

Poverty And Environment

Bojö, Jan, and Rama Chandra Reddy. 2001. "Poverty Reduction Strategies and Environment: A Review of 25 Interim and Full PRSPs." World Bank, Washington, D.C. Processed.

Bucknall, Julia, Christiane Kraus, and Poonam Pillai. 2001. "Poverty and Environment." Background Paper for the World Bank's Environment Strategy. World Bank, Washington, D.C.

Ekbohm, Anders, and Jan Bojö. 1999. "Poverty and Environment: Evidence of Links and Integration into the Country Assistance Strategy Process." Environment Group, Africa Region, World Bank, Washington, D.C.

The authors discuss various hypotheses regarding these linkages and consider the evidence and counterevidence for each. Their analysis suggests that environmental degradation indeed tends to exacerbate poverty. However, a review of empirical evidence suggests that the links between poverty and environment are very context specific. The paper also presents some good examples of joint poverty environment analyses in the World Bank's Country Assistance Strategies and Participatory Poverty Assessments.

Forsyth, Tim, Melissa Leach, and Ian Scoones. 1998. "Poverty and Environment: Priorities for Research and Policy." Paper prepared for the United Nations Development Programme (UNDP) and the European Commission, Sussex University, Institute for Development Studies, U.K.

This paper challenges the assumption that the only way to impede environmental degradation is to alleviate poverty. It also questions the assumption that the poor are forced to degrade landscapes in response to economic marginalization, population growth, and environmental degradation. On the contrary, the authors argue that the poor are often able to construct institutions so as to maintain natural resources sustainably. The paper draws on numerous case studies to demonstrate that expected patterns of downward spiral between poverty and environment were in fact misplaced. The authors show how

local negotiation between different actors in rural and urban areas can lead to sustainable and equitable use of natural resources.

Government of Honduras. 2000. "Interim Poverty Strategy Paper." Tegucigalpa, Honduras.

Munasinghe, Mohan, and Wilfrido Cruz. 1995. "Economywide Policies and the Environment." World Bank Environment Paper No. 10. World Bank, Washington, D.C.

Parikh, Kirit S. 1998. "Poverty and Environment: Turning the Poor Into Agents of Environmental Regeneration." Social Development and Poverty Elimination Division, UNDP.

This paper focuses on including the poor in poverty reduction and environmental protection. The author argues that the poor depend on environmental and natural resources for a significant portion of their livelihoods. Hence, when natural resources degrade, their livelihoods are adversely affected. Often development projects have adversely affected the resources on which the poor depend, such as the flood control project in Bangladesh and deforestation in Brazil to promote cattle ranches. The author's thesis is that people can be agents of environmental regeneration, and innovative institutional arrangements can play a key catalytic role in this process.

Segnestam, Lisa. 1999. "Environmental Performance Indicators: A Second Edition Note." Environment Department Paper No. 71. World Bank, Washington, D.C.

Shyamsundar, Priya. 2001. "Poverty–Environment Indicators." Environment Department, World Bank, Washington, D.C. Processed.

Health and environment

Akbar, S., and K. Lvovsky. 2000. "Indoor Air Pollution: Energy and Health for the Poor." UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP)

Newsletter, no. 1, September. World Bank, Washington, D.C.

Aristanti, C. 1997. "Gender, Biomass Energy and Health." *Wood Energy News* 12(1):8–10.

Dasgupta, Jashodhara, and Abha Das. 1998. "Health Effects of Women's Excessive Work Burden in

Deforested Rural Areas of Uttarkhand." Paper presented at the National Conference on Health and

Environment, Center for Science and Environment, New Delhi.

Esrey, Steven A. 1996. "Water, Waste, Well-Being: A Multi-Country Study." *American Journal of Epidemiology* 143(6):608–23.

Esrey, Steven A., James B. Potash, Leslie Roberts, and Clive Shiff. 1990. *Health Benefits from Improvements in Water Supply and Sanitation*. Water and Sanitation for Health (WASH) Project. WASH Technical Report No. 66. Prepared for the U.S. Agency for International Development under WASH FASR No. 035. Arlington, VA.

This report reviews studies published in the last 40 years on the relationship between water and sanitation and six diseases (diarrhea, ascariasis, trachoma, hookworm, schistosomiasis, and guinea worm). The study found many of the reviews to be methodologically flawed but widely differing results reported from those that followed sound methodologies. The study also found safe excreta disposal more effective at reducing the diseases than water supply. Safe water and sanitation more often reduced the severity of the diseases than the incidence. Improving the quality of drinking water was less important than safe excreta disposal and proper use of water for hygienic purposes.

