The Katoomba Group

Catalyzing Payments for Ecosystem Services in Africa:

A Meeting of the East & Southern Africa Katoomba Group

November 8-10, 2006
Kirstenbosch Botanical Gardens
Cape Town, South Africa

Conference Packet Table of Contents

East & Southern Africa Katoomba Group; NEMA House-Room 315, Plot 17/19/21 Jinja Road, Kampala, Uganda; Telephone 256-312-271634; fax 256-312-271635; Email: aruhweza@forest-trends.org

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SECTION 1:
EAST & SOUTHERN AFRICA KATOOMBA GROUP MEETINGS & FUTURE WORK

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Background

The Katoomba Group is an international working group composed of leading experts from forest and energy industries, research institutions, the financial world, and environmental NGOs dedicated to advancing markets for some of the ecosystem services provided by forests – such as watershed protection, biodiversity habitat, and carbon storage. The Katoomba Group seeks to address key challenges related to developing markets for ecosystem services, which range from enabling legislation to establishing new market institutions, to developing strategies for pricing and marketing, and monitoring performance.

The Katoomba Group builds on the knowledge and experience of network members who attend international convenings. The meetings provide a forum for exchange as members seek to influence key policy-makers and catalyze diverse partnerships. Serving as a source of ideas for and strategic information on ecosystem service markets, the Katoomba Group provides an array of market analyses and tools.

The group met for the first time in Katoomba, Australia in 1999. Subsequent meetings have taken place in Vancouver, Rio de Janeiro, London, Tokyo, Zürich, Bangkok, Uganda, Portland, Oregon, USA, Sao Paulo, Brazil and Cape Town, South Africa.

In 2004, the Katoomba Group launched the premier information source on markets and payments for ecosystem services—the *Ecosystem Marketplace* (EM). The *Ecosystem Marketplace* is the place where providers and beneficiaries of ecosystem services get together to capture the value associated with ecosystem services. The EM provides a coordinated informative platform for users and providers of ecosystem services to meet and communicate. Furthermore, it improves the quality and value of ecosystem transactions by providing up-to-date information, news, and expertise.

The Katoomba Group also engages in market education and advocacy to enable the legislation and institutions needed for payment schemes to work appropriately. One initiative, the *Forest Climate Alliance*, has brought together environmental and rural development leaders to promote the development of forest carbon markets that conserve biodiversity and mitigate climate change while improving the livelihoods of poor communities. The Alliance seeks to explore how forest carbon can be a strategic interface between the Rio Convention's and the Millennium Development Goals.

Gatherings of The Katoomba Group are sponsored by Forest Trends, a Washington, D.C.-based non-profit organization created in 1999 by leaders from conservation organizations, forest product firms, research groups, multilateral development banks, private investment funds and foundations. Forest Trends' mission is to conserve forests by promoting more diverse trade in the forest sector—moving beyond an exclusive focus on lumber and timber to a broader range of products and services.

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Conference Co-Hosts

The Katoomba Group is an international working group composed of leading experts from forest and energy industries, research institutions, the financial world, and environmental NGOs, dedicated to facilitating strategic partnerships to launch innovative market-based mechanisms that enhance and conserve ecosystem services. The Katoomba Group has explored and incubated ecosystem service payment schemes with diverse stakeholders as a means of preserving forested landscapes since its first meeting in Katoomba, Australia in 2000.

Forest Trends is a Washington, D.C.-based nonprofit organization that promotes market-based approaches to conserving forests outside of protected areas, by moving beyond an exclusive focus on lumber and fiber to a broader range of products and services. Forest Trends brings together leading agents in industry and finance with representatives from governments and non-governmental organizations (NGOs) to advance markets for forest ecosystem services, markets for sustainable forest products and investments and markets that bolster the livelihoods of forest-based communities.

The South African Biodiversity Institute (SANBI) is mandated to monitor and report on the status of the Republic's biodiversity. Its activities include undertaking and promoting research on indigenous biodiversity and its sustainable use; establishing and managing collections of plant and animal specimens; managing and maintaining all National Botanical Gardens, with their facilities for horticultural display, environmental education, visitor amenities and research; collecting and disseminating information about biodiversity; assisting in the development of a national biodiversity framework, including bioregional plans and strategies; and coordinating programmes in conservation and sustainable use of indigenous biological resources and the rehabilitation of ecosystems.

The Cape Action for People and the Environment (C.A.P.E) is a partnership programme that seeks to protect the rich biological heritage of the Cape Floristic Region (CFR) while delivering benefits for local communities. It is hosted by the South African National Biodiversity Institute (SANBI) and has the support of local partners in government, civil society and the private sector and international donors. C.A.P.E seeks to unleash the economic potential of land and marine resources through focused investment in development of key resources, while conserving nature and ensuring that all people benefit.

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Conference Co-Hosts (continued)

The Council for Scientific and Industrial Research (CSIR) is one of the leading scientific and industrial research, development and implementation organisations in Africa. The organisation undertakes and applies directed innovative research in science and technology to improve the quality of life of the citizens of South Africa and southern African countries. Building measurable value into its work through local and international partnerships remains a key component of its endeavours to provide world-class technological research, development and implementation organisations in Africa. The organisation undertakes and applies directed innovative research in science and technology to improve the quality of life of the citizens and scientific solutions to environmental, social and economic issues.

The Department of Water Affairs and Forestry is the custodian of South Africa's water and forestry resources. It is primarily responsible for the formulation and implementation of policy governing these two sectors. While striving to ensure that all South Africans gain access to clean water and safe sanitation, the water sector also promotes effective and efficient water resources management to ensure sustainable economic and social development. The forestry programme promotes the sustainable management of the country's natural forest resources and commercial forestry for the lasting benefit of the nation.

The Botanical Society of South Africa is the oldest and largest membership based organization in South Africa. The society's mission is to engender an appreciation for and active protection of South Africa's remarkable flora. The society has a conservation unit dedicated to professional, proactive engagement in biodiversity issues such as, promoting the use of biodiversity-informed land use planning and mainstreaming biodiversity issues in environmental assessment and decision making at all levels.

MINTEK provides programmes in human resource development for the broader mining industry. MINTEK also investigates regional strategies for minerals-based development. Ensuring long-term economic sustainability through mineral wealth is a significant key to the growth of the less-developed regions of Africa. The establishment of a prosperous continental mining industry, and the associated capital goods and consumer markets, continues to highlight how important mining and the extractive industries are to the African economy and to the development of its people.

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Conference Sponsors

The South African Government's Department of Environmental Affairs and Tourism's mission is to lead sustainable development of South Africa's environment and tourism for a better life for all, by: creating conditions for sustainable tourism growth and development; promoting the sustainable development and conservation of natural resources; protecting and improving the quality and safety of the environment; and promoting a global sustainable development agenda.

The South African Government's Department of Water Affairs and Forestry is the custodian of South Africa's water and forestry resources. While striving to ensure that all South Africans gain access to clean water and safe sanitation, the water sector also promotes effective and efficient water resources management to ensure sustainable economic and social development. The forestry programme promotes the sustainable management of the country's natural forest resources and commercial forestry for the lasting benefit of the nation.

EcoAgriculture Partners is an international non-profit organization that works with farmers, conservationists, researchers, leaders in rural development, entrepreneurs and policymakers around the world to sustain, develop and promote ecoagriculture.

Forest Trends promotes market-based approaches to conserving forests outside of protected areas, by moving beyond an exclusive focus on lumber and fiber to a broader range of products and services. Forest Trends brings together leading agents in industry and finance with representatives from governments and non-governmental organizations (NGOs) to advance markets for forest ecosystem services, markets for sustainable forest products and investments and markets that bolster the livelihoods of forest-based communities

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Conference Sponsors (continued)

The International Fund for Agricultural Development (IFAD)'s mission is to enable the rural poor to overcome poverty. The Fund ensures that there is broad consensus on the centrality of rural poverty in overall poverty-alleviation efforts; that the poor have a role as protagonists in the formulation and implementation of poverty-reduction programmes; and the forging of a broad-based coalition for that purpose among all sectors of society

TerrAfrica is a multi-partner initiative which aims to increase the scale, efficiency and effectiveness of investments towards sustainable land management (SLM) in sub-Saharan Africa. TerrAfrica partners include African governments, NEPAD, regional and sub-regional organizations, the UNCCD Secretariat, the UNCCD Global Mechanism (GM), the World Bank, GEF, IFAD, FAO, UNDP, UNEP, AfDB as well as multilateral organizations including the European Commission, bilateral donors, civil society and scientific organizations including FARA and CGIAR centers.

The United Nations Environment Programme (UNEP) aims to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

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Conference Partners

The National Museums of Kenya is a leading centre of excellence, housing the finest museum collections and exhibits in the world. Its principal mission is to collect, document, preserve and enhance knowledge, appreciation, management and use of these resources for the benefit of Kenya and the World.

The National Environment Management Authority (Uganda) is in charge of supervising, monitoring and coordinating all activities in the field of environment in Uganda. While NEMA has relied mostly on command and control approaches in addressing some of Uganda's environmental management objectives, NEMA has recognized the need for and is pursuing the use of economic instruments (such as payments/incentives for ecosystem services) to encourage biodiversity conservation and sustainable land management. NEMA hosts the office of the East & Southern Africa Katoomba Group.

Nature Harness Initiatives is a Ugandan non-profit organization that aims at promoting enhanced capacity of the people to utilize nature for the sustainable livelihoods and income. Nature Harness Initiatives was born out of a realization that the African continent is endowed with natural resources yet its peoples remain poor because the resources have not been harnessed to their full potential. NAHI aims to contribute to the improvement of livelihoods and income through efficient and strategic utilization of nature's gifts.

Leadership for Environment and Development (LEAD) is an international non-profit organisation with a fast growing network of 1600 leaders in more than 80 countries. Its mission is to inspire leadership for a sustainable world. By searching worldwide for outstanding people, developing their leadership potential through innovative training programmes and working with them to mobilise others to make a real difference to the future of this planet.

The International Institute of Environment and Development is an international policy research institute and non governmental body working for more sustainable and equitable global development.

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Conference Partners (continued)

The Wildlife Conservation Society saves wildlife and wild lands through careful science, international conservation, education, and the management of the world's largest system of urban wildlife parks. These activities change attitudes toward nature and help people imagine wildlife and humans living in sustainable interaction on both a local and a global scale. WCS is committed to this work because we believe it essential to the integrity of life on Earth.

The World Wildlife Fund (WWF) - Established in 1961, WWF operates in more than 100 countries working for a future in which humans live in harmony with nature to stop the degradation of the planet's natural environment by: conserving the world's biological diversity; ensuring that the use of renewable natural resources is sustainable and promoting the reduction of pollution and wasteful consumption

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Conference Overview

In Africa, there is growing potential for markets and payments for the ecosystem services (PES), including deals related to carbon sequestration, biodiversity conservation and watershed protection. These emerging markets and payments have the potential to encourage sustainable land management, conserve biodiversity and improve rural livelihoods throughout the continent.

Today, however, PES in the East and Southern African region primarily occurs on an *ad hoc* basis through small-scale pilot projects. Information gaps, lack of capacity to design and manage projects and the absence of institutions to support on-the-ground implementation have largely hindered efforts to scale up.

The East and Southern Africa Katoomba Group's regional conference aims to address these impediments by providing a forum to develop a shared understanding of PES in the region. The gathering also seeks to strengthen Governments' role as supporters and creators of an enabling environment for investment in PES.

The meeting will also launch the East & Southern Africa Katoomba Group Network, which aims to catalyze the development of markets for environmental services through ongoing information exchange and capacity building.

The 2006 Katoomba Group meeting builds on a 2005 gathering held in Uganda, which brought together more than 70 experts from East and Southern Africa, Europe, North America and Australia. The Uganda meeting demonstrated that African countries have become increasingly interested in market-based conservation strategies, such as payments for ecosystem services (PES) and that a number of projects are underway.

The 2006 meeting will bring together representatives from African and international NGOs, private business and industry associations, the rural development community, as well as political leaders interested in spurring the growth of environmental markets. During the meeting, participants will discuss the challenges and lessons of environmental markets around the world and in Africa.

We look forward to a fruitful discussion on how to scale up PES in East and Southern Africa and how to shape a vibrant regional Katoomba Group network.

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Conference Agenda

Wednesday, November 8, 2006
Public Meeting
Linking Buyers and Sellers in the South African Context
Venue: Old Mutual Hall, Kirstenbosch Botanical Gardens

OBJECTIVES

- To share international PES lessons learned that can be applied within East and Southern African nations
- To identify and bring together buyers and sellers in South Africa as well as from throughout the region
- To discuss the legislative and regulatory barriers in South Africa that are obstacles to payments for ecosystem services (PES)
- To brainstorm how to address the barriers

OUTCOMES

- To catalyze a vibrant conversation in South Africa about the potential of PES
- To bring together the key players who can further work on PES in South Africa and the East and Southern African region

8:00-8:30 **REGISTRATION**

OPENING PLENARY

8:30-8:45 **Dr. Nicholas King, Endangered Wildlife Trust, South Africa**
Chairperson's Opening Remarks

8:45-9:00 **Brian Huntley**, **South African National Biodiversity Institute**
Welcome

9:00-9:30 **Michael Jenkins, Forest Trends**
Payments for Ecosystem Services (PES): A New Stream of Conservation and Restoration Financing

9:30-10:00 **Ms. Rejoice T. Mabudafhasi, Deputy Minister of Environmental Affairs and Tourism, Government of South Africa**
The Promise of PES in South Africa

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10:00-10:30 QUESTIONS & DISCUSSION

10:30–11:00 COFFEE/TEA BREAK

PANEL 1: PAYMENTS FOR ECOSYSTEM SERVICES: GLOBAL OUTLOOK & LESSONS FOR AFRICA

11:00-11:10 **Sosten Chiotha, Leadership for Environment and Development**
Moderator's Introduction of Speakers

11:10-11:30 **Carlos Munoz Pina, National Institute of Ecology, Mexico**
Payments for Ecosystem Services: Experiences in Central America

11:30-12:00 **Albert F. Appleton, City University of New York and Institute for Urban Systems, New York**
Payments for Watershed Services: Experiences from Around the World and Opportunities for Africa

12:00-12:20 **Willie McGhee, Greenergy Bioenergy Ltd.**
Payments for Carbon: International Experiences and African Opportunities

12:20-12:40 **Sara Scherr, Ph.D., EcoAgriculture Partners**
Payments for Biodiversity: Cases from Production Landscape Mosaics

12:40-13:15 DISCUSSION

- What are the most relevant international PES examples that can be adapted and applied within East and Southern African countries?
- Are there particular countries and sites that are 'ripe' for particular PES applications? If so, which and where?
- What is needed to catalyze more PES experimentation in the region?

13:15-14:15 LUNCH

PANEL 2: SOUTH AFRICAN PES EXPERIENCES & OPPORTUNITIES

14:15-14:25 **Christo Marais, Department of Water Affairs, South Africa**
Moderator's Introduction of Speakers

14:25-14:55 **Professor Kader Asmal, Member of Parliament, South Africa**
Lessons learned from South Africa's *Working for Water* Programme

14:55-15:15 **Elandre Bester, Blue Ridge Mining**
Buyer's Perspectives

15:15-15:35 **Chief Ngangomhlaba Matanzima**, **Eastern Cape House of Traditional Leaders**
Seller's Perspectives

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15:35-16:00 DISCUSSION

- What are the key lessons learned?
- What are the prospects for expanding and/or replicating these South African PES models, both in the country and across the region?
- What is needed to engage more buyers in the region?
- What is needed to engage more sellers?

16:00-16:30 COFFEE BREAK

16:30-17:30 KATOOMBA DIALOGUE

Question:
How can payments for ecosystem services (PES) address poverty and livelihood issues in the African context?

MODERATOR:
Michael Jenkins, Forest Trends

PANELISTS:
Gavin Quibell, Consultant
Legal/Regulatory Issues

Anantha Duraiappah, United Nations Environment Program (UNEP)
Equity Issues and Mechanisms Needed for Effective PES

Saliem Fakir, LEREKO, South Africa
Opportunities for the Private Sector and Buyers

Ivan Bond, International Institute of Environmental & Development, U.K.
Facilitators and Seller's Experiences

Jones Muleso Kharika, Department of Environmental Affairs and Tourism, Government of South Africa
The Role of Government as a Facilitator and Creator of an Enabling Environment

Beatrice Ahimbisibwe, Bitereko Women's Group, Uganda
Community Perspectives

17:30-18:15 QUESTIONS & DISCUSSION

- What are the lessons learned to date about key elements needed to ensure that PES addresses poverty and livelihood issues?
- Who are the key players that need to be engaged in the design of PES schemes to achieve these 'pro-poor' outcomes?

