

**EfD**

Environment for Development



# EFD INITIATIVE CENTRE REPORT

# TANZANIA 2013/14

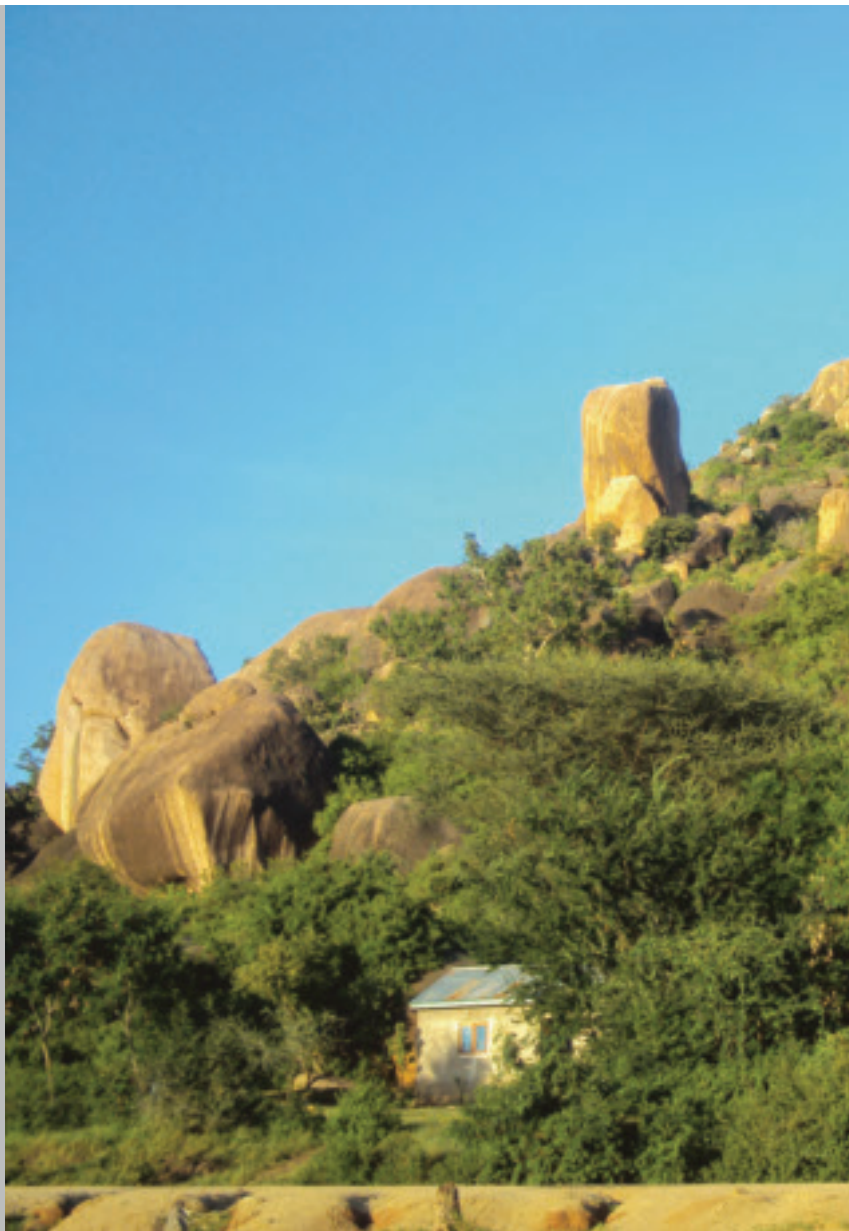
The main goal of EfD Tanzania is to support poverty alleviation and sustainable development through increased use of environmental economics capacity in policy making processes.

Cover photo: Arusha National Park.

## THIS REPORT

This report presents EfD Tanzania, its members and its work during 2013/14. The Tanzanian node of the Environment for Development Initiative is based at:

**EfD Tanzania**  
Department of Economics, University of Dar es Salaam  
College of Social Sciences (CoSS) Tower Block  
3rd Floor  
P.O. Box 35045  
Phone: +255 22 2410162 or +255 22 2410252  
Fax: +255 22 2410162  
Email: [tanzania@efdinitiative.org](mailto:tanzania@efdinitiative.org)  
[www.efdinitiative.org/tanzania](http://www.efdinitiative.org/tanzania)





# CONTENTS

## P.5

Message from our  
centre director

## P.6

EfD Annual Meeting 2013,  
South Africa

## P.8

Research policy  
interaction

## P.12

Research

## P.18

Academic Capacity  
Building

## P.20

Spreading the word

## P.22

Message from the  
chairman of the policy  
board

## P.23

The Tanzanian node in  
the EfD network

## P.26

The EfD Initiative in  
brief

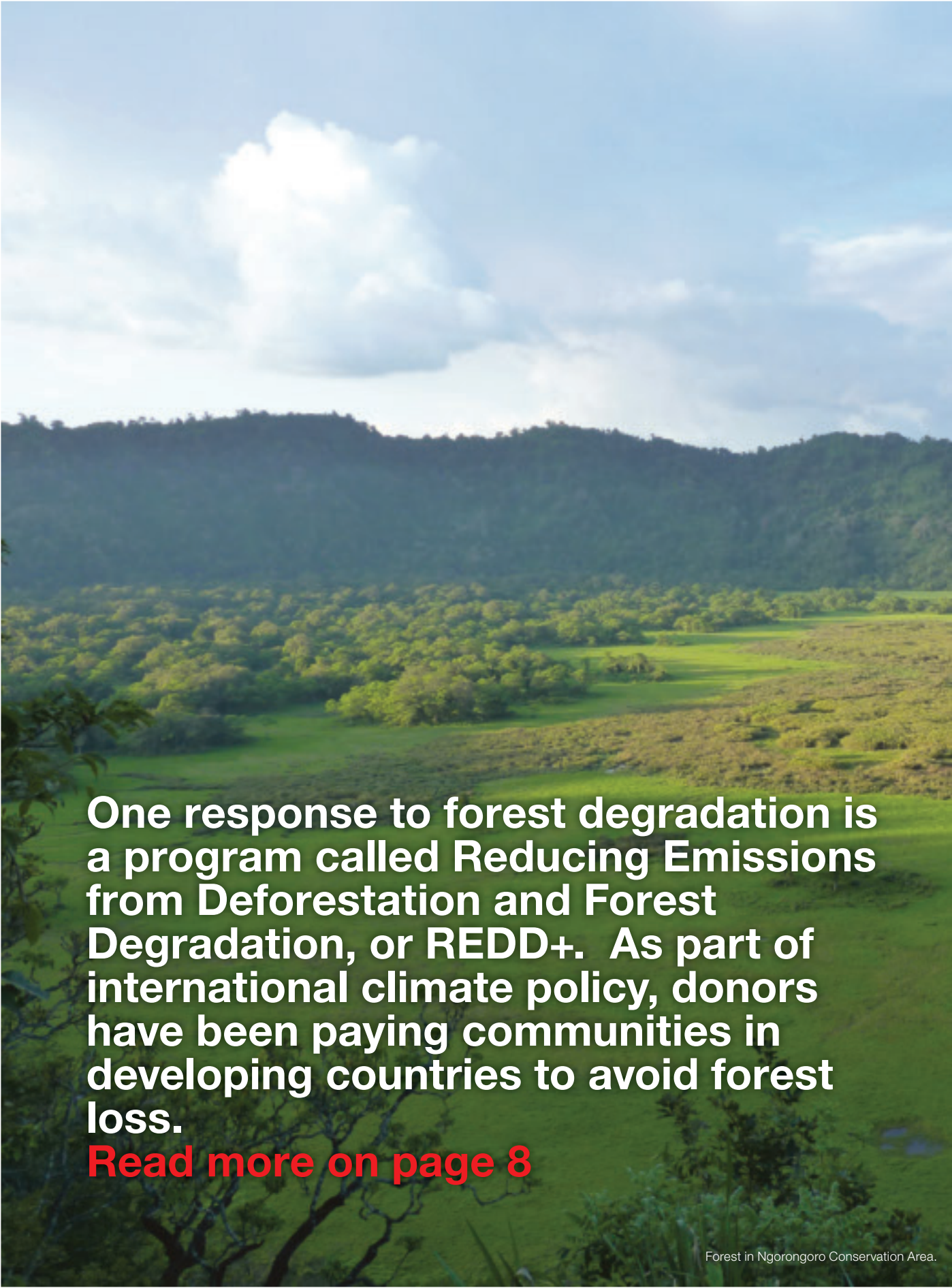
## P.27

EfD Centres

Top: Part of the former Balli Forest that was degraded due to deforestation, forest burning and human settlements in the Bunda District, Mara Region, Tanzania. Now the forest has been reduced to shrubs and pillars of stone.

Bottom left: Aloyce Hepelwa (center), EfD Research Fellow, listening to one of the wind vane makers at Kinesi village. The wind vane helps pump water from Lake Victoria to the farms/fields for irrigation purposes.

