

JOY E. HECHT, PhD

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, PHD IN URBAN AND REGIONAL PLANNING, June 1988.

DISSERTATION TOPIC: Introduction of information systems for municipal property tax management in Tunisia.

HARVARD UNIVERSITY, BA IN ECONOMICS, MAGNA CUM LAUDE, June 1980. Phi Beta Kappa. Thesis on valuing benefits of environmental controls. Harry S. Truman Scholar from Massachusetts, 1978.

EMPLOYMENT HISTORY

2004 – PRESENT: INDEPENDENT CONSULTANT on environmental and climate change economics, environmental monitoring and indicators, environmental and tourism satellite accounts; see detail on individual assignments below.

2014-2017: EXPERT ON ENVIRONMENTAL FISCAL REFORMS, EUROPEAN COMMISSION PROJECT “Lebanon Support to Reforms and Environmental Governance” project. Advising the Government of Lebanon on climate change policies and other incentive-based environmental policies. Part-time over the life of the four-year project.

2012 – 2015: ENVIRONMENTAL ECONOMICS EXPERT, EUROPEAN COMMISSION PROJECT “Technical Assistance to the GCCA Climate Support Facility” Provided intermittent technical assistance on climate change mitigation and adaptation to countries in Africa, the Caribbean, and the Pacific. See detail on individual assignments below.

2002 –2003: FOUNDING EXECUTIVE DIRECTOR, NEW JERSEY SUSTAINABLE STATE INSTITUTE. Built a new think tank to analyze sustainability issues in the state of New Jersey. Affiliated with Rutgers University and the New Jersey Institute of Technology. Activities included designing a policy analysis program, managing staff updating state sustainability indicators, facilitating consensus on indicator targets, analysis of energy issues, liaison with Board of Governors, fund-raising, etc.

2000 - 2002: WROTE A BOOK ON ENVIRONMENTAL ACCOUNTING, published by Resources for the Future in 2005. **CONSULTANT** on environmental accounting, indicators, and policy; see detail on individual assignments below.

1996 - 2000: IUCN/ THE WORLD CONSERVATION UNION, Global Coordinator, Green Accounting Initiative, a project to support integrating the environment into the national income accounts.

- Research on use of environmental accounts for policy decisions; supervised biodiversity valuation studies in Pakistan and Bangladesh; provided economic input into IUCN activities on climate change, trade and environment, forest policy; analyzed market potential of biodiversity prospecting; member of UNSD “London” and “Nairobi” groups on environmental accounting.
- Managed technical activities of four project staff members.

1995: ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, Environment Directorate. Consultant. Worked on the environmental performance review program; participated in New Zealand review and prepared a handbook for OECD members and other countries on how to carry out such reviews.

1992 - 1996: CONSULTANT on international environmental policy and economics; see detail below on assignments.

1988-1991: INTERNATIONAL RESOURCES GROUP, Washington DC Management Information Specialist in natural resources division. See detail on individual assignments below.

1982-1988: MASSACHUSETTS INSTITUTE OF TECHNOLOGY, DEPARTMENT OF URBAN STUDIES AND PLANNING. Various research assistant positions while completing master's degree and PhD in urban and regional planning.

1981-1982: ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT Environment Directorate. Consultant. Built database on environmental protection expenditures in OECD member countries.

1980-1981: RESOURCES FOR THE FUTURE, Washington D.C. Research Assistant. Identified data sources for US resource accounting project. Conducted literature review on methods for valuing the environment.

SHORT-TERM CONSULTING ASSIGNMENTS

NB: Reports from many of these assignments may be found on the web at <http://www.joyhecht.net/professional.html>; see also list of major publications and papers below.

