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Solutions for environment and development
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EFD INITIATIVE CENTER REPORT

CENTRAL AMERICA 2012/13

The EfD-CA Center, at the Research Program in Economics and Environment for Development in CATIE, aims to contribute to the design and evaluation of public policies and local institutional arrangements that affect environmental protection, sustainable natural resources management and poverty alleviation by strengthening the understanding of the causes and consequences of human decisions as key inputs into policy making, and by increasing the interaction between academia and policy makers in Central America.

Cover: Arenal Volcano, La Fortuna, Costa Rica

THIS REPORT

This report presents the EfD-CA Center, at the Research Program in Economics and Environment for Development in CATIE, its members and their work during 2012/13. The Central American node of the Environment for Development initiative is based at:

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CONTENTS

P.5

Message from our
center Directors

P.6

The EfD Annual Meeting
2012 in Costa Rica

P.8

Research policy
interaction

P.13

Research

P.19

Academic capacity
building

P.21

Spreading the word

P.22

The Central American
node in the EfD
network

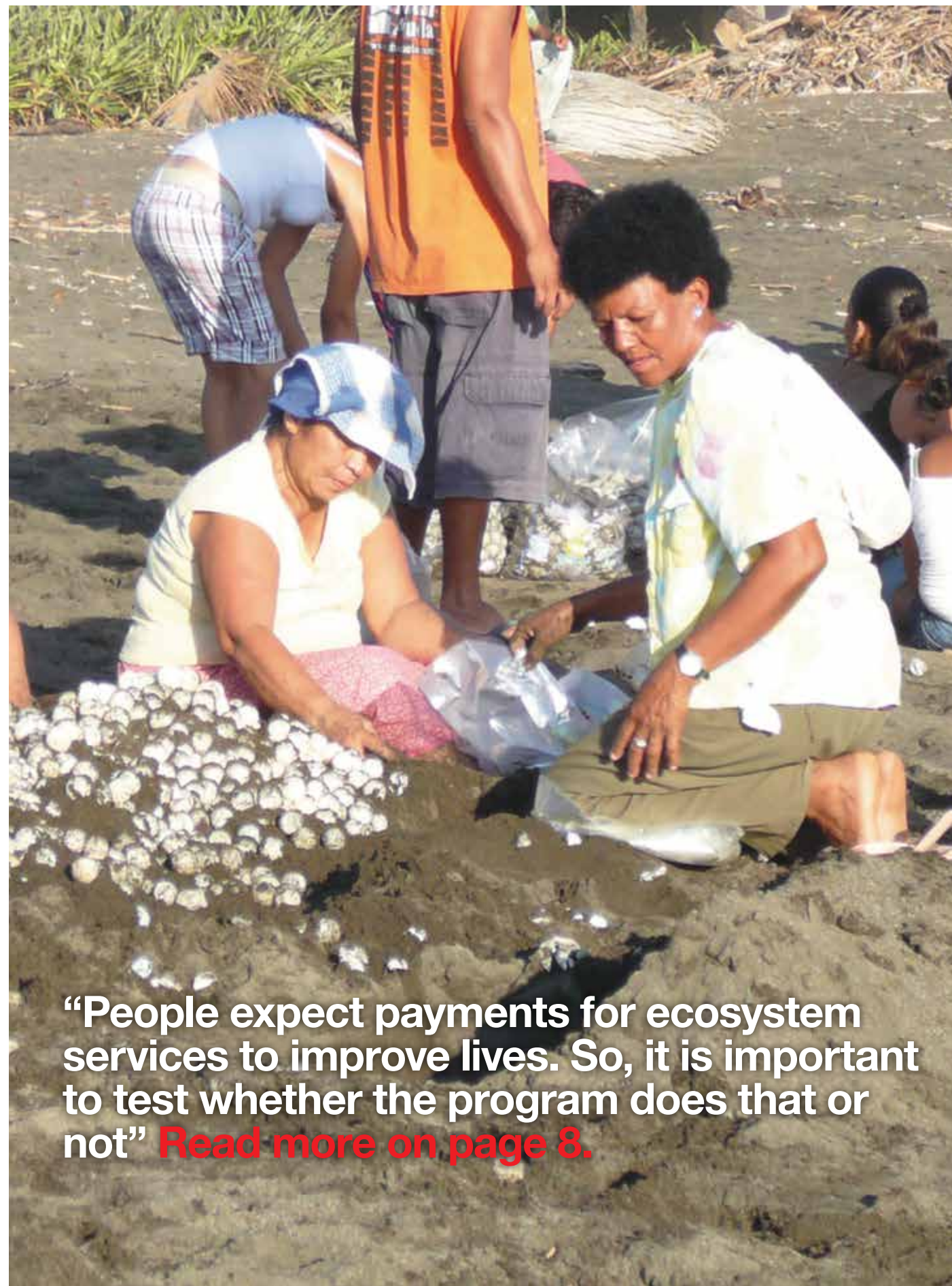
P.26

The EfD initiative in
brief

P.27

EfD Centers and
Partners

River and forest, Corcovado National Park. EfD-CA has developed methods to determine the costs of tourist concession services in parklands so that rangers can focus on conservation.



“People expect payments for ecosystem services to improve lives. So, it is important to test whether the program does that or not” [Read more on page 8.](#)



María A. Naranjo, Deputy Director, and Francisco Alpizar, Director

MESSAGE FROM OUR CENTER DIRECTORS

For us at EfD Central America, the last five years have been amazing: exciting, challenging, and very successful. In this year's report, allow us to take a look back at the main achievements of the past five years, and reflect on our strategy for the upcoming years.

With the establishment in 2007 of the Environment for Development Research Program for Central America, the practice of economics at CATIE took a sharp turn, moving away from a reactive, short term approach that was heavily dependent on short courses and consultancies. Instead, we adopted a long term perspective, centered on the research capacity of our staff.

Five years later, our main achievement has been the consolidation of a dynamic research team, successful in terms of publications and research funding, and with strong international recognition. Moreover, our team has enough resilience to meet the challenge of recruiting young researchers and preparing them to go out and pursue doctoral studies. In total, six members of our team have entered doctoral economics programs in top universities in Europe and the USA. They all remained linked to our program, and two of them have now returned to work with us, assuming leading roles in research and project management. Another key element in securing a critical mass of researchers has been our visiting scholar program, which has attracted top notch researchers to our offices. Those colleagues remain linked through research and capacity building long after their stay with us. Our strategy for the future is to continue to grow in

terms of research projects, in order to provide a suitable landing platform for the capacity we have helped create. Keeping our former colleagues closely linked to our program —both those pursuing doctoral studies and also senior scholars who spend their sabbatical with us—is a key element of our strategy.

Our second major achievement is closely related to the previous one: our funding strategy rests, daringly, almost entirely on sources that support research and capacity building. We have attracted the attention and interest of research funding institutions, and have competed successfully for funds from foundations (e.g. the Tinker Foundation and 3ei), multilateral agencies (e.g. the World Bank and the Inter-Development Bank), and bilateral donors (e.g. Sida and International Development Research Center, or “DRC”). Currently, our research portfolio is better funded and more stable, with a longer term perspective, than it was five years ago. Especially important, it is much more diversified. Additionally, we have secured continued funding to the Latin American and Caribbean Environmental Economics Program (LACEEP). This program has earned a great reputation in Latin America and worldwide, and has positioned CATIE as a point of reference on the subject of environmental economics. The synergies between our own research activities and LACEEP are enormous.

Our third achievement comes from our interaction with partners and associates. Our efforts make sense only to the extent that research is designed for a particular decision maker, in response to a major problem for the region.

We cannot assume that decision makers are passive agents awaiting our results. Their special knowledge should be incorporated into our research design, as they are both facilitators and recipients of information generated by research. In recent years, we have managed to build learning partnerships with decision makers that have improved our research agenda on issues such as protected area management, ecosystem services, public policy analysis, impact evaluation, and water management, to name a few central areas of our work.

The challenge for the future is to maintain an upward trend in terms of research capacity, with a diversified portfolio of funding sources, always in close collaboration with the relevant decision makers. As new topics emerge (climate change and water, and management of marine ecosystems, to name the two latest), the need to secure technical capacity, funding and policy contacts to strategically approach these topics constantly creates new challenges to our program. We look to the future full of confidence and a great feeling of adventure.

We thank all of you —funding partners, policy makers, colleagues everywhere— for trusting us and for being part of this fantastic journey.

Francisco Alpizar, Director
María A. Naranjo, Deputy Director



The 6th Annual Meeting of the Environment for Development (EfD) Initiative took place in La Fortuna, Costa Rica, between October 25 and 29, 2012. More than 70 people participated.