———. 1991. "Effects of Improved Water Supply and Sanitation on Ascariasis, Diarrhea, Dracunculiasis, Hookworm, Infectious Schistosomiasis and Trachoma." *Bulletin of WHO* 69(5):609–21.

Hughes, Gordon, Meghan Dunleavy, and Kseniya Lvovsky. 1999. *The Health Benefits of Investments in Water and Sanitation: A Case Study of Andhra Pradesh, India*. Washington, D.C.: World Bank.

This study estimates the proportion of total burden of ill health in Andhra Pradesh that is attributable to environmental factors. It finds that diseases relating to water supply and sanitation are responsible for 11 percent of the total burden of disease, and those relating to indoor air pollution are responsible for a further 6 percent. The study evaluates the costs and health benefits of investing in water supply and sanitation and then subtracts the expected willingness to pay from the costs to produce net costs to the public purse. This allows policymakers a choice between different interventions aimed at reducing the total burden of disease related to poor water and sanitation.

Jalan, Jyotsna, and Martin Ravallion. 2001. "Does Piped Water Reduce Diarrhea for Children in Rural India?" World Bank Policy Research Working Paper. Washington, D.C.

Klees, Rita, Joana Godinho, and Mercy Lawson-Doe. 1999. "Sanitation, Health and Hygiene in World

Bank Rural Water Supply and Sanitation Projects." Europe and Central Asia Region Studies Program,

World Bank, Washington, D.C.

Lavy, Victor, John Strauss, Duncan Thomas, and Philippe de Vreyer. 1996. "Quality of Health Care, Survival and Health Outcomes in Ghana." *Journal of Health Economics* 15(3):333–57.

The authors take data from the Living Standard Measurement Study survey and estimate the effects of health services and public infrastructure on the health of children in Ghana. They look at child survival and stunting (height for age and weight for height). They find that increases in the prices of basic foodstuffs, especially cassava and maize, have a

major negative effect on child survival and stunting, particularly in rural areas. The effects on child survival are larger for girls than boys, indicating different intrahousehold allocations. They also find that the quality of water and sanitation facilities significantly affects child survival and malnutrition. They find the effects larger and more significant among older children. The effects are larger for children with families in which the heads of families and their spouses have low levels of education.

Listorti, James, and Fadi Doumani. 2001. "Environmental Health: Bridging the Gaps." Discussion Paper No. 433. World Bank, Washington, D.C.

Lvovsky, Kseniya, Gordon Hughes, David Maddison, Bart Ostro, and David Pearce. Forthcoming. "Air Pollution and the Social Costs of Fuels." World Bank Technical Paper, Washington, D.C.

This paper provides a model for assessing the likely health damages attributable to air pollution in an urban area. The model requires simple data on fuel use, types of sources, wind directions, and population patterns, and enables the user to estimate quickly the likely health costs of air pollution, its most important sources, the likely costs of reducing the pollution, and the expected benefits.

Lvovsky, Kseniya, Maureen Cropper, James Listorti, A. Edward Elmendorf, Candace Chandra, Julian Lampietti, Ronald Subida, and Meghan Dunleavy. 1999. "Environmental Health Background Paper to World Bank Environment Strategy." Draft. World Bank, Washington, D.C.

This paper gives an overview of the literature and current thinking on environmental health issues in developing countries. It includes estimates of the total burden of disease attributable to environment for different regions of the world. It then outlines typical environmental health interventions, best practices, and indicators.

Murray, Christopher J. L., and Alan D. Lopez. 1996. *Global Health Statistics: A compendium of Incidence, Prevalence and Mortality Estimates for Over 200 Conditions*. Cambridge, Ma.: Harvard University Press.

Songsore, J., and G. McGranahan. 1993. "Environment, Wealth and Health: Towards an Analysis of Intra-urban Differentials Within the Greater Accra Metropolitan Area, Ghana." *Environment and Urbanization* 5(2):10–34.

Economic opportunity and sustainable livelihoods

Cavendish, William. 1999. "Empirical Regularities in the Poverty-Environment Relationship of African Rural Households." Center for the Studies of African Economies. Working Paper Series 99–21. London.

Chambers, Robert, and Gordon Conway. 1992. "Sustainable Rural Livelihoods: Practical Concepts for the 21st Century." IDS Discussion Paper No. 296. Institute of Development Studies, University of Sussex, Brighton, U.K.

Christie, Ian T., and Doreen E. Compton. 2001. "Tourism in Africa." Africa Region Working Paper Series No. 12. World Bank, Washington, D.C.