Bottom right: Maasai in Ngorongoro Arusha Tanzania pause with Professor H. Jo Albers, Research Associate (4th from left), and Mr. Stephen Kirama, Research Fellow, EfD Tanzania (centre).



**One response to forest degradation is a program called Reducing Emissions from Deforestation and Forest Degradation, or REDD+. As part of international climate policy, donors have been paying communities in developing countries to avoid forest loss.**

**Read more on page 8**

Forest in Ngorongoro Conservation Area.



Razack B. Lokina, Director

## MESSAGE FROM OUR CENTRE DIRECTOR

Dear Colleagues and Friends:

I hope this note finds you well. I'm writing to reconnect with you after a busy and successful year, and to report on the EfD Tanzania centre's progress in capacity building, research, training, policy advice and study of poverty alleviation for the year 2013. In a way, the past years since 2007 have been all about links for EfD Tanzania – strengthening existing links and making new ones. We continue linking with our department, colleges, university, government departments, ministries, and non-governmental organizations, and developing new links with service-minded undergraduate students interested in environment economics and poverty. We also continue enhancing existing links with graduate students from a range of disciplines who are on their way to becoming our next innovators in environmental economics, resource and poverty research, policy, and practice.

We also have stayed connected with policy makers and fellow researchers, whose work informs and enhances our own. We continue to collaborate with our peer EfD centres through the Environmental Economics Unit at Gothenburg University. We have connected with and benefitted from the guidance of our centre advisory policy board, made up of distinguished scholars, practitioners, and policy analysts, as well as the members of EfD Tanzania who have stepped up to higher ranks of policy-making positions, and who continue to shepherd our goal of becoming a think-tank of the nation.

In short, never has EfD Tanzania had so many diverse donors and so many fruitful links and interactions with the people and institutions dedicated to evaluating trends in environmental and resource management and poverty, as well as the effectiveness of resource management and poverty reduction policies. To take full advantage of these links, we have a busy agenda in 2014, which includes:

A multidisciplinary collaborative research and policy analysis in the coming EfD annual conference (October 2014) that will bring leading policy makers and scholars in environmental economics to examine the nature and dynamics of environmental issues, the extent to which resource management complexity is a particular challenge for low-income households and individuals, and the ways in which public policy is responsive to these contemporary environmental issues.

Our participation in training, workshops, and seminars allows dissemination of scientific research findings and policy briefs on environmental resource management and poverty. This allows us to share our expertise, developed over the whole period of existence of EfD Tanzania. The overall objectives are to expand the capacity of the community on matters related to environment economics, which are targeted to the national effort in natural resources management and environmental protection; to promote policy relevant and academically rigorous research by trained resource and environmental economists; and to enhance interaction between researchers and policy makers.

EfD Tanzania in the future aims to design and provide course materials to the Department of Economics to develop environmental and poverty-related short course content for any postsecondary institution – university, college, or community college – that wants to establish and inculcate the importance of environmental and resource management to the community, in line with the national strategy for growth and poverty reduction.

We continue to hold research workshops and seminars, invite eminent researchers from inside and outside the university, promote joint research, and make our databases and publications available. We are looking forward to your participation and support for our activities and invite donors and stakeholders interested in environmental economics and poverty analysis.

I would enjoy hearing from you about your own work and your feedback about ours at EfD Tanzania. Please feel free to get in touch with us at email: [tanzania@efdinitiative.org](mailto:tanzania@efdinitiative.org)

Finally, to learn more about our activities, please see our website [www.efdinitiative.org/tanzania](http://www.efdinitiative.org/tanzania)

Here's wishing you all the best wishes for the year 2014 from all of us at EfD Tanzania.

Razack B. Lokina  
Director







The 7th Annual Meeting of the Environment for Development (EfD) Initiative at Noordhoek, South Africa.

# THE EFD ANNUAL MEETING 2013 IN SOUTH AFRICA

## DECISIONS AND DISCUSSIONS ON RESEARCH

A wide representation of research organizations attended the academic part of the 7th EfD Annual Meeting in Cape Town, South Africa, October 24-27, 2013. Apart from a strong presence from all six EfD centers and a selection of their associated researchers, all EfD partner organizations were present: the Research Nucleus on Environmental and Resource Economics (NENRE) of the University of Concepción, Chile; Resources for the Future from Washington, DC; and the Environmental Economics Unit of the University of Gothenburg. Also present were other organizations with which EfD collaborates, such as the World Bank, Environmental Defense Fund (EDF), International Development Research Center (IDRC), Swedish Environmental Protection Agency, Beijer Institute of Ecological Economics and Stockholm Resilience Center.

The meeting opened with an enthusiastic welcome by Gunnar Köhlin, followed by welcoming remarks by Anthony Leiman, director of EfD South Africa (EPRU), based at the University of Cape Town. During the four-day meeting, there were four keynote speeches and three other special sessions with invited speakers taking place in a plenary setting. The first keynote speech was by Peter Berck, Professor of Agricultural and Resource Economics, University of California, Berkeley on **Identification: the problem that just won't die**, discussing the problem of untangling cause and effect in complicated interactions. The second, about **Systematic Conservation**, was given by Juha Siikamäki, Associate Research Director and Fellow, Resources for the Future (RFF).

The third keynote on **Modeling Land Use** was given by Jo Albers, Professor of Applied Economics, Oregon State University. The fourth keynote speech about **Accounting for Ecosystem Services**, should have been presented by Urvashi Narain, Senior Environmental Economist, World Bank, but since she was delayed, Dr Francisco Alpízar substituted and gave the speech in her absence. "Accounting for Ecosystem Services" is a process of assigning values to the services provided by natural resources – for example, the services that natural water sources provide to farmers – which, until very recently, have been ignored in calculations of national income.

The special sessions in the program had a focus on leading the way for EfD to partner in new collaborative research projects.

First out was a session about **REDD** (Reducing emissions from deforestation and forest degradation), where Randall Bluffstone, Professor of Economics, Portland State University, presented **World Bank supported REDD projects**. REDD is a program to pay people in developing

countries to avoid cutting or damaging forests so that forests can continue to sequester carbon. This was followed by a presentation of Environmental Defense Fund's (EDF's) REDD projects, where opportunities for potential new collaborations between EDF and EfD were elaborated on. Presentations were made by Richie Ahuja, Regional Director, Asia, EDF and Ferdinand Vieder, Social Science Research Center, Berlin. Another focus was **Accounting for Ecosystem Services**, and contributions to the discussion were made by Jeff Vincent, Professor of Forest Economics and Management, Duke University and Jessica Alvsilver, Swedish Environmental Protection Agency (Naturvårdsverket), who made a proposal to EfD centers to collaborate on a number of case studies to be carried out from 2015 and beyond.

Finally, Michael Toman, Research Manager, Development Research Group, World Bank, talked about **The World Bank's Environmental Research Priorities**, a fruitful discussion to reflect on what is already on the EfD center's research agendas in light of World Bank needs.



Jane Turpie, Deputy Director, EfD South Africa, Randall Bluffstone, Professor of Economics, Portland State University, Sue Snyman, EfD South Africa Research Fellow, Yonas Alem, EfD Research Coordinator and EfD Ethiopia Research Fellow, and Razack Lokina, Director, EfD Tanzania



Thomas Sterner, Visiting Chief Economist EDF and EfD Sweden Research Fellow, Randall Bluffstone, Professor of Economics, Portland State University, Ferdinand Vieder, Social Science Research Center, Berlin and Richie Ahuja, Regional Director, Asia, EDF

In addition, 66 presentations were made during the parallel sessions. These covered the following themes: **Land Use, Energy, REDD, Agriculture, Parks and Wildlife, Forestry, Climate Change, Fisheries, Ecosystem Services and Water, Bioenergy, Environmental Policy Instruments, Experiments, Transport and Health.**

The next EfD Annual Meeting will be held in Tanzania in October 2014.

## POLICY DAY

Since 2010, EfD has hosted a separate Policy Day as a starting point for the annual meeting. The aim of the Policy Day is to make EfD research available for primarily local policy makers and also to get policy makers and other stakeholders' input into the ongoing research.

The policy day in Cape Town on October 23, 2013, hosted by EfD South Africa (EPRU), brought together policy makers from various governmental levels, practitioners, NGOs and international and national researchers. The purpose of the day was twofold: first, to identify South African policy makers' research priorities as inputs to EPRU's work; second, to highlight examples from EPRU's research and capacities. The policy day included three distinct sessions focusing on fishery economics, biodiversity and conservation, and climate change.