THE EFD ANNUAL MEETING 2012 IN COSTA RICA

The 6th Annual Meeting of the Environment for Development (EfD) Initiative took place in La Fortuna, Costa Rica, between October 25 and 29, 2012. More than 70 people participated at the rendezvous this year, including researchers from all EfD centers around the world and their collaborators, as well as key stakeholders, to discuss and exchange research results from EfD projects, ideas, and proposals.

Decisions and Discussions on Research

The highlight of the meeting this year was the establishment of EfD as an independent legal entity which will be governed by a board with representatives of the EfD centers. The Board will be the highest decision making body and will appoint the Research Committee and the Secretariat. "This is a historic moment!" said Gunnar Köhlin, Director of the Environment for Development (EfD) Initiative, and a professor in the Department of Economics at the University of Gothenburg. "This will enable EfD to become a truly global organization, with the ambition of becoming the largest and most efficient organization to channel funds for research on environmental economics in developing countries."

The meeting opened with an enthusiastic welcome by Gunnar Köhlin, followed by wel-

coming remarks by Francisco Alpizar, director of the EfD Central America Center (EfD-CA), based in Costa Rica. There were three keynote speeches and a panel discussion. The first keynote speech, by Ed Barbier of the University of Wyoming, was on Structural change, dualism and economic development. The second, entitled Measuring the impacts of environmental policies on the environment and the poor: protected areas and ecosystems services, was by Paul Ferraro, from Georgia State University. Lastly, Erin Sills of North Carolina State University gave a presentation on Understanding REDD: What and how can we learn from pilot projects? (REDD stands for Reduced Emissions from Deforestation and Forest Degradation.)

In addition, there were several very informative presentations during the plenary session and the parallel sessions. These covered a series

of issues, including interdisciplinary synthesis research, adaptation to climate change, transportation and congestion, water use and pricing, and fisheries. All of these presentations were given by experts from around the world.

The next EfD Annual meeting will be held in South Africa in 2013.

EfD Policy Day at the Annual Meeting

The Policy Day is becoming a tradition during EfD Annual meetings. This event serves as a stage for researchers, policymakers, and politicians to interact around seminal policy-relevant issues to which EfD researchers can contribute. The 2012 Policy Day kickoff on October 25 brought together more than 55 participants in Santo Domingo de Heredia, Costa Rica. This invited group included both current and

former members of the Costa Rican Congress, ministers of the government of Costa Rica, and representatives from seven government agencies. There were also national and international representatives from eight NGOs, five research institutions or universities, and two private corporations.

The central theme of the Policy Day was research and policy interactions in climate change, water, and conservation of natural resources. Francisco Alpizar, the director of EfD-CA, celebrated the presence of a diverse group of people interested in moving forward research-based policymaking. "We are here to position EfD in the national context, to present developments in research that is relevant for policy design and decision making, to identify key needs for research on issues around the theme of the day, and to facilitate a dialogue between researchers, policy makers, and stakeholders working on defining policies around these subjects," said Alpizar. Most importantly, he added, "we are here because we want to help and to hear from you about the issues on which you need our help; researchers at EfD can provide a small contribution to resolving some of the myriad issues we need to confront."

After Alpizar's opening remarks, Jose Joaquín Campos, the Director General of the Tropical Agriculture and Higher Education Center (CATIE), gave a presentation about climate-smart territories and stressed the opportunities for CATIE and EfD to support human well-being in Latin America and the Caribbean. Campos praised the quality of work and accomplishments of EfD and wished for an even more productive, successful, and consolidated presence of EfD in the region. This presentation was followed by a talk by EfD director Gunnar Köhlin. Köhlin presented on The impact of international cooperation through EfD's research and capacity building. One of his key messages was that, through capacity building, rigorous research, and communica-

tion of issues, EfD's work around the world contributes to well-grounded environmental analysis. This analysis supports key national plans and policies, as he demonstrated with an extended list of examples. Finally, the welcoming session closed with two presentations about cooperation to advance research and capacity building as part of South-South cooperation toward the "green economy." One was by Sergio Musmanni of the German Agency for International Cooperation (GIZ) Office in Costa Rica. The other was by Dr. Yue Zhai, First Secretary for Science and Technology, based at the embassy of the People's Republic of China in Costa Rica, who gave his talk in Spanish.

The Policy Day continued with three plenary sessions. The first brought up the topic of Opportunities for development: from adaptation and mitigation to climate change, starting with a presentation by Thomas Sterner. Sterner is Professor in the Department of Economics at the University of Gothenburg, an EfD Senior Research Fellow, and Visiting Chief Economist at the Environmental Defense Fund (EDF). He spoke about policy options and political feasibility in climate change and other environmental policies. Then, Álvaro Umaña, a Senior Research Fellow at EfD-CA, talked about needed changes in international negotiations on climate change en route to a low carbon economy. He was followed by Celia Harvey, Vice President for Global Change and Ecosystem Services, Conservation International (CI). Celia presented a newly launched collaboration between CATIE and CI called Ecosystem-based Adaptation for Smallholder Subsistence and Coffee Farming Communities in Central America: The CAS-CADE Project.

The second session focused on challenges and opportunities for the green economy and conservation with two presentations. Juan Robalino, another Senior Research Fellow at EfD-CA, presented his work about impacts of conservation policies. After that, Jorge Mario

Rodríguez Zúñiga, Executive Director of The National Forestry Financing Fund (FONAFIFO), talked about the future prospects for REDD+ and other Payment for Environmental Services (PES) schemes in Costa Rica. (The "plus" in REDD+ is for forest conservation, sustainable forest management, and the enhancement of carbon stocks.)

The last session on research and policy interaction on water and climate change consisted of three presentations. First, Róger Madrigal, Research Fellow at EfD-CA, showed the work the center is doing on adaptation to climate change and water governance. Maureen Ballesterero from the Global Water Partnership for Central America and former member of Congress in Costa Rica talked about shaping and advocating for the political agenda on water. Dr. Darner Mora, Director of the Blue Flag Program and the National Water Laboratory, Institute of Aqueducts and Sewage (AyA), ended the session with his presentation about the role of the AyA and its programs in water management.

The Policy Day was a cordial meeting full of exchanges between the speakers and the audience. For a moment, the participants were stranded under the colonial tile roof of the conference venue, which was at a distance from the restaurant where a delicious lunch was being served. The loud sound of the rain falling did not dim the lively discussions and enthusiastic questions between politicians, civil servants, and researchers alike. More than one person suggested that "this type of meeting should take place more often for all to learn and start speaking in the same language".

The media was also present during the day and covered a lot of the issues being discussed. Several EfD researchers and other participants were interviewed by both local and international news reporters. To see the list of media coverage for the Policy Day, visit media coverage EfD in media on www.efdinitiative.org.



Jesper Stage, Research Fellow, Sweden, Stephen Kirama, Research Fellow, Tanzania, Sied Hassen, Ph.D. Student, University of Gothenburg, Moses Ikiara Research Fellow, Kenya



Adolf Mkenda, Research Fellow Tanzania, Thomas Sterner, Research Fellow Sweden and Mintewab Bezabih, Research Associate, Ethiopia



Yonas Alem, Research Fellow EfD-Ethiopia and EfD Research Officer, Sweden; (back) Jonathan Colmer, Ph.D. Student, London School of Economics; Francisco Alpizar, Centre Director and Research Fellow EfD-CA; (back) Miguel Quiroga, Universidad de Concepción; Simon Wagura, Junior Research Fellow EfD-Kenya and Ph.D. Student at the University of Gothenburg



Panel discussion with Dr. Darner Mora, Director of the Blue Flag Program and the National Water Laboratory, Institute of Aqueducts and Sewage (AyA), Maureen Ballesterero, Global Water Partnership for Central America and former member of Congress in Costa Rica, Róger Madrigal, Research Fellow Central America and María A. Naranjo, Deputy Director and Research Fellow, Central America.