DFID (Department for International Development). 1999. Sustainable Livelihoods Guidance Sheets. Available at http://www.livelihoods.org/info/guidance_sheets_pdfs/section1.pdf.

FAO (Food and Agriculture Organization of the United Nations). 1999. *The State of World Fisheries and Aquaculture 1998*. Rome: FAO.

Heath, J., and Binswanger, Hans. 1996. "Natural Resource Degradation Effects of Poverty and Population Growth Are Largely Policy Induced: The Case of Columbia." *Environment and Development Economics*. Vol. 1, part 1, 65–83.

Jodha, N. S. 1986. "Common Property Resources and Rural Poor in Dry Regions of India." *Economic and Political Weekly* 21(27):1169–81.

In his now classic study, Jodha quantifies the extent to which the rural poor benefit from

common property resources (CPRs). His argument is that the decline of CPRs, in part a consequence of their privatization, results in the subsequent pauperization of the poor. The study, based on data from 80 villages in 21 districts in dry regions of seven states in India, shows that poor households (“poor” refers to landless laborers and small farmers with less than 2 hectares of dry land) are much more dependent on CPRs than larger farm households. For instance, while 95 percent of the poor households in Andhra Pradesh were dependent on CPRs for food items, only 10 percent of the larger farm households were dependent on CPRs for food. Furthermore, Jodha’s study shows that income from CPRs accounts for a larger percentage of income for poor households than for better-off households.

Kepe, Thembela. 1997. *Environmental Entitlements in Mkambati: Livelihoods, Social Institutions, and Environmental Change on the Wild Coast of the Eastern Cape*. Research Report No. 1. Sussex University, Institute for Development Studies and Program for Land and Agrarian Studies.

This case study calculates the importance of natural resources on the incomes of poor people.

Lutz, Ernst, ed. 1998. “Agriculture and the Environment: Perspectives on Sustainable Rural Development.” A World Bank Symposium. World Bank, Washington, D.C.

McDowell, Christopher, and Arjan de Haan. 1997. “Migration and Sustainable Livelihoods: A Critical Review of the Literature.” IDS Working Paper 65. Sussex University, Institute of Development Studies.

Drawing on evidence from Ethiopia, Bangladesh, and Mali, the author argues that migration is more often the rule rather than the exception. The paper critiques theories of migration that focus only on macroeconomic or political factors to explain migration.

Scoones, Ian. 1998. “Sustainable Rural Livelihoods: A Framework for Analysis.” IDS Working Paper No.

72. Sussex University, Institute of Development Studies.

This paper discusses the concept of sustainable livelihoods. The framework of sustainable livelihoods shows how within a particular (policy, historical, agro-ecological) context, certain combinations of livelihood resources or capital are used to follow different livelihood strategies. These strategies include agricultural intensification or extensification, livelihood diversification, and migration. The paper further discusses five indicators of sustainable livelihoods, poverty reduction being one of them.

World Bank. 1995. "Rural Fuelwood Markets and Village Management of Natural Woodlands in Niger." Processed. Washington, D.C.

World Bank. 2000. *A Review of the World Bank's 1991 Forest Strategy and Its Implementation*. Operations and Evaluation Department, Washington, D.C.

Vulnerability to natural disasters

Albala-Bertrand, J. M. 1993. *The Political Economy of Large Natural Disasters with Special Reference to Developing Countries*. Oxford: Clarendon Press.

Albala-Bertrand's study finds that the magnitude of the negative effect of disasters declines with development, although vulnerability increases during the transition period from simple to diversified economies. People most affected by natural disasters are those belonging to the poorest and most powerless social sectors in less developed countries.

Benson, C., and E. Clay. 1994. "The Impact of Drought on Sub-Saharan African Economies: A Preliminary Examination." World Bank Technical Paper No. 401. Washington, D.C.

This paper looks at economy-wide, macroeconomic impacts of droughts in Sub-Saharan Africa. The authors' empirical work suggests that the correlation between the level of economic development and the magnitude of the impact of a drought is not linear. The relationship turns out as one of an inverted U shape. Furthermore, the authors find that droughts exacerbate income inequalities.

Datt, G., and H. Hoogeveen. 2000. "El Niño or El Peso? Crisis, Poverty and Income Distribution in the Philippines." Policy Research Working Paper No. 2466. World Bank, Washington, D.C.

Enarson, E., and B. Hearn Morrow. 1998. *The Gendered Terrain of Disasters*. Westport, Conn.: Praeger.