### Fisheries

In the first session, Kim Prochazka, Department of Agriculture, Forestry and Fisheries, presented a range of research questions where economics can provide valuable contributions. These included various efficiency and distributional implications of when to fish or not, who should be given the right to fish and how, how to monitor compliance, etc. Tony Leiman, EPRU center director, gave an overview of research questions that EPRU has worked on in recent years, acknowledging that economics can only be complementary to natural sci-

ences research. The discussion that followed allowed all participants to propose topics and ask questions. There was broad agreement that a particularly important research topic is to evaluate an upcoming reform related to communal rights for inshore fishing in South Africa. What are the impacts of reform on fisheries and fishers who previously had fishing rights, and how are benefits shared? Fisheries reform involves the well-known "tragedy of the commons" problem: if anyone can use a resource, no one has the incentive to conserve it. One solution has been to "devolve" responsibility for a resource to a group of users who can then cooperate to manage it. However, a number of participants from South Africa pointed out that experiences from devolution of other forms of communal rights for agriculture had performed poorly. Another strong message from policy makers to researchers was a call for more multidisciplinary work involving natural sciences, economics and possibly other social sciences. At least, researchers should be well informed of each other's work and make sure that case studies are made in the same area.

### Biodiversity and conservation

Jane Turpie of EPRU gave an overview of the toolbox of environmental economics and how it can be applied to a number of research questions of relevance for biodiversity and conservation. Mandy Driver from the South African National Biodiversity Institute (SANBI) presented its work and gave an overview of economic related research needs. She also pointed to the important role of intermediaries in bringing research findings to policymakers. Research topics included: what proportion of the wildlife industry is linked to biodiversity? What is the importance of South Africa's biodiversity assets to jobs and livelihoods? What are the returns from investing in ecological infrastructure?

### Climate change

The third session focused on climate change. Thomas Sterner, University of Gothenburg and

Visiting Chief Economist, Environmental Defense Fund, is lead author on the policy instruments chapter for the upcoming IPCC report. He discussed scientific background to the topic and the importance of taking action now despite the political challenges involved. He used Germany as a good example of political and technological leadership, not least through use of feed in tariffs, a policy to encourage investment in renewable energy, which has helped drive down the costs of solar and wind power. Martine Visser highlighted parts of EPRU's work, including the use of experimental economics to increase understanding of how vulnerable groups adapt to flood risk and how farmers respond to climate variability and change. Helen Davies, from the Western Cape provincial government, and Sarah Ward, from the City of Cape Town, gave their views of important research needs. Provincial examples ranged from the costs of not addressing climate change, to more analysis of the economics of the food-water-energy nexus, to efficient use of land, to provincial impacts of a carbon tax at the national level. Examples from the city of Cape Town included how to stimulate behavioural change for greater energy efficiency, economic impacts of green procurement and efficient revenue models for resource taxes to avoid perverse incentives (unintended effects that cause people not to save energy). Questions were asked to the panel, not least related to how provincial and city policies are aligned with decisions at the national level and how the government's agenda for growth and jobs is aligned with sustainable development. Participants appreciated the discussions and stressed the need to continue the dialogue at a more detailed level to narrow down the agenda.

Mare Sarr concluded the policy day by thanking the participants for valuable inputs to EPRU's research agenda and acknowledged EPRU's responsibility for and interest in continuing the dialogue to identify common grounds for research.



Wilfred Nyangena, EfD Kenya Senior Research Fellow, Jane Kabubo-Mariara, Coordinator, EfD Kenya and Senior Research Fellow, and Richard Mulwa, EfD Kenya Senior Research Fellow



Min Wang, EfD China Research Fellow, Marcela Jaime, PhD student at University of Gothenburg and Róger Madrigal, Senior Research Fellow EfD Central America



A delegate from the Climate and Development Knowledge Network poses a question to the panel on Policy Day





# 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 and consequently poverty reduction and a more sustainable development path. EfD Tanzania works to strengthen the research capacity in environmental economics at the Department of Economics and the interface between academia and policy makers in the quest for sustainable development.



## Restricting Charcoal Production is a Big Challenge in Protecting Tanzania's Forests

**Charcoal is the most commonly used cooking fuel for urban households in Tanzania. But charcoal use has complex implications for climate change, poverty, and health.**

Stephen Kirama, EfDT research Fellow and H. Jo Albers and Roger Madrigal, Research Associates.



## REMOVING BARRIERS TO INNOVATION CAN PROMOTE GREEN GROWTH

In December 2013, EfDT began work as part of a research group evaluating the barriers that Small and Medium Size Enterprises (SMEs) and larger firms confront in relationship to the process of innovation and the diffusion of technology and how this affects their performance and growth rates. This was based on the successful tender in 2012 by Tilburg University (TiU) and the University of Dar-es-Salaam's Department of Economics for the research project entitled "Co-ordinated Country Case Studies: Innovation and Growth, Raising Productivity in Developing Countries". Technological innovation is important to ensure that growth takes a green, low-carbon pathway. This is a five-year project. A workshop took place in May 2014 with the Tilburg collaborators to design the papers and look at the data set.

## USING RESOURCE WEALTH WISELY

Dr Razack Lokina is working as part of a research team of experts drafting the Tanzania Natural Resource Charter. This follows the recent natural gas exploration and development and ongoing mining activities in Tanzania, which present an extraordinary opportunity for development. The sector has the potential to provide substantial revenues to the government, large enough to dwarf aid flows and to finance sustained human development gains, but also sufficiently sizable to pose well-known political and economic "resource curse" risks. The "resource curse" is the idea that resource wealth can distort economic growth, prices, and income distribution in ways that fail to benefit the majority of the population in the long run.

**“Cutting trees to make charcoal is a major cause of forest degradation,”** explained Dr Razack Lokina, Director of EfD Tanzania, “and forest degradation is a major cause of climate change.” Forests in Africa sequester billions of tons of carbon. Cutting down trees removes this carbon sink, and burning the charcoal releases carbon into the atmosphere. The charcoal process tends to involve degradation, in which trees are cut, but the forest still exists, rather than whole-sale deforestation.

One response to forest degradation is a program called Reducing Emissions from Deforestation and Forest Degradation, or REDD. As part of international climate policy, donors have been paying communities in developing countries to avoid forest loss. Communities receive REDD payments if the rate of forest degradation is reduced under their management. In Tanzania, there are a number of pilot REDD projects. One of them, organized by the Tanzanian Forest Conservation Group (TFCG), is underway in 31 villages in Kilosa and Kilwa Districts.

The problem is that REDD sets up incentives to change the behaviour of local villagers, or forest “insiders,” but most of the demand for charcoal comes from “outsiders” – urban

charcoal consumers – and much of the production is also done by outsiders. “Some trees are cut by local villagers,” said EfD researcher Prof Jo Albers. “But most charcoal is illegally produced by people who don’t live in the village that is receiving the REDD payments.”

Villagers in Tanzania struggle to prevent the illegal activities that degrade their forests. “We recently surveyed rural residents,” said EfD researcher Mr Stephen Kirama, “and the majority of those surveyed said that the condition of their local forest has been getting worse over time.” This discouraging result is often the result of illegal charcoal activities by “outsiders.” However, “insiders” also rely on forest products for their own subsistence and livelihoods, and some of this harvesting is illegal under the community’s rules, said another member of the research team, Dr Elizabeth Robinson. “Their actions, when unregulated, can also degrade the nearby forests.”

One solution might be a trade-off in which villagers have increased legal rights to collect resources for their own needs. “We have found cases where villagers don’t report illegal charcoal activities because the villagers knew they were also breaking the rules,” said Prof Albers. “If these local people were

operating legally, they might be more likely to cooperate in enforcing rules against outsiders.”

Beekeeping and other alternative livelihood activities have also been introduced into REDD villages. In some cases, trees are planted specifically for charcoal production, thus relieving pressure on existing forests and providing an alternative way for insiders to make a living. However, these initiatives rarely benefit outsiders, and so pressure on the forests is likely to continue so long as urban demand for charcoal remains high.

An integrated approach to forest management is critical, added Dr Robinson. “Otherwise, illegal harvesting will simply be displaced from a forest where enforcement is good to a different location where enforcement is weak.” For example, Kibaha’s forests are already vulnerable because they are close to the nation’s capital, Dar es Salaam. If Morogoro’s forests are successfully protected against charcoal production destined for the capital, Kibaha’s forests will be under increased pressure. While visiting the Kibaha Forest Reserve, the research team frequently saw abandoned charcoal pits and young men transporting charcoal on their bicycles, headed for Dar-es-Salaam.

## POLICY LINKS

EfD Tanzania has been interacting with international agencies, government departments, and non-governmental organizations on policy issues. The centre has worked very closely with the Environment Division of the Vice President's office. This is the unit that is responsible for coordinating environmental management for the improvement of the welfare of Tanzanians: <http://www.vpo.go.tz/> In addition, the Institute of Resource Assessments has formed a REDD task force that collaborates with the centre on some issues. The Poverty Eradication Division (PED), in the Ministry of Finance (MOF), has supported a short training course on "Introduction to Stata with Application to Poverty Measurement" <http://www.tanzania.go.tz/ministriesf.html>. (Stata is a statistical software package.)

EfDT and the Ministry of Natural Resources and Tourism are planning a Collaborative Project Proposal on Park Pricing in EfD Tanzania, in collaboration with Serengeti Park and Ngorongoro Conservation Areas. <http://www.tanzania.go.tz/natural.htm>.