Participants in the 6th annual EfD meeting



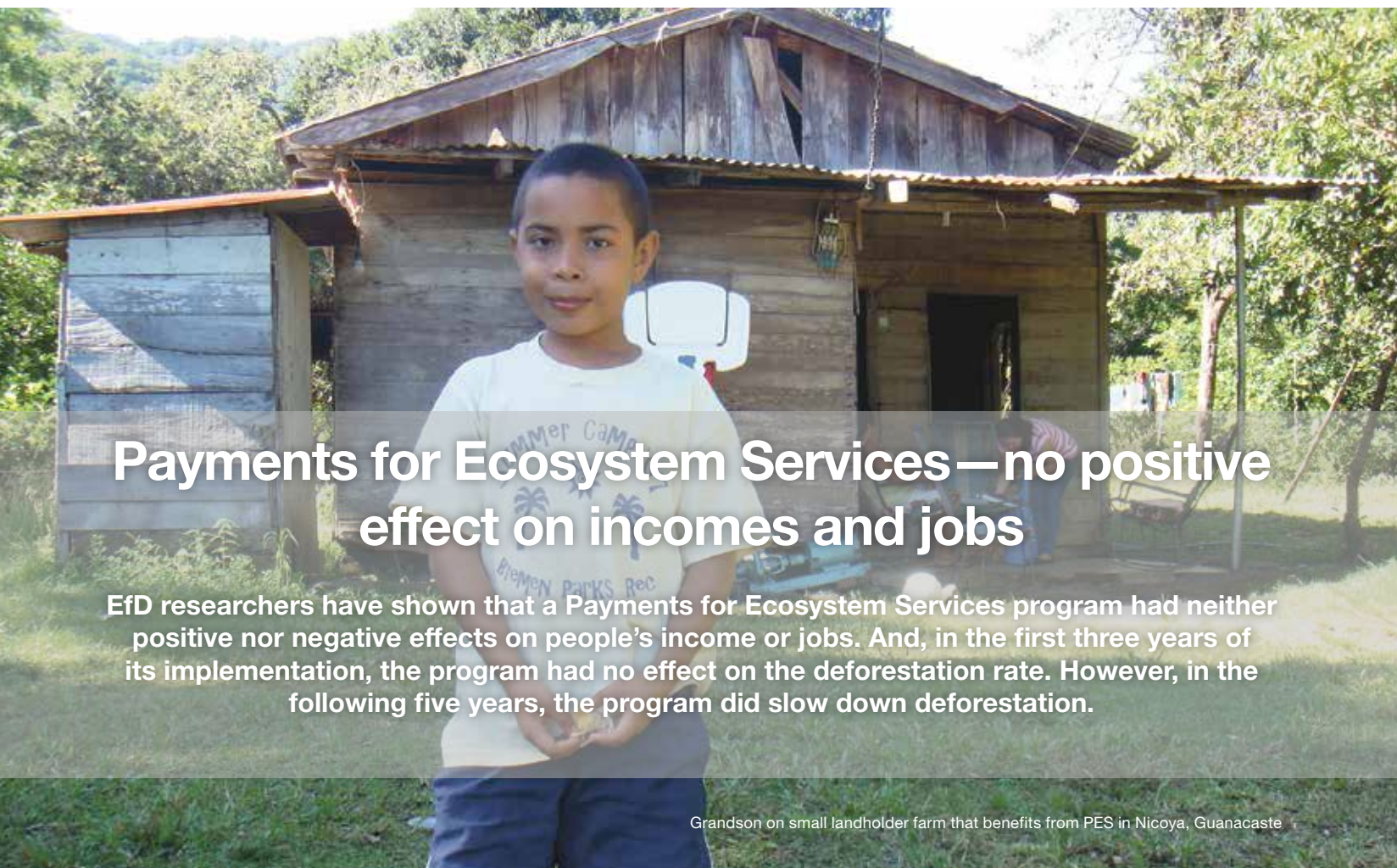
Jane Mariara and Peter Kimuyu, Research Fellows, Kenya

RESEARCH POLICY INTERACTION

The EfD initiative is built on the premise that, if relevant applied research is introduced in policy making processes, then this will result in improved policies, leading to sustainable development, including poverty reduction. The EfD-CA Center is designed with the clear purpose of providing proactive science-based advice on available policy options and a critical analysis of existing initiatives that affect environmental protection, sustainable natural resource management and poverty alleviation. It is founded on the construction of a research agenda that prioritizes problems and policy processes in close interaction with stakeholders at all levels.

We have worked at all scales—from local managers and leaders to national-level decision makers in different countries of Central America—which is particularly important for several reasons. First, governmental institutions as well as local governments in the region are frequently characterized by low in-house capacity, resulting in little if any analysis of available policy options and no ex post evaluation of

the impact of alternative policies. Second, policy makers and decision makers tend to rely on generalized solutions, sometimes even designed for other contexts. Hence, a local research center that from the outset involves policy makers in the research agenda is fundamental for increasing acceptance and adapting the design of public policies to local conditions.



Payments for Ecosystem Services—no positive effect on incomes and jobs

EfD researchers have shown that a Payments for Ecosystem Services program had neither positive nor negative effects on people's income or jobs. And, in the first three years of its implementation, the program had no effect on the deforestation rate. However, in the following five years, the program did slow down deforestation.

Grandson on small landholder farm that benefits from PES in Nicoya, Guanacaste



EfD Researchers in Sirena Sector, Corcovado National Park.

POLICY INTERACTIONS

Methodology to estimate the costs of concession of non-essential services in State Protected Areas

This policy interaction provides clear examples of how research-based results can be used to inform decision making by government authorities.

The National Commission of Conservation Areas (CONAC) has adopted a methodology developed by EfD-CA for estimating the costs for concessions of non-core services in State Protected Areas. This accomplishment grew out of EfD-CA's longstanding policy interaction with SINAC (National System of Protected Areas), the agency within the Ministry of Environment and Energy that oversees both marine and terrestrial protected areas in Costa Rica. This research-driven relationship was consolidated with a framework agreement of understanding for cooperation signed in 2011.

The latest outcome by EfD-CA researchers, completed early in 2012, was a study to determine the costs of concessions of non-core services in Corcovado and Marino Ballena National Parks. This type

“PEOPLE EXPECT payments for ecosystem services to improve lives.

So, it is important to test whether the program does that or not. Our findings show that, in socioeconomic terms, people are not benefitting from this program, for example when it comes to employment, wages or poverty,” says EfD researcher Juan Robalino.

Together with his EfD colleagues Laura Vilalobos, Catalina Sandoval, and Francisco Alpizar, Robalino conducted a household survey that covers the whole country and, based on that, a study of the socioeconomic impact of Payments for Ecosystem Services.

The idea behind Payments for Ecosystem Services is to compensate people who generate services such as leaving a forest untouched, leaving alone land that is already deforested so that forest can grow again, or planting trees and producing timber in a sustainable way.

“Ideally, people should be better off by providing forest ecosystem services or at least they shouldn't be worse off,” says Robalino. “We found that they were no better off.”

The original purpose of payments for ecosystem services is to reduce deforestation. Conservation of forests means increased carbon sequestration or, in other words, storage of carbon in order to avoid dangerous climate change. Other benefits associated with forest conservation are biodiversity protection, watershed protection, and scenic beauty that can translate into ecotourism.

However, with this program come restrictions on the use of land for agriculture. This in turn can affect wages and employment for local people. In fact, the EfD researchers show that unemployment increased and wages fell slightly 2007-2009 due to the payments for ecosystem services program, but the impact was very small. The impact on deforestation is also slight, according to Robalino. Ninety-seven percent of the forest land in Costa Rica enrolled within the program would not have been deforested even without the program during 2000-2005.

“How much carbon the three percent of saved forest can capture is very difficult to measure because of the uncertainty about where the land would have been defor-

ested, but this doesn't mean the program is not worth the efforts. Now we at least know that the program on average doesn't hurt people.”

Yet, the outcomes of the program could improve with better targeting. An important conclusion from other EfD studies is the need for a combination of incentives that includes better targeting of landowners at high risk of deforesting their land.



Juan Robalino, Senior research fellow



EfD Researchers in San Pedrillo, Corcovado National Park.

of concession is governed by the country's Biodiversity Law of 1998 and includes services such as room and board, rental of outdoor equipment, souvenir stores, transportation of materials and equipment, and guided tours. This study was important because it provided the parks' managers with a methodology to assess the cost for this type of concession. Financial resources from concessions are needed for the sustainability of protected areas. Most importantly, concessions free up time so that park rangers and other staff can be fully dedicated to their core responsibilities of protection and management rather than dealing with services which can be provided by a third party. Concessions also provide business opportunities for socio-environmental entrepreneurs and job creation in local communities.

This study built on a methodology to estimate the costs of concession of non-core services designed for the Chirripó National Park. The Nature Conservancy (TNC) was a key partner for both studies and provided financial support. A significant aspect of this policy tool is that it can be adapted to different contexts that share basic similarities. For that reason, the methodology created by EfD-CA has been approved by CONAC as the official method for estimating the costs of the concession of non-core services in State Protected Areas.