CLIMATE CHANGE

- Environmental economist working on coastal climate change issues in Mauritius. Identified opportunities to use economic instruments to strengthen coastal management and climate change adaptation. 2017-2018.
- Environmental economist on a World Bank project analyzing costs and benefits of strengthening the national weather and hydrology services of African countries. Estimates of the economic benefits of improved weather data in Senegal, Cameroon, Tanzania, and Madagascar. 2016.
- Team leader on an assessment of the costs imposed by climate change in Indonesia and of the best strategies for adaptation. Focus on fisheries, coastal and inland flooding, agriculture, and other water-related issues. 2015-2016.
- Advisor to the Government of Lebanon on incentive-based environmental policy, green taxes, carbon taxes, and carbon trading, as part of the EU-funded Lebanon Support to Reforms and Environmental Governance project. Intermittent work from 2014 to 2017.
- Analyzed energy projects and forestry from West African countries seeking Clean Development Mechanism and REDD funding, for the African Biofuels and Renewal Energy Company (ABREC). 2012.
- Senior Technical Specialist on Adaptation, USAID Climate Change Monitoring and Evaluation Framework Project. Developed framework and indicators for monitoring and evaluating adaptation components of the USAID Global Climate Change Initiative. 2012.
- Prepared briefing paper on economic methods for analyzing costs and benefits of climate change adaptation projects, for USAID African and Latin American Resilience to Climate Change (ARCC) project. 2012.
- Team leader, monetary valuation of the costs imposed by climate change in three ecoregions of East Africa, for USAID. Analyzed impacts of climate change on agriculture, pastoralism, health, and sea level rise. Developed recommendations for integrating climate change into the design of USAID regional programs. 2010-2011.

ENVIRONMENTAL MANAGEMENT, INSTITUTIONS, AND INFORMATION

- Environmental Economist / Financial Management Expert, performance assessment of the Zimbabwe Environmental Management Agency. Responsible for economic and financial aspects of the assessment. Reviewed financial performance of the Agency, use of economic tools and valuation in their work, and a range of other issues. 2018-present.
- Wrote Malawi Country Environmental Analysis (Phase I) for the World Bank; wrote forestry "deepdive" for Phase II of the CEA. 2017-2018.
- Advisor on sustainable financing for the Environmental Protection Agency of Sierra Leone. Carried out initial assessments of financing mechanisms, potential for development of environmental accounts, and scoping for an assessment of economic costs imposed by environmental degradation. 2015.
- Evaluation of USAID-funded Global Sustainable Tourism Alliance, which used tourism as a tool for biodiversity conservation and community economic development. Assessed impacts on conservation, project design process, stakeholder participation. 2013-2014.
- Policy, legal, and regulatory analyst, design of phase III of the USAID Central Africa Regional Program for Environment (CARPE III). Analysis of policy, legal, and regulatory frameworks for implementation of REDD+, CBNRM, and similar issues in the Central Africa region. 2012.
- Expert in environmental taxation and finance on a team identifying and formulating a European Union environment program in Morocco. 2010.
- Analysis of biodiversity strategies for USAID agribusiness project in Mali. Identified a series of options that provided maximum impact for AID support, in light of government priorities, the activities of other donors and of biodiversity NGOs, and the threats to key species and ecosystems in Mali. 2008.
- Analysis of sustainable financing mechanisms to support national parks management in Madagascar, for WWF. Considered potential of carbon offsets, higher park entry fees, airline surcharges, hotel taxes, and other revenue funding sources. 2007-2008.
- Environmental Policy Specialist on Biodiversity Assessment and Technical Support (BATS) project for USAID/ Africa. Assessed the relationship between conservation and economic development in the context of USAID support for biodiversity over the past thirty years. 2006-2007.
- Analyzed sustainable park entry fee structures for Great Limpopo Transboundary Park and rationale for allocation of funds between South Africa, Mozambique and Zimbabwe. 2004.
- Assessment of information needs and availability for environmental management in Ethiopia, as part of UN Sudano-Sahelian Office program on the introduction of spatial information systems. 2004.