The National Environment Management Council (NEMC) is working with EfDT in projects such as a study of the Cost-Benefit Analysis for a Plastic Bag Ban on the Tanzania Mainland. <http://www.nemc.or.tz/>

EfD fellows have joined the Ministry of Water to provide expertise in monitoring and evaluation of the Water Sector Development Programme (WSDP). <http://www.maji.go.tz/>

EfD fellows often work with the Tanzanian Forest Conservation Group (TFCG) in REDD projects at Kilosa and Lindi. <http://www.tfcg.org/>

EfD Tanzania, in collaboration with the Department of Economics, University of Dar es Salaam, and the President's Office Planning Commission, jointly

organized workshops on the dissemination of the 2013 Human Development Report, together with related Environment for Development Tanzania studies on human development.

## POLICY SEMINARS, WORKSHOPS AND CONFERENCES

In 2013, the EfD Tanzania centre continued to participate in local and international workshops, conferences and seminars by presenting papers and playing other important roles. This year, the Department of Economics of the University of Dar es Salaam, in collaboration with the President's Office Planning Commission, organized a two-day workshop on dissemination of the 2013 Human Development Report and the Post-2015 Tanzania Agenda. EfDT research fellows were among the resource persons in this dissemination.

One of the workshops was held 17-18 May, 2013. The workshop was supported by the United Nations Development Programme (UNDP) Tanzania country office under the auspices of the President's Office Planning Commission. This workshop was attended by 40 representatives from media groups and research and higher learning institutions (RHLIs) that are located in Dar es Salaam and Zanzibar.

Another workshop was a dialogue and dissemination of the 2013 Human Development Report and other regional and national reports. The participants were research and higher learning institutions and members of the media. The workshop was held 30-31 December, 2013 at Stella Maris, Bagamoyo. The EfD Tanzania members were represented by the Chairman of the EfDT Policy Board, Mr. Amon Manyama, Dr. Razack Lokina, Dr. John Kedi Mduma, Prof. Adolf Mkenda, Mr. Wilhelm Ngasamiaku and Mr. Salvatory Macha.



University of Dar es Salaam campus.





Razack Lokina at the podium in dissemination workshop for higher learning institutions and media representatives.



Encouraging Tanzanians to cook with fuel-efficient stoves is also on the policy agenda. Cooking with either charcoal or wood on a daily basis exposes household members to dangerous particulates. In addition, reliance on forest fuels affects the ability of women and girls to escape from poverty, added Mr. Kirama. "My research shows that women do 80% of the wood collection," he said. "That is time that women could spend on more productive economic activities." Other researchers have found that collecting wood takes away time that girls could spend in school.

Forest conservation projects in Tanzania have made fuel-efficient stoves available to local households to reduce their reliance on forest products. For poor households in both urban and rural areas, the expense of buying a new stove is one reason that there is still so much demand for charcoal.



# RESEARCH

Applied, policy relevant research is a core activity for the EfD Initiative. Research is a critical input in a long-term strategy to reduce environmental degradation, eradicate poverty and ensure sustainable use of natural resources. A major challenge in developing countries is, however, the lack of comprehensive research on environmental resource management and poverty alleviation which can inform national strategic plans and policies. Policymakers, farmers, donors, and others need research-based information, not only to design policies but also to evaluate their efficiency in reaching their objectives.



The fish pond at Nyatwali village, in the Bunda District in the Mara Region, constructed 50m from Lake Victoria, owned by a group of fishermen called the Tumaini Group. A tilapia species locally known as “Kambale Mumi” is preferred in fish farming communities.



# PUBLICATIONS 2013

## Peer reviewed

Hepelwa, A. 2013. Technical Efficiency as a Sustainability Indicator in Continuum of Integrated Natural Resources Management. *Resources and Environment* 3: 194-203.

Kidane, A. 2013. Regression with Dummy Explanatory Variables: Some Methodological Issues. *Tanzania Economic Review* 2: 35-45.

Mduma, J. 2013. Distributional Differences in Upper Tail Observation of Per Capita Household Expenditure in Tanzania in 2001 and 2007. *Tanzania Economic Review* 2: 97-107.

Robinson, E., H.J. Albers, and G. Busby. 2013. The Impact of Buffer Zone Size and Management on Illegal Extraction, Park Protection, and Enforcement. *Ecological Economics* 92: 96-103.

Robinson, E., H.J. Albers, C. Meshack, and R. Lokina. 2013. Implementing REDD through Community-based Forest Management: Lessons from Tanzania. *Natural Resources Forum* 37: 141-152.

Lokina, R., and M. Kamande. 2013. Clean Production and Profitability: An Ecoefficiency Analysis of Kenyan Manufacturing Firms. *Environment & Development* 22(2): 169-185.

Ngeleza, G., and E. Robinson. 2013. Cartels and Rent Sharing at the Farmer – Trader Interface: Evidence from Ghana's Tomato Sector. *Journal of Agricultural & Food Industrial Organization* 11: 15-30.

## Book chapters

Albers, H.J., and E. Robinson. 2013. Reducing Emissions from Deforestation and Forest Degradation. Published by Encyclopedia of Energy Natural Resource and Environmental Economics.

Mduma, J. 2013. Point Density Estimation of Changes in Income Polarization in Tanzania, 1992–2001. Published by Econometric Methods for Analyzing Economic Development.

## EfD Discussion Papers

Robinson, E., H.J. Albers, C. Meshack, and R. Lokina. 2013. Implementing REDD through Community-Based Forest Management: Lessons from Tanzania. EfD Discussion Paper EfD DP 13-06. Washington, DC: Resources for the Future and Environment for Development.

## MA thesis

John, I. 2013. How Successfully Have Payments for Environmental Services Improved Welfare? (Case of Uluguru Mountain – Morogoro) MA dissertation.

## Reports

EfD Tanzania Centre Report 2012  
<http://www.efdinitiative.org/research/publications/publications-repository/efd-tanzania-center-report-2012-13>



Aloyce Hepelwa (third from left) and team of enumerators getting details from fish farmers at Nyatwali village in Mara. The view behind researchers is of Lake Victoria.



# PROJECTS 2013

For more information on each project, please see the website.

## **Land conservation technologies adoption and its impact on smallholder agriculture in Tanzania: a case study of REDD implementing areas**

Land degradation is a serious problem in Tanzania that contributes greatly to declines in productivity and poses a threat to rural livelihoods and the economy at large, given the importance of agriculture in the country

Despite the efforts of the government to put in place measures to reduce land degradation, such as soil and water conservation programmes, destocking measures, and tree planting or afforestation, the adoption or implementation of the programmes has been low and in most cases has had little impact. There is a lack of concrete information on factors that influence rural households to adopt or not to adopt land conservation technologies and the extent of their impact on productivity and production efficiency. Absence of this important information leads to formulation of inappropriate conservation policies and low adoption of land conservation technologies.

This study therefore aims at providing information on socio-economic factors that influence rural households to adopt different conservation technologies and the economics of this investment in intensive farming systems on the slopes of Uluguru and Usambara Mountains in Tanzania. Specifically, the study will identify the determinants of rural household adoption of land conservation technologies, the impact of adoption on productivity, and production efficiency.

The project will be carried out in the Mvomero District (Mgeta and Mlali Divisions located at Uluguru Mountain) and the Kilosa District (divisions located at Ukaguru Mountain) in the Morogoro Region. The areas under study were selected purposely because they have similar climate and farming systems and there have been many land conservation initiatives in the areas for a long time, from both government and NGOs, e.g., Uluguru Mountains Agricultural Development Project (UMADEP).

The farmers' adoption of land conservation technologies will be modeled using a multivariate probit (MVP) model, which captures the va-

riety of factors that enter into a farmer's choices. Other statistical tools called the random utility model and the stochastic frontier method will be used to estimate the impact of adoption of conservation technologies on agricultural productivity and production technical efficiency, respectively, for selected crops within the study areas. Survey data will be collected in the field using structured and non-structured questionnaires from households and focus group discussions. Interviews with officials in the region and at the national level, as well as other secondary information, will supplement the survey data.

## **Sustainable financing options for climate change and climate variability adaptation measures by rural smallholder farmers in Tanzania**

A majority of the rural poor in Tanzania derive their income from agriculture. The most important inputs in agricultural production are labour and rain water. This situation implies that a very large proportion of the population in the country is vulnerable to climatic change and variability. At the national level, there exist various interventions in the agriculture sector to facilitate increased efficiency and productivity.

However, there is considerable complexity in adaptation and therefore careful analysis is needed to identify the appropriate financial instruments that meet the needs of households in different geographic locations in the country. Cost-effective adaptation strategies to cushion smallholder farmers from the adverse effects of climate change and climate variability are missing. This study seeks to address this knowledge gap so that policy statements by the national government can be translated into actual investments to address climate change at the household level. The main objective of the project is to develop policy support tools for establishing cost-effective climate change and variability adaptation strategies, as well as to create capacity and awareness to empower rural households in Tanzania to address the challenges of climate change.