Evaluation of impacts from PES on social variables

The problem: The application process of PES programs may leave out poorer landowners. However, there are potential losses in the provision of environmental services if the program aims at improving social outcomes in addition to its primary goal of building environmental capital.

This was one of the issues addressed in the study called Ecopayments Design Given Behavioral Responses: Who Gets Paid, Why, and How Do Others Respond? EfD-CA researchers were able to evaluate the impacts from payments for environmental services (PES) on social variables. The research team of the project worked closely with Costa Rica's National Forestry Financing Fund (FONAFIFO) staff in its regional offices. This interaction was crucial to build trust, access valuable data resources, and select in which regional offices we should carry out field data collection for the project. It also contributed to identifying research questions that were important from a policy perspective; the team was able to answer these at a minimum cost.

To perform this analysis, we relied on a survey of households that was administered to parcel owners in the country as part of the experiments funded by The Tinker Foundation. The objective of the survey was to characterize those involved in the PES program and to learn about potential socio-economic impacts. The survey was administered to 311 owners who were divided into three groups: those who were accepted into the program, those who applied but were not selected, and those who did not apply.

Only landowners were potential PES clients because they are in a position to make conservation decisions on their land. The study found that those households that received payments were not only significantly wealthier than the average household in rural areas but were wealthier than the average landowner. Because the sample was split into the three groups mentioned, it was possible to analyze separately whether this finding was the result of the application process or the selection process. The conclusion was that poorer landowners are left out of the program during the application process. These findings are relevant for policies that aim at increasing the impact of PES on socioeconomic outcomes and would require lowering the costs of applica-



EfD Researchers with Celeste Lopéz (TNC), Mauricio Solano (Corcovado Foundation) and Elicer Arce. (Corcovado National Park Administration)

tion to the poorer landowners in order to achieve this policy goal. The study also suggests there are potential losses in the provision of environmental services if the PES program in addition aims at improving social outcomes.

POLICY LINKS

- CATIE—Tropical Agricultural Research and Higher Education Center
- LACEEP—Latin American and Caribbean Environmental Economics Program
- MINAET—Costa Rica Ministerio de Ambiente Energía y Telecomunicaciones
- SINAC—Costa Rica National System of Protected Areas
- FONAFIFO—Costa Rica National Forestry Financing Fund
- CNE—National Commission for the Prevention of Risks and Emergencies (Comisión Nacional de Prevención de Riesgos y Atención de Emergencias)
- AyA—Costa Rican Institute of Aqueducts and Sewers (Instituto Costarricense de Acueductos y Alcantarillados)
- Costa Rican Water Authority (Dirección de Agua)
- FCRA—Forever Costa Rica Association
- TNC—The Nature Conservancy
- CEDE—Center of Economic Development Studies, Universidad de Los Andes, Colombia
- INE—Mexico National Institute of Ecology
- University of North Carolina at Chapel Hill
- The Sanford School of Public Policy at Duke University
- IDB-Inter-American Development Bank
- Inter-American Institute for Global Change Research

- GIZ—German Agency for International Cooperation
- The Tinker Foundation
- IDRC—International Development Research Centre Climate Change and Water Program
- The School of Business, Economics and Law at the University of Gothenburg
- RFF—Resources for the Future
- Regional REDD Program
- Focali—Forest, Climate and Livelihood Research Network
- Water Diplomacy Program

POLICY SEMINARS, WORKSHOPS AND CONFERENCES

Francisco Alpizar lectured in the IDB Biodiversity Speaker Series 2012

EfD-CA senior research fellows took part in series of lectures with emphasis on the Economics of Biodiversity and Ecosystem Services organized by The Inter-American Development Bank.

EfD-CA Director and Research Fellow Francisco Alpizar gave a lecture as part of the Biodiversity Speaker Series 2012 organized by the Inter-American Development Bank. The event took place on November 8, 2012 in Washington, D.C., USA. Alpizar talked about "Conditional Cash Transfers and Payments for Environmental Services – A Conceptual Framework for Explaining and Judging Differences in Outcomes."



Example of agroforestry system in a small landholder coffee farm. Trees help regulate temperature in the plantation.

The lecture focused on the development of a conceptual framework elucidating the main determinants of the impact of conditional cash transfer (CCT) and payments for environmental services (PES) programs. Using a simple multi-agent model and evaluations of existing programs, the study shows that (1) the share of the population who would meet the program's conditions in the absence of payments is a powerful predictor of program efficiency, and (2) the program efficiency is eroded by selection bias (people who already meet conditions self-select into the programs at higher rates than others). It also discussed possibilities for increasing efficiency and criteria for evaluating and choosing between CCTs/PES and other policy instruments.

Martin Persson presented a book chapter about EfD research in Portland, USA

Martin Persson, EfD Research Associate, presented research findings at the conference organized by Ecosystem Service Partnership and the workshop by CGIAR, ICRAF and CIFOR.

Martin Persson, EfD Research Associate, was invited to give a presentation as part of the preliminary talks at the 5th Ecosystem Service Partnership conference. The event took place in Portland, Oregon, USA in late July and early August 2012. Persson also presented research findings at the conference on "Payments for Ecosystem Services (PES): understanding the determinants of impact and behavioral responses to policy intervention." His presentation built on the findings from the research on PES done at EfD-Central America.

The conference workshop was organized by CGIAR, ICRAF and CIFOR to learn about synergies in PES initiatives from experiences in Asia, Africa, and Latin America. These events are a medium for exchanging ideas among participants from Latin American, African and Asian countries, and to compare them with European and North America experiences. "I think this will be an excellent opportunity to advertise our work at EfD, with an interesting audience listening, so I am looking forward to it!" said Persson before the conference.

RESEARCH

Our purpose is to contribute to the design and evaluation of public policies and local institutional arrangements that affect environmental protection, sustainable natural resource management and poverty alleviation. We do this by strengthening understanding of the causes and consequences of human decisions. This understanding is a key input for policymaking and increases the interaction between academia and policymakers in Central America.

The problems in the region demand a deep understanding of environmental issues in urban areas and the management of natural resources in rural areas, which are of special importance due to their linkage with poverty and income distribution. Considering the specifics of these issues, EfD-CA has a research agenda that addresses topics such as climate change and water linkages; water management; land conservation policies and payments for ecosystem services (PES) in rural areas; and flood risks and air pollution in urban areas. The objective is to continue to improve the understanding of these issues and to address new challenges that the region may face in the future.

Central America, as well as the rest of the Latin American and Caribbean region, relies heavily on its natural resources. Therefore, the EfD-CA focus is on developing the following key thematic research areas:

Socioeconomic dimensions of climate change

- Adaptation strategies and policies
- Climate change and water linkages and their impact on rural livelihoods
- Risk, productivity change, and socioeconomic resilience in agriculture

Management and valuation of environmental goods and services

- Community-based management of common pool resources
- Institutions and public policies for water provision and sanitation
- Economic valuation of public policies for the provision of ecosystem services
- Gender and income equity

Socioeconomic analysis of conservation policies

- Evaluation of conservation policies
- Pricing and financing of protected areas
- Prosocial behavior in conservation initiatives



A small farm in Nicoya, Guanacaste. Smallholder farmers are among the key actors in worldwide sustainable development efforts.

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Reports

Chacón-Cascante, A., M. Ibrahim, Z. Ramos, F. De Clerk, R. Vignola, R., J. Robalino, and D.N. Barton. 2012. "Costa Rica: National Level Assessment of the Role of Economic Instruments in the Conservation Policy Mix". *Costa Rica: Coarse Grain Case Study Report*, Issue No. 2, 2012.

Porras, I., M. Miranda, D.N. Barton, and A. Chacón. 2012. "De RIO a RIO+: Lecciones de 20 Años de experiencia en Servicios Ambientales en Costa Rica." *Londres, Reino Unido: International Institute for Environment and Development*.

Chacon-Cascante, A., M.A. Naranjo y L. Villalobos. "Conceptualización y Elaboración de Indicadores para la Línea de Base del MAP." *Informe consultoría Programa Agroambiental Mesoamericano*.

Chacón-Cascante, A., M.A. Naranjo, and L. Villalobos. "Más allá de la Dimensión Financiera: Impacto del Programa Ambiental Mesoamericano en la Calidad de Vida y Los Capitales de sus Familias Beneficiarias." *Informe consultoría Programa Agroambiental Mesoamericano*.



Huacas Hojancha, Guanacaste, field work area for the Tinker-PES project in 2012

PROJECTS 2012

Center Research

We continue with our research agenda on the socioeconomic analysis of conservation policies and management and valuation of environmental goods and services, with three ongoing projects from 2012.