- Participant in US Forest Service working group designing sustainability indicators system for the minerals sector. Working with representatives of minerals industry, government, and civil society to design and review indicators. Chaired environmental section of the working group. 2000-04.
- Carried out a comparative analysis of USAID strategies for identifying, monitoring and mitigating environmental impacts of agricultural export promotion and tariff policy reform in Africa, 1994. Followed up on implementation of those strategies in four countries, 1999.
- Assessed legal, regulatory, and institutional frameworks for water resources management for Morocco. 1996.
- Led a 7-person team that identified potential environmental impacts of agricultural export promotion and tariff policy reform in Chad; designed a program to track those impacts in real time. 1993. Published in *Ecological Economics*.
- Environmental economist on team analyzing institutional and legal basis for pollution control in Morocco. 1994-5.
- Wrote World Bank's Chad Environmental Strategy Paper. 1993.
- Project manager and institutional analyst on team studying methods for improving USAID Africa Bureau's compliance with its environmental requirements. Washington and Africa, 1991.
- Wrote information and accounting portion of USAID primer on management of biodiversity. 2001.
- Designed and introduced a project-based management information system to strengthen planning and financial accountability for AGRHYMET, a West African organization working on agriculture and meteorology. 1988-90.

ENVIRONMENTAL ECONOMICS AND NON-MARKET VALUATION

- Environmental economist, International Finance Corporation project on natural capital accounting. Worked with team carrying out pilot projects linking corporate sustainability accounting to national accounts and public policy in Rwanda, Indonesia, and the Philippines. 2016–2018.
- Environmental economist, valuation of ecosystem services provided by forest reserves in the Shire River Basin, Malawi. 2017.
- External advisor on environmental and tourism accounting to Malgache team analyzing willingness to pay for national parks, through World Bank-funded environment project in Madagascar. 2013-2014.
- Team leader on a valuation of Malawi's forests, estimating contribution of forest activities to GDP; value of forest depreciation; total economic value of the forests; and contribution of forests to livelihoods. Supervised one Malawian colleague. 2013.
- Economist, assessment of status, threats, and opportunities for conservation of biodiversity and tropical forests in Kenya, for USAID. 2011.
- Assessed the level of funding required to compensate for the impacts of the Lom Pangar Dam in Cameroon on adjacent large primate habitat, for WWF. Analyzed financial and institutional structures for ensuring that beneficiaries of the dam provide resources needed for compensation. 2009.
- Evaluation of environmental management systems and conservation in International Finance Corporation environmental and social performance standards in the agribusiness sector. Interviewed local communities about impacts of IFC-funded projects in India, to evaluate effectiveness of the World Bank Group's environmental and social safeguards and assess EMS and environmental performance. 2008-09.
- Team leader on strategic environmental assessment for Millennium Challenge Corporation program of technical assistance to agribusiness development. Interviewed project participants in a dozen villages in six provinces to assess development and environmental impacts of the program. Managed team of Malgache professionals, synthesized drafts in English and French to produce final report. Madagascar. 2008.
- Designed and implemented a valuation study for resources of Mount Mulanje, Malawi, including potential revenues from park use, carbon sequestration, sustainable private harvesting of natural resource-dependent products, fuelwood sales, etc. Worked with residents of local communities surrounding the mountain to determine how they rely on its resources, its contribution to their economic well-being, and their impacts on biodiversity and environmental services on the mountain. 2005-2006.
- Analyzed environmental impacts of international transport and of tariff escalation, for OECD Joint Committee on Trade and Environment. Tariff escalation paper published in *World Development*. 1996.
- Leader and environmental economist on interdisciplinary team developing USAID environmental strategy in Morocco, based on techniques of comparative risk assessment. 1995.

SATELLITE ACCOUNTING AND STATISTICS

- Advisor to World Bank funded resource accounting project in Madagascar, on development of tourism satellite accounts that will permit identification of the economic contribution of national parks. 2014-2015.
- Team Leader, EC project to develop tourism satellite accounts for St. Vincent and the Grenadines. Worked with tourism and national accounts staff to compile pilot TSA that they will be able to continue in future. 2011.
- Assessment of potential to strengthen sustainable management of marine resources in Indonesia through integration of

fisheries into the social accounts matrices and development of fisheries satellite accounts. 2011.