This collection brings together current knowledge about gender and disaster. Seventeen case studies are complemented by a survey of existing work, an assessment of the need for work on this topic, and a study on how neglect of gender issues has misdirected efforts of disaster prevention and relief. Poor families around the world suffer the greatest losses and have access to the least public or private recovery assets. Among the poor, women are most at risk when hazardous conditions become disastrous events.

Kreimer, A., and M. Munasinghe. 1990. *Managing Natural Disasters and the Environment: Selected Materials from the Colloquium on the Environment and Natural Disaster Management*. Environmental Policy and Research Division, Environment Department. World Bank: Washington, D.C.

This volume explores the relationship of environmental degradation and vulnerability to disasters and their combined effects on both natural and man-made habitats. It is organized around four themes: implications of strategic global, systemic, and survival issues; development from vulnerability to resilience; risk management; and the coordination of local, national, and international efforts to reduce vulnerability to disasters by prevention, mitigation, and recovery.

Mitchell, J. 1999. *Crucibles of Hazard: Mega-Cities and Disasters in Transition*. Tokyo and New York: United Nations University Press.

The study covers environmental risks in 10 of the world's major cities, some of which have already repeatedly experienced devastating earthquakes, storms, floods, and wildfires. The authors conclude that the natural disaster potential of the biggest cities is expanding at a pace that far exceeds the rate of urbanization.

Sharma, Mahesh, Ian Burton, Maarten van Aalst, Maxx Dilley, and Gayatri Acharya. 2000. "Reducing Vulnerability to Environmental Variability." Background Paper for the World Bank's Environment Strategy. World Bank, Washington, D.C.

Twigg, J., and M. R. Bhatt, eds. 1998. *Understanding Vulnerability: South Asian Perspectives*. London: Intermediate Technology on behalf of Duryog Nivaran.

This book contains three case studies of South Asian people and areas vulnerable to natural and man-made hazards. E. Bhatt writes about poor women in the towns and countryside of the Indian state of Gujarat who face a wide range of natural and man-made hazards. The studies of Nepali villagers by N. Dahal reveal that they live under the permanent threat of mountain floods and landslides. S. Arachchi also looks at a village society in Sri Lanka's dry zone, which endures drought as a persistent hazard. The final essay by M. Bhatt discusses ways of understanding vulnerability by learning from vulnerable people.

Environment and empowerment

Africa Resources Trust and the Campfire Association. 1996. *Zimbabwe's CAMPFIRE: Empowering Rural Communities for Conservation and Development*. Harare, Zimbabwe.

Devasia, L. 1998. "Safe Drinking Water and Its Acquisition: Rural Women's Participation in Water Management in Maharashtra, India." *Water Resources Development* 14(4):537-46.

Feder, Gershon. 1987. "Land Ownership, Productivity and Farm Productivity: Evidence from Rural Thailand." *Journal of Development Studies* 24(1):16-30.

This classic study tests the impact of empowerment through ownership and titling on resource management. Feder finds that titled farmers invested more in their land and had a higher productivity than the untitled ones.

IIED (International Institute for Environment and Development). 1994. *Whose Eden? An Overview of Community Approaches to Wildlife Management*. London: IIED.

Lynch, Owen J., and Kirk Talbott. 1995. *Balancing Acts: Community-Based Forest Management in Asia and the Pacific*. Washington, D.C.: World Resources Institute.

Forest lands in Nepa were turned over to the communities to develop management plans and administer them after approval. This has apparently been quite successful, leading to extensive regeneration and equitable sharing of benefits. Other communities are queuing up to get their own management plans approved.

Mahapatra, R. 2000. "A Quiet Revolution." *Down to Earth* 8(21):24.

Muir, Kay, and Jan Bojö. 1996. "Economic Policy, Wildlife and Land Use in Zimbabwe." In Jan Bojö, ed., *The Economics of Wildlife: Case Studies from Ghana, Kenya, Namibia and Zimbabwe*. Washington, D.C.: World Bank.

Murombedzi, J. C. 1999. "Devolution and Stewardship in Zimbabwe's Campfire Programme." *Journal of International Development* 11, 287–93.

Roe, D., J. Mayers, M. Grieg-Gran, A. Kothari, C. Fabricius, and R. Hughes. 2000. *Evaluating Eden: Exploring the Myths and Realities of Community-Based Wildlife Management*. Evaluating Eden Series No.

8. IIED, London.

Stalker, Linda. 2001. "Why Some Village Water and Sanitation Committees Are Better Than Others: A Study of Karnataka and Uttar Pradesh (India)." World Bank Water and Sanitation Program Field Note. Washington, D.C.