The project **"Impact Evaluation of the Payments for Environmental Services Program on Welfare in Costa Rica"** estimates the effect of the PES program on socioeconomic outcomes in Costa Rica. The ultimate goal of the research project is to provide solid scientific evidence that informs policymakers on what works and does not work in the current design of the program, and to provide recommendations on how to improve it so a better social outcome is achieved.

We are interested in how communities make decisions and design institutions for the use and management of common-pool resources such as coastal resources. The project **"Performance Based Payments for Protecting Turtles: Understanding the Conditions for Its Success"** contributes to understanding and identifying ways in which poor communities could participate in the conservation of a natural resource that is inherent to their livelihoods.

There is an urgent need to design and implement policies to protect marine turtles, a seriously threatened wildlife resource that is present mainly in less developed countries, especially poor coastal areas.

In addition, the project **"Understanding the Tradeoffs between Planned Marine Conservation Policies and Artisanal Fishing in Key Coastal Areas of Costa Rica"** aims to identify local capabilities, assets and activities that characterize the livelihoods of small scale fishers in Costa Rica. In order to find alternatives for small scale fishers who actually live in the potential protected marine areas, the project will propose what the regulations might look like and suggest methods to track the impact of the regulations on social and ecological systems. In line with EfD's overall objectives, this project will promote sustainable resource management, focusing attention on the livelihoods of small scale farmers (who

are usually poor). In this way, the study will integrate environmental economics capacity into policy making processes

Furthermore, EfD-CA is working on two collaborative research projects with EfD Centers in South Africa, Tanzania and Ethiopia. The first project focuses on improving policy to promote coastal conservation through marine protected areas (MPAs) and related management tools. The project not only highlights the policy interaction taking place within each country in helping shape policy options, it also illustrates the importance of international collaboration to share knowledge about the management of the global commons that are marine resources.

A second research collaboration aims to analyze the behavioral dimension of climate change. Researchers will investigate how risk preferences and climate change are related.

The project will involve two centers in Africa (South Africa and Ethiopia) as well as Central America.

In addition, researchers at EfD-CA systematically investigated risk with the aim of finding ways to increase insurance take-up and to promote cooperation aimed at the prevention of natural disasters. This is part of the research project **“Human Cooperation to Manage Natural Resources,”** based on collaboration between the Environmental Economics Unit (EEU) at the Department of Economics in Gothenburg and two leading international research partners, Indiana University (IU) and Resources for the Future (RFF). The purpose of this work is to better understand determinants of individual behavior in social dilemma situations, such as voluntary cooperation to reduce overuse of common pool resources, and to find solutions to increase cooperation.

PROJECTS 2013

In 2013, two new EfD research projects focus on Climate Change. Climate change is beginning to be perceived by policymakers as a real threat to human well-being in Central America, where increased drought is predicted in already dry areas and an increase in precipitation is forecast for humid areas. Desertification on the one hand and an increased risk of floods and landslides on the other are opposite effects arising from the same problem.

First, water resources are a key input for the effective policy design needed to minimize the expected negative impacts, especially for the most vulnerable groups in society. Our project builds on the existing works analyzing motivations for farmers’ individual decisions (“autonomous adaptation”), mostly conducted in the context of agriculture. These studies highlight the role of self-insurance efforts to reduce the adverse effects of climate change, the recognition of the need to adapt, perceived climate risk, costs of adaptation, potential reduction in damage, and the role of social networks and social skills. The goal is to reduce vulnerability to climate change and to promote the development of adaptation strategies that guarantee the human right to water for poor villagers in rural areas. Project

Title: Impact Evaluation of the Payments for Environmental Services Program on Welfare in Costa Rica
Theme: Policy Design and Forestry
PI: Francisco Alpízar and Juan Robalino

Title: Understanding the Tradeoffs between Planned Marine Conservation Policies and Artisanal Fishing in Key Coastal Areas of Costa Rica
Theme: Policy Design
PI: Róger Madrigal Ballesterro, Francisco Alpízar

Title: Performance Based Payments for Protecting turtles: Understanding the Conditions for Its Success
Theme: Parks and Wildlife and Policy Design
PI: Róger Madrigal Ballesterro, Francisco Alpízar

Title: “Household Adaptation to Seasonal Drought in Rural Drinking Water Systems.”

Second, Guatemala is a country that has been continuously hit by extreme weather events. Even more importantly, the intensity of precipitation is expected to increase significantly under most climate change scenarios. One way that people adapt to climate change is to relocate. A short period of extreme weather, such as heavy rain in a given month, might affect migration within one area. A long-term event, even if it is mild, might have a stronger effect on migration. This type of analysis has not been explored in the region. From a socioeconomic perspective, this is important in terms of the effects on people in both places: the places of origin and the places receiving the migration flows. Migration affects wages, housing prices, and other labor market outcomes and quality of life in general. We try to answer these questions with the project called: **“Migration as an Adaptation Strategy: Analyzing the Effects of Extreme Weather Events on Local Migration in Guatemala.”** The objective of the project is to estimate to what extent migration movements within a country are explained by occurrence of extreme weather events in Guatemala.

Collaborative research
Title: Marine Protected Areas and Small-Scale Fishing Behavior: a Comparative Analysis between South Africa, Tanzania and Costa Rica
Program/Project Leader: Jo Albers
EfD-Central America project partners: Róger Madrigal, Francisco Alpízar, Carlos Muñoz

Title: The Role of Risk on Adaptation to Climate Change
Program/Project Leader: Salvatore Di Falco and Peter Martinsson
EfD-Central America project partners: Francisco Alpízar and María A. Naranjo

Title: Household Adaptation to Seasonal Droughts in Rural Drinking Water Systems
Theme: Climate Change
PI: Róger Madrigal

Title: Migration as an Adaptation Strategy: Analyzing the Effects of Extreme Weather Events on Local Migration in Guatemala.
Theme: Climate Change
PI: Juan Robalino

Other projects
Title: Ecosystem-based Adaptation for Smallholder Subsistence and Coffee Farming Communities in Central America. Financial support provided by Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) through its International Climate Initiative (ICI).
Theme: Climate Change
PI: Francisco Alpizar, Pablo Imbach, and Raffaele Vignola

Title: Strengthening Research Capacity in Environmental Economics to Study the Links between Water and Climate Change in Latin America and the Caribbean. Financial support provided by IDRC.

Theme: Climate Change
PI: Roger Madrigal and Juan Robalino

Title: Climate Change, Communities, and Water. This project aims to improve the decision-making processes, plans, and policies on climate change (CC) adaptation of community-based drinking water organizations in Central America. Financial support provided by IDRC.
Theme: Climate Change
PI: Francisco Alpízar, Pablo Imbach, Paul Ferraro and Roger Madrigal

Title: Analysis of Land Use Change (1992 - 2008) and Formulating Future Scenarios of Deforestation and Degradation of Forests in Panama. UN-REDD Program in Panama.

Theme: Policy Design and Forestry
PI: Juan Robalino

Title: What Drives Land Property Tax Collection in Costa Rican Local Governments? IDB Project for the Analysis of the Potential and Challenges of Property Tax in Latin American Countries.
Theme: Policy Design
PI: Juan Robalino

Title: Flooding Insurance and Prevention in Central America: Risk attitudes, Cooperation, and their Interplay
Theme: Climate Change
PI: Francisco Alpizar and María A. Naranjo

Title: Policy Mix Applications in Costa Rica. Norwegian Institute for Nature Research (NINA)
Theme: Policy Design
PI: Adriana Chacón

Title: Payments for Ecosystem Services in Latin America (PESILA). Norwegian Institute for Nature Research (NINA)
Theme: Policy Design
PI: Adriana Chacón

RESEARCH PRESENTATIONS

Academic Conferences
13th GDN Annual Conference, Budapest, Hungary.
Juan Robalino: Panelist on Emerging and Sustainable Cities Initiative.

UN-REDD Panamá.
Juan Robalino: Panelist on Land Use Change Analysis (1992 - 2008) and Formulating Scenarios of Future Deforestation and Degradation of Forests in Panama.

Workshop by General Comptroller of the Republic of Costa Rica
Juan Robalino: What Drives Land Property Tax Collection in Costa Rican Local Governments?

2012 North America Congress for Conservation Biology (NACCB), Oakland, California
Laura Villalobos: Impacts of Protected Areas on Population Growth, Inequality and Marginalization in Mexico.