18:15-18:30 CLOSING REMARKS
Michael Jenkins, Forest Trends
Mandy Barnett, SANBI
Alice Ruhweza, East & Southern Africa Katoomba Group Coordinator

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19:00 **DINNER – The Alphen Hotel**
Sponsored by the Government of South Africa's Department of Water Affairs and Forestry

Presentation: **Brian Jones,** CBNRM Consultant, Namibia
"Lessons from Community-Based Natural Resource Management"

Thursday, November 9, 2006
Private Meeting

OBJECTIVES

- To deepen a shared understanding of PES in the region
- To identify pathways forward for PES in East and Southern Africa

OUTCOMES

- To build capacity among participants on PES
- To finalize country and regional action plans on PES

8.00-8.30 **COFFEE/TEA**

MORNING PLENARY

8:30-8:45 **Dr. Mandy Barnett, Cape Action for People and the Environment (C.A.P.E)**
Chairperson's Overview of Workshop Objectives, Agenda, and Outcomes

8:45-9:00 **Michael Jenkins, Forest Trends**
Welcome and Introduction

9:00-9:10 **Professor Sosten Chiotha, LEAD**
Introduction of the Organizing Committee

9:10-9:30 **Group Expectations**
Open Discussion & Brainstorming

9.30 – 10.00 **COFFEE/TEA BREAK**

PANEL: THE KATOOMBA GROUP & CURRENT PES STATUS IN THE REGION

10:00-10:20 **Sissel Waage, Ph.D., Forest Trends**
Overview of the International Katoomba Group's Work and Approach

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10:20-10:40 **Fulai Sheng, UNEP Economics & Trade Branch**
Overview of Technical Discussion on International Payments for Ecosystem services (held in Geneva, September 2006)

10:40-11:15 **Alice Ruhweza, Coordinator, East and Southern Africa Katoomba Group**
Status of PES in East and Southern Africa and Update on activities since 2005 Uganda Katoomba Meeting

11.15-12:15 **OPEN DISCUSSION**
- What is the current status of PES in the region?
- What actions are needed to rapidly increase PES-related experimentation in countries throughout the region?

12:15-13:15 **LUNCH**

PANEL 2: **SCALING UP PES IN EAST AND SOUTHERN AFRICA: CHALLENGES & OPPORTUNITIES**

13:15-14:45 **Sachin Kapila, Shell International**
Moderator's Introduction of Panel and Panelists

Ivan Bond, International Institute of Environment & Development (IIED)
George Jambiya, World Wildlife Fund (WWF)
Payments for Watershed Services

Byamukama Biryahwaho, Nature Harness Initiatives
Eliakamu Zahabu, University of Dar-es-Salaam
Payments for Carbon

Mark Botha, Botanical Society of South Africa
Christo Marais, Department of Water Affairs, Government of South Africa
Payments for Biodiversity

14:45-15:30 **QUESTIONS & DISCUSSION**

15:30-16:00 **COFFEE BREAK**

16:00-19:00 **FIELD TRIP - The C.A.P.E Biodiversity Wine Stewardship Initiative**

19:30-22:30 **DINNER**
Moyo Restaurant at Spier

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Friday November 10, 2006
Private Meeting

OBJECTIVES

- To identify key elements needed to move forward PES in the region (such as, PES pilots, capacity building, etc.)
- To determine the most effective ways that the Katoomba Group can enable PES in East and Southern Africa—through its convening and catalytic role—in annual regional and sub-regional gatherings
- To discuss and agree on the building and running an effective Katoomba Group network in the region

OUTCOMES

- To finalize PES action plans, including a priority list
- To develop a strategy by which the Katoomba Group—as a convener and a catalyst—can support these efforts
- To agree upon a pathway to documenting and sharing insights related to PES in the region

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8:00-8:30 **COFFEE/TEA**

MORNING PLENARY

8.30 – 8.40 **Dr. Russell Wise, Council for Scientific and Industrial Research**
Chairperson's Opening Remarks

8.40 – 9.00 **Nicola King, MINTEK**
Overview and Vision of the East & Southern Africa Katoomba Group Network including Key Elements of Successful PES in Countries throughout East & Southern Africa

9.00 – 10.30 **DISCUSSION**
How can the East and Southern Africa Katoomba Group network most effectively catalyze greater PES work in countries throughout the region?

10.30 – 11.00 **COFFEE/ TEA BREAK**

PANEL: HOW TO CREATE AN EFFECTIVE NETWORK

11:00-11:15 **Samuel Mwangi, National Museums of Kenya**
Moderator's Introduction to Panel & Panelists

11:15-11:30 **Happy James Tumwebaze, International Sustainability Watch Network Secretariat**
Lessons Learned from Establishing and Running a Network: Sustainability Watch

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11:30-11:45 **Wilma Strydom, CSIR, South Africa**
Best Network Communication Strategies and Practices

11:45-12:00 **Enos Shumba, SADC Biodiversity Support Program,**
Approaches to Establishing Links with Other Networks and Building Buy-In

12:00-12:15 **Sosten Chiotha, LEAD, Malawi**
Effective Ways to Use Networks for Capacity-Building

12:15-13:30 **LUNCH**

CAFÉ KATOOMBA DISCUSSION: KEY ELEMENTS OF AN EFFECTIVE REGIONAL KATOOMBA GROUP NETWORK

13:30-13:45 **Samuel Mwangi, National Museums of Kenya**
Introduction to Session

13:45-14:45 Form rotating, "world café style," break-out groups to discuss and develop a tentative action plan related to key elements of running an effective network including:

- Convenings / Gatherings / Meetings
- Working on projects
- Development & Dissemination of New PES-Related Materials, Tools, etc.
- Regional Communications
- Links with Other Networks

14:45-16:30 Report Back and Plenary Discussion

16.30 – 17.00 **COFFEE/ TEA BREAK**

WRAP UP AND CLOSING REMARKS

17:00-17:15 **Mandy Barnett, C.A.P.E**

17:15-17:30 **Russell Wise, CSIR**

17:30-17:45 **Alice Ruhweza, East & Southern Africa Katoomba Group**

17:45-19:00 **WALK THROUGH THE BOTANICAL GARDENS**

18:00-20:00 **DINNER**

The Cellars Hohenhort Hotel

END OF MEETING

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BIOGRAPHIES OF RESOURCE PERSONS

Beatrice Ahimbisibwe is a Community Leader and Chairperson for Bitereko Women's Group based in Uganda. The group is involved in a number of community development activities including tree planting for carbon trade. Beatrice has been involved with implementation of a forestry based carbon trading project for the last 4 years under the "Trees for Global Benefits Program" working in partnership with ECOTRUST Uganda. She has specifically been mobilizing communities to enroll in the program, conducting monitoring of tree growth and achievement of tree planting targets by farmers; also providing a link between the farmers and ECOTRUST a Ugandan carbon trade intermediary between farmers and carbon buyers in Europe. Beatrice was previously involved in mobilising the women to undertake income generating activities. The group has been able to attract funding to undertake two important projects so far namely: Promotion of tree planting for provision of fuel wood and construction of energy saving stoves; and rearing of exotic goats for improved household incomes. Beatrice is also a full time secondary school teacher of Geography and History; and Chairperson of Bitereko Peoples Co-Operative Savings and Credit Society Limited, which is a village level microfinance institution providing savings and credit facilities to its members mainly farmers. Carbon payments to the farmers are made through this institution.

Chetan Agarwal works with the Natural Resources Group at Winrock International India, New Delhi. Here and previously, he has worked to sustain forests and livelihoods, in the Western Himalayas, nationally in India, and elsewhere in Asia. His interests include market and regulatory analysis for sustainable production of forest produce and ecosystem services, forest tenure and community ownership, and the application of tools such as certification, incentive mechanisms, GIS and Remote Sensing for the same. Chetan's training includes a masters in rural management from the Institute of Rural Management, Anand, India (IRMA), and a masters in public affairs (environmental policy) from the School of Public and Environmental Affairs (SPEA), Indiana University, Bloomington, Indiana, USA

Albert F. Appleton (Al Appleton) is a Senior Fellow at the City University of New York Institute for Urban Systems (CIUS) where he coordinates their programs on operationalizing sustainability and on creating new 21st century water resource and regional landscape management institutions and strategies. He is a member of the Katoomba Group, an officer of the China Planning and Development Institute of Beijing, and an Adjunct Associate Professor in the Hunter College graduate program in Urban Affairs and Planning, where he teaches The Environment and its Economics, and Sustainability and Urban Development. He also serves as an international environmental consultant on issues of watershed management, water utility management and financing, regional land use, demand side servicers strategies and on establishing payments for ecosystem services (PES) programs. His most recent work includes developing a new system of financing environmental infrastructure for the City of Shanghai water and sewer system, and assisting the implementation of ecosystem service programs in the Danube River Basin. During much of the 1990s, Mr. Appleton served as Commissioner of the New York City Department of Environmental Protection and Director of the New York City Water and Sewer system, where he developed and implemented the *New York City comprehensive Catskill mountain watershed protection program and urban-rural partnership*, New York's comprehensive water conservation program that has permanently reduced New York City's water use by 300 million gallons of water a day or 20% of total consumption.

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Professor Kader Asmal has been a Member of Parliament in the National Assembly since 1994. He is a former Minister of Education (1999 – 2004), Minister of Water Affairs in the Mandela Government (1994 – 1999), Chairperson of the Cabinet's National Conventional Arms Control Committee (1995 – 2004) and chair of the Portfolio Committee on Defence in the National Assembly (2004 – 2005). He was vice-president of the World Commission on the Oceans (1995 - 1998) and chairperson of the World Commission on Dams (1997 – 2001). He has been a Patron of the Global Water Partnership since 1995. He was awarded the Prix UNESCO for human rights in 1983 and the Stockholm Water Prize in 2000 and numerous other awards, including the Gold Medal of the World Wide Fund for Nature – SA, for conservation (1996). In 2005, he was made an officer of the Order of the Légion d'honneur by President Chirac.

Nigel Asquith is Executive Director of the EcoFund Foundation Ecuador, a private foundation investing $17 million in biodiversity conservation, mainly along the route of Ecuador's Oleoducto Crudos Pesados pipeline. (*EnCana, Petrobras, AGIP, Repsol, Occidental, and Perenco*), the fund manager *(Fondo Ambiental Nacional*), and local conservation NGOs implementing projects. He is also Director of Science at the *Fundacion Natura Bolivia*, an environment and development NGO, where he provides institutional strengthening and monitoring and, manages relationships with partners such as IIED. Nigel is currently directing the initiative, facilitating relationships between energy sector investors. Nigel's technical expertise is in plant-animal relations in neotropical forests, ecosystem service valuation, payments for environmental services, and the impacts of the energy sector on biodiversity. Nigel's regional specialization is in the tropical Andes/ Amazon, and he has extensive additional experience in Indonesia, Mesoamerica, Madagascar, and Yemen

Ivan Bond is a Senior Research Associate with IIED's Forestry and Landuse Programme (FLU). Over the last two and half years he has coordinated the DFID-funded project, "Developing Markets for Watershed Protection Services and Improved Livelihoods." Prior to moving to the U.K., Ivan worked for WWF's Southern African Regional Programme Office (SARPO) in Harare as a resource economist and project executant

Mandy Barnett is programme developer for the Cape Action for People and Environment (C.A.P.E.) programme, which is housed within the South African National Biodiversity Institute (SANBI) in Cape Town. Her responsibilities include mobilising various components of the C.A.P.E programme, supporting knowledge and information transfer across the C.A.P.E. programme, working with stakeholders across the programme, and coordination of the Cape Floristic Region CEPF hotspot project. In addition, Mandy leads C.A.P.E.'s biodiversity economy programme.

Professor Sosten S. Chiotha is the Regional Program Director for Leadership for Environment and Development (LEAD)-Southern Africa. Mr. Chiotha actively participated in the process of drafting Malawi's National Environmental Action Plan and the national disaster preparedness plan. On the international scene, he has contributed to publications on Research for the Association of African Universities and the American Association for the Advancement of Science. S.S. Chiotha took charge of the Malawi component of "IRALAS" Project (Innovative Rural Action Learning Areas), a regional project aimed at identifying initiatives by rural smallholder farmers on sustainable natural resource utilization. He has served as a member of the African Crop Science Society Governing Council and the International Network for Genetics

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for Aquaculture (INGA). S.S. Chiotha has been a guest researcher to the University of Newcastle-upon-Tyne. He has presented many public lectures on environment including one at Florida Atlantic University.

Anantha Duraiappah is presently the Chief of the Emerging Issues unit in the Division of Environmental Conventions at the United Nations Environment Programme (UNEP). His present work focuses on the analysis of the Human Well-being Ecosystem Services Nexus by extending Amartya Sen's Capability-Freedom framework to include the role of institutions in the provisioning of instrumental freedoms for the sustainable use of ecosystem services. He has written a concept paper on the poverty-environment nexus as well as a policy guideline for incorporating ecosystem services into poverty reduction strategies for the UNEP and was a Coordinating Lead Author for the chapter on Human Wellbeing as well as response actions for the Millennium Ecosystem Assessment (MA). He was also the co-chair of the Biodiversity Synthesis working group of the MA. Much of his recent work relates to the equitable dimension of economic instruments.

Saliem Fakir currently works for Lereko Energy (Pty) Ltd focusing on project development and financial arrangements for renewable energy, biofuels, waste and water sectors. He previously served as Director of the World Conservation Union South Africa (IUCN-SA) office for 8 years. Saliem serves on a number of Boards. Between 2004-2005 he served as a chair of the Board of the National Botanical Institute, and is now non-executive member. He also serves on the board of the Fair Trade in Tourism Initiative, the Sustainability Institute, and is member of the Technical Advisory Committee of the Global Reporting Initiative, based in Amsterdam.

Michael Jenkins is President & CEO of Forest Trends. In 1998 Michael was in a joint appointment as a Senior Forestry Advisor to the World Bank. From 1989-1999 he was the Associate Director for the Global Security and Sustainability Program of the MacArthur Foundation. Michael's responsibilities with the Program included all grant making in Latin America and the Caribbean, as well as overarching program management. Before entering the Foundation, he worked for three years as an agroforester in Haiti with the U.S.A.I.D. Agroforestry Outreach Program. Previous to that he worked with a Washington based development organization, Appropriate Technology International, as a technical advisor. In the late 70s, Michael was a Peace Corps volunteer in Paraguay working in agriculture, apiculture and forestry projects. He has traveled and worked throughout Latin America, Asia and parts of Africa, and speaks Spanish, French, Portuguese, Creole and Guaraní. Michael has contributed to a number of books and articles and with Island Press published "The Business of Sustainable Forestry, Strategies for an Industry in Transition". He holds a Master's of Forest Science from Yale University.

Brian Jones is an independent environment and development consultant focusing mostly on policy development and implementation of community-based natural resource management (CBNRM). He is Namibian and currently works as CBNRM and Collaborative Management advisor to the Namibian Ministry of Environment and Tourism. He is a former government official in the Namibian Directorate of Environmental Affairs where he coordinated the national CBNRM programme.

Sachin Kapila is Shell's Group Biodiversity Adviser within the Sustainable Development of Shell International, London. Sachin is responsible for developing the Group Standard on biodiversity and the tools to aide the Businesses implement the Standard. He is also responsible for fostering relationships and building partnerships with environmental and

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conservation organizations. He has been responsible for integrating biodiversity into business processes such as the development of a biodiversity early warning system, environmental, social and health impact assessments, environmental management system and assurance process. He is also responsible for representing the company in several public policy initiatives such as protected areas, biodiversity offsets, landscape-level planning. He participated in the Energy and Biodiversity Initiative and has been co-managing several projects such as the Smithsonian Institution's biodiversity assessment and monitoring programme in Gabon, working with FFI on a project in South Africa bringing together Shell's marketing and retail expertise to support a sustainable livelihoods project in Flower Valley and a pilot programme with the Shell Foundation, IUCN, UNESCO and the University of Queensland transferring business skills and building capacity across several World heritage Sites and IUCN Asia regional HQ. Sachin has over 12 years professional management experience with 7 years experience in environmental management consultancy, mainly related to oil & gas industry developments.