- Analysis of Jordanian tourism statistics for the development of tourism satellite accounts and indicators. Developed profiles of tourists visiting Jordan from key sending countries, for use in developing a tourism marketing strategy. 2007-2010.
- Assessment of Mongolian tourism statistics and potential for constructing satellite accounts with which to monitor role of tourism in the economy. 2006.
- Comprehensive analysis of Egypt's environmental and tourism statistics systems, considering data availability and gaps, institutional and process changes needed, and potential for building satellite accounts on environment or tourism. 2004-2005
- Scoping mission on environmental accounting in Vietnam. Led team of Vietnamese experts to identify strategy for developing and using environmental accounts. 2004.
- Participant in "London Group" team developing revised UN manual on environmental accounting. 2001-2.
- Developed national environmental and sustainability indicators system for the Government of Egypt, on USAID contract. Gathered data and did pilot indicator calculations, as lead-in to implementation of the system. 2001-2.
- Wrote materials on policy applications of environmental accounting, for UN accounting manual. 2000.
- Led a team conceptualizing and designing an information system to facilitate "learning from experience" about natural resources management in the Sahel. 1996.
- Analyzed provincial and municipal use of spatial information systems to strengthen urban planning and local public management in China. 1993-4.
- Economist and information management specialist on USAID projects to incorporate environmental assets and services into the Philippine and Indonesian national income accounts. 1991.
- Developed a strategic planning process for spatial information systems analysis in African governments, subsequently applied in Ethiopia, Niger, Chad, and elsewhere. 1991.
- Team leader for a review of environmental evaluation and monitoring in USAID's Africa Bureau. 1991.
- Team leader on development of a GIS to analyze land management strategies in the Sahel. Analyzed how the Institut du Sahel (Mali) could support use of GIS for natural resource management in the region. 1990-91.

PUBLICATIONS, PAPERS AND MAJOR REPORTS

"Malawi Country Environmental Assessment." Joint author of World Bank report. 2018.

"Valuing the Forest Reserves of the Shire Basin." Prepared for the World Bank Shire Basin (Malawi) Management Project, through LTS International. May 2017.

"Using Fiscal Instruments to Control Quarry Proliferation." With Issam Srour and Ali Termos. Prepared for the EU-funded "Lebanon Support to Reforms and Environmental Governance" project, October 2016

"Indonesia: Costs of Climate Change 2050." Technical Report and Policy Brief. Prepared for the USAID-funded ATLAS Project through Chemonics, International. March 2016.

"Economic Instruments for Managing Industrial Pollution: Global Experience and Options for Lebanon." Prepared for the EU-funded "Lebanon Support to Reforms and Environmental Governance" project, February, 2015.

"Economic Instruments for Quarry Management: Global Experience and Options for Lebanon" Prepared for the EU-funded "Lebanon Support to Reforms and Environmental Governance" project, November 2014.

"Economic Instruments for Solid Waste Management: Global Experience and Options for Lebanon" Prepared for the EU-funded "Lebanon Support to Reforms and Environmental Governance" project, November 2014.

"Estimating the Economic Contribution of Malawi's Forests" Technical and policy reports prepared for Malawi Department of Forestry and European Commission "Improved Forest Management for Sustainable Livelihoods" Programme, March 2013.

"Methods for Economic Analysis of Climate Change Adaptation Interventions" Prepared for the USAID African and Latin American Resilience to Climate Change (ARCC) Project, July 2012.

"Policy, Legal and Regulatory Analysis, CARPE Phase III" Prepared for USAID/Central Africa Regional Program for the Environment (CARPE Project), May 2012.

"Review of the USAID/Global Climate Change Initiative Results Framework and M&E System: Adaptation." Prepared for USAID, March 2012.