19th Annual Conference of the European Association of Environmental and Resource Economists, Prague, Czech Republic
Laura Villalobos: Impacts of Protected Areas on Population Growth, Inequality and Marginalization in Mexico.
María A. Naranjo: Does Tourism Eco-Certification Pay? Costa Rica’s Blue Flag Program

Voluntary Pollution Control (VPC) Workshop 2012, Ohio State University
María A. Naranjo: Does Community Eco-Certification Attract Business? Costa Rica’s Blue Flag Program

2012 AERE, Asheville, North Carolina
Anna Nordén: Unintended Consequences of Payments for Environmental Services: Behavioral Spillovers from Targeting

ISEE 2012 Conference - Ecological Economics and Rio+20: Challenges and Contributions for a Green Economy, Rio de Janeiro, Brazil
Francisco Alpízar: Unintended Consequences of Payments for Environmental Services: Behavioral Spillovers from Targeting.

Behavioral Spillovers from Targeted Incentives: When Do Conditional Payment Programs Affect Those Not Selected to Participate?

Biodiversity Speaker Series 2012. Inter-American Development Bank, Washington, D.C., USA.
Francisco Alpízar: Conditional Cash Transfers and Payments for Environmental Services: A Conceptual Framework for Explaining and Judging Differences in Outcomes.

Ecosystem Service Partnership (ESP) Conference 31 July – 4 August 2012, Portland, USA.
Martin Persson: Payments for Ecosystem Services (PES): Understanding the Determinants of Impact and Behavioral Responses to Policy Intervention.

Market Readiness Partnership, World Bank, Shenzhen, China, March 2012
Álvaro Umaña: Carbon Neutrality in Costa Rica.

Market Readiness Partnership, World Bank, Sydney, Australia, October 2012
Álvaro Umaña: Carbon Neutrality in Costa Rica.

Climate Change for Journalists, CINPE, UNA, November, 2012
Álvaro Umaña: Seminar on Climate Change

Academic Seminars and EfD-CA Seminar Series
Anna Nordén: Cash or in-Kind Payments for Environmental Services? Evidence from Stated Preferences of Landowners in Costa Rica. Environmental Economic Unit Seminar Series, Gothenburg University.

Mary Luz Moreno Díaz: Literature Review and Preliminary Proposal of Valuation Methodologies of Climatic Variations Effects on Economic Activities of Fishing and Tourism in Costa Rica.



Beach site, Santa Teresa in Pacific coast of Costa Rica.

Ph.D. student, Centro Internacional en Política Económica para el Desarrollo Sostenible (CINPE), Universidad Nacional, Costa Rica, 27 January.

David Barton: A Policy Scape Approach to Spatial Cost-Effectiveness Analysis of Conservation Policies. Senior Research Scientist in the Norwegian Institute for Nature Research (NINA); Director of the PESILA and POLICYMIX projects with CATIE, 3 February.

Anna Nordén: Paying for Behaving Well or Paying for Change? Behavioral Spillovers from Targeted Incentives. Ph.D. candidate at the University of Gothenburg and the EfD-CA Center, 10 February.

Danilo Padilla Castillo: Stacking Lessons from the Sectorial to the Territorial: MAP-CATIE Experiences in the Region Trifinio. Coordinador del MAP en el territorio Trifinio, CATIE, 23 February.

Paul J. Ferraro: Causal Mechanisms of Protected Areas on Poverty. Guest Researcher at the EfD Research Program, Professor of Economics at Andrew Young School of Policy Studies, Georgia State University, 24 February.

Paul J. Ferraro: The Impact of Brazil's National Plan to Prevent and Control the Deforestation in the Amazon: a Synthetic Control Approach. Guest Researcher at the EfD Research Program, Professor of Economics at Andrew

Young School of Policy Studies, Georgia State University, 9 March.

Paul J. Ferraro: Can We Estimate the Effects of Environmental Policies and Programs without Randomized Field Experiments? A Design-replication Study Using a Water Conservation Program that Targets Social Norms. Guest Researcher at the EfD Research Program, Professor of Economics at Andrew Young School of Policy Studies, Georgia State University, 18 May.

Glenn-Marie Lange: The Changing Wealth of Nations: Measuring Sustainable Development. Senior Economist, Policy and Economics in the Environment Department and Director of WAVES (Wealth Accounting and Valuation of Ecosystem Services), World Bank, 22 May.

Randall Arauz: Marine conservation Policies: The Interface between Activism and Research on Shark Finning and Conservation. Founder and President of PRETOMA and member of UICN Marine Turtle Specialist Group, 8 June.

Daniel L. Spears: The Impact of Hollywood Movies and Television on Destination Image, Tourist Activity and Purchasing Behavior. Associate Professor of Hospitality and Tourism Management, College of Merchandising, Hospitality and Tourism, University of North Texas, USA. Visiting Professor of International Sustainable Tourism (MIST) at CATIE, 13 July.

Heidi (Jo) Albers: (Bio) Economic Models Based on Field Observation: Methods and Examples. Professor of Applied Economics at Oregon State University and EfD-Tanzania Research Associate, 24 August.

Roland Laffourcade: Coffee Production and the Environmental Discourse: The Example of Llano Bonito, Costa Rica. Master's student at the French Agricultural Research Centre for International Development (CIRAD) and CATIE, 28 September.

Karla Posada: Payments for Environmental Services and the Services of the Association for Sustainable Development of the Atlantic Region: Perception of Beneficiaries. Research Assistant at the French Agricultural Research Centre for International Development (CIRAD) and CATIE, 2 November.

Tobias Wünscher: International Payments for Biodiversity Services: Review and Evaluation of Conservation Targeting Approaches. Senior Researcher at the Center for Development Research (ZEF), University of Bonn, Germany, 6 December.

Jorge H. Maldonado: Valuation of Marine Protected Areas in Colombia: The case of Ecosystem Services Associated with Fisheries in the Caribbean and the Pacific. Economics Department, University of Los Andes, Colombia.



2012 LACEEP Course on Water and Climate Change Participants.

ACADEMIC CAPACITY BUILDING

The EfD academic capacity building component is designed to correct the shortage of trained environmental economists in developing countries by supporting undergraduate and postgraduate studies in environmental economics and by building the capacity of local public universities, through teaching support, research grants, books and other support. Linking policy research with academia is one of the unique features of EfD.

One of the priorities of EfD at CATIE is educational support at different levels. In particular, our objective is to increase the local capacity of people at academic and nonacademic organizations (NGOs, public institutes and civil society organizations) to conduct, critically evaluate, and interpret research on environmental and natural resource economics and policy. Our support for education is built on three pillars: (1) strengthening the quality and reach of CATIE's M.Sc. program in environmental socioeconomics, (2) educating people from nonacademic organizations, and (3) mentoring bright young researchers.

Educational support to academic institutions is conducted mainly through the different courses taught at CATIE by EfD scholars, as well as the tutoring of students on their dissertations. The plan is to continue EfD-CA's strong support of the master's program in environmental socioeconomics by offering high-quality courses updated

with recent research results and methodologies. Complementary to this objective, the supervision of M.Sc. and Ph.D. students will continue to be a priority, especially because some of the students are critical in developing many of our research projects.

In relation to education of people from nonacademic organizations, our main contribution will be offering capacity-building courses adapted to the target audience and updated with the most recent findings in policy design and evaluation in the region. In the last two years of operations at EfD, we have trained more than 50 people from all over Latin America in environmental economics and policy issues. The participants in these courses have included government policymakers at different levels, technical staff of NGOs, and local leaders, among others. The presentation of EfD's own research agenda and results has been very

useful as a didactic tool as well as a mechanism to disseminate our work.

Master's program in environmental socioeconomics at CATIE

EfD, in association with two other programs at CATIE, is responsible for a Master of Science in Environmental Socioeconomics. We receive students from all over Latin America and the Caribbean. This master's program aims to prepare professionals with strong analytical skills and a critical, objective vision essential to confront the interrelated challenges of development and environmental protection, whether in the private or public sectors, nongovernmental organizations or academic institutions. One of the most appealing characteristics of this program is the strong participation of our students in projects and programs of CATIE and the ongoing feedback from those programs into the academic curriculum.

XIII International Course on Economic Bases for Management and Valuation of Environmental Services

This course is designed for practitioners and professionals from Latin America and the Caribbean interested in understanding the development of payments for ecosystems services (PES) schemes and the causes and effects of the degradation of services. It provides practical and conceptual approaches and methodologies for environmental economic analysis and valuation. It also emphasizes how to use valuation results to inform policy decision making. Given the importance of the water

issue in the national and global contexts, the course covers a series of practical applications of PES schemes, particularly those that seek to improve the availability and quality of water for human consumption. This course is coordinated by EfD-CA research fellow Róger Madrigal and took place in CATIE, Costa Rica between August 6 and 17.

