing the Commons-Opening the 'Tragedy': Regulating North-Norwegian Small-Scale Fishing", presented at "Inequality and the Commons", the third annual conference of the International Association for the Study of Common Property (IASCP), Washington, D. C., September 17-20.
7. Sandberg, Audun (1990): "Fish for All: CPR-Problems in North-Atlantic Environments", Working Paper no. 15, Workshop in Political Theory and Policy Analysis, Indiana University, Bloomington.
8. Smith, Allan H. and Fikret Berkes (1990): "Solutions to the 'Tragedy of the Commons': Sea Urchin Management in St. Lucia, West Indies", presented at "Designing Sustainability on the Commons", the first annual conference of the International Association for the Study of Common Property (IASCP), Duke University, Durham, NC, September 27-30.
9. Tough, Frank (1987): "Fisheries Economics and the Tragedy of the Commons: The Case of Manitoba's Inland Commercial Fisheries", Discussion Paper, no. 33, Department of Geography, York University, Toronto.
10. van Ginkel, Robert J. (1995): "Fishy resources and resourceful fishers: the marine Commons and the Adaptive Strategies of Texel Fishermen", *Netherlands' Journal of Social Sciences*, 31: 50-64.

10. Community Management of Water Resources

10.1 Community Management of Water

1. Agarwal, Anil and Sunita Narain (2000): "Water harvesting: community-led natural resource management", LEISA, ILEIA Newsletter, 16(1): 11-13.
2. Bakker, M., R. Barker, R. S. Meinzen-Dick and F. Konransen (Eds.) (1999): *Multiple uses of water in irrigated areas: A case study from Sri Lanka*, SWIM Report no. 8, International Water management Institute, Colombo, Sri Lanka.
3. Benvenuti, D. (1988): "Community participation in soil and water conservation", in Moldenhauer, W. C. and N. W. Hudson (Eds.): *Conservation Farming on Steep Lands*, Soil and Water Conservation Society, IA.
4. Burroughs, Richard (1999): "When stakeholders choose: process, knowledge, and motivation in water quality decisions", *Society and Natural Resources* 12(8): 797-809.
5. Bwket, W. and G. Sterk (2002): "Farmers' participation in soil and water conservation activities in the Chemoga watershed Blue Nile basin Ethiopia", *Land Degradation and Development*, 13: 189-200.
6. Mittal, S. P. (1996): "Land and Water Management for Sustainable Production with People's Participation", in Iyer, K. G. (Ed.): *Sustainable Development: Ecological and Sociocultural Dimensions*, Vikas Publishing House, New Delhi.
7. Narayan, Deepa (1997): "Focus on People's Participation: Evidence from 121 Rural Water Projects", in Clague, C. (Ed.): *Institutions and Economic Development: Growth and Governance in Less-Developed and Post-Socialist Countries*, The Johns Hopkins Studies in Development, Johns Hopkins University Press, Baltimore.
8. Parthasarathy, R. and Sudarshan Iyengar (1998): *Participatory Water Resources Development as Process: Concepts and Methods for Working with Complexity*, Routledge and Overseas Development Institute (ODI), New York.
9. Uphoff, Norman (1985): "People's participation in water management: Gal Oya, Sri Lanka", in Garcia-Zamov, J. (Ed.): *Public Participation in Development Planning and Management*, Westview, Boulder, CO.
10. Yetim, M. (2002): "Governing international common pool resources: the international watercourse", *Water Policy*, 4(4): 305-321.

10.2 Community Management of Watershed

1. Ahluwalia, M. (1997): "Representing communities: the case of a community based watershed management project in Rajasthan, India", *IDS Bulletin*, 28(4): 23-35.
2. Arya, Swarn Lata, and J. S. Samra (1996): "Determinants of People's Participation in Watershed Development and Management: an Exploratory Case Study in Shivalik Foothill Villages in Haryana", in Iyer, K. G. (Ed.): *Sustainable Development: Ecological and Socio cultural Dimensions*, Vikas Publishing House, New Delhi.
3. Chopra, Kanchan, Gopal K. Kadekodi, and M. N. Murty (1988): "Sukhomajri and Dhamala watersheds in Haryana: a participatory approach to management", Working Paper, Institute of Economic Growth (IEG), Delhi, India.
4. Dani, A. A., and J. Gabriel Campbell (1986): "Sustaining upland resources: people's participation in watershed management", Occasional Paper no. 3, International Centre for Integrated Mountain Development (ICOMOD), Kathmandu, Nepal.
5. Dhar, S. K. (1994): "Rehabilitation of degraded tropical forest watersheds with people's participation", Joint Forest Management Series no.16, Haryana Forest Department and Tata Energy Research Institute, New Delhi, India.
6. Farrington, John, and Crispino Lobo (1997): "Scaling up participatory watershed development in India: lessons from the Indo-German watershed development programme", *Natural Resource Perspectives*, no. 17, Overseas Development Institute, London, UK.
7. Farrington, John, C. Turton and A. J. James (Eds.) (1999): *Participatory Watershed Development: Challenges for the twenty-first century*, Oxford University Press, New Delhi.
8. Fona Hinchcliffe (Ed.), (1999): *Fertile ground: Impacts of participatory watershed management*, I T Publications, London.
9. Grewal, S. S. (1996): "Community participation in watershed development", in Iyer, K. G. (Ed.): *Sustainable Development: Ecological and Sociocultural Dimensions*, Vikas Publishing House, New Delhi.
10. Jayaraman, T. K. (1980): "People's participation in the implementation of watershed management projects: an empirical study from Gujarat", *Indian Journal of Public Administration*, 26(4): 1009-1016.
11. Kolavalli, S. and J. Keer (2002): "Mainstreaming participatory watershed development", *Economic and Political Weekly*, 35(3): 225-242.