Analyzing costs and benefits of environmental interventions

Bojö, Jan. 1992. "Cost-Benefit Analysis of Soil and Water Conservation Projects: A Review of 20 Empirical Studies." In K. Tato and H. Hurni, eds., *Soil Conservation for Survival*. Ankeny, Iowa: Soil and Water Conservation Society.

Convery, Frank. 1991. "Applying Environmental Economics in Africa." World Bank

Technical Paper No. 277. Africa Technical Series, World Bank, Washington, D.C.

Dixon, J. A., L. F. Scura, R. A. Carpenter, and P. B. Sherman 1986. *Economic Analysis of Environmental Impacts*. London: Earthscan.

Freeman, A. M. 1994. *The Measurement of Environmental and Resource Values: Theory and Methods*. Washington, D.C.: Resources for the Future.

Gittinger, J. P. 1982. *Economic Analysis of Agricultural Projects*. 2d ed. Baltimore and London: Johns Hopkins University Press.

Helmens. F. L. C. H. 1979. *Project Planning and Income Distribution*. Boston and London: Martinus Nijhoff Publishing.

Kramer, Randall, Narendra Sharma, and Mohan Munasinghe. 1995. "Valuing Tropical Forests: Methodology and Case Study of Madagascar." World Bank Environment Paper No. 13. Washington, D.C.

Lampietti, Julian A., and John A. Dixon. 1995. "To See the Forest for the Trees: A Guide to Non-Timber Forest Benefits." World Bank Environment Paper No. 13. Washington, D.C.

Lutz, Ernst, Stefano Pagiola, and Carlos Reich, eds. 1994. "Economic and Institutional Analysis of Soil Conservation Project in Central America and the Caribbean." World Bank Environment Paper No. 8. Washington, D.C.

Shiferaw, B, and S. Holden. 1999. "Soil Erosion and Smallholder's Conservation Decisions in the Highlands of Ethiopia." *World Development* 27(4):739–52.

Squire, Lyn, and H. G. van der Tak. 1975. *Economic Analysis of Projects*. Baltimore and London: The Johns Hopkins University Press.

Toma Enterprises Ltd. 1996. *Willingness to Pay for Water in Wellington and Tombo (Western Sierra Leone): Strategies for Cost Recovery*. Prepared for the Department of

Lands, Housing and the Environment, Government of Sierra Leone. Freetown.

Whittington, Dale, Apia Okorafor, Augustine Okore, and Alexander McPhail. 1993. "Strategy for Cost Recovery in the Rural Water Sector: A Case Study of Nsukka District, Anambra State, Nigeria." *Water Resources Research* 26(9):1899–913.

Whittington, Dale, Donald T. Lauria, Albert M. Wright, Kyengoa Choe, Jeffrey A. Hughes, and Venkateswarlu Swarna. 1993. "Household Demand for Improved Sanitation Services: A Case Study of Kumasi, Ghana: A Contingent Valuation Study." *Water Resources Research* 29(6):1539–60.

Household survey analysis (see also chapter 1, "Poverty Measurement and Analysis")

Grosh, Margaret E. 1997. "The Policymaking Uses of Multitopic Household Survey Data: A Primer." *World Bank Research Observer* 12(2):137–60.

This paper discusses the benefits and limitations of national survey data, reviews those topics suitable for policy analysis, illustrates the kinds of issues typically addressed through the Living Standard Measurement Study surveys, and examines how analysis of survey data can inform the decisionmaking process. Some examples discussed in the paper include benefits of the food stamp program in Jamaica, impact on the poor of an increase in taxes on petroleum products in Ghana, characteristics of poverty in Ecuador, streamlining food subsidies in Tunisia, and efficient provision of public services (roads, public transport, electricity, pipe-borne water, dispensary, and so forth) in Vietnam.

Grosh, Margaret, and Paul Glewwe, eds. 1999. *Designing Household Survey Questionnaires for Developing Countries: Lessons from Ten Years of LSMS Experience*. Development Research Group, World Bank, Washington, D.C.

This book provides detailed advice on how to design a multi-topic household survey and set realistic objectives, identify tradeoffs, and design a survey that best meets those objectives. The book is divided into three parts: (1) The Overall Design of the Survey, (2) The Design of Modules and Questionnaires, and (3) General Methodological Issues.

Chapter 14 covers environmental issues, stating that “to date, very few LSMS surveys have collected data that can be used to examine environmental issues.” There are, however, lengthy submodules on water, sanitation, and fuel, and also contingent valuation models to measure household willingness to pay for improvements in rural and urban water quality, urban air quality, and urban sanitation.