VI Environmental and Resource Economics Training Course: “Water and Climate Change”

The Water and Climate Change course examines the economics of climate change impacts and adaption with respect to a variety of water

resources planning and policy issues, including infrastructure investment decisions, flood risks, health issues, pricing and demand management, and decision-making. This course is part of LACEEP, a partner of the EfD-CA Center, and was taught by EfD Research Associate Dale Whittington (University of North Carolina at Chapel Hill), Michael Hanemann (Arizona State University), and Marc Jeuland (Duke University). EfD-CA Research Fellows Roger Madrigal, Juan Robalino, and José Jiménez were part of the guest faculty. Participants in this course came from all over Latin America and met in CATIE, Costa Rica from July 23 to August 3.

COURSES TAUGHT BY EFD CENTRAL AMERICA INCLUDE

Undergraduate courses

Introduction to Impact Evaluation, EARTH University

Graduate courses

Public Economics I, University of Costa Rica

Public Economics II, University of Costa Rica

Quantitative Methods, Graduate School CATIE Graduate School, CATIE

Environmental Economics and Ecotourism. Interdisciplinary Master in

Environmental Management and Recreation, University of Costa Rica.

Environmental Policy for a Changing World, Graduate School CATIE

Graduate School, CATIE

Ph.D. Theses

Eco-payments Design Given Behavioral Responses: Who Gets Paid, Why, and How Do Others Respond?

By Anna Nordén, Ph.D. candidate, Gothenburg University

Francisco Alpízar (committee member)

Impact of Uncertainty and Pro-social Attitudes on Households’ Solid

Waste Management Decisions: Starting from Scratch in an LDC

By Elisabeth Gsottbauer, Ph.D. candidate, Universidad Autónoma de

Barcelona

Francisco Alpízar (committee member)

M.Sc. Theses

Microeconomic Determinants of Change in Costa Rican Households’

Income Distribution between 2001 and 2009. Licentiate Program, School

of Economics, University of Costa Rica.

Analysis of Technological Change and Innovation System of Banana Pro-

ducing Communities of Chiriqui and Bocas Del Toro in Panama. Environ-

mental Socioeconomics Master Program, Graduate School CATIE.

Assessment of Perception and Determinants of Implementation by Milk

Producers of Adaptation Measures to Climate Change and Climate Vari-

ability in the La Villa River Basin, Panama. Environmental Socioeconomics

Master Program, Graduate School CATIE.

Assessing the Economic Impact of Degraded Pastures in Livestock Farms

in the Jesus Maria River Mid-Basin, Costa Rica. Environmental Socioeco-

nomics Master Program, Graduate School CATIE.

SPREADING THE WORD

News about research and policy interaction

Read more on the website www.efdinitiative.org/centers/central-america/news-press



Gunnar Köhlin, Francisco Alpízar and Jintao Xu with Chinese diplomats at 2012 Policy Day. “South to South” as well as “North to South” collaboration was highlighted during the event hosted in San Jose, Costa Rica.

IN THE MEDIA

2012-10-25

Experts Discuss Climate Change, Water and Natural Resources

The goal is to identify needs for policy making and research in these three key issues for the country’s development.

Interview with Francisco Alpízar

Telenoticias, Costa Rica

2012-10-25

Lack of Policies Generate Deficiencies in Water Resources Management in the Country

This is due to the concentration of interests of different users of water services.

Interview with Policy Day participants Maureen

Ballesterio (Global Water Partnership Central

America) and Darner Mora (Director Blue Flag

Program)

Crhoy.com, Costa Rica

2012-10-25

Water, Protected Areas, and Climate Change: Great Challenges in Central America

Taking care of water resources, strengthen-

ing protected areas, and actions to adapt to

climate change are the three major environ- mental challenges in Central America in the near future.

Interview with Francisco Alpízar

El País.cr, Costa Rica

Noticias Terra

Yahoo Noticias, México

Diario de Yucatán.com

CDN Blog Central de Noticias

Feeddoo.com, México

Cambio Climático Chile, Chile

Pueblo y Sociedad de Noticias

Globovisión.com, Venezuela

El Portal del Agua desde México, México,

October25, 2012

Siglo21.com.gt, Guatemala

2012-10-26

Price of Gasoline Will Play a Key Role in Lowering Carbon Emissions

Phasing out gasoline subsidies is one of the

policies that countries should take to stabilize

CO₂ emissions.

Interview with Thomas Sterner

El Financiero

2012-10-26

International Experts Discuss Environmental Policies in Costa Rica

About 60 experts from different regions of the

world meet in Costa Rica during the sixth an-

ual meeting of the “Environment for Develop-

ment” (EFD), in order to discuss the human

impact on the environment.

Interview with Francisco Alpízar

Pueblo en Línea, China

2012-10-28

Water, Protected Areas, and Climate Change: Great Challenges in Central America

Taking care of water resources, strengthen-

ing protected areas, and actions to adapt to

climate change are the three major environ-

mental challenges in Central America in the

near future.

Interview with Francisco

La Hora, Ecuador

THE CENTRAL AMERICAN NODE IN THE EFD NETWORK

At present, EfD-CA is the only EfD center located in a developing country in the Americas. This center is a core component of the Research Program in Economics and Environment for Development at Tropical Agricultural Research and Higher Education Center (CATIE). The global interconnectedness of resources such as oceans, and of challenges such as climate change, calls for global problem solving. Although the center’s primary region of work is Central America, EfD-CA extends its work well beyond the boundaries of Costa Rica into other countries that are part of CATIE’s regional influence. EfD researchers, fellows and associates conduct studies in Guatemala, Panama, Colombia, Mexico, and Brazil. As such, the Center is uniquely positioned to bring together the experiences of experts in other parts of the developing world, such as Africa and China, with those of European and North American collaborators.

OUR PURPOSES

- To continue developing the administrative capacity and the infrastructure that enables the program to conduct high quality research on a broader set of topics, increase the number of local and visiting scholars, expand the number of international and national collaborators, and provide the tools and means for interacting with policy makers in the region
- To provide proactive, science-based advice on available policy options and critical analysis of existing initiatives that affect environmental protection, sustainable natural resources management and poverty alleviation based on the construction of a research agenda that prioritizes problems and policy processes in close interaction with stakeholders at all levels.
- To increase the center’s capacity to conduct high-quality academic, policy-relevant research on poverty issues and environmental and natural resource economics in the Central American context.
- To increase the local capacity of people in academic and nonacademic organizations (NGOs public institutes and the civil society) to conduct, critically evaluate and

interpret research on environmental and natural resource economics and policy.

- To communicate our research results in an effective way given the variety of backgrounds, interests and technical capacities of our target audience, with the aim of not only affecting policy making but also receiving feedback on our research results and agendas.

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More details about each person are available on the EfD website, in the Centers section, under Central America, Researchers & Staff. www.efdinitiative.org/centers/central-america/people



EfD-CA Staff, Research Fellows, and Partners: Juan Robalino, Tabaré Capitán, Francisco Alpízar, Montserrat Badilla, María A. Naranjo, Jorge H. Maldonado, Carlos L. Muñoz, Rocio Moreno, Alberto Vargas, José Jiménez, Lizette Delgado, Róger Madrigal.



Top left: EFD-CA Fellows María A. Naranjo, Laura Villalobos, and Carlos L. Muñoz with Celeste López from TNC-Costa Rica and Marino-Ballena National Park Ranger. Right: EFD Fellows Gunnar Köhlin and Francisco Alpizar. Bottom left: EFD Fellows Juan Robalino and María A. Naranjo. Center: EFD Fellow Carlos L. Muñoz. Right: Field study at Sirena, Corcovado National Park, Costa Rica.

Top left: EFD Fellows Anna Nordén and Catalina Sandoval, to their back is Jonathan Colmer, PhD student at LSE during 2012 Policy Day. Center: EFD Fellow Juan Robalino teaching at CATIE. Right: Dale Whittington and Francisco Alpizar at 2012 EFD Annual meeting in Costa Rica. Bottom right: EFD Fellows María A. Naranjo and Róger Madrigal at Policy day in Costa Rica; to their back is EFD Research Associate Daniel Slunge. Left: EFD Fellow Róger Madrigal with Tatiana Ojeda (CATIE student) and local leaders during a field visit of the AC3 project in Leon, Nicaragua.