## **The vulnerability of household welfare to shocks in Tanzania**

Tanzania is largely an agrarian economy where over 70 percent of the population lives in rural

areas. The mainstay of the rural economy is agriculture and livestock keeping, and this agricultural production relies almost exclusively on rainfall. As a result, changes in the rainfall pattern have a direct and immediate impact on agricultural production, which in turn impacts household welfare through income and consumption. Because the rural economy feeds the urban population, rainfall patterns also impact the welfare of urban households. This means that all households are very vulnerable to the vagaries of weather. These vagaries are an example of a "shock" that disrupts economic behaviour and outcomes.

Vulnerability on its own has an impact on the well-being of people because of the uncertainty it generates. Besides that, the existence of high vulnerability increases the risk of a household falling into poverty. In order to design policies to combat poverty, it is not enough to understand after the fact why households became poor and stayed poor; it is also important to understand the probability of households falling into poverty in the future. This has not been done in Tanzania because the focus has been on understanding the distribution of poverty as it exists and is observed in any given time. It is also instructive to note that collection of household budget survey data takes place over a year, during which each household is surveyed for a period of a month, which means that some households are surveyed in January, others in February and so on up to December. This opens up the possibility that the household consumption observed during the survey is influenced by seasonal factors. However, this possibility is assumed away in the construction of poverty indices by invoking variants of the permanent income hypothesis, an economic theory which suggests that households "smooth" or average out their consumption over the year by budgeting their income over time.

A few studies have refuted the existence of consumption behaviour consistent with the permanent income hypothesis. This means that, without accounting for seasonal factors such as rainfall in the measurement of poverty, there is a risk of generating misleading poverty estimates. There has not been a rigorous study



to estimate the vulnerability of households' welfare to various kinds of shocks, including climate-induced shocks and the unstable seasonal patterns in Tanzania.

The objective of this study is therefore to study the impact of shocks and seasonal patterns on household welfare in Tanzania.

## COLLABORATIVE RESEARCH

### **Marine protected areas and small-scale fishing behaviour: a comparative analysis between South Africa, Tanzania and Costa Rica**

This thematic programme examines marine resource conservation. This multi-centre collaborative project, the first within this thematic programme, focuses on improving policies to promote coastal conservation through marine protected areas (MPAs) and related management tools. Because signatories of the Convention on Biological Diversity have committed to establishing MPAs on 10 percent of their coastal waters, a widespread expansion of these areas is underway worldwide.

The resource economics literature's focus on no-take zones or marine reserves fails to inform the designation, implementation, and management of the broader concept of MPAs, in which some fishers and some fishing technologies are permitted. In particular, low-income countries typically address issues of poverty and a lack of alternative employment opportunities amongst small-scale fishers in conjunction with biodiversity conservation efforts in managing MPAs. As a first project toward developing an EfD-wide marine conservation programme theme, this proposal coordinates research across three EfD centres – Central America (CA), Tanzania (TZ) and South Africa (SA) – to establish similar methodologies for each setting and then to undertake comparative work. This coordinated approach builds on existing research in each centre, strengthens each centre through the exchange of methodological expertise, and provides a platform for generating general policy and academic modeling perspectives important for MPAs in low-income countries.

The first two years of this project augmented EfD-CA's previously funded fishery survey by developing a bioeconomic model of fisher behaviour and reaction to policy in parallel to that project. Because Costa Rica will dramatically increase the area in MPAs in the next several

years, the surveys that began in 2012 will provide important "before MPA" information. The tri-centre collaboration proposed here began with participants from the three centres conducting a series of focus group meetings with fisher groups and resource managers; the purpose of the meeting was to provide information for the preliminary version of the bioeconomic decision model in Costa Rica and to determine additional questions for the full survey. Led by the Tanzanian centre, the bioeconomic modeling itself has been informed by fisher-MPA interaction modeling in Tanzania, interdisciplinary marine assessments from South Africa, a literature review, and a focus group discussion in Costa Rica. The next stages of this project involve undertaking surveys similar to those in Costa Rica in Tanzania and South Africa, with input and guidance from the CA centre. The aim is to generate similar sets of information about the three countries to facilitate comparative policy analysis in addition to individual country statistical and modeling analysis. The Tanzanian survey instrument was developed and tested at Mafia Marine Park Island in October, 2013 by the Tanzanian team with collaborative members Prof Jo Albers and Dr Roger Madrigal. The preliminary testing survey was successful and several changes were suggested for the instrument. Currently, the Tanzanian centre is planning for a brief pilot and a main survey between April and May, 2014.

In addition to generating many academic and policy outputs to inform MPA policy in low-income countries, this collaborative project will improve methodological capacity in each centre, form pathways for communication and interaction across centres, and lay the groundwork for establishing an EfD-wide programme on marine coastal conservation.

The work in the last four months of the second year of the project will include:

- train/build capacity in survey writing/implementation in the Tanzanian centre through SA and CA collaborators;
- prepare the survey instruments for the Tanzania survey that contains both similar information to that collected in SA and CA and information specific to the Tanzanian setting, including information about income-generating projects and community benefits sharing;

The work in the coming months will be:

- conduct pilot surveys in Tanzania and begin statistical analysis of data; and

- develop sets of parameters, objectives, and spatial settings for the application of the general model to each of the three participating countries.

Year 3 Specific Objectives:

The third year of the project seeks to:

- complete analysis of the general model
- write one journal article draft using the general model with examples from the collaborating centres
- complete survey in Tanzania
- analyze TZ survey data
- write and implement survey in South Africa
- analyze SA survey data
- further develop bioeconomic modeling capacity in all three centres
- write a descriptive paper comparing the survey data from the three surveys
- modify the general model for a setting in each country and do analysis

### **Optimal Pricing of Parks and Wildlife Resources in Eastern and Southern Africa**

Despite the centrality of African parks and other protected areas to nature-based tourism, they capture only a fraction of the value that visitors would be willing to pay. For this reason, national parks and other protected areas have mostly relied on fiscal transfers from the state to fund their conservation activities.

However, the rise in calls for governments to also focus on other national objectives such as poverty reduction and enhancement of economic development has increased the competition for national parks and other protected areas in securing funds from the state. The result has been a general decrease in funds for conservation, which threatens the existence of national parks and other protected areas. There is an enormous amount of pressure on park agencies to consider alternative financing mechanisms. The main goal of the proposed research programme is to support the use of optimal pricing of park resources to achieve sustainable park management and to maximize the value of parks in Eastern and Southern Africa for a combination of parks and national interests. The proposed research programme aims to provide formal frameworks that could be used by the park agencies in determining the optimal pricing of national park resources in Eastern and Southern Africa. The current phase of the research programme will focus on a broader geographical area spanning three countries, namely, Kenya, South Africa and, all of which have EfD centres.. There



are grounds to believe that markets in Kenya, South Africa and Tanzania are interdependent because potential visitors consider destinations in all three countries, and park agencies should recognize this. The current work will use an economic method called stated preference surveys, in which potential visitors are asked about their preferences and how much they are willing to pay.

First, the programme has conducted a cross-country stated preference study about the Maasai Mara National Reserve (Kenya), Kruger National Park (South Africa), and Serengeti National

Park (Tanzania) with tourists on site. Second, the programme will conduct a cross-country stated preference study about the Maasai Mara National Reserve (Kenya), Kruger National Park (South Africa), and Serengeti National Park (Tanzania) with travel agents at tourism expos in Cologne and Gothenburg. This work will serve as a pilot and thereby help develop a standard survey template for Eastern and Southern Africa. A related economic method called the Contingent Behaviour Method will be used to generate experimental data from which the researchers can determine how the prices at one park affect visitors' decisions to visit other national parks in

Eastern and Southern Africa. The analysis will determine the optimal price each park should charge under either a cooperative or non-cooperative setting as well as resulting profits for each country in the alternative settings. A discussion paper with a theoretical framework on how travel agents, park agencies and tourists interact during a change in park entrance fees will be produced. The expected outcome of this research programme will be to get the key park agencies in Eastern and Southern Africa moving a step further toward cooperation in determining entrance fees.