12. Lobo, C. (1995): *Rain decided to help us: Participatory watershed management in the state of Maharashtra, India*, Tata Energy Research Institute, New Delhi.
13. Lubell, M., M. Schneider, J. T. Scholz and M. Mete (2002): "Watershed partnerships and the emergence of collective action institutions", *American Journal of Political Science*, 46: 148-163.
14. Rhoades, Robert E. (1998): *Participatory Watershed Research and Management: Where the Shadow Falls*, Sustainable Agriculture Programme, International Institute for Environment and Development (IIED), London.
15. Samra, J. S. and B. L. Dhyani (1998): "Elements of Participatory Watershed Management in India" in National workshop on watershed approach for managing degraded lands in India challenges for 21st century, sponsored by Government of India, Ministry of rural areas and employment department of wastelands development, New Delhi.
16. Saravanan, S. (2002): "Institutionalising community based watershed management in India: elements of institutional sustainability", *Water Science and Technology*, 45: 113-126.
17. Shah, Parmesh (1994): "Participatory watershed management in India: the experience of the Aga Khan Rural Support Programme", in Scoones, I. and J. Thompson (Eds.): *Beyond Farmer First*, Intermediate Technologies Publications, London.
18. Singh, Katar (1991): "Determinants of people's participation in watershed development and management: An exploratory case study", *Indian Journal of Agricultural Economics*, 46(3): 278-286.
19. Swallow, B. M., B. P. Garity and M Van Noordwijk (2002): "The effects of scales, flows and filters on property rights and collective action in watershed management", *Water policy*, 3: 457-474.
20. Swallow, B. M., N. L. Johnson and R. S. Meinzen-Dick (2001): "Working with people for watershed management", *Water Policy*, 3: 449-455.

10.3 **Community Management of Irrigation**

1. Asare, B. (2002): "Local involvement in rural development: the tonu irrigation scheme in Ghana", *Development in Practice*, 12: 218-223.

2. Bardhan, P. (2000): "Irrigation and cooperation: and empirical analysis of 48 irrigation communities in South India", *Economic Development and Cultural Change*, 48-49(1-4): 847-66.
3. Galvez, Jose B. and Dominador B. Macatumbas (1993): "Community Based Resource Management: Perspectives, Experiences and Policy Issues Related to Irrigation", in Fellizar, F. P. (Ed.): *Community Based Resource Management: Perspectives, Experiences and Policy Issues*, Report no. 6, Environment and Resource Management Project (ERMP), Laguna, Philippines.
4. Meinzen-Dick, R. S., K. V. Raju and A. Gulati (2002): "What affects organization and collective action for managing resources? evidence from canal irrigation systems in India", *World Development*, 30: 649-666.
5. Navalawala, B. N. (1995): "Participatory Irrigation Management in India: Status, Issues and Approach", in Geijer, J. (Ed.): *Irrigation Management Transfer in Asia: Papers from the Expert Consultation on Irrigation Management Transfer in Asia*, Food and Agriculture Organization of the United Nations, International Irrigation Management Institute, Bangkok, Thailand.
6. Singh, Katar (1992): "Managing Common Pool Irrigation Tanks: A Case Study in Andhra Pradesh and West Bengal", Case Study no. 9, Institute of Rural management, Anand, India.
7. Sakurai, T. and K. Palanisami (2001): "Tank irrigation management as a local common property: the case of Tamil Nadu, India", *Agricultural Economics*, 25(2-3): 273-283.