NETWORKS

EfD-CA, together with other initiatives within the Research Program in Economics and Environment for Development in Central America at CATIE, has an extended list of national and international partners, which provide a wide range of network support to projects and initiatives around the core issues in research, policy advice, and training. This network has been built up throughout the years the center has been in operation. Our goal is to solidify our current alliances and to broaden our network in order to achieve greater impact in Central America. EfD-CA staff will continue to collaborate with the Latin American and Caribbean Environmental Economics Program (LACEEP).

Our network with government agencies and universities is strengthening and continues to grow. We recently signed an agreement with Costa Rica's National Forestry Financing Fund (FONAFIFO) which would allow us to continue our work on ecosystem services and payments schemes. We maintain our strong collaboration with Alexander Pfaff from the Sanford School of Public Policy at Duke University, which is working with EfD-CA on evaluation of impacts on protected areas in Costa Rica, Mexico, and Brazil, with financial support from the Inter-American Development Bank and the Inter-American Institute for Global Change Research. In addition, we are about to begin a new project with IDRC on climate change, communities and water, which will include work with guest researcher Paul Ferraro from Georgia State University.

The work on protected areas in Costa Rica continues to tackle issues of evaluation, financing, and decentralization of the provision of basic services, but is expanding by including institutional and policy analysis of the impacts of climate change on biodiversity and ecosystem services provision; performance based payments for protecting turtles; and marine conservation policies and artisanal fishing. This is done in collaboration with the National System of Protected Areas (SINAC), the Forever Costa Rica Association, the National Meteorological Institute, and the newly created office of the Vice-Minister for Water and Seas.

DONORS AND FUNDING

EfD Central America/Research Program in Economics and Environment for Development in Central America offers an attractive opportunity for institutions providing financial support for research and partners interested in our activities and innovative programmatic agenda.

We are grateful for the trust and support provided by donors and partners during 2011:

- Latin American and Caribbean Environmental Economics Program (LACEEP)
- The Tinker Foundation
- International Development Research Centre (IDRC)

- Conservation International
- Other sources of funding include The Nature Conservancy, FONAFIFO, Inter-American Development Bank, and others.
- Swedish International Development Cooperation Agency (Sida) through the EfD Initiative

Number of donors		5
List of Donors		Funding by donor during 2012
1)	LACEEP (SIDA and IDRC)	18.8%
2)	Tinker Foundation	4.7%
3)	IDRC (Water and climate change project)	11.3%
4)	Conservation International	2.0%
5)	Other via EfD	30.1%
Sida/EfD funding as share of total center budget (incl. univ. salaries)		33.3 %

List of donors EfD Center Central America

CONTACT US

You are most welcome to contact the EfD Central America Center and the Research Program in Economics and Environment for Development:

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Community members harvesting sea turtle eggs in Ostional, Costa Rica

THE EFD INITIATIVE IN BRIEF

Our vision is green economy; sustainable economic growth founded on efficient management of ecosystems, natural resources and climate change impacts.

The Environment for Development initiative received its name from our conviction that with proper management the environment can be seen as a source of development and not as a constraint.

Our mission is to contribute to poverty alleviation and sustainable development through increased use of environmental economics' capacity in policy design and policy-making processes pertaining to management of ecosystems, natural resources and climate change impacts. We use environmental economics tools to both identify the roots to environmental problems in modern economies, and to find what social and economic mechanisms can be used to solve them.

The foundation of the EfD initiative is its members, environmental economists in a selection of countries. As research fellows and

associates we work for EfD centers hosted by well-established academic institutions in China, Costa Rica (for Central America), Ethiopia, Kenya, South Africa and Tanzania. EfD have an important partner organization in Resources for the Future (RFF), Washington DC, USA. A new partner to EfD Since 2012 is also Universidad de Concepción in Chile. Our associates are based at RFF and several universities across the world. One of them, University of Gothenburg in Sweden, hosts the EfD secretariat.

The Swedish International Development Cooperation Agency (Sida) is currently a major funder of the EfD research and capacity building program through core administrative support, a research fund, and funds to strengthen academic training and policy interaction.

EFD CENTERS AND PARTNERS

There are six EfD centers, hosted by universities or academic institutions in each respective country.

For more information on each center, please contact the Center Director/Coordinator:

EFD CENTRAL AMERICA

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SCHOOL OF BUSINESS, ECONOMICS AND LAW

EEU, Environmental Economics Unit

EEU at University of Gothenburg, Sweden, has initiated the EfD initiative and acts as coordinator and secretariat. For more information please contact:

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Sida

Swedish International Development Cooperation Agency, provides the funding for the EfD initiative.



RFF, Resources for the Future

RFF in Washington DC, US, is an important partner of the EfD initiative. RFF's research fellows will work closely with their counterparts and RFF's communications staff will help to disseminate the new centers' research products. For more information please contact:

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To find out more about our work and the EfD initiative:

Please visit www.efdinitiative.org/centers/central-america

You are most welcome to contact us:

EfD Central America

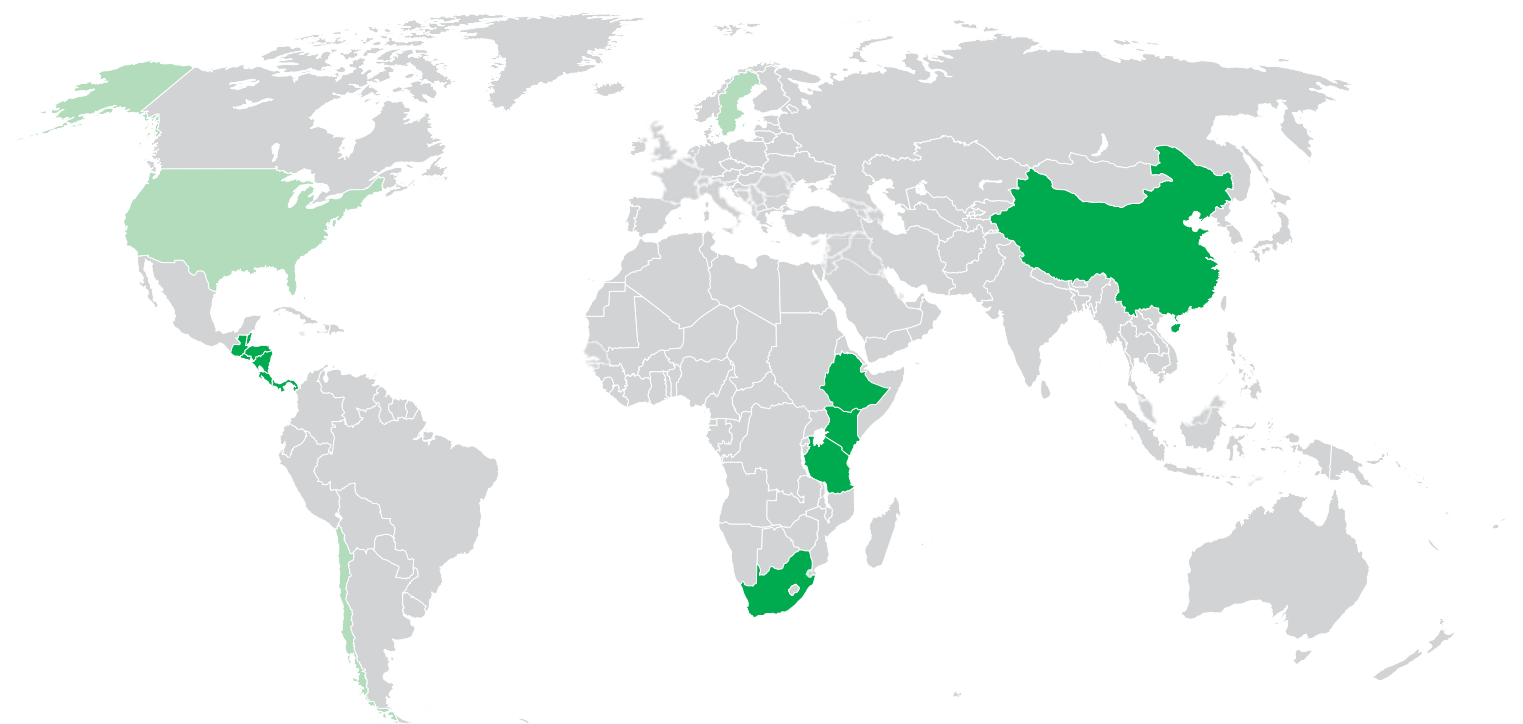
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EfD CENTERS

Central America, China, Ethiopia, Kenya, South Africa, Tanzania

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Sida, University of Gothenburg, RFF, Universidad de Concepción



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