## PROJECTS 2014

### **The evaluating the socio-economic impacts of solar lanterns and education campaigns in Tanzania**

Theme: Poverty Reduction, Environmental Sustainability  
PI: Razack Lokina

### **What drives the (non) adoption of agricultural technologies? Time preferences and social networks in rural Tanzania**

Theme: Agriculture, Climate Change  
PI: Salvatore Di Falco

### **Ongoing Collaborative research**

The centre is involved in two collaborative research projects, which are ongoing from the 2013 funding and are continuing during 2014. These projects are:

### **Optimal pricing of parks and wildlife resources in Eastern and Southern Africa**

Theme: Parks and Wildlife  
Centre researchers: Stephen Kirama and Aloyce Hepelwa

### **Marine protected areas and small-scale fishing behaviour: a comparative analysis between South Africa, Tanzania and Costa Rica**

Centre researchers: Razack Lokina, Stephen Kirama and Aloyce Hepelwa

## OTHER PROJECTS THAT INVOLVED EFD

### **Tanzania researchers**

#### **Tobacco control policy analysis and intervention in China and Tanzania.**

Funded by United States National Institute of Health Subcontract  
PI: Prof. Kidane

#### **Balancing conservation goals with poverty alleviation in Tanzania: applying spatial economic decision models.**

(Conservation refers to marine, forest and savannah conservation through reserves, parks, and community based management) funded by Fulbright Scholar Grant & Environment for Development Tanzania  
PI: Prof. H. Jo Albers



# RESEARCH PRESENTATIONS

## Academic conferences

### Environment for Development Initiative 7th Annual Meeting October 2013, Cape Town, South Africa

Dr Razack Lokina:

- Implementing REDD in Tanzania: Understanding Community Choices about Group Versus Individual Payments
- Evaluating the Socio-economic Impact of Solar Lanterns and Education Campaigns in Tanzania (Proposal)
- Dr Aloyce Hepelwa: Sustainable Financing Options of Climate Change and Climate Variability Adaptation Measures by Rural Smallholder Farmers in Tanzania
- Mr Stephen Kirama: Effects of Deforestation on Household Time Allocation among Rural Agricultural Activities: Evidence from Central and Southern Tanzania
- Prof Elizabeth Robinson: Urban Charcoal Consumption and Forest Degradation in

Africa: Can REDD Play a Role?

- Prof H. Jo Albers: Marine Protected Areas and Small-Scale Fishing Behaviour: A Comparative Analysis between South Africa, Tanzania and Costa Rica (Proposal)

### Market Based Incentives for Watershed Management - Organized by UNEP and University of Cape Town in South Africa, December, 2013

- Dr Aloyce Hepelwa: Payment for Environmental Services in Tanzania: Case Study of Uluguru Equitable Payments for Watershed Services Projects

### Conference on Inclusive Growth for Africa – Helsinki, Finland, 23-25 December, 2013

- Mr Stephen Kirama: Growth and Poverty: Decomposition Analysis

### Conference on Valuation and Accounting of Natural Capital for Green Economy in Africa (VANTAGE), United Nations Offices, Nairobi, Kenya, 3-4 December, 2013

- Mr Kirama was invited as an international expert on natural resources. This was a follow-up meeting from the one conducted in Addis Ababa, Ethiopia in March 2013, where he presented a paper on the status of natural resources in Tanzania.

### UK's DEFRA (Department for Environment, Food, and Rural Affairs) Review of the Balance of Competence for Fisheries: Academic Round Table Discussion, 11 December, 2013

- Prof Elizabeth Robinson, participant.

### 20th Annual Conference of the European Association of Environmental and Resource Economists (EAERE), Toulouse, France, on 26-29 June, 2013

- Prof Elizabeth Robinson: Insiders, Outsiders, and the Role of Local Enforcement in Forest Management: An Example from Tanzania





First row, second and third from right, Aloyce Hepelwa and Onesmo Selejio, Research Fellows, EfD Tanzania, in a training workshop in capacity building.

## 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

There are two collaborative graduate programs at the Department of Economics, University of Dar es Salaam. These are the Masters in Economics (MA Economics) and PhD by Coursework and Dissertation. These programs are run in collaboration with the African Economic Research Consortium (AERC). The EfD Tanzania members are involved in teaching and super-

vising the students. The project also provides financial support to graduate students who write their dissertation in the areas of environmental and resource economics and poverty analysis.

The collaborative MA and PhD programme in the Department of Economics University of Dar es Salaam is for sub-Saharan Africa. The

programmes are conducted through coursework and dissertations. The University of Dar es Salaam is one of the four host universities in the region. The first two academic years are devoted to coursework covering core courses of microeconomics, macroeconomics and quantitative methods, plus two optional courses. Students then join colleagues from other host



universities at a joint facility for electives (JFE) in Nairobi for instruction in the optional courses. After coursework (core courses and electives), students prepare for their comprehensive examinations. During the third and fourth academic years, students work on their research proposals, conduct research, and prepare dissertation write-ups and presentations.

The Research Fellows at EfD Tanzania offer academic support in supervising graduate students who are writing on environmental and poverty analysis issues. We do this by supporting students in building their individual capacities. We assist those writing on environment and poverty to not only meet their learning or research goals, but to be innovative in the process and to foster relationships with key partners, in formal and informal settings. For those MA and PhD students who are studying environmental economics and poverty issues, this process leads to both formal academic qualifications and inclusion in the professional world of environmental economists.

Our capacity building strategies include conducting training for civil servants from government departments and agencies and for the staff of non-governmental institutions. We have developed a training manual that aims at developing and facilitating effective mainstreaming of environmental and poverty concerns into policy, planning, and monitoring processes in Tanzania, through articulating the linkages between poverty and environment on the one hand and economic growth on the other. The main objective is to provide references to concepts, strategies, policies, and guidelines. We address strategic issues related to planning, implementation and evaluation of environmental policies and strategies and identify key actors and stakeholders. The manual itself is intended to:

- Impart skills needed by policy makers and practitioners in order to analyse the poverty-environment linkage
- Familiarize stakeholders with approaches used in analysing the poverty-environment linkage
- Identify roles and responsibilities of different actors and stakeholders in the continuum of policy processes related to the poverty-environment linkage
- Assist in developing poverty-environment indicators for monitoring policies and strategies
- Identify approaches to financial resources mobilization for environmental management.

### PhD Theses

Madina Guloba

#### **Gender and Household Welfare: Analysis of Responses to Climate Variability and Change in Uganda**

Supervised by Dr Razack Lokina

Wilhelm Ngasamiaku

#### **Environmental Factors and Health Outcomes in Tanzania: The Case of Infant and Child Mortality Using Household Level Data**

Supervised by Prof Adolf Mkenda and Dr Razack Lokina

Onesmo Selejio

#### **Factors and Impact of Land Conservation Technologies Adoption on Smallholder Agriculture in Tanzania**

Supervised by Dr Razack Lokina, Dr John Mduma, and Prof Elizabeth. J. Robinson

Ms Tafah Akwi

#### **Climate Change Mitigation and Adaptation in the Cameroon Forest Sector: Impact on Rural Communities in the Context of REDD**

Supervised by Dr Razack Lokina and Dr Godius Kahyarara

Baltazar Safari Awe

#### **Economic Analysis of REDD'S Climate Change Mitigation Scheme in Tanzania**

Supervised by Dr Razack Lokina

Gabriel Hinju

#### **Environmental Crimes on Wildlife in Tanzania: An Economic Approach**

Supervised by Dr Razack Lokina

### Msc Theses

Lulu Edward

#### **Analysis of Household Wood Fuel Consumption in Tanzania**

Supervised by Dr Aloyce Hepelwa and Dr John Mduma

Suzan Sylvester

#### **Land Tenure Reforms and Investment in Tanzania**

Supervised by Dr Razack Lokina

Donath Livin

#### **International Demand for Tanzania Tourism: Evidence from Panel Data**

Supervised by Dr Aloyce Hepelwa

Samwel Lwiza

#### **Technical Efficiency in Agriculture and its Implications for Forest Conservation**

Supervised by Dr Razack Lokina

Amina Yateri

#### **Impact of Participatory Forest Management (PFM) on the Livelihoods of Forest Adjacent Communities**

Supervised by Dr Razack Lokina

## COURSES TAUGHT BY EFD TANZANIA

### Undergraduate courses

- Environmental and Resources Economics

### Graduate courses

- Master's Course 1: Environment Economics I
- Master's Course 2: Environmental Economics II





From left: Prof Adolf F. Mkenda Research Fellow, Mr Stephen Kirama, Research Fellow; Vice Chancellor, Prof Rwekaza S. Mukandala and Prof Delphine Rwegasira.

## SPREADING THE WORD

News about research and policy interaction

2013-09-09

### **EfDT Research Fellow Now in High Government Position in Tanzania**

The President of the United Republic of Tanzania has appointed Prof Adolf Mkenda, a fellow of EfD, to serve as Deputy Permanent Secretary in charge of policy in the Ministry of Finance.

Prof Mkenda has now moved to the Ministry on a full time basis, although he nominally retains his position as an Associate Professor of Economics of the University of Dar es Salaam, which means that he can come back to the Department when his tour of duty comes

to an end. Following this appointment, Prof Mkenda has stepped down as the Head of the Department of Economics and his position has been taken over by Dr Jehovaness Aikaeli.

Prof Mkenda's responsibilities in the Ministry include national budget, external finance, and policy, among others.

"I plan to maintain very close relationships with the university, the department and EfD, and plan to continue to do some research along the way," said Prof Mkenda.

Prof Mkenda holds a PhD in resource and environmental economics from Gothenburg University and has worked as a Senior Research Fellow at EfD Tanzania, besides his Associate Professor of Economics position at the Department of Economics in the University of Dar es Salaam.

EfD congratulates Prof Adolf Mkenda on his new appointment and wishes him good luck in all his endeavours.