"Saint Vincent and the Grenadines Tourism Satellite Account Project: Technical Report." Financed by the Commission of the European Communities, November 2011.

"Fisheries Accounts and Social Accounting Matrices in Indonesia: Assessment Report" Prepared for the USAID- funded Indonesia Marine and Climate Support Project, November 2011.

"Kenya Tropical Forest and Biodiversity Assessment" With Bruce Byers and Evans Mwangi. Prepared for USAID/ Kenya, September 2011.

"Costs Imposed by Climate Change in Three Ecoregions of East Africa." With Jane Kahata and Katharine Vincent. Prepared for USAID, March 2011. On the web at www.joyhecht.net/professional.html

"Biodiversity in the Pays Dogon." In *Africa Geographic*, March 2010. On the web at www.joyhecht.net/professional.html

"Cost and Mechanisms for Funding Wildlife Conservation near the Lom Pangar Dam, Cameroon" Prepared for the World Wildlife Fund, Central Africa Regional Program Office, January 2010.

"Evaluation of Environmental and Social Effects of IFC Work in the Agribusiness Sector." Prepared as part of the IEG evaluation of the Agriculture, Food and Agribusiness Operations of the World Bank Group, 1998-2008. March 2009

"When will community management conserve biodiversity? Evidence from Malawi." In *Field Actions Science Reports*, Volume 1, pp. 9-17, 2008. On the web at www.joyhecht.net/professional.html

"Biodiversity Activities for the USAID Economic Growth Project 'Integrated Initiatives for Economic Growth in Mali'" Prepared for the USAID-funded IICEM Project, October 2008.

"Strategic Environmental Assessment: Madagascar Millennium Challenge Account Agribusiness Investment Project." Prepared for Millennium Challenge Corporation Assistance Technique aux Agribusiness Centers Project, June 2008. On the web at www.joyhecht.net/professional.html

"Protecting Hard-Won Ground: USAID Experience and Prospects for Biodiversity Conservation in Africa" With David Gibson and David App. Prepared for USAID Biodiversity Assessment and Technical Support Program. On the web at www.joyhecht.net/professional.html

"How Much Is that Mountain?" In *Africa Geographic*, April 2008 Non-technical article on valuation of Mount Mulanje, Malawi. On the web at <http://www.joyhecht.net/professional.html>

"Current Patterns Future Opportunities" Analysis of Jordanian tourism patterns based on the National Tourism Visitor Survey. Prepared for the USAID/Jordan Tourism Development Project. February 2008.

"Introducing Green Charges to Fund Protected Areas In Madagascar: Technical Report" Prepared for World Wildlife Fund / Madagascar. January 2008.

"Implementation Plan for a Jordanian Tourism Satellite Account." Prepared for the Jordan Department of Statistics and the USAID / Jordan Tourism Development Project. December 2007. On the web at www.joyhecht.net/professional.html

"Compiling a Mongolian Tourism Satellite Account: Phase 1." Study carried out for the USAID Mongolia Economic Policy Reform and Competitiveness project (EPRC). July 2006. On the web at www.joyhecht.net/professional.html

"Valuing the Resources of Mulanje Mountain: Current and projected use under alternate management scenarios." Study carried out for the COMPASS II Project/DAI, Blantyre, Malawi. April 2006. On the web at www.joyhecht.net/professional.html

"National Environmental Accounting: A practical introduction" In the *Yearbook of Environmental Economics*, 2007.

"Can Indicators and Accounts Really Measure Sustainability? Considerations for the U.S. Environmental Protection Agency." Paper prepared in conjunction with the USEPA Workshop on Sustainability. February, 2006.