Nicola King is a senior resource economist at Mintek in Johannesburg, South Africa. Prior to joining Mintek, Nicola worked as a resource economist for the **CSIR**, South Africa where she focused on the economics of water management with projects that include the economic value of domestic and industrial water in South Africa, the economic value of river health, water governance, and integrated water management. During this time she managed the South African component of an international DFID/IIED funded project focused on developing payments for catchment protection services and improved livelihoods. The project was implemented in two catchments in South Africa and had a strong focus on applied learning and capacity building on payments for environmental services. Nicola also has research experience in the development of economic indicators for the environment, and the environmental economic assessment of infrastructure development projects.

Honorable Rejoice T. Mabudafhasi is the Deputy Minister of Environmental Affairs and Tourism in the South Africa Government. She is a member of the following Parliament Portfolio committees: Safety and Security Environmental Affairs and Tourism Labour; & Agriculture, Water and Forestry. She is also a convenor of the following sub-committees: Community Policing Forum & Weather and Climate Change. She is also a member of the International Committee on Business Partners for Development of Water and Sanitation

Chief Jacob Mbuzo Ngangomhlaba was born in the former homeland of Transkei in the Eastern Cape of South Africa. As a young man he completed his Diploma in Administration at Jongilizwe College and his Junior Certificate and Rhoda before he started his working career. He started his traditional leadership career as Acting Chief for the Tembuland Nation in 1972. He has a keen interest in rural development but specifically in Agriculture. He served as Minister of Agriculture in the Transkei government between 1987 and 1994. In 1997 he was appointed as a member of the House of Traditional Leaders. In 2002 he was appointed as Chairperson of the Provincial House of Traditional Leaders in the Eastern Cape. During this period he also served as a chairperson on the Constitutional Development Committee of the National House of Traditional Leaders."

Willie McGhee is a forest ecologist whose pioneering work in social and environmental forestry has influenced the direction of community and native woodland initiatives in the UK. He has worked on Plan Vivo projects in Mexico and Uganda for the last 8 years and is a Director of BioClimate Research and Development. He has extensive experience of establishing and assessing forestry programmes and projects, in UK, Europe and in developing countries, principally Sub Saharan Africa. He has recently moved into the field of bioenergy, biomass and

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biofuel and is working for a London based company Greenergy Bioenergy Ltd. He has carried out forest based ecological research and silvicultural assessment for governmental such as Forestry Commission Scotland and the environmental sector such as World Wide Fund for Nature Scotland. Publications include jointly authored papers for the OECD, the United Nations FAO (State of the World's Forests 2001) and World Wide Fund for Nature. He has recently co-authored two chapters for a book on Restoring Natural Capital to be published by Island Press.

Carlos Muñoz Piña is the director of Environmental Economics and Public Policy Research at the Instituto Nacional de Ecología (INE), the research agency of the Mexican Ministry of Natural Resources and the Environment. INE was the institution responsible for the design of the Mexican system of Payments for Hydrological Environmental Services (PSAH), and its extensions into the biodiversity and carbon sequestration environmental markets project. He has been an activist in environmentalist and human rights groups, and has worked as an economist for the government of Mexico, the World Bank, the London Environmental Economics Centre, with internships at the North American Commission for Environmental Cooperation in Montreal and the Resources Renewal Institute in San Francisco.

Gavin Quibell has 21 years experience in the water and environment sector, including 13 years in the Department of Water Affairs and Forestry (DWAF) in South Africa. He has worked on a wide range of water resources management issues, including water quality management, IWRM and studies on water for the environment. He is currently involved in development projects in the water sector, particularly in Africa. He is presently supporting the DWAF in their Water Allocation Reform programme, which aims to secure shifts in the race and gender patterns water use, while maintaining a focus on sustainable development. Mr Quibell and Prof Robyn Stein authored the *Legal Review of the series "Can payments be used to manage watersheds sustainably and fairly in South Africa?"*

Alice Ruhweza is Coordinator of the East and Southern Africa Katoomba Group (ESA KG). Alice has been a member of the Katoomba Group since 2003 and has been instrumental in bringing in more African members. Prior to becoming the ESA KG Coordinator, Alice was a long term consultant with the National Environment Management Authority in Uganda where she worked with lead agencies in the public and private sector to incorporate environmental concerns in their policies and plans. She also, as part of her work, documented experiences on the use of economic instruments (including PES) as tools for sound environmental management and sources of conservation finance.

Sara J. Scherr is an agricultural and natural resource economist specializing in land and forest policy in tropical developing countries. She is President of Ecoagriculture Partners, an NGO that supports agricultural communities who manage landscapes both to increase production and incomes, and to enhance wild biodiversity and ecosystem services. She is a member of the United Nations Millennium Project Task Force on Hunger, and a member of the Board of Directors of the World Agroforestry Centre (ICRAF), The Katoomba Group and REBRAF-USA. Dr. Scherr was until recently also the Director of Ecosystem Services for Forest Trends, an NGO that promotes forest conservation through improved markets for forest products and ecosystem services. There she has analyzed the development of "payments for ecosystem services" including carbon sequestration, watershed protection and biodiversity conservation, including their potential benefits and risks for low-income communities. Dr. Scherr has published over 35 articles in refereed journals and 11 books, including *Ecoagriculture: Strategies to Feed the World and Save Wild Biodiversity* (with Jeff McNeely) and *A New Agenda for Forest*

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Conservation and Poverty Reduction: Making Markets Work for Low-Income Producers (with Andy White and David Kaimowitz).

Fulai Sheng is Economic Affairs officer with UNEP's Economics and Trade Branch. His current work focuses on economic mechanisms to conserve internationally significant ecosystems and integrated economic and trade policymaking. Before joining UNEP in 2005, he had worked at Conservation International, World Wide Fund for Nature, the World Bank, and the Chinese Ministry of Finance. His major publications covered the topics of comparative development options across locations and sectors, the nexus between poverty and the environment, the integration of the environment in economic policies, green accounting, and sustainable use of natural resources

Sissel Waage is Senior Coordinator of the International Katoomba Groups. She has over fifteen years of experience working on environmental and social aspects of sustainability issues in Africa, Europe, and North America. Dr. Waage has consulted with a range of private, nonprofit, and philanthropic clients, including: Cargill, Nike, McDonald's IDEO, Business for Social Responsibility, SustainLane.com, "The Head Table" Reality TV Program, the Packard Foundation, World Wildlife Fund, the Biodiversity Support Program, and UC Berkeley's Blodgett Forest Research Station. She launched and directed the R&D Program at The Natural Step, an international advisory services and research organization focused on sustainable business. She also served as core staff with The Natural Step's Services Group, advising Fortune 500 companies on integration of sustainability into strategy, operations, reporting, and philanthropy. Before joining The Natural Step, Dr. Waage worked with Sustainable Northwest and the World Wildlife Fund's (WWF) East and Southern Africa Program. Her work has been published in a range of journals including *Corporate Environmental Strategy , Sustainable Development International, Society & Natural Resources , Political Geography , the Journal of Sustainable Forestry*, and *the Journal of Cleaner Production*. Dr. Waage has also edited books on sustainable business (*Ants, Galileo and Gandhi: Designing the Future of Business through Nature, Genius, and* Compassion, Greenleaf Publishing, 2003) and on climate change (*Ignition,* Island Press, 2007). She completed her Ph.D. at the University of California, Berkeley and received her B.A. from Amherst College. Dr. Waage has also studied at the University of Oslo, in Norway as a Fulbright Scholar, and at the National University of Singapore.

Russell Wise is a senior scientist at the CSIR. He is an Agricultural and Natural Resource Economist with a background in the role of carbon-sequestration credits in influencing the economic performance of farm-forestry systems. Russell has specialist skills in the development and application of bio-economic simulation models as decision-support tools in environmental management and policy development. Russell is particularly interested in applying these skills in researching the use of market-based approaches to solving environmental problems, with particular emphasis on the use of mechanisms such as payments for ecosystem services, emission-permits trading and environmental offsets.

Eliakamu Zahabu is a Lecturer in Forestry at Sokoine University of Agriculture (SUA) in Morogoro, Tanzania. He is currently carrying out research on Collaborative Forest Management (CFM) in Tanzania for Global Climate Mitigation and Rural Poverty Alleviation. This study falls within the programme called **"***Kyoto: Think Global, Act Local – Action Research to Bring Community Based Forest Management (CBFM) Projects under the UNFCCC and the Kyoto Protocol***".** This is a research project being carried out by the Technology and Sustainable Development Group (TSD) of the University of Twente, the Netherlands, ITC and three regional

institutes (in Nepal, Tanzania and Senegal) to test carbon assessment methods using handheld computers with GPS and GIS functions, by local communities who are already engaged in CFM activities.

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2005 Katoomba Group Meeting Summary

"Building Foundations for Pro-Poor Ecosystem Service Payments in Africa"
Summary Report of Strategic Planning Workshop
September 19-22, 2005

Presentations and other materials can be found at:
http://www.katoombagroup.org/meetings/katoomba8.htm

Introduction

Worldwide, there is growing interest in market-based approaches to conservation. Markets and payments for ecosystem services, such as carbon sequestration, watershed protection, and biodiversity conservation are emerging as a viable tool to protect and restore ecosystems, by rewarding resource stewards and landowners for good land management practices. These instruments can also pose significant incentives to restore degraded lands, shift to sustainable agriculture, and reward smallholders for good land management practices.

Finding such new sources of finance beyond the public sector and overseas development assistance is especially urgent in Africa. The Millennium Ecosystem Assessment has documented large-scale ecosystem degradation in many parts of Africa which threatens food security and basic access to water for human consumption and economic development, as well as globally and locally important biodiversity. African countries have become increasingly interested in PES over recent years and a number of projects have emerged on an ad hoc basis. However, there has been little discussion and assessment about the strategic role PES can or should play in achieving economic and environmental objectives.

Forest Trends and the Katoomba Group held a series of workshops in Uganda, September 17-22, to understand current developments and strategic gaps in developing payments for ecosystem services to a significant scale in Eastern and Southern Africa. Participants from the private and public sectors, nongovernmental organizations, and community groups in Tanzania, Kenya, Uganda, Malawi, and South Africa convened to take stock of what has already been learned about what can be done effectively under existing conditions in their countries, how to ensure that major equity concerns are addressed, and what directions future policy and investment should take.

The workshops included a Public Plenary in Kampala, and a Strategic Planning Workshop in Queen Elizabeth National Park. Key partners included ECOTRUST- Uganda, the National Environment Management Authority- Uganda, the Kenyan Resource Center for Indigenous Knowledge (KENRIK), the Centre for Scientific and Industrial Research- South Africa, Leadership in Environment and Development- Malawi, BEA International-Kenya, and Ecoagriculture Partners. The meetings were sponsored by the Global Environment Facility, UNDP, the World Bank, CINCS, the Gordon and Betty Moore Foundation, Global Forests Products, The US Forest Service, Profor, the International Fund for Agriculture and Development, and the Ford Foundation.

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Public Plenary
Monday, September 19, 2005

Objective

- To raise awareness among key Ugandan policymakers, private enterprises, and nongovernmental organizations on the potentials of PES

Content

The Strategic planning workshop began with a Public Plenary in Kampala, which was attended by Ugandan policymakers, private enterprises, nongovernmental organizations, community groups, and members of the Ugandan press, as well as members of the Katoomba Group from Africa, Latin America, Europe, and North America. The goal of the plenary was to provide a broad introduction to markets for ecosystem services- their potentials, risks, and opportunities.

Following a welcome by Alex Muhweezi (IUCN), John Kabbogoza (ECOTRUST) and Henry Aryamanya Mugisha (NEMA), Michael Jenkins and Sara Scherr (Forest Trends) provided overview presentations on the current and potential scale of PES and their relevance to Africa. The plenary then shifted into a Socratic Dialogue which delved into issues, such as the role of government, equity considerations, and the meaning of "pro-poor." (Discussed by Ricardo Bayon – Ecosystem Marketplace, John Niles – Climate Community Biodiversity Alliance, Sheila Mwanundu – IFAD, Alan Rodgers – UNDP, Apuuli Bwango – Ministry of Water, Lands, and Environment, Mark Botha- South African National Biodiversity Institute). The session closed with words from Major General Jeje Odongo, Minister of State for Environment, Ministry of Water, Lands and Environment. Following the Public Plenary, workshop participants traveled to the Mweya Safari Lodge.

Strategic Planning Workshop
Mweya Safari Lodge, Queen Elizabeth National Park, Uganda
Tuesday – Thursday, September 20-22, 2005

Objectives

- To build capacity for stakeholders implementing Payments for Ecosystem Services (PES) in East and Southern Africa.
- To share lessons learned on PES from around the world and consider these within an African setting.
- To conduct national assessments of the status of PES and institutional capacity in Africa
- To plan a systematic strategy for investment in pro-poor PES in East and Southern Africa

Program

Discussions and Presentations: A group of key individuals from government agencies, private enterprises, nongovernmental organizations, and community groups in Kenya, Uganda, Tanzania, South Africa, and Malawi, as well as members of the international Katoomba Group network, met in Queen Elizabeth National Park in Southwestern Uganda to plan strategically for a significant scaling-up of PES in Eastern and Southern Africa. The meeting began on Tuesday with overviews of inventories conducted in Uganda, South Africa, and Kenya on the current

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status and framework for PES in those countries. Key findings covered the opportunities and gaps for PES development in these countries.

In South Africa, PES deals have primarily been made for watershed and carbon services, principally made by the public sector but with some private sector deals in the planning phase. In Kenya, there are several PES projects in both the implementation and planning phases. Biodiversity and carbon payments predominate. In Uganda, carbon and biodiversity payments prevail with poor development in payments for water services. Cross-cutting issues include lack of market information, lack of existing models, poor private sector mobilization, and poor articulation of the business case for investors.

There was discussion on the mechanics and organization of payments for carbon, biodiversity, and watershed services. Gary Bull (University of British Columbia) walked the group through the mechanical steps of setting up a carbon deal. Ivan Bond (International Institute for Environment and Development) reviewed the hydrological, social, and economic basis for watershed payments, the various types (both public and private), and key considerations and challenges for establishing these instruments. Thomas Yatich (World Agroforestry Centre) then gave an overview of biodiversity payments in Africa and discussed their impact on the poor.

A plenary on the elements of making a market featured Kerry ten Kate (Insight Investment/ Forest Trends) who spoke on mobilizing buyers for ecosystem services and Kim Yeadon (Former Minister of Parliament, New South Wales, Australia) on developing a regulatory framework for PES. Discussions then shifted to the equity dimension of PES, with experiences shared from Rest Kanju (Resource Africa), Beatrice Ahimbisibwe (Bitereko Women's Group) and Ole Petenya Yusuf (Shompole Community Trust).

During an evening session, Ivan Bond showed the BBC production "Shed Loads," which looks at the potential and problems for payments for watershed services in South Africa, India and Bolivia.

Field trips: On Wednesday, field trips were conducted to the ECOTRUST Trees for Global Benefits carbon project and the Kasese Watershed. One group of participants explored the institutional/administrative arrangements of carbon payments, technical assessments, and community aspects of carbon payments to farmers in the Bushyeni District. Another group assessed the business case for a proposed PES project in the Kasese Watershed.

In addition, participants had the opportunity to enjoy a boat ride on Lake Edward and take morning game rides to view the diverse wildlife of Queen Elizabeth National Park.

National Priorities for PES

On Wednesday afternoon, participants split into country teams to establish strategic national priorities for capacity building, policy engagement, and linking potential market actors. The following is a list of key steps for analyzing the potential of PES in each country.