Read more on the website: [www.efdinitiative.org/centers/tanzania/news-press](http://www.efdinitiative.org/centers/tanzania/news-press)







Mr Amon Manyama, Chairman, EfD Tanzania Policy Board

## MESSAGE FROM THE CHAIRMAN OF THE POLICY BOARD

Since the EfD Centre was launched in Tanzania in 2007, the governing board has been providing guidance to the Centre in various aspects, including strategizing and strengthening EfD's impact on the policy processes in Tanzania, mobilizing and establishing co-funding channels, and enhancing communication with key stakeholders. It has been my pleasure as a chair to work with board members and the EfD team, which I find to be highly committed and motivated.

I would like to take this opportunity to thank the board members for their dedication, and the current donors – Sida, through the Environmental Economics Unit at University of Gothenburg, and the University of Dar es Salaam – for continued support to the centre. I know it would not have been easy for the fellows to conduct their research projects or run the centre's core activities without such

support.

As the centre continues to fulfill its objectives in research and training to build capacity for young researchers, the members of the board are ready to support these efforts and ensure that the centre attains its goal of being a centre of excellence in research and policy advice on issues related to the management of environmental and natural resources for sustainable development and alleviation. In particular, efforts will be placed on emphasizing research and studies that link poverty, gender and environment. The Board will continue to find and devise means to solicit additional co-funding to support EfDT to carry out its work plan successfully. One way to do this is to strengthen the link between the centre and the government and non-governmental agencies that also have an interest in these areas and play a key role in environmental management for sustainable development.

It is my conviction that, in 2014, EfDT will make the most of its strengths and knowledge, accumulated for over six years since its establishment. The established network outside and inside Tanzania is evidence that the centre is capable of carrying out rigorous research and therefore significantly contributing to sustainable development goals for the nation's post-2015 development agenda.

Sincerely,  
Mr. Amon Manyama  
Chairman, Policy Board and Assistant Resident Representative at the United Nations Development Programme



# THE TANZANIAN NODE IN THE EFD NETWORK

The EfD centre in Tanzania, in the course of promotion of policy relevant and academically rigorous research, provides economic analysis that supports national environmental management and policy to reduce poverty and promote sustainable national welfare.



From left: Stephen Kirama, Razack B. Lokina and Aloyce Hepelwa

EfD Tanzania is located within the Department of Economics at the University of Dar es Salaam, the oldest university in the country. The Department of Economics is one of the leading economics departments in the region. It offers undergraduate, Master's and PhD specialization courses in environment and economics.

The EfD in Tanzania is among nine centres in the EfD Initiative, an international network which is funded by the Swedish International Development Co-operation Agency (Sida). EfD Tanzania is working in collaboration with the Environmental Economics Unit (EEU) at Gothenburg University. The main goal of EfD Tanzania is to support poverty alleviation and sustainable development through increased use of environmental economics capacity in policy making processes. Specific objectives include:

- Increasing the number of trained environmental economists by creating an auspicious working environment for environmental economists. This is achieved through, among other things, providing research grants for local MA students in economics and PhD candidates writing on environmental and poverty issues.
- Strengthening the capacity of environmental economics and economics graduates to do applied research on poverty and environmental management.
- Increasing environmental awareness among policy makers and creating better understanding of environmental realities.
- Organizing workshops, conferences, and internal seminars.
- Distributing research publications and policy briefs
- Building capacity of civil servants and other stakeholders on environmental and development issues with the objective of increasing awareness of the link between environmental management and poverty reduction.

### EfD Tanzania Vision

EfD Tanzania's vision is to be the leading centre for environmental economics and a locus for interactions among researchers, civil servants and policy makers interested in policy-oriented environmental research in Tanzania.

### EfD Tanzania Mission

The mission is to conduct high-profile research; to provide quality policy advice to the government and other stakeholders based on quality objective research; and to engage in capacity building to reduce poverty and contribute to sustainability. Members of the centre have built links with government departments and agencies responsible for environmental management and poverty issues.

## EFD TANZANIA CENTER STAFF

### Local researchers and staff

#### Razack Bakari Lokina, PhD

SENIOR LECTURER, DIRECTOR AND SENIOR RESEARCH FELLOW

#### John K. Mduma, PhD

SENIOR LECTURER AND SENIOR RESEARCH FELLOW

#### Adolf Faustine Mkenda, PhD

SENIOR LECTURER AND SENIOR RESEARCH FELLOW

#### Aloyce Hepelwa, PhD

LECTURER AND SENIOR RESEARCH FELLOW

#### Wilhelm Ngasamiaku, PhD

STUDENT, ASSISTANT LECTURER AND RESEARCH FELLOW

#### Onesmo Selejio, PhD

STUDENT, ASSISTANT LECTURER AND RESEARCH FELLOW

#### Salvatory Macha

PROJECT ADMINISTRATOR

#### Stephen Kirama, PhD

STUDENT, ASSISTANT LECTURER AND RESEARCH FELLOW

#### Amosi Mutanaga

ACCOUNTANT

### Domestic research associates

#### Professor Asmerom Kidane

UNIVERSITY OF DAR ES SALAAM

### International research associates

#### Professor H. Jo Albers

OREGON STATE UNIVERSITY

#### Associate Professor Elizabeth J.Z. Robinson,

UNIVERSITY OF GOTHENBURG

#### Yonas Alem, PhD

DEPARTMENT OF ECONOMICS, UNIVERSITY OF GOTHENBURG

#### Associate Professor Gunnar Kohlin

DEPARTMENT OF ECONOMICS, UNIVERSITY OF GOTHENBURG

#### Professor Thomas Sterner

DEPARTMENT OF ECONOMICS, UNIVERSITY OF GOTHENBURG

#### Mark Purdon, PhD

DEPARTMENT OF POLITICAL SCIENCE AT THE UNIVERSITY OF TORONTO

#### Professor Jesper Stage

DEPARTMENT OF ECONOMICS, UNIVERSITY OF GOTHENBURG

#### Associate Professor Håkan Eggert

DEPARTMENT OF ECONOMICS, UNIVERSITY OF GOTHENBURG

#### Salvatore Di Falco

PROFESSOR IN ENVIRONMENTAL ECONOMICS, ECONOMICS DEPARTMENT AT THE UNIVERSITY OF GENEVA AND RESEARCH ASSOCIATE AT THE GRANTHAM RESEARCH INSTITUTE ON CLIMATE CHANGE AND THE ENVIRONMENT IN LONDON SCHOOL OF ECONOMICS (LSE)

#### Assistant Professor Johannes Urpelainen

DEPARTMENT OF POLITICAL SCIENCE, COLUMBIA UNIVERSITY

More details about each person are available on the EfD website, in the "Centers" section of Tanzania. [www.efdinitiative.org/tanzania/people](http://www.efdinitiative.org/tanzania/people)





From left: John K. Mduma, Onesma Selejo, Salvatory Macha, Wilhelm Ngasamiaku, Adolf F. Mkenda and Amosi Mutanaga

## NETWORKS

The EfD Tanzania centre has been working with international agencies, government departments, and nongovernmental organizations on policy issues. Our closest association is with the Environment Division of the Vice President's Office. This is the unit that is responsible for coordinating environmental management for the improvement of the welfare of Tanzanians. <http://www.vpo.go.tz/>

EfDT researchers work with the International Food Policy Research Institute (IFPRI) to seek sustainable solutions for ending hunger and poverty. We also work together to understand the economics of land degradation. Recently, the discussion paper titled "The Supply of Inorganic Fertilizers to Smallholder Farmers in Tanzania: Evidence for Fertilizer Policy Development" was published, <http://www.ifpri.org/>

The centre has drawn policy board members from the following ministries: Ministry for Finance, Ministry of Natural Resources and Tourism, and the National Environment Management Council (NEMC). These governmental sectors are important for networking, especially on the question of prioritising the research themes.

The centre continues to work with the Tanzania Forest Conservation Group (TFCG) and the Institute of Resource Assessments, which are part of a REDD task force in Tanzania.

## DONORS AND FUNDING

We sincerely thank the Swedish International Development Cooperation Agency (Sida), through the EfD Initiative based at the Environmental Economics Unit at University of Gothenburg, for their continuing core support. We also thank the University of Dar es Salaam and the Department of Economics, in particular in the area of office space and facilities. We further extend appreciation to United Nations Development Programme (UNDP), to the President's Office - Planning Commission, and to the Ministry of Finance - Poverty Eradication Division, for the support of centre activities.

EfD Tanzania welcomes donors and partners interested in supporting our centre activities, especially on issues related to environmental economics and poverty, as well as supporting training and policy workshops.