"Valuing the Resources of Mulanje Mountain: Study Design." Occasional paper 9, COMPASS II Project/DAI, Blantyre, Malawi. July, 2005. On the web at www.joyhecht.net/professional.html

"Egyptian Tourism Statistics and the Development of Tourism Satellite Accounts." Study carried out for the USAID DATA Project, Ministry of Planning, Egyptian Arabic Republic. April 2005. On the web at www.joyhecht.net/professional.html

National Environmental Accounting: Bridging the Gap Between Ecology and Economy. Introductory book targeting an informed but non-technical audience. (Washington, D.C.: Resources for the Future, 2005)

"Methodological Note: Incorporating Nature in the Tourism Satellite Accounts." Paper produced for USAID/Egypt, June 2004. On the web at www.joyhecht.net/professional.html

"Strengthening Data to Build Competitiveness: Using Tourism and Environmental Satellite Accounts to Track the Egyptian Economy." Paper Presented at the Conference on Revisiting Egypt's Competitiveness: The Road Ahead for Building Leading Sectors. Cairo, June 28 and 29, 2004. On the web at www.joyhecht.net/professional.html

"Environmental Statistics and Accounting in Egypt: Challenges and Opportunities." Prepared for the USAID DATA Project, Egypt Ministry of Planning, August 2004. On the web at www.joyhecht.net/professional.html

ed., *Living With the Future in Mind.* Third edition of the New Jersey Sustainable State Goals and Indicators. (New Brunswick, NJ: The New Jersey Sustainable State Institute, 2004) On the web at <http://www.njssi.net>.

"Green National Income, Measures of Welfare, and Ideological Bias." Presented at the biennial meeting of the International Society for Ecological Economics, Sousse, Tunisia, March 2002. On the web at www.joyhecht.net/professional.html

"Environmental Accounting: Will it meet the goals of ecological economics?" Presented at the annual meeting of the US Society for Ecological Economics, July 2001. On the web at www.joyhecht.net/professional.html

"Lessons Learned from Environmental Accounting: Findings from Nine Case Studies." (Washington, D.C.: IUCN-The World Conservation Union, 2000) On the web at www.joyhecht.net/professional.html

"Accounting for the Environment in National Economic Data: New directions for the United States?" *Natural Resources and Environment; ABA Section of Environment, Energy and Resources.* Vol. 14, No. 3, Winter 2000. On the web at www.joyhecht.net/professional.html

"Environmental Accounting: Where are we, where are we going?" *Resources*, April 1999. On the web at www.joyhecht.net/professional.html

ed., *Valuing the Environment: Cases from South Asia.* (Kathmandu: IUCN-The World Conservation Union, 1999) On the web at www.joyhecht.net/professional.html

"Can the Kyoto Protocol Support Biodiversity Conservation: Legal and Financial Challenges" with Brett Orlando. In *Environmental Law Reporter.* September 1998. On the web at www.joyhecht.net/professional.html

"Impacts of Tariff Escalation on the Environment: Literature Review and Synthesis" *World Development*, 25(1997):1701-1716 October 1997. On the web at www.joyhecht.net/professional.html

"Integrating the Environment into the World Bank's Country Assistance Strategy" with Christine Real de Azua. Prepared for IUCN, 1997.

"The Impacts of Freight on the Environment" Prepared for the OECD Trade Directorate, 1996. On the web at www.joyhecht.net/professional.html

"Monitoring the Environmental Impacts of Trade Policy Reform in Africa: Lessons from Chad" *Ecological Economics*,

13(1995):155-167 June 1995.

"Environmental Monitoring, Evaluation, and Mitigation Plans: A Review of the Experiences in Four African Countries" Prepared for USAID Africa Bureau, 1994.

"Chad: Country Environmental Strategy Paper" Report no. 13174-CD, The World Bank, 1994.

"Natural Resource Accounting in the Developing World: A Neo-Classical Approach" with H. Peskin. Presented at the UNEP Workshop on Environmental and Natural Resource Accounting, Nairobi, February 1992.

NATIONALITY: United States, Canada **RESIDENCE:** Newfoundland, Canada
LANGUAGES: Native speaker of English. Fluent French. Some Spanish and Arabic.
OTHER INTERESTS: Rowing and other sports; photography; the arts