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Country	National Priorities
Kenya	1. Seek solution focused action points: problem-centric perspective that will seek to solve specific problems 2. Establish two working levels of focus: 1) modest scale working projects to be planned at the same time as communications are developed; 2)communications to be based on lessons learnt 3. Raise awareness
Malawi	1. Conduct a National PES Inventory 2. Review institutions and players necessary for PES 3. Identify sellers and buyers 4. Identify ways of engaging with government to get involved in PES 5. Identify opportunities to 'kick start' PES based on existing systems such as CBNRM 6. Identify what is required to support government and adopt findings from workshop
Tanzania	1. Conduct a National PES Inventory 2. Conduct a review of policy and legal regulatory framework 3. Host an open-house meeting of key NGO and government representatives after the next elections 4. Convene an integrated task force 5. Identify and Engage buyers
South Africa	*Carbon*- i) Develop a program of action focusing on private sector deals ii) Develop a clear plan of action for deploying Treasury Carbon taxes into environment services *Water*- i) Develop a functioning PWS model for demonstration purposes. *Biodiversity*- i) Develop one demonstration project showing biodiversity and social benefits from biodiversity-based investments for ecosystems services. *Non Sectoral* – i) Host a Chamber of Business workshop/roadshow on opportunities in PES for corporations bringing in Katoomba Business representatives. ii) Develop a specific program of work for business/private sector synergies and interest in PES
Uganda	1. Identify buyers, segmented by theme 2. Have institutional frameworks for capacity building 3. Identify projects that contribute to poverty alleviation 4. Engage private sector 5. Alleviate risk management 6. Mobilize financial resources

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Regional Katoomba Group Network:

Prior to country planning, a small group met to brainstorm on the direction of a Regional Africa Katoomba Group and made recommendations to the country teams for thinking about priorities for the regional network. These recommendations were processed by the country teams and reviewed during a final session on Thursday morning.

It was agreed that a regional Madagascar and East and Southern Africa Katoomba Group network should be established, based on the model of the international Katoomba Group. Participating countries could include South Africa, Namibia, Zimbabwe, Zambia, Malawi, and possibly Botswana, Lesotho, Swaziland, Tanzania, Uganda, Kenya, and Madagascar.

5-Year Vision: The institutional framework, enabling environment and technical/financial capacity is in place to make sufficient contributions to environmental and development goals.

25-Year Vision: Payments for Ecosystem Services are contributing significantly to realizing conservation (and development) outcomes.

Priority Objectives:

- To establish at least one type of high quality PES project in each ecosystem functioning in each country
- To establish a mechanism to mobilize international and national buyers of ecosystem services
- To influence national policies to include PES as an active tool to increase forest cover

Priority Activities:

- Network between country task forces
- Link buyers and sellers
- Link to the East and Southern African community
- Establish a rapid response team of technical expertise

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Country Team Priorities for Regional Network:

Country	Regional Priorities
Kenya	1. Share region-specific information 2. Organize local themes (country based) that can be replicated in other countries 3. Create and maintain interest in PES 4. Develop a rapid response team
Malawi	1. Provide technical support 2. Engage in capacity building
Tanzania	1. Network with country task force 2. Link to buyers 3. Link to East African community 4. Identify opportunities and develop a rapid response team
South Africa	1. Host and facilitate annual regional communication forum to share failures and successes of PES around MESA countries and provide space for intellectual enrichment 2. Identify opportunities for regional input and Provide technical input to specific positions at COPs for (FCC, CBD, CCD) 3. Provide technical input into cross-boundary PES/ES opportunities for SADC or ECEA 4. Provide opportunities for NEPAD to invest their resources and raised funds in mandated payment systems.
Uganda	1. Create noise about successful PES stories

Next Steps

On Thursday, participants established several **short-term next steps**, to undertake in developing a Regional Katoomba Group network and country teams. These include:

- Develop proposals for country teams
- Finish county inventories in Kenya, Tanzania, and Uganda
- Develop country inventories in Tanzania, Madagascar, and Malawi
- Identify candidate options for new PES projects
- Identify existing investment-grade projects to bring to buyers
- Develop an Ecosystem Marketplace webpage for Africa
- Engage in broader consultation with countries about priorities for the Regional Network
- Plan a second meeting in South Africa in September, 2006 to develop action plans

Several issues were flagged for **further discussion** at subsequent meetings. These include:

- Collaboration between regional Katoomba Group networks and the Society for Ecological Restoration (SER)
- Meaning of “pro-poor” and strategies for targeting the benefits of PES to the “poorest”
- Comparison of PES with other tools and strategies for conservation

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- Synergies among carbon, water, and biodiversity services and opportunities for bundling payments
- Measuring and monitoring biodiversity and developing payments for biodiversity
- Analysis and strategies for lowering transaction costs
- Gradual exit strategies for payment systems
- Sustainability and monitoring conservation outcomes (tools, training of ecosystem restoration)
- Strategies and issues involved with marketing ecosystem services

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Summary of 2006 Country Preparatory Meetings

During the September 2005 Katoomba XI Meeting in Uganda, members agreed to form the East & Southern Africa Regional Katoomba Group in order to:

- address PES-related challenges unique to the East & Southern African region,
- provide a network of PES resource people to tap into for support and advice related to existing and emerging PES projects, and
- undertake a series of activities aimed at building foundations for information sharing, coordinated planning and implementation support that would enable substantial scaling up of "pro-poor" PES in Eastern and Southern Africa.

The East and Southern Africa Katoomba Group will be officially launched at the November 2006 Regional Katoomba Group Meeting in Cape Town, South Africa. Participating countries during the first phase include:

- Kenya,
- Tanzania,
- Uganda,
- Malawi,
- South Africa, and
- Madagascar.

Between July and September 2006, consultative meetings were held in Uganda, Kenya, Tanzania and Malawi in order to introduce the network; take stock of current PES activity, and brainstorm action plans. (Similar meetings will be held in South Africa and Madagascar in 2007.) The meetings brought together experts, practitioners, and other stakeholders interested in advancing "pro-poor" PES in the region. The meetings were organized in collaboration with the following national partners / hosts:

- Kenya – National Museums of Kenya
- Malawi - LEAD (Leadership for Environment and Development-Southern and East Africa Chapter)
- Tanzania - CARE-Tanzania & WWF-Tanzania
- Uganda – National Environment Management Authority (NEMA) & Nature Harness Initiatives

These meetings launched national PES networks that will maintain their own momentum and focus, but will also feed into the regional and global Katoomba network. The key recommendations are summarized below.

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KEY RECOMMENDATIONS FROM THE CONSULTATIVE MEETINGS

1. **The Network should have measurable and tangible outputs and site-based learning projects.**
   It was noted that for many other networks the initial entry point is through a series of regional and local meetings and what subsequently emerges are meeting notes and workshop reports. This network must go beyond meetings.

   To this end, participants suggested site-based learning projects as a way to build local capacity to design and develop PES schemes. If this approach were pursued, each country could identify a site on which to focus. Network members could work on a PES initiative at that site from the beginning of the project to the end. Activities on the site could include site inventory, site planning, valuation of different services, identifying buyers, and monitoring. (See Table of proposed site activities in Annex 1).

   At the end of the project, the network would produce a best practice handbook based on this site-specific learning. In addition to the sites providing learning opportunities, they would also be a way of keeping the network momentum by having network members engaged in a particular activity, working together and learning together. This model would provide lessons and can later be replicated on other sites in the countries and in the region.

2. **The Network should build awareness about PES.**
   All national network meetings noted that awareness of PES amongst key stakeholders is still limited. While participants from Uganda, Kenya and Tanzania had heard about PES and had active projects running in their countries or in various planning stages, participants from Malawi were not familiar with the concept. Therefore, one other activity the learning projects would emphasize is raising awareness of all key stakeholders - including sellers and buyers.

3. **The Network should bring policy makers / government on board.**
   All four countries emphasized the importance of reaching out to government. For government, the potential is to monitor and regulate PES schemes as well as to provide an enabling environment for PES – such as supporting policy and legislation. Tanzania, in particular, highlighted one project that had failed to take off due to lack of government support.

   One suggestion put forward for involving government and Parliamentarians is to organize a site tour for members of parliament with a view to introduce the PES concept among policy makers and legislators. IUCN-Tanzania cited an example of a successful tour organized for members of parliament to the Mt. Elgon ecosystem.

   Country meeting participants also noted that as the discussion on PES gathers momentum, there is fear that PES will be perceived as a funding source for other programs, rather than a tool for better natural resource management. There is, therefore, a need for the network to engage the relevant people from government to understand exactly what PES it meant for.

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Finally, it was also noted that the Ministries of Finance need to be sensitized on the importance of tax incentives for those organizations that are promoting environmentally sound activities. In addition, there is a need to assess adequacy of existing legal frameworks and whether they are currently best suited for PES.

4. **The Network should develop a strategy for Information sharing and communication.**
   Members were especially interested in what the global Katoomba has been doing since it started. Are there any lessons to share – failures, successes? Where can such information are found? Achievements— such as the Ecosystem Marketplace (www.ecosystemmarketplace.com), the Business and Biodiversity Offsets Programme (www.forest-trends.org/bbop)--were highlighted as successful results of the Katoomba Group over the years.

   It was agreed that a communication strategy needs to be developed so that PES-related information can be collected from participating countries through the network and shared amongst the regional and global Katoomba Groups.

5. **The Network should develop a strategy for attracting buyers, particularly from the private sector and the financial sector, to contribute to the conservation of these services.**
   During all four country meetings it was noted that the private sector has not been actively engaged in PES, yet they are one of the biggest users and beneficiaries of natural resources. Breweries, timber companies, oil companies, mining companies, hydro-electric power companies were cited as examples of private sector that should be engaged. One of the reasons for the private sectors' relative lack of engagement is that to date, sellers have not made their case to the sector – by providing a "win-win" convincing argument.

   The network therefore should reach out to the private sector and make them aware of the ecosystem services available for sale and what they stand to gain from investing in them. At the same time there is also a need to find entities that can act as intermediaries between buyers and sellers.

6. **The Network should link and seek synergies with existing and up and coming PES Initiatives.** Country meeting participants agreed that during future network meetings, the project managers of existing and up-and-coming projects should be invited to present their projects and findings. It was also agreed that a write-up of one or two of the above projects could be included in the conference package for the November regional meeting and later posted on the Katoomba Africa website and/or the Ecosystem Marketplace.

7. **The Network should define scope and scale.**
   The network--either at a regional or national level--will need to define its scope. For example, should the network only focus on PES in itself? Or can PES be considered as a vehicle to achieve the broader objectives (e.g. MDGs)? Some members thought the latter would make it more acceptable to government policy makers and funding agencies.

   There is also need to consider limitations of PES and markets in addressing equity issues, therefore justifying the need for the network to look at how to use PES to achieve broader objectives.

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In terms of scale, the question was raised whether the network should only look at national issues or also consider transboundary ecosystems (such as the River Nile and Lake Victoria). Other participants argued that the network should consider how activities feed into international mechanisms such as the CBD 2010 targets, the upcoming protocol on ABS and so on.

8. **<u>The Network should be made sustainable.</u>**
   There is need to expand and strengthen the network by assembling a critical mass of key people and institutions willing to invest time and energy on this process – as a dynamic network of individuals and organizations. Several institutions in the region have resources already dedicated to PES. Therefore, there is an opportunity to leverage resources and achieve substantive outputs as a team

NEXT STEPS

1. Country Action plans to be developed into one regional funding proposal
2. Annual sub-regional meetings – Eastern Africa/Southern Africa (as funding permits)
3. Annual regional meeting - East and Southern Africa
4. Cross fertilization with other Katoomba networks – Tropical America and Asia (as needed and as funding permits)

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Draft 2007-2009 Goals, Objectives, and Activities for the East & Southern Africa Katoomba Group

DRAFT FOR DISCUSSION

25-year Vision

- PES is a significant source of additional funds for conservation and development in the East and Southern African region

5-year Vision (2007-2011)

- Institutional knowledge, enabling legal and policy environment, and technical financial capacity are all in place within 6 regional focal countries to enable significant scaling up of payments for ecosystem services

3-year Vision (2007-2009)

- Support the development of more models/examples in the region to show how PES can deliver biophysical and socioeconomic benefits to poor communities living in productive landscapes

3-year Objectives (2007-2009)

Based on recommendations from the national consultative meetings

- To establish a vibrant network of PES innovators across East & Southern Africa, who are sharing lessons and building capacity of PES practitioners in order to catalyze more PES projects nationally and regionally
- To facilitate the design and implementation of PES projects in key sites across the region
- To build platforms for PES-related problem-solving, tool documentation, and information dissemination
- To catalyze national government action on supportive policies and procedures for "pro-poor" PES

3-year Outcomes (2007-2009)

- At least one type of PES in each environmental service functioning in each of the 6 East & Southern Africa focal countries with robust evaluation systems in place
- Documented and disseminated cases and examples of PES in region
- Established and proven mechanism to engage with buyers for carbon, biodiversity and watershed services
- PES recognized and incorporated into national poverty reduction programmes/ initiatives
- Strategic plan for PES adopted at national level
- Governments engaged with influencing international discussions and markets related to ecosystem services

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MAJOR ACTIVITY	DETAILED ACTIVITIES	CHAMPIONS
Objective 1: Establish a vibrant network of PES innovators across East & Southern Africa, who are sharing lessons and building capacity of PES practitioners in order to catalyze more PES projects nationally and regionally		
1.1 Create links with, and provide support to the 6 focal country national PES networks	• Assist with developing and formalizing the modus-operandi of the national networks, the regional network, and the links between • Work with national networks to plan and convene regular regional and/or sub-regional gatherings that are responsive to regional needs related to expanding PES	• East & Southern Africa Regional Coordinator • National PES Network Contacts
1.2 Conduct ongoing outreach and training in association with regular East & Southern Africa Katoomba Group meetings	• Hold ongoing conversations with potential PES players throughout the region to continually maintain a conversation related to training/capacity needs that can be addressed through regular Katoomba gatherings • Work with national PES network contacts, Global Katoomba Group Network, and annual conference steering committees to devise meeting agendas that address existing training/capacity needs • Collaborate with Katoomba partners, particularly in-country networks, to develop follow-on actions • Document know-how presented at Katoomba events and findings from follow-on actions and disseminate through online and print sources	Same as above
Objective Two: Facilitate the design and implementation of PES projects in key sites across the region		
2.1 Develop clear selection criteria that delineates characteristics of key, promising PES sites, representing a range of projects, ecosystems, etc. to ensure maximum learning potential	• Select an advisory committee • Brainstorm and agree upon selection criteria • Send out draft selection criteria for broader review within the PES and environmental communities (including representatives from NGOS, public and private sectors to ensure a range of points of view captured in feedback) • Discuss input with advisory committee and finalize criteria	• National Katoomba Group members and partner institutions led by National network contacts • Regional Project coordinator will facilitate process • Regional and Global Katoomba Group expertise will be called upon as needed
2.2 Solicit input from network on potential PES sites—clearly stating what ecosystem services can be the focus of PES, who would be the	• Acquire and review documentation on proposed PES sites • Develop a first cut ranking of potential sites • Send draft ranking for peer review by broader network and PES community • Synthesize input and conduct final selection of areas of work	Same as above

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	MAJOR ACTIVITY	DETAILED ACTIVITIES	CHAMPIONS
	sellers, tenure system, and other key details—and assess sites against criteria for final selection (*NOTE:* # of sites contingent upon available funding)		
2.3	Seek potential buyers for each PES deal site	• Develop base maps, ecosystem service profiles, and any other needed documentation for the selected landscapes • Assess potential valuation range using a few methodologies (such as by (1) undertaking surveys to establish level of costs and benefits accruing from current resource management practices; (2) identifying and quantifying benefits accruing and/or foregone from adoption of sustainable resource management practices; (3) determining incremental costs and benefits resulting from adoption of sustainable resource management practices; (4) developing attribution criteria; (5) determining costs incurred by beneficiaries as a result of diminished capacity of productive landscapes to provide quality environmental services – building a business case) • Develop a list of beneficiaries of the ecosystem services at each site as well as any other prospective buyers • Begin the process of exploring, and ideally building, a relationship with prospective buyers (as laid out in an upcoming Forest Trends publications on engaging with buyers)	Same as above
2.4	Facilitate, as needed, the negotiation of PES deals in selected/targeted landscapes	• Assist, as needed, with: (1) Identifying, evaluating and validating modes for compensation for environmental services; (2) developing criteria for compensation and determining conditions for compensation; (3) determination of methods of disbursement to communities, monitoring, evaluation, and verification; (3) advising on appropriate institutions for ongoing assistance (e.g., with administering payments, verifying, etc.)	Same as above
2.5	Track and document the process in a "Best Practice Handbook" based on lessons learned	• Document implementation process and best practices through-out entire project lifecycle • Publish a best practice handbook to be tested on other sites.	Same as above