Number of donors	11
List of Donors	Funding by Donor during 2013
1) University of Dar es Salaam (UDSM)	32.3%
2) The United Nations Development Programme (UNDP)	11.5%
3) Catholic Relief Services (CRS)	1.6%
4) District Agricultural Sector Investment Project (DASIP)	2.1%
5) Economic Social Research Foundation (ESRF)	5.3%
6) Ministry of Finance (MoF)	4.4%
7) Pathfinder	0.6%
8) President's Office Planning Commission (POPC)	0.5%
9) The World Society for the Protection of Animals (WSPA)	1.2%
10) Ministry of Lands, Housing and Human Settlements Development	2.4%
11) Sida/EfD funding as share of total centre budget (incl. univ. salaries)	38.1%

List of donors EfD Tanzania

## CONTACT US

You are most welcome to contact EfD Tanzania:

EfD Tanzania  
Economics Department, University of Dar es Salaam  
College of Social Sciences (CoSS) Tower Block 3rd Floor  
P.O. Box 35045  
Phone: +255 22 2410162 or +255 22 2410252  
Fax: +255 22 2410162  
Email: [tanzania@efdinitiative.org](mailto:tanzania@efdinitiative.org)  
[www.efdinitiative.org/tanzania](http://www.efdinitiative.org/tanzania)



Marketplace near Arusha National Park.



## THE EFD INITIATIVE IN BRIEF

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

The concept of the Environment for Development Initiative is simple – we believe that natural resources and the environment should be seen as the basis for, not the constraint on, sustainable growth in developing countries. But for that to happen, we need to apply our best analytical tools to how to manage these resources. And that is what we do in the Environment for Development Initiative!

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 both to identify the roots of environmental problems in modern economies, and to find what social and economic mechanisms can be used to solve them.

Institutionally, EfD is now well underway to become a global network of environmental economics centres. The original six EfD centres in China,

Costa Rica (for Central America), Ethiopia, Kenya, South Africa and Tanzania have now been formally joined by three more centres: Resources for the Future (RFF), Washington DC, USA; the Research Nucleus on Environmental and Natural Resource Economics (NENRE) at the University of Concepción in Chile; and the Environmental Economics Unit, University of Gothenburg in Sweden. This is the first step in forming an independent international organization in support of high quality, policy-relevant research on development and the environment, as well as academic capacity building and in-depth policy interaction.

There have also been productive interactions with other partners, such as the United Nations Environment Programme, the African Development Bank, the Global Green Growth Institute and the Climate and Development Knowledge Platform. We are also happy that our unique way of stimulating policy-relevant research through our EfD Research Fund has attracted funding from the World Bank, in addition to our generous core funding from the Swedish International Development Cooperation Agency (Sida).



# EFD CENTERS

There are nine EfD centers hosted by academic institutions. For more information on each center, please contact the Center Director or Coordinator:

## EFD CENTRAL AMERICA

Research Program in Economics and Environment for Development (IDEA) in Central America  
Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)  
Dr. Francisco Alpizar, Center Director  
Email: falpizar@catie.ac.cr  
Phone: +506 558 2215 / 2624



## EFD CHINA

Environmental Economics Program in China (EEPC)  
Peking University  
Professor Jintao Xu, Coordinator  
Email: xujt@pku.edu.cn  
Tel: +86 10 6276 7629



## EFD ETHIOPIA

Environmental Economics Policy Forum for Ethiopia (EEPFE)  
Ethiopian Development Research Institute (EDRI)  
Dr. Alemu Mekonnen, Center Director  
Email: alemu\_m2004@yahoo.com  
Tel: +251-115-53 86 32



## EFD KENYA

School of Economics, University of Nairobi  
Professor Jane Mariara, Coordinator  
Email: jmariara@uonbi.ac.ke  
Phone: +254-20-318262, ext. 28122



## EFD SOUTH AFRICA

Environmental-Economics Policy Research Unit (EPRU)  
University of Cape Town  
Anthony Leiman, Center Director  
Email: tony.leiman@uct.ac.za  
Phone: +27-21-6502725



## EFD TANZANIA

Department of Economics,  
University of Dar es Salaam  
Dr. Razack Lokina, Center Director  
Email: razack\_lokina@yahoo.co.uk  
Phone: +255-22-241 0252



## RESOURCES FOR THE FUTURE (RFF)

Allen Blackman  
Senior Fellow, RFF  
Email: blackman@rff.org  
Phone: +1 202 328 5073



## RESEARCH NUCLEUS ON ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (NENRE)

Department of Economics,  
Universidad de Concepción  
Professor Carlos Chávez, Center Director  
Email: cchavez@udec.cl  
Phone: +56-41-220 4503



## UNIVERSITY OF GOTHENBURG SCHOOL OF BUSINESS, ECONOMICS AND LAW

### EFD SWEDEN

Environmental Economics Unit (EEU), University of Gothenburg

Associate Professor Gunnar Köhlin  
Director, EfD  
Email: gunnar.kohlin@economics.gu.se  
Phone: +46 31 786 4426

Professor Thomas Sterner  
Email: thomas.sterner@economics.gu.se  
Phone: +46 31 786 1377

Karin Backteman, Communications Officer  
Email: karin.backteman@economics.gu.se  
Phone: +46 31 786 2595



### Sida

The Swedish International Development Cooperation Agency, Sida, provides core funding for the EfD Initiative.





**To find out more about our work and the Efd Initiative:**

Please visit [www.efdinitiative.org/tanzania](http://www.efdinitiative.org/tanzania)

You are most welcome to contact us:

Efd Tanzania

Department of Economics

University of Dar es Salaam

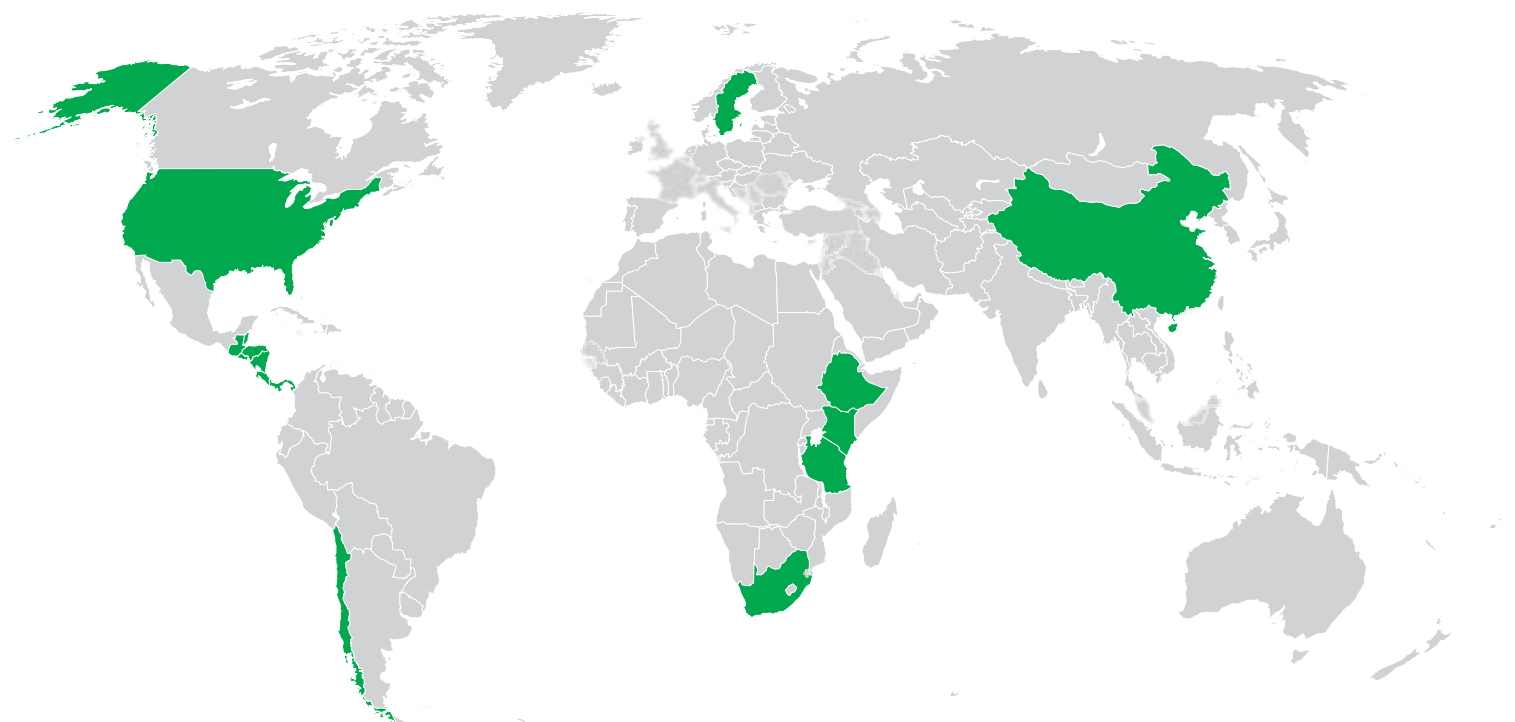
CASS Tower Block 3rd Floor

P.O. Box 35045

Phone: +255 22 2410162 or +255 22 2410252

Fax: 255 22 2410162

Email: [efdt@udsm.ac.tz](mailto:efdt@udsm.ac.tz)



**Efd CENTERS**

Central America, Chile, China, Ethiopia, Kenya, South Africa, Sweden, Tanzania, USA

**DONOR**

Sida



UNIVERSITY OF GOTHENBURG  
SCHOOL OF BUSINESS, ECONOMICS AND LAW