Abstract: The objective of this paper is to conduct theoretical inquiries and empirical analysis on the issue of institutional evolution for resource management, focusing on irrigation water, a traditional local common property resource. Two management schemes for irrigation water, a community management regime (tank irrigation) and an individualised management regime (well irrigation), are compared in terms of rice production efficiency. Using farm household data collected by the authors in Tamil Nadu, India, it is found that the profit of rice production using well water only is low due to the high labour input required for well irrigation management. Then, estimation of the profit function reveals that the profit of farmers using both tank and well water is statistically significantly higher than that of farmers who use either well water only or tank water only. The result, based on game theoretical inquiries, implies that in equilibrium tank and well irrigation can coexist. Moreover, it is calculated that about 90% of farmers will use wells in equilibrium. Considering that well users are only 37% of all farmers at present, the number of wells will increase.

11. Community Management of Land Resources

11.1 Community Management of Land

1. Bollig, M. (2002): "Problems of resource management in Namibia's rural communities: transformations of land tenure between state and local community", *Erde*, 133: 151-182.
2. Brouwer, Roland (1995): "Common goods and private profits: traditional and modern communal land management in Portugal", *Human Organization*, 54: 283-295.
3. Chakravarty-Kaul, Minoti (1996): *Common Lands and Customary law*, Oxford University Press, New Delhi.
4. Curtis, Allan and Michael Lockwood (2000): "Landcare and catchment management in Australia: lessons for state-sponsored community participation", *Society and Natural Resources* 13(1): 61-73.
5. Kebede, B. (2002): "Land tenure and common pool resources in rural Ethiopia: a study based on fifteen sites", *African Development Review*, 14: 113-149.
6. Nadkarni, M. V. (1990): "Use and Management of Common Lands-Towards an Environmentally Sound Strategy", in Saldanha, Cecil J. (Ed.): *Karnataka State of Environment Report – VI*, Centre for Taxonomic Studies, St. Joseph's College, Bangalore, India.
7. Orlove, Benjamin S. (1980): "The Tragedy of the Commons Revisited: Land Use and Environmental Quality in High-Altitude Andean Grasslands", in Luchok, J., J. Cawthorn, and M. Braslin (Eds.): *Hill Lands: Proceedings of the International Symposium*, West Virginia University Books, WV.
8. Tan-Kim-Yong, Uraivan (1990): "Participatory Land-Use Planning as a Sociological Methodology for Natural Resource Management", Network Paper no. 14b, Rural Development Forestry Network, Overseas Development Institute, Regent's College, London.
9. http://www.iclei.org/liawards/winners2000/land_winners.htm

Local Initiatives Awards for Excellence in Land Resource Management Lviv, Ukraine, Green Crown of the City

Abstract: The community has created an inventory of environmentally and historically significant sites, and has prepared an environmental management plan for Znesinnya Park. Future plans for the park include an environmental education centre and open-air museum. The park has created seasonal employment for 25 people. Znesinnya Park is unique in the Ukraine and its long-term viability is

ensured by a high degree of community commitment, and the dedication of part of the city budget to the park program.

10. http://www.iclei.org/liawards/winners2000/land_winners.htm

**Local Initiatives Awards for Excellence in Land Resource Management
Chicago, USA, NeighborSpace.**

Abstract: Chicago was selected as the winner of the Local Initiatives Award for Excellence in Land Resources Management for its innovative program to support the creation and preservation of community-managed open spaces that has turned vacant lots into parks, gardens, and neighborhood meeting places. In 1996, the city identified the need to establish more open spaces in some of the more densely populated areas of the city. However, there were few remaining areas in which large open spaces could be created. As a result, the city created Neighbor Space, a not-for-profit corporation, to acquire and insure small plots of land to be managed and maintained by local community groups, businesses or organizations.

11.2 Community Management of Wetland

1. Aldred, Jonathan and Micheal Jacobs (2000): "Citizens and wetlands: evaluating the city citizens' jury." *Ecological Economics*, 34(2): 217-232.
2. Rahman, Mukhleshur, Sachindra Halder, and Ana Doris Capistrano (1996): "Community Based Wetland Habitat Restoration and Management: Experiences and Insights from Bangladesh", presented at "Voices from the Commons", the sixth annual conference of the International Association for the Study of Common Property (IASCP), Berkeley, CA, June 5-8.
3. <http://www.wwf-pacific.org/fj/kikori.htm>

Kikori Integrated Conservation And Development Project

Abstract: WWF's Kikori Integrated Conservation and Development Project in Papua New Guinea operates within one of the largest remaining tracts of undisturbed tropical forest in the southern hemisphere. The Kikori Basin covers an area of 2.3 million hectares and stretches from the extensive mangrove wetlands of the Gulf Province to the alpine grasslands of Doma Peaks in the Southern Highlands Province. The Kikori project aims to enhance community capacity to conserve biodiversity and increase long-term social and economic benefits through the sustainable management of their natural resources.