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MAJOR ACTIVITY		DETAILED ACTIVITIES	CHAMPIONS
Objective 3: Build platforms for PES-related problem-solving, tool documentation, and information dissemination			
3.1	Develop mechanisms for problem-solving, tool documentation, as well as information sharing	• Use a portion of regular Katoomba Group meetings as problem solving "workshops," in which PES challenges can be presented and solutions proposed by the group and experts • Lead the process of putting together relevant 'how to' materials, by (1) developing a resource guide framework, (2) engaging Katoomba Group network members to provide examples (e.g., of agreements, PES policies, etc.), and synthesizing in easy-to-use materials • Collect and disseminate PES-related information, announcements, etc. that are relevant to the region • Disseminate using existing online tools and regional networks (e.g., Ecosystem Marketplace and Katoomba Africa websites, farmer networks in country, etc.) • Reach out to community workers to increase awareness of PES as a potential for rural communities and highlight where information on PES can be accessed as well as who PES resource people are in-country	Same as above
3.2	Establish learning alliances/networks	• Organise "experience sharing" events among participating stakeholder from the selected landscapes *(as funds allow)* • Establish fora for ecosystem service sellers and buyers at learning sites • Conduct cross/exchange visits, as is needed and as funds allow	Same as above
Objective 4: Catalyze national government action on supportive policies and procedures for "pro-poor" PES			
4.1	Provide input to, and technical expertise / support for, policy analysis	• Assist with in-country networks' review and analysis of relevant policy documents focused on the identification of enabling policies and policy gaps • Advise on the development of policy options in view of identified enabling policies and policy gaps • Engage in the process of developing policy briefs and advocacy tools related to PES	Same as above
4.2	Assist with the development and establishment of appropriate institutional frameworks and governance	• Assist with in-country networks' review of institutional frameworks in existing PES schemes • Engage in any work related to in-country networks' stakeholder consultations to capture views on appropriate institutional frameworks and governance	Same as above

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	MAJOR ACTIVITY	DETAILED ACTIVITIES	CHAMPIONS
	mechanisms for the delivery of environmental services compensation	mechanisms at the selected landscapes • Advise on presenting final recommendations • Offer advice with in-country efforts to operationalize the institutional framework developed within the selected landscapes	
4.3	Advise on in-country and/or regional exploration of the role of government in developing monitoring mechanisms—including tools and equipment for data collection management, monitoring and evaluation of the delivery of environmental services	• Advise on the development and institutionalization of monitoring and evaluation systems/tools to demonstrate delivery of environmental services • Provide input on in-country community trainings in data collection and management, backstopping and self-monitoring	Same as above

Potential Sites (for consideration within a much broader process, as outlined above)	
UGANDA	Rwenzori/Kasese Watershed; Mt Elgon Ecosystem
KE NYA	Lake Naivasha, Kilimambogo
TANZANIA	Ulusuguru/Usambara Water catchments
MALAWI	Kamuzu Dam; Chileka Forest
MADAGASCAR	To be decided
SOUTH AFRICA	To be decided

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SECTION 2:

CURRENT STATUS OF PAYMENTS FOR ECOSYSTEM SERVICES IN THE EAST & SOUTHERN AFRICAN REGION

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Summary of Country-Level PES Inventories

In 2005 and 2006, Forest Trends commissioned country-level inventories of payments for ecosystem services (PES) in select East and Southern African nations. The overall goal was to "take stock" of the current status of ecosystem service payments, markets and capacity, while also highlighting the gaps and needs that exist to expand PES in the region. The resulting inventories provide baseline data that can inform strategies to expand payments and markets related to ecosystem services.

Inventories were completed in Uganda, Kenya and South Africa in September 2005, while Tanzania's inventory was completed in June 2006. (The full text of the inventories can be found at: http://www.katoombagroup.org/africa/pes.htm)

Findings

Ecosystem service payments and markets are currently operating in Kenya, Tanzania, Uganda, and South Africa, including:

- Carbon Projects – 17 projects
- Biodiversity Projects – 18 projects
- Water Projects – 10 projects

Projects where money has exchanged hands include:

- Carbon Projects – 5 out of 17 projects (3 in Uganda)
- Biodiversity Projects – 2 out of 18 projects
- Water Projects – 2 out of 10 projects (all in South Africa)

In addition, there are several projects that offer of non-monetary compensation especially around biodiversity conservation.

A country by country summary of current markets and the policy contexts is presented below.

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KEY SERVICES AND ACTORS				
Ecosystem Service Payments, Markets, and Mechanisms Currently Operating In Region				
	UGANDA	**KENYA**	**SOUTH AFRICA**	**TANZANIA**
MECHANISMS IN OPERATION	**Carbon:** 5 projects **Biodiversity:** 6 project **Water:** 1 potential project **Bundled:** None	**Carbon**: 4 projects **Biodiversity:** 8 projects **Water:** 1 project **Bundled:** None	**Carbon**: 5 projects **Biodiversity:** 3 projects **Water:** 7 projects **Fire:** 1 project	**Carbon**: 3 projects **Biodiversity:** 1 projects **Water:** 2 projects **Bundled:** 1 project
MONEY EXCHANGING HANDS	**Carbon:** 3 projects **Biodiversity:** 1 project **Water:** None	**Carbon**: None **Biodiversity:** 1 projects **Water:** None	**Carbon**: 2 projects **Biodiversity:** None **Water:** 2 projects **Fire**: 1 project	**Carbon**: None **Biodiversity:** None **Water:** None

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LEGAL AND REGULATORY FRAMEWORK Country-Level Legal, Regulatory, & Administrative Context for Ecosystem Service Payments				
	UGANDA	**KENYA**	**SOUTH AFRICA**	**TANZANIA**
	Forestry Policy (2001) makes provisions for sustainable management of forests including private investments including CDM projects.	None	**National Water Act** (Act No 36 of 1998) makes provision for the use of economic instruments in water management.	**National Forest Program (2001)** states that it aims to increase revenues through the sale of carbon sequestration credits but recognizes the need to develop mechanisms to operationalize such revenues (section 8.2, Expansion of Forest Revenue base)
PES MARKET RULES **Standards and Guidelines**	**International standards:** Guidelines were set for investments from the forest sector, investments from the transport sector and the energy sector during the CDM capacity building process 2002-2003	**International standards:** Environmental Impact Assessment	**National and International standards:** Invasive alien vegetation clearing standards and the National Water Act (Act No.36 of 1998)	none identified
PES SUPPORT SERVICES **Existence of Supporting Technical and Business Institutions**	**Government:** 4 identified **Private:** 2 identified **NGO**: 1 identified	**Government:** 5 identified **Research**: 4 identified **NGO**: 6 identified	**Government:** 5 identified **NGO** - 2 identified	**Government:** 1 identified **NGO**: 4 identified

(Specific examples from each country are at the end of this short description)

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Barriers

The inventories also identified barriers that exist, including:

Informational Barriers

Current information available in most countries is too global and generic and often not sufficiently nationally or regionally focused. Most local sellers, for example, do not understand the Kyoto Protocol's Clean Development Mechanism (CDM) guidelines and whether or not they would qualify.

Potential buyers of ecosystem services (consumers, businesses, utilities, government agencies at all levels, and even conservation NGOs) are often unaware of their dependence on ecosystem services. In addition, potential sellers are not aware of ecosystem service payments and markets and even when they are, do not know how to find potential buyers. Further compounding the situation, few policymakers and regulators are knowledgeable about the policy requirements and implications of payments for ecosystem services. Finally, there is a shortage of service providers and project developers to assist with nascent PES deals.

As a result of these information gaps, most of the projects in the countries inventoried are *ad hoc,* decentralised and do not follow any uniform guidelines. There is a clear need for designated national, and/or regional, institutions that can serve as a repository of information on "how to" guidelines, regulations, national priorities, and other key issues.

Technical Barriers

Most countries inventoried lack individuals and organisations with the requisite knowledge to organize, design and implement payments for ecosystem services (PES) effectively. Even where sellers and buyers may be aware of the ecosystem services, the technical skills needed for PES are seldom readily available, such as experience with methods for calculating the financial value of these services and assessing the price that buyers should be willing to pay and sellers willing to receive. In addition, "best practices" have not yet been established through extensive on-the-ground experience and examples in the region. This gap increases the risks for buyers, both in terms of reputation and return on investment.

For prospective sellers—including land and resource owners as well as environmental stewards—the technical barriers are significant. Few have access to the specialized skills needed to assess the market potential of their resources and the potential resource management options that would focus on restoring and maintaining ecosystem services. Also, PES models that clearly work for to low-income communities are few and often unproven. And if low income community members wish to go beyond carbon or water deals, particularly to consider multiple ecosystem services "bundled," they find that robust and proven models for biodiversity payments are especially weak.

Within government, policymakers and regulators often have inadequate understanding of PES to determine where, when and in what forms are appropriate, particularly in relation to national or sub-national strategic priorities for conservation and development. And many prospective PES service providers and project developers lack the technical and business

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skills and knowledge specific to PES, including: market analysis, enterprise analysis, contract familiarity, project design, implementation and measurement and monitoring.

To address these barriers, most of the inventories recommended increased capacity building of buyers, seller service providers, and policy makers.

Policy and Regulatory Barriers

Unsupportive policy frameworks was identified as a principal barrier to expansion of effective PES throughout the region. For example, Tanzania cited one promising carbon project that has stalled due to lack of Government enabling policy support. In many cases, there is confusion about appropriate government roles in the development and operation of specific types of PES. In some cases, problems have arisen from an insistence by government officials that flows of funds should go through particular agencies. More fundamentally, there are conflicts between delivery of ecosystem services as "private goods" versus "public goods;" over existing rights to ecosystem services and the flow of benefits from their sale; and related to equity issues for low-income buyers or sellers of ecosystem services. Policy confusion also exists related to whether ecosystem service payments should be 'bundled' so as to ensure that the full set of ecosystem objectives are met, or whether payment or market systems should focus on particular ecosystem services valued by interested buyers.

Nonetheless the inventories showed that, in most of the countries, policies establishing rights to buy and sell ecosystem stewardship services have not been essential for pilot activity in PES. The lack of policy support is felt more at the expansion stage as well as, in some cases, reducing the prices buyers are willing to pay. Since without policy and regulatory arrangements, potential PES buyers hesitate as the legal standing for purchases and the enforceability of contracts is unclear. Private sector buyers may also be unsure about the political and public acceptability of their role in PES. In addition, both buyers and sellers may be uncertain about underlying tenure rights for land and resources, thereby increasing the risks of long-term ecosystem service agreements.

Addressing all of these policy and regulatory issues would require the establishment of "pro-poor" PES legislative and regulatory frameworks that take all the above issues in consideration including policies/regulations for the establishment, or certification of service providers for PES.

Institutional Barriers

Most countries cited lack of necessary institutions—such as certification bodies; financial intermediaries; national registries for ecosystem services; and so on—across the value chain from seller to buyer that increase current PES transaction costs. In most of the CDM projects for example, to actually achieve ecosystem service benefits requires effort over a larger area than a single company can afford to finance. PES-friendly institutional mechanisms are therefore essential to provide economies of scale and scope in finding and negotiating with buyers, bundling multiple ecosystem services for different markets, and achieving efficiencies in management, monitoring and certification.

The inventories also highlighted inadequate institutional support for PES-related technical or business services. Currently, most PES support in the countries inventoried is provided by

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international public sector or by conservation NGOs still in the early stages of the PES learning curve, rather than by business leaders or seasoned leaders in PES development.

The inventories therefore highlighted the need for establishing PES enterprise support centers for advisory and capacity-building services. There is also a need for community level institutions to engage and train prospective sellers, as well as financial institutions at the community level for efficient delivery of payments. Finally, public private partnerships are important to develop to encourage an enabling environment for PES deals.

A more detailed snapshot of some of the projects documented in the inventories are presented below.

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Select Examples of Ecosystem Service Payments, Markets, and Mechanisms Currently Operating In Region			
UGANDA	**KENYA**	**SOUTH AFRICA**	**TANZANIA**
ECOTRUST's Trees for Global Benefits Program	The Wildlife Conservation Lease Program	Working for Water	Joint Forest Management Agreements (JFM) between Government and Local Forest Reserve Authorities and adjacent villages on the joint management and use of forest resources.
Service: Carbon	**Service:** Biodiversity	**Service**: Water	**Service**: Bundled Service -Water, Carbon, Biodiversity
Buyer: Tetra pak, Future Forests	**Buyer:** Friends of Nairobi National Park, Wildlife Foundation and Kenya Wildlife Service	**Buyer:** - Bulk water users (domestic and industrial); - Agricultural water users; and Forestry water users	**Buyer:** Buyer: Government of Tanzania, Forestry and Beekeeping Division of the Ministry of Natural Resources and Tourism (payments are non-monetary)
Seller: Individual Smallholder Farmers	**Seller:** Local landowners	**Seller:** Private contractors	**Seller:** Village Governments, through their Environmental Committee (sometimes called Forest Village or Natural Resource Management Committee)
Required activities: Planting of indigenous tree species	**Required activities:** No fencing, quarrying, cultivation or subdivision and finally sustainably managing the land for Wildlife and grazing	**Required activities:** Removal of alien invasive plant species that are large water users	**Required activities:** Village management activities include patrolling the forest, ensuring that users comply with the Management Plan stipulations, reporting and sanctioning illegal activities (including fining and arresting perpetrators), and limited monitoring the status of forest natural resources, mostly in terms of observed disturbances. In addition, government foresters (Local and National Forest Reserve staff) are enlisted to play a facilitating role as coordinators, technical advisors, mediators and environmental watchdogs
Status: Some payments made	**Status:** Operational	**Status:** Implemented	**Status:** Operational - planning to scale up

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LEGAL AND REGULATORY FRAMEWORK Country-Level Legal, Regulatory, & Administrative Context for Ecosystem Service Payments				
	UGANDA	**KENYA**	**SOUTH AFRICA**	**TANZANIA**
Example:	ECOTRUST is a fund manager and provides technical support for projects in western Uganda that are trying to integrate CDM for local community groups	East Africa Wildlife Services	Working for Water and Wetlands Office managed by the Department of Water Affairs and Forestry	Some NGOs (e.g. the Tanzania Forest Conservation Group, CARE, WWF and IUCN), which have long acted as "ecosystem service modifiers," are beginning to act as "ecosystem service intermediaries" within the context of particular projects. However, there are no institutions which specialize in this role and can be approached by "ecosystem service sellers/modifiers" or "buyers/beneficiaries" to help develop deals.
Local Involvement in PES	Emerging	Emerging	Strong	Emerging
Examples of Local Involvement	**Local organizations**: Identified in 7 out of 9 projects **Local representation in the program**: Identified in 5 out of 9 projects	**Local organizations**: Identified in 9 out of 13 projects **Local representation in the program**: Identified in 7 out of 13 projects	**Local organizations**: Identified in 9 out of 15 projects **Local representation in the program:** Identified in 14 out of 15 projects	**Local organizations**: Identified in 5 out of 8 projects **Local representation in the program:** Identified in 5 out of 8 projects
MARKET INFORMATION FLOW	**Potential site assessments**: some **Buyers assessments**: none **Trainings:** Department of Meteorology, Forestry Research Institute, Makerere University, IUCN, Uganda Wildlife Authority.	**Potential site assessments:** none **Buyers assessments**: none **Trainings**: none	**Potential site assessments**: none **Buyers assessments**: none **Trainings**: Working for Water & Working for Wetlands offer training	**Potential site assessments**: on-going **Buyers assessments**: none **Trainings:** Some - PEMA.

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LEGAL AND REGULATORY FRAMEWORK Country-Level Legal, Regulatory, & Administrative Context for Ecosystem Service Payments				
	UGANDA	**KENYA**	**SOUTH AFRICA**	**TANZANIA**
AVAILABLE TECHNICAL ASSISTANCE	**Carbon:** linkage between buyers and sellers Biodiversity: support	**Carbon:** support, advising, brokerage **Biodiversity:** support, advising, brokerage **Water:** support, advising, brokerage	**Carbon**: None **Biodiversity:** Training support **Water:** Training support	**Carbon**: None **Biodiversity:** Training support **Water:** Training support
POTENTIAL SOURCES OF FINANCE	**Project planning and Business planning**: World Bank Community Development Carbon Fund	**Project planning and Business planning**: UNDP/UNEP, World Bank (PCF)	**Project planning and Business planning**: World Bank, Government subsidies	**Project planning and Business planning**: World Bank, Government subsidies
	Transactional: ECOTRUST is helping a women's group in Bushenyi get linkages to buyers of CERs	**Transactional:** UNDP/UNEP, World Bank (PCF)	**Transactional**: World Bank	**Transactional**: None identified
	Risk management: none	**Risk managemen**t: none	**Risk managemen**t: none	**Risk managemen**t: none

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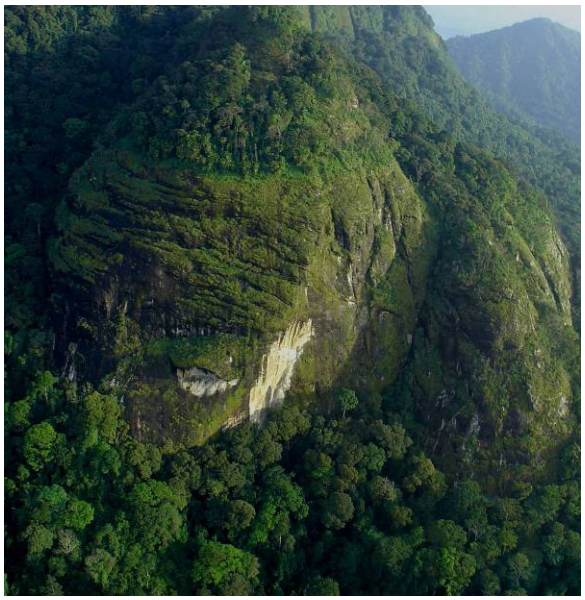
Recent Country-Level PES Inventory

TANZANIA INVENTORY
OF
PAYMENTS FOR ECOSYSTEM SERVICES



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Summary of Findings: PES Activities in Tanzania and their Policy, Regulatory and Institutional Environment

Tanzania has relatively low population densities and vast tracts of land, with inhabitants who are poor, vulnerable, and in need of livelihood opportunities. Most of its inhabitants rely on natural resources to support their livelihoods. Such people could contribute towards sustainable development as well as benefit from fair and viable payments for environmental management services provision (such as planting trees, reducing soil erosion or switching to more fuel- efficient cooking stoves).

At the time that this summary was written, there were no fully operational PES activities in Tanzania, which had been developed specifically with PES in mind. The sole exception is the TIST programme. However, its carbon sales are currently stalled, awaiting a Government of Tanzania (GoT) CDM letter of approval. At the same time, there are programs already in motion, such as Wildlife Management Areas (WMAs) and Participatory Forest Management (PFM), which are close enough to being PES activities that they could easily be structured as such, given a few minor adjustments. For this reason, both WMAs and PFM have been included in this inventory. That said, PES project ideas and potential ecosystem service sellers are slowly emerging in Tanzania, particularly among private and public organizations in the Energy, Water and Forestry sectors. Activities are at their most advanced stage among Conservation NGOs in the water and forestry sectors, where there are projects in proposal, planning and commencement stages. The majority of other potential projects have remained in the realm of ideas due to a lack of technical and marketing support combined with a lack of regulatory frameworks to support such activities. Notably, awareness of PES and their development potential is lacking among organizations focused on poverty reduction, health and economic growth.

From the late nineties onwards, most GoT sectors have developed, or are in the process of developing, new policy documents. These are tangibly more holistic, socially inclusive and environmentally conscious than their predecessors. Thus, they contain the language of cross-sectoral coordination, social and environmental sustainability, natural resource protection, community involvement in/co-ownership of natural resources and their management, pro-poor socio-economic development, mitigation of the detrimental effects of economic growth on society and environment, and openness to private sector participation in natural resource management and socio-economic development. At the same time, it is worth noting that there is no policy or legal framework for PES in any sector of Tanzanian government, whether this pertains to finances, natural resource management, energy or land. In addition, the fact that so many policy documents are either recently published or still in process, can act as an obstacle to developing PES activities because of the resulting scarcity of legal and regulatory frameworks stemming from such policy documents. Thus, many sectors are still lacking rules and regulations, while others have not operationalized their recently created laws and regulations. Nonetheless, the process of policy renewal can also represent an opportunity to contribute, not only to the content of policy documents themselves, but also to that of subsequent legal, regulatory and administrative frameworks. There are, however, additional legal, regulatory and institutional obstacles to developing PES activities in Tanzania. Where policies and their accompanying legal frameworks exist, these are not always clear in content and rationale. Moreover, there is insufficient accountability and transparency in governance and inadequate adherence to the rule of law. Thus, established regulations are not always followed, while those who disobey or circumvent the rules are not always held accountable. Part of the problem is that too much decision-making power is relegated to upper-echelon

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staff within GoT, and too many of these individuals exercise their power without due transparency or constancy. Finally, there is a general lack of funding with which to finance PES information dissemination, legal advice or technical expertise to the public, and no private providers of these in Tanzania. Whether self-designated or appointed, there is no public or private broker linking sellers of ecosystem services with overseas buyers (for additional details, see the 'SWOT Analysis' in Annex One).

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SECTION 3:

NEW MATERIALS ON PAYMENTS FOR ECOSYSTEM SERVICES

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Recent Regional PES-Related Information

This section offers brief descriptions of work relevant to PES in the East and Southern African region, including:

	TITLE	AUTHOR
1	Market-Based Approaches to Conservation in the Communal Lands of Southern Africa: Is Conservation Paying for Itself?	**Brian T. B. Jones**
2	The Potential for PES in the Rwenzori Mountains of Uganda	**Martin Asiimwe**
3	Integrated Ecosystem Assessment in Eastern Uganda: What are the Implications for PES?	**Dr. Anne Akol**
4	The Potential of PES for River Bank Management: A Case Study in the Kapchorwa District, Uganda	**Chemangei Awadh**
5	Potential Carbon Project: The University of Malawi's 50 Hectares Set Aside for Carbon Sequestration Projects & Buyers	**Sosten S.Chiotha**
6	Potential Carbon Project: Scaling Up Cattle Manure-based Bio-Energy Projects in Rural Malawi	**Sosten S.Chiotha**
7	Potential PES Project: Forestry in the Mpira Water Catchment, Malawi	**Matthews D. Tsirizeni & Sosten S. Chiotha**
8	Assessing the Potential for Payments for Watershed Services in the Naivasha Catchment in the Rift Valley Kenya	**Mark Ellis - Jones**
9	Payments for Water Catchment Services and Improved Livelihoods in South Africa	**Nicola King**

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Market-Based Approaches to Conservation in the Communal Lands of Southern Africa: Is Conservation Paying for Itself?

By
Brian T. B. Jones

Wildlife outside of parks and protected areas can have a precarious existence around the world. Farmers and rural residents face not only personal, physical concerns, but also threats to their grazing lands and crops. In an effort to diminish conflicts, and increase the value of wildlife, a three decade experiment has been underway in southern Africa to use markets as a way of incentivizing conservation. The results have been promising—as the region has moved from declining wildlife numbers to a range of species—including lion, elephant and rhino--all now on the rise.

This change was first initiated in countries such as Zimbabwe, Namibia and South Africa where large areas of land were under freehold title owned by white farmers. In the late 1960s and early 1970s, governments in these countries began to review their wildlife policies and legislation.

In Zimbabwe and Namibia the white freehold farmers saw wildlife as competing with livestock for grazing. As a result, wildlife was often shot upon sight and numbers began to plummet. The laws created no incentive for any other action by farmers, as wildlife belonged to the state and farmers could not benefit economically from game animals.

Realizing the perverse incentives that were being created by state-ownership of wildlife, governments changed the legislation to give freehold farmers use rights over wildlife including own use, trophy hunting, the capture and sale of game, and shooting for sale of meat. The result was the development of a multi-million dollar wildlife industry. Similar changes in South Africa led to a well-developed wildlife industry on freehold farm land. These policy changes in reflected recognition that wildlife was likely to disappear from freehold land if it did not have a financial value to farmers, and that land holders had the potential to be better managers of resources—including wildlife—than the centralised bureaucracy of the state.

The results of initiating a market-based approach to wildlife conservation have been stark—and include increases in wildlife on freehold land and significant land use changes across large areas. In some cases farmers combine livestock and wildlife as land uses, and in others farmers have entirely converted to a wildlife focus over extensive areas of land. These changes have led to the maintenance of wild habitat on freehold land and contribute to maintaining biodiversity and reducing land degradation.

These successes on freehold lands led Namibia and Zimbabwe to extend the market-based approach to wildlife conservation to communal lands after independence (Zimbabwe 1980 and Namibia 1990). Other countries in the region, such as Botswana, Zambia and Mozambique, have also adopted similar approaches on communal land. In all of these countries governments changed policy and legislation, leading to an approach known as community-based conservation.

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Background

Community-based conservation is based on the principle that if local people have decision-making authority over wildlife and can benefit from its use, then they will use the wildlife sustainably. Community-based conservation is characterized by the transfer of use rights by government to a community-based organization (CBO). The CBO has a committee that represents the local community, usually has a constitution, and has a defined area of authority, and a defined membership or group of resource users.

Once the CBO receives the rights over wildlife from government, then it is able to enter into contracts with hunting and photographic tourism companies to develop enterprises based on different forms of wildlife use. Some CBOs also run their own enterprises such as camp sites and fishing camps. The CBOs also engage in natural resource management activities such as wildlife monitoring, mitigation of human-wildlife conflict and local land use planning. The CBO committees need to account to local residents for the income received and expenditure. And all residents need to agree on how the profit from the CBO contracts and enterprises will be used for community benefit.

Of course important differences exist to within community-based conservation in specific countries across the region. For example, in Namibia and Botswana all income from community use rights over wildlife goes directly to the communities concerned. In Zambia, Zimbabwe and Mozambique there are different forms of revenue sharing between government and the communities. In Zimbabwe, Mozambique, Zambia and Namibia the use rights to communities are entrenched in legislation while in Botswana they are applied through policy directives. The core tenet—of creating financial incentives for wildlife conservation—cuts through all community-based conservation work across the region.

Results

Community-based conservation has led to a considerable increase in prices and income generated from trophy hunting in the region, which has increased the overall value of wildlife to local communities. In Zimbabwe, for example, largely as a result of competitive tendering, the revenue from sport hunting increased from US$326,798 to US$1.4 million from 1989 to 1995. Similar increases are evident in Namibia and Botswana.

The upshot is that market-led community-based conservation has significantly increased income to local communities across the region. In Zimbabwe more than US$20 million has been earned between 1989 and 2001. In Namibia, income to communities from community-based conservation has risen from approximately US$60,000 in 1998, when the first CBOs received rights over wildlife, to approximately US$3 million in 2005. Community-based conservation has also created new jobs for local people in remote areas where jobs are few and cash is scarce. The income generated by community-based conservation is used in different ways. In some cases, such as in Namibia and Zimbabwe, CBOs have provided cash “dividends” to households. Often the income is used for community projects such as buying a grinding mill or equipment for the local school.

Not all communities have the same endowments of wildlife or scenery that can attract tourists. Where there are many community members and the income is relatively small, the

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incentives of smaller amounts of wildlife revenue will be less. But where the community is fairly small and income is high, then the incentives are clearly higher and financial benefits from wildlife can begin to outweigh the costs of living with wildlife and of managing wildlife.

While it is difficult to definitively identify cause and effect, the fact is that wildlife numbers have remained stable and/or are increasing in some areas where community-based conservation has been applied. In the communal lands of northwest Namibia there are well-documented increases of species such as springbok, the endemic Hartmann's mountain zebra, oryx, giraffe, elephant, lion and black rhino. Current anecdotal reports suggest that cheetah are also increasing. Wildlife is also increasing in areas of north-eastern Namibia, particularly elephant numbers. Although other factors are involved, Namibian conservationists agree that the current rates of increase could not be possible without community management that results in low levels of poaching and the setting aside of land exclusively for wildlife and tourism.

In Zimbabwe, elephant have increased in community-based conservation areas, buffalo have remained stable or decreased slightly, and some plains game species have increased over the past 14 years. Poaching appears to be low in community-based conservation areas in Botswana and most wildlife populations are stable with the exception of some such as elephant, which are increasing.

Many communities involved in community-based conservation are setting aside land for wildlife and tourism, which in turn further contributes to the maintenance of wild habitat and biodiversity. Even in areas of Zimbabwe, where there are indications that habitat loss continues, wildlife corridors developed in 1990 have remained largely intact with relatively small amounts of habitat loss at the margins. In other areas, communities have implemented decisions that have consolidated settlement and created wildlife habitat. In Botswana, community-conserved areas form buffer zones around the Okavango Delta. And community-conserved areas in Namibia provide important links between protected areas and are situated along wildlife migration routes.

Challenges

- **Creating sufficiently attractive incentives**
  The most important challenge encountered is ensuring that such payments are sufficient for households to conserve wildlife and wild habitat. Currently the cash benefit to households in the region is generally low and income spent on community projects might not benefit all households in a village. It is important that households perceive benefit from wildlife, as it is at the household level that most decisions affecting land use and land degradation are taken (such as how many livestock to keep, where to graze them, etc.).

  However, community-based conservation brings a range of other, more intangible benefits (such as empowerment and capacity building) that are perceived positively by community members. Further, aesthetic and cultural values are important incentives for people to want to keep wildlife and community-based conservation assists people in applying these values as well.

- **Establishing transparency and accounting mechanisms related to income tracking and use**

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Maintaining transparent accounting of wildlife income within communities has proven to be another challenge, along with ensuring that elected committees act in the interests of local residents. These local governance issues require investment by all stakeholders in ensuring that appropriate processes and procedures are in place to ensure accountability and transparency in decision-making. The track record of community-based conservation projects is mixed with regard to these transparency and accountability issues.

- **Assessing whether payments are leading to desired wildlife number outcomes and tracking cause and effect**
  It is important to understand whether payments for community-based conservation are actually having the desired impact. Yet, it is difficult to clearly determine a link between cause and effect because of the complexity of ecosystems subject to many different stimuli.
  Existing monitoring systems provide an indication that wildlife numbers are increasing in some areas and that wild habitat is being maintained, but more data is required over longer periods to show clear and lasting trends. In some countries insufficient monitoring is taking place to even to start to link cause with effect.

- **Assessing sites that are more "primed" for community-based conservation success**
  Community-based conservation can be an effective tool for increasing wildlife numbers in areas where there are sufficient wildlife and other resources and attractions for private sector interest. If wildlife numbers are low or key species such as elephant, buffalo and lion are absent, it will be very difficult to attract trophy hunters and therefore to generate sufficient financial resources to incentivize conservation. In other areas it is easier to attract photographic tourists if the community area combines good wildlife with attractive scenery and cultural attractions.

  Not all community areas are endowed with all of these characteristics, but there may be some areas that are important for conservation nonetheless (e.g. for catchments conservation, conserving endemic species, preservation of woodlands, etc.). In these circumstances it might be necessary to consider direct subsidies to such communities rather than market-based activities as incentives to conserve.

- **Shifting policy context, within an incentive program that relies on policy stability for success**
  There has been a disturbing trend by some governments to re-centralise decision-making and to hold on to income destined for communities despite earlier devolution. Communities then become unsure whether or not they can rely on community-based conservation income over time. For communities to continue to invest in wildlife conservation they need to know that their rights to take management decisions and to benefit are secure over time and cannot be arbitrarily removed by governments. It is difficult to maintain community-based conservation in the face of economic and political problems of the scale being experienced in Zimbabwe currently.

  It is noteworthy, however, that some governments have actually expanded community-based conservation to include other resources. For example, in Namibia,

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the government recently decided to extend the existing wildlife-based community conservation programme to other resources.

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Conclusions

Three core lessons of community-based conservation in southern Africa are relevant to the field of payments for ecosystem services (PES). First, decades of community-based conservation work have shown that financial incentives can result in ecological outcomes, in this case rising wildlife populations. Payments from trophy hunting and photo safaris, if sustained over time, can indeed provide a financial incentive (alongside others) for local communities to leave parts of their land in a natural state and manage the rest of their land more sustainably. However, the second relevant insight is that these market-based arrangements are fragile and must be nurtured within conducive environments over time. Political, legal, and/or economic disturbances can undermine the successful implementation of community-based conservation agreements. Third, and finally, community-based conservation—like PES—is not a "one-size-fits-all" approach. Some areas are more likely to encounter success than others. It will completely depend upon the resource endowments of specific communities. And careful assessments must be made of where, when and how to launch community-based conservation programs.

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The Potential for PES in the Rwenzori Mountains of Uganda

By
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The Rwenzori Mountain region is a "water tower" for Uganda and many other African nations. It is the source of the Nile and over 2 million people depend directly on its water resources. Within the Rwenzori Mountains is the National Park that was awarded a World Heritage Site designation by UNESCO and is a home for unique and endemic biodiversity.

The Rwenzori region in general, and the National Park in particular, face a number of challenges that threaten the biodiversity, as well as ecological and the watershed functions. Most notable are the issues of glacial recession and deforestation.

Scientists increasingly link climate change to glacial recession globally, including in the Rwenzori peaks. Glaciers has shrunk considerably in the last century—from 650 hectares in 1906 to a mere 108 in hectares in 2005 (WWF 2006). This glacial melt has meant reduced stream flow and increased threat of famine in the foothills due to unproductive soils.

Further compounding challenges is the growing human population in the Rwenzori mountains and the corresponding increasing demand for forest products. The annual population growth rate in the region is estimated at 5.16 in Bundibugyo, 3.76 in Kasese and 1.56 in Kabarole Districts (Uganda Bureau of Statistics, 2002). The result is high demand for land to cultivate and use for fuelwood resources. The steep mountain slopes are continuously cleared for cultivation which has increased the occurrences of landslides and soil erosion. Deliberate bush burning is a common practice within the massif. Fires have a potential for destroying valuable biodiversity from the park as well as accelerating soil erosion, land slides and flooding on lowlands. The sight of bare hills in the Rwenzori region is a result of these frequently occurring wildfires. One main reason for these fires is the fact that the lands that burn have no economic value. Hence the farmers who burn do not lose anything of value. If adjacent farmers would add value to their often burnt lands, by planting expanses of woodlots, they would be more concerned with the fires.

All of these pressures had led to the net result of forests increasingly confined to the park. In addition, the hills are increasingly eroded and de-vegetated; leading to landslides have affected the water quality and quantity, and posing a threat to downstream fisheries, hydropower stations, and domestic water supplies. Some of the once large rivers have been reduced to streams and the smaller ones have become seasonal, most likely due to changes in catchments characteristics. Regional residents face growing challenges, poverty and dependence on the park resources for basic needs and sustenance.

This situation has undercut functioning of the ecosystem resources provided by the Rwenzoris in general and the water flows from the mountains in particular.

There is a range of ways in which PES could be a relevant part of addressing ecosystem service stresses in the Rwenzori region. One possibility would be to search for prospective ecosystem service buyers, most likely water-focused, who would be willing to explore restoration on degraded hillsides sites that would improve water quality and quantity. Another potential would be carbon buyers focused on sequestering carbon through woodlots

of indigenous tree species or through environmentally-friendly expanse afforestation especially on bare hills.

The potential pathways forward for the Rwenzoris, like other rural areas interested in PES, include reaching out to the international voluntary ecosystem service markets, particularly related to carbon and water. The direct payments of the Plan Vivo carbon trade model would be one of the most promising for moving forward quickly. Alternatively, PES could emerge from discussions with direct service beneficiaries, such as downstream water users. Either approach will be challenging to fully assess the ecosystem structure and function and to devise a plan for ensuring that desired ecosystem services are produced by local community sellers.

Yet, payments for ecosystem services has the exciting potential of enlarging the pool of stakeholders who see themselves as benefiting directly from the restoration and maintenance of the ecosystem services that lay at the source of the Nile River—in the Rwenzori Mountains.

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Integrated Ecosystem Assessment in Eastern Uganda:
What are the Implications for PES?

By
Dr. Anne Akol

The very first integrated ecosystem assessment[1] is currently being carried out in two districts in Eastern Uganda. It is focused on the links between poverty and the environment as well as the potential of PES to address poverty issues.

These Eastern Ugandan local communities are almost entirely dependent on natural resources for sustenance and income. With a growing population, however, resource pressure has increased. In recent years, communities have had to give up farming practices, like fallows, that helped to conserve and renew soil fertility, because of the need to produce enough food to sustain the family. Decreased yields also meant that there was little extra food to sell, so people are seeking off-farm sources of income such as trade in timber and fuel wood.

Wood resources were previously harvested from the natural forests, which have since disappeared or are now protected by law. The restricted access to the forests, while meant to protect against deforestation, has also prevented surrounding communities from harvesting other resources such as medicinal herbs, mushrooms, bamboo shoots. This raises an issue of how best to avoid alienating communities live near and rely on natural resources, as well as how to involve community members in conservation.

The Risks of PES: Undercutting Livelihoods

PES schemes meant to compensate communities neighbouring forest resources or that aim to encourage communities to conserve such resources should consider the local values attached to such resources and the very limited options (sometimes nonexistent) that locals have for meeting their basic needs. For instance, the locals in Eastern Ugandan districts reported that afforestation programmes had been implemented in the district. However, the trees did not really meet all their needs for fuelwood energy, medicinal herbs, specialty foods like mushrooms and bamboo shoots. Rather, the trees were mainly a source of timber/construction poles which were sold by the owners (of these trees) to traders coming from the urban centres. Thus the income distribution was limited to only a small proportion of the community.

The Opportunities of PES-Related Investments: Improving Water Quality

In Eastern Uganda, many of the natural (open) sources of water (river) have become heavily silted as a result of cultivation on the steep slopes characteristic of the district. Such cultivation is driven by increased population numbers translating into land shortages. The result is decreasing soil fertility as people have been forced to abandon traditional practices of allowing the land to rest due to continual need to provide food for home consumption and for sale.

[1] This pilot integrated assessment is one of the project activities being carried out under the **Government of Uganda UNEP/UNDP Poverty and Environment Initiative**

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What is clearly needed is to start a series of collective steps that build the capacity of people to earn an income from other sectors other than (subsistence) agriculture. An appropriate PES scheme would compensate people in such a manner that allows them to preserve the steep slopes and water catchment area.

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The Potential of PES for River Bank Management:
A Case Study in the Kapchorwa District, Uganda

By
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Kapchorwa district is located in the eastern part of Uganda on the slopes of Mt. Elgon, with a total land area is 1,738Km^2 (3.3% of the total land area of Uganda – 241,551km^2). It is bordered by Sironko District to the west, Nakapiripirit District to the North and the Republic of Kenya to the east. The District is predominantly occupied by the Sabiny people of Kalenjin ethnic group who are crop cultivators and cattle herders. The total population is 193,510, with a population density of 169/km^2. The population growth rate is at 4. 33%, which is higher than the national average of 3.3%.

Approximately 82.1% of the households live on subsistence farming, with an average of 2 acres per house hold. Community members keep cows, goats and donkeys (beast of burden) and fowls. Insecurity is caused by the neighboring district populations that cross borders to come and raid livestock. The overall impact is displacement of communities, increasing pressure on the ecosystem which results in soil erosion and siltation of riverbanks and wetlands.

Even without these additional resource pressures, the area is considered to be a fragile ecosystem with very steep hillsides prone to landslides with poor farming methods to the riverbanks. The area has fast flowing waters from Mount Elgon which can cause erosion and floods on riverbanks if not maintained with vegetation. The result of devegetation along riverbanks is brown river waters during rainy season causing wetland siltation.

Uganda's National Environment Management Authority (NEMA) has provided support to this fragile ecosystem through addressing issues that emerged following a water supply project that began in the late 1990s.

Water supply Project for the Town of Kapchorwa

In 1998 a survey was carried out to put up water works at the River Atari's waterfalls in order to supply Kapchorwa Town Council with piped water. This project was supported by European Development Fund (EDF). The plan was for the water to be sieved by the bushes along the riverbank. The piped water therefore was to be taken directly to town for use since it was clean. At time of plan the forest was intact.

However, concurrent with the water works project, local communities opened the forest for maize cultivation. Cultivation went up to the highest water mark (right to the edge of the river). There was increased soil erosion into the river due to farming methods.

Nonetheless, EDF went ahead to complete the plant. Water then served at Kapchorwa town was brown and with soil from erosion. This was a concern to everybody. It also silted the swamps (wetlands) in the low plains causing floods and blockage of waterways that join the Nile

Kapchorwa Town council requested support to the program officer EDF for sedimentation of water. EDF advised the Resident District Commissioner (RDC), presidential representative at the district and the Chairman Local Council Five (LCV) the political head of the district, asking them to see how they can protect the riverbank from cultivation so as to reduce soil erosion into the river. The offices of LCV, RDC, and LCIII (Kapchorwa T/C) communicated about how the river bank should be conserved. They agreed on natural sieving of river water.

In 1999/2000 the sub-county leaders mobilized the communities by convening a one day sensitization meeting in which communities and the leaders at lower governments were informed of the siltation problem. It was agreed to establish a fund to be used for the process of protection of the river through demarcation of the riverbanks and formation for a community-level committee. Despite the fact that the communities were going to loose some of their land to the riverbank, they agreed to contribute some money for demarcation. Community members participated in measuring off the 100m on either side of the river to form a 200m width and a length of approximately 4km distance up the river. And the community organized themselves to form a committee monitoring progress.

Demarcation took about one month in the month of Jan 1999. This was done before farmers went to prepare their land for crop cultivation. Owners of land affected and local leaders (LC Is) were present during demarcation. Two patrol men were temporarily employed to ensure that the status of the boundary remains.

Live demarcation - tree planting

In September 2000 a large seed bed of over 10,000 seedling of Eucalyptus was raised in the riverbank. One local community person was paid little money to tend the seedbed (from urban water grant – Kapchorwa T/C)

In April and May 2001 (rainy season) tree seedlings were planted to form the live demarcation. Hired labour was used from the communities. The trees belong to the farmers whose land borders those trees. However at of harvest they are asked to seek advice to avoid unplanned cutting.

In 2002 and onwards, the National Environmental Management Authority (NEMA) provided technical input and funds in the sensitization of the fragile ecosystems across the country to include Kapchorwa and in particular Rivers Atari and Ngenge and their ridges that forms the hilly and mountainous areas. This was a response to the national environment statute regulations 2000 (including: The National Environment (wetlands, Riverbanks and lake shores) Regulation, 2000 and the National Environment (mountainous and hilly areas management) Regulations, 2000).

In subsequent years there have been visits by parliamentary committee on natural resources as a wider sensitization to the problem in the country. In addition, celebrations have been held in the area to commemorate the world environment days.

The key players in this process are the community leaders, district technical staff and leaders and NEMA staff.

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Sources of funds

- Community contributions at sub-county level (for community hired labour token)
- Urban water conditional grant (for patrol persons)
- European Development Fund (EDF) – water works
- District Environment office/NEMA. Potting materials and some seed
- NEMA provided technical support and funds for a wider implementation and wider visualization.

Achievements:

- The town dwellers have been able to use clean water (not brown water)
- There is reduced use of chemical for cleaning the water
- 200m x 5000/10000 = 100 ha of area is restored (no cultivation and regeneration is taking place) maintain the clean quality water.

Benefits to the communities

- Increased grazing land especially during wet season when all land is cultivated
- Communities downstream get piped water, thereby reducing walking distance for water by females and children.
- The boundary trees are now used for community service (ladders and firewood)

Issues and gaps

- Community members feel that they really don't benefit from this conservation process since they lost land to the riverbank
- They do not get the piped water directly since they are above the gravity force and even then enjoy better water and conservation may not be an issue
- There is need for compensation of this community either directly or indirectly to maintain the sustainability of this ecosystem.
- The communities whose land touches in the riverbanks are Approx 120 households above the water falls.
- Those from they water fall down 10 km distance which is being addressed currently (addresses 30m on either side of the river from the highest water mark)

Ongoing Challenges

- Resistance from the community due low sensitization, pressure on land, poverty, farming as a sole source of livelihood.
- Some households were all included in the 100m stretch and the 100m distance was lowered to approx 30m (Community decision)
- The demarcation was occasionally encroached
- Those who failed to comply were arrested and taken to court (an extreme decision). They pleaded guilty and requested the case be sorted out of court which was accepted this people felt that their rights were oppressed
- Need for composition has been a common complain from these community persons to date especially those who bought.
- Conserving the main river without its feeder streams will reduce the quality of water because they are not equally addressed

Therefore the cost borne by the local communities versus the benefits accruing to them in this whole process looks not worthwhile to them

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Lessons Learned

- There was no needs assessment carried out before the process hence all the communities suffered same pain even those who were not
- Involvement of the local leaders is respected by the local communities
- Not all can go by the decisions of the majority and they are the most troublesome persons. (For example, one of the local leaders forced his demarcation down to almost 40m. When given to supervise the bank, he hired it out to farmers for cultivation and was stopped and replaced.)
- Enforcement of the law though harsh improves the process in most situations.
- The 100m distance cannot be applicable in all the stretch and not all the rivers of the same volume.

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Potential Carbon Project:
The University of Malawi's 50 Hectares Set Aside for Carbon Sequestration Projects & Buyers

By
Sosten S.Chiotha

Malawi has experienced very rapid deforestation of the indigenous forests, mainly due to high dependence for biomass energy by the majority of the people as well as due to agricultural expansion. The result of this trend has been increased soil erosion, siltation of rivers and loss of biodiversity.

The University of Malawi which is situated at the foot of Zomba plateau, and rises to approximately 1,500 meters above sea level, has set aside 50 hectares of its land for tree planting. The University will be following carbon sequestration models and is keen to attract international carbon buyers.

If the University can access international carbon markets, it offers the potential for introducing the concept of carbon sequestration in a country that badly needs to regain its vegetation cover again.

In addition to accessing international carbon markets, the University wants to use carbon market afforestation projects for capacity building and research in carbon sequestration. These carbon deals could have the potential to set benchmarks for replication in Malawi and beyond.

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Potential Carbon Project:
Scaling Up Cattle Manure-based Bio-Energy Projects in Rural Malawi
By
Sosten S. Chiotha

The potential of entire villages switching to biogas offers another way for rural communities to tap into international carbon markets. Malawian experience with biogas offers one nation in which to scale up access to the carbon market.

Application of cattle manure to improve soil fertility has been one of the mechanisms adopted by rural farmers in Malawi to improve food security. The quality of manure varies, but generally the results are positive, especially in the growing of maize, the staple food. Adoption of enhancement of qualities of the manure is taking place in some parts of Malawi, such as Dowa district by the transfer of knowledge from farmer within the same or neighbouring villages.

Low soil fertility is not the only livelihood challenge facing rural farmers in Malawi. Another equally important challenge is energy for basic needs such as cooking and lighting but also for small scale business enterprises such as chicken production.

One farmer who has effectively utilized cattle manure for both soil fertility replenishment and as a source of energy is Mr. Chafukira Banda of Mkomba Village in a district called Dowa, very close to the capital Lilongwe. Having visited Arusha, Tanzania in 1994 as part of a SADC regional Project of innovative farmers, Mr. Banda was impressed with the technology of biogas production from cattle manure as practiced by local farmers in Arusha.

On return to Malawi he sought technical assistance from the University of Malawi and the Malawi Industrial Technology and Development Centre. He provided all the materials such as bricks, cement and pipes and a biogas digest was constructed in 1996. Ten years down the line, he still uses the biogas for cooking and lighting the kitchen. In addition he used the gas for lighting and warming a brooding house when he acquires day old chickens. The dependence on firewood and charcoal has been drastically reduced through mere substitution for cooking and chicken brooding.

Mr. Banda has allowed his small woodlot of indigenous trees to regenerate in the last 10 years because of reduced pressure for wood energy. Mr. Banda argues that he replenishes the biogas tank with 3 shovels full of cattle manure per month which is not much and in any case the manure eventually gets released after the gas has been produces and he can apply the manure to his crops even after going through the digester. Government officials and Journalists who visited Mr. Banda in September 2006, after the consultative Katoomba meeting in Malawi were impressed with the blue soot free flame from the biogas technology.

Biogas technology is not new but has not been given the attention and support that it deserves. With so many cattle in Malawian villages, there is need for scaling up this technology to reduce dependence on wood fuel. Malawi is experiencing serious deforestation and loss of biodiversity as a result of excessive demand for wood fuel.

To help replicate the biofuel technology, there would be need for technical support for the design and construction of the digestors and to find markets for carbon offset. With improved gas capture, the gas could be sold as well.

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This area of bioenergy offers an opportunity for improving rural livelihood in Malawi while also accessing carbon markets. The potential is to make connections that will enable brokering the deals for villagers to access these markets.

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Potential PES Project:
Forestry in the Mpira Water Catchment, Malawi

By

Mathews D. Tsirizeni & Sosten S. Chiotha

Mpira/Balaka Rural Piped Water Supply is the largest gravity-fed piped water scheme in Malawi. The water is drawn from a reservoir is located Traditional Authority Kwataine, Ntcheu district, in the Central Region of Malawi, on Mpira River. Rivirivi River, Mpamadzi River and Dzonzi-Mvai Forest Reserve form the catchment for the reservoir and the entire scheme. The scheme was commissioned in 1988 with resources contributed by Danish International Development Agency (DANIDA), African Development Bank (ADB) and the Malawi government. It serves about 400,000 people in four small towns in Malawi.

At present, the issue is that the water volume has reduced and filtering process is being undercut due to catchment degradation resulting from several factors. The driver is increasing resource pressures, as a number of communities have settled within the Dzonzi-Mvai Forest reserve and have established gardens, which result in deforestation. The increased deforestation rate has led to soil erosion and reduced rainwater retention, which in turn has reduced ground water recharge. The accelerated soil erosion has affected sedimentation and siltation of the reservoir and the entire system. Finally, poor agricultural practices have also encouraged soil erosion and deforestation.

Studies show that there are two main problems surrounding the scheme. The first problem is that communities in the catchment do not benefit directly from the scheme because water is supplied to those down slope. Water supplied to the people in the catchment has no direct link to Mpira Dam. The second problem is that communities (direct beneficiaries and non direct beneficiaries) do not have ownership of the project, which is evidenced by high rate of vandalism to the pipes and taps.

Payments for ecosystem services (PES) offers one potential way to address these issues, specifically by enabling communities in the Mpira dam catchment area to participate in afforestation for carbon sequestration through being paid by organizations/companies engaged in international carbon markets. Another potential is to assess the downstream beneficiaries of high quality and reliable quantities of water and explore local payment for watershed services.

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Assessing the Potential for
Payments for Watershed Services
in the Naivasha Catchment in the Rift Valley Kenya
By
Mark Ellis - Jones

Interest in the potential for PES environmental and development synergies has led Care International and WWF-EARPO to consider an experimental PWS scheme in the Naivasha catchment in the Rift Valley in Kenya. The roll-out of this scheme is contingent upon realisable environmental and equity gains.

Preliminary research provides an assessment of the feasibility for pro-poor PWS in the Naivasha catchment from economic, regulatory and livelihood perspectives. It is demonstrated that potential buyers of watershed services include:

- commercial farmers and KenGen through monies raised by the Water Resource Management Authority fund;
- tourists;
- and consumers of flowers sourced from the Naivasha catchment.

A benefits appraisal indicates that:

- if PWS can successfully reverse catchment degradation, the scheme could generate nearly USD 37 million in present benefits to potential buyers of watershed services over the first 8 years of the envisaged PWS scheme, subdivided amongst the various buyers as follows:

	Commercial farmers and KenGen	**Tourists**	**Flower consumers**	**Total**
Benefits (USD million)	8.7	1.9	26.0	**36.7**

- If PWS is only able to mitigate against further loss of watershed services, then present benefits of PWS scheme implementation will be of a magnitude less. For example, present benefits which would accrue to commercial farmers and KenGen would amount to only USD 2.3 million.

It is further shown that the Kenyan regulatory framework, whilst not precluding a role for PWS, is likely to impose constraints on its operation. Of greater concern are the distribution of property rights and structure of livelihoods around such rights in the upstream catchment which necessitate innovation in PWS payment mechanism design so as ensure equitable outcomes in PWS implementation.

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Payments for Catchment Protection Services
and
Improved Livelihoods in South Africa
By Nicola King

The CSIR, together with IIED and DFID, have embarked on a project that will increase our understanding of the potential for incentives/payments to address the provision of catchment protection services and to improve livelihoods.

South Africa was selected as it is a country approaching 'absolute water scarcity' where costly supply-side development options are becoming less viable. The young democracy has also prioritised equity, efficiency and sustainability of water resources. Creative solutions for catchment management that integrate these principles in support of demand-side options are encouraged.

The term 'catchment protection services' defines those services that when protected improve the quantity or quality of water in a river system. Examples of services in South Africa include the removal of alien invasive plants on the river banks in order to increase the water flow in a river, or the rehabilitation of wetlands in a catchment in order to improve water quality in the catchment or changing land use practices within a catchment to reduce poor quality runoff or sedimentation to improve water quality in a river. Other services include water table regulation and the maintenance of aquatic habitats.

Payments are used within the legislative and policy framework and focus beyond regulation as a means to achieve goals. These payments aim to internalise the benefits and costs associated with land-water management through the use of compensation or incentives to maintain catchment protection services over time. These include salinity credits, eco-friendly products, payments for land rehabilitation, and seasonal leases. Payments for catchment protection services rely on having downstream users who are prepared to pay those upstream in cash or kind for protecting the river. The concept of paying to protect the environment through the preservation of environmental services is fairly new, but is gaining global support rapidly. Many companies in developed countries are already paying for carbon sequestration schemes to offset their carbon dioxide production to help mitigate the effects of global warming.

The purpose of this project is to increase the understanding of the potential for payments to improve livelihoods through catchment protection services. The approach focuses strongly on shared action-learning both nationally and internationally.

The international initiative being tested in South Africa, India, Indonesia and the Caribbean is trying to determine how upstream users can be incentivised to protect river catchments, providing more or better quality water to users downstream.

Two sites chosen for the pilot projects are the Ga-Selati River in the Lower Olifants catchment and the Sand River in the Sabie-Sand catchment. The potential for payments for catchment protection services to address water resource management while at the same time improve the livelihoods of the people living upstream has been tested through this project.

The Olifants River catchment was given high priority in the site selection as it is under such extreme stress with a demand for water far exceeding supply. In 2000, water requirements were 965 million cubic metres, but only 781 million cubic metres were available. Projections by the department of water affairs and forestry indicate that this situation is expected to worsen in future, to the detriment of the environment as river flows decrease. The excessive demand for the Olifants River's water resources

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places tremendous stress on the ecological reserve and compounds events such as the recent fish deaths in Kruger, with the park being the last downstream user in South African before the river enters Mozambique. Some of the 'payments' options that have been identified for the Ga-Selati river include downstream commercial farmers giving up their time to train upstream emergent farmers in the best agricultural practises for saving water. Downstream mines can also provide old piping materials to upstream farmers to reduce water losses from the use of unlined earth canals for irrigation. Other ways of protecting catchments include preventing excessive grazing of livestock in sponge areas or excessive harvesting in wetlands, controlling soil erosion and removing alien invasive vegetation

The Sabie River catchment was chosen as, according to the National Water Act (Act No.36 of 1998), it is one of the first catchments to roll-out the implementation of its Catchment Management Association (CMA). The pilot project will look at how to incorporate payments for catchment protection services into the management plan of a CMA.

The lessons learned from these projects include issues around identify buyers and providers of services, institutional, governance and legal aspects around payments fore environmental services, livelihood and hydrology impacts of this mechanism as well as the economic tradeoffs and benefits of the mechanism. It is hoped that the lessons learnt from these two pilot projects can be extrapolated into other catchments where the mechanism has the best potential to provide effective and efficient solutions to water scarcity and water quality constraints.

For further information on this project, please contact Nicola King at Mintek. Email address: nicolak@mintek.co.za , telephone number 011 709 4392 or visit the project website at www.csir.co.za/ere/markets_4_watershed_services.

Paying for the Hydrological Services of Mexico's Forests: Analysis, Negotiations and Results

By
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Abstract:
Mexico faces both high deforestation rates and severe water scarcity problems. The Payment for Hydrological Environmental Services Program (PSAH) was designed as an additional response to the crisis in the interface of these problems. In the PSAH, the Mexican federal government pays participating forest owners for the benefits of watershed protection and aquifer recharge in those areas where commercial forestry is not currently competitive. It seeks to complement an array of forest policies that include development of community forestry firms and prohibitions of land use changes. Funding comes from a fee charged to federal water users, from which nearly $18 million USD are earmarked for the payment of environmental services. Applicants are selected according to several criteria that include indicators of the value of water scarcity in the region. This paper describes the process of policy design, main actors and rules, and provides a preliminary evaluation. One of the main findings is that the program has paid where deforestation risk is low. The policy recommendation given is that selection criteria need to be modified to better target the areas where benefits to water users are highest and behavior modification has the least cost, otherwise the program main gains will be distributive, but without bringing a compensation Pareto improvement in overall welfare.

Key words:
Deforestation, positive externalities, payment for environmental services, watershed protection

Building Biodiversity Business:
Report of a Scoping Study

By
Joshua Bishop, Sachin Kapila, Frank Hicks and Paul Mitchell

October 2006

DRAFT FOR DISCUSSION

EXECUTIVE SUMMARY

Background and Rationale

Shell International Limited and The World Conservation Union (IUCN) have agreed to explore initiatives that can positively influence biodiversity conservation on a significant scale. This report focuses on the potential of market-based, more 'entrepreneurial' approaches, with a view to harnessing the enormous capacity of markets to drive change, as well as their potential to leverage new investment. The challenge of halting biodiversity loss should not be underestimated. There are many priorities: expanding the network of protected areas while securing existing areas; promoting biodiversity conservation in productive land and seascapes; increasing public awareness and political support for conservation; developing an effective enabling framework of policy and regulations; building capacity in developing countries and ensuring the participation of affected peoples in biodiversity management; etc. The question, of course, is who will pay for these actions? Biodiversity conservation desperately needs additional resources, as well as more efficient allocation of existing budgets. This report starts from the premise that current levels of funding are insufficient but also that the funding needed to halt biodiversity loss is far beyond the capacity of current donors and funding models. There are three broad, complementary options for funding biodiversity conservation, namely: (i) establishing legislation, norms and standards to discourage environmentally harmful activities; (ii) taxing private wealth or soliciting private charity for governments, NGOs and other non-profit groups to invest in conservation; and (iii) making biodiversity conservation a viable business proposition. This report focuses on the latter approach, which seeks to align conservation and commercial objectives and to mobilise significant private investment in sustainable biodiversity businesses, through appropriate use of market-based instruments. We believe that a new biodiversity business model is needed to deliver large and sustained financing even in the poorest countries. Securing the resources needed for global biodiversity conservation will take time and significant effort. This report argues that we will not succeed through 'business as usual'. The challenge is to convince governments and international policy makers, conservation and civil society organisations, multilateral agencies, private and investment banks, private companies and individual consumers to work together on a fundamental transformation of economic policy and markets in favour of biodiversity.

Why are Shell and IUCN involved in this study?

During the past six years, Shell International Limited and the IUCN have developed a strong working relationship, based around two two-way staff secondments and a number of joint initiatives at both country and project level. Shell and IUCN are actively seeking a strategic model for taking the relationship to a new level. This long-standing collaboration between Shell and IUCN seeks to improve the integration of biodiversity in the energy business, while at the

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same time bringing business skills and approaches to conservation. Shell and IUCN believe that there are numerous pro-biodiversity business opportunities that can generate positive financial returns as well as real biodiversity benefits. Many initiatives have been established with impressive results – however none have achieved significant scale or leveraged substantial private investment. There is a need to build on existing initiatives, involve additional businesses, and 'raise the bar' in terms of both the scale and conservation benefit of private investment, and we believe that we can help facilitate that process.

Aims of the Scoping Study

This Report presents the findings of a Scoping Study conducted by Shell and IUCN staff and consultants during the first half of 2006. The Scoping Study involved interviews with over 160 experts and practitioners as well as a workshop in May 2006. These consultations were complemented by the authors' own review and analysis of secondary literature and data. The work reported here builds on long-standing collaboration between Shell and IUCN, which seeks to improve the integration of biodiversity in the energy business, while at the same time bringing business skills and approaches to conservation. However, the Study is not just about Shell and IUCN and what we can achieve by working together, significant as that may be. Rather, it seeks to identify opportunities and mechanisms that can mobilise a broad coalition of businesses, conservationists and other stakeholders, based on a shared vision of market-based biodiversity conservation. Through this process we hope to leverage additional contributions – from guidance on business development and financial mechanisms through to the provision of financial backing. Shell and IUCN believe that there are numerous pro-biodiversity business opportunities that can generate positive financial returns as well as real biodiversity benefits. Many initiatives have been established with impressive results – however none have achieved significant scale or leveraged substantial private investment. There is a need to build on existing initiatives, recruit additional collaborators, and increase both the scale and impact of private investment in biodiversity conservation. The Scoping Study sought to inform the development of a coherent work plan for promoting market-based biodiversity conservation, based on a comprehensive review of options and experience to date.

Structure of the Report

The findings of the Scoping Study are presented in six parts. Section 1 and Section 2 provide an introduction and develop a rationale for market-based approaches to biodiversity conservation, including potential business, conservation and development benefits. Section 3 sets out the context for biodiversity business, noting the recent rapid expansion of protected areas which has nevertheless failed to stem the loss of biodiversity. This section further notes the heavy reliance of conservation initiatives, currently undertaken mainly by public agencies and non-profit organisations, on government funding and charity, which nevertheless remains grossly inadequate especially in developing countries. The core of the report comprises a sector-by-sector analysis of biodiversity business opportunities (Section 4) together with a mechanism-by-mechanism assessment of measures to support biodiversity business (Section 5). Biodiversity business sectors are grouped into two main categories, namely: • Businesses that conserve biodiversity ***indirectly***, through the production of related goods and services, e.g. eco-agriculture, sustainable timber and non-timber forest products, capture fisheries and aquaculture, payments for biomass-based carbon sequestration ('biocarbon') or watershed protection; and • Businesses that capture demand for biodiversity ***directly***, including ecotourism, sport hunting and fishing, bioprospecting, biodiversity offsets and other biodiversity management services. The report assesses what has worked (or not), described the main

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constraints, and identified opportunities to expand biodiversity business within each sector. Section 5 goes on to review the policy frameworks, technical resources and financing mechanisms that enable biodiversity businesses to grow, again highlighting lessons from experience and future opportunities. The report concludes with a summary of findings (Section 6), including a list of high potential investment opportunities as well as a discussion of the critical success factors for biodiversity business to grow. This section highlights three separate but related institutional functions or capacities that must be fulfilled to foster biodiversity business, namely: (i) appropriate enabling policy and institutions; (ii) technical support tailored to biodiversity enterprise; and (iii) finance from investors who understand the particular constraints and opportunities of creating biodiversity businesses. The report suggests that these three capacities can be integrated through the creation of a new ***Biodiversity Business Facility (BBF)***.

The main conclusions of the report are summarised below.

Principal Findings •

Governments and philanthropy alone will not address the biodiversity challenge. Likewise Shell and IUCN can help move the agenda forward but their contribution is not enough. There is a need to enlist wider support from both the conservation and business communities. In short, biodiversity conservation must become: o Bigger – from US$10 billion per year to US$100 billion per year or more, from 12% of land area to 15% plus marine PAs. o Better – more cost-effective, socially equitable and wealth enhancing. o Faster – keep pace with issues such as land use change, biotechnology, climate change, as well as public / consumer preferences. • There is general consensus and some recent experience to suggest that viable biodiversity business opportunities exist in most regions of the world, which are *not* fully realised, partly due to the limited scale and reach of existing support. There is plenty of liquidity in the market – i.e. capital is not the main constraint. The main bottleneck is finding projects that deliver a reasonable financial return as well as measurable biodiversity benefits. • The emphasis should be on achieving large-scale change through 'market transformation', rather than replicating existing initiatives by creating another fund to deliver technical support and finance to small-and-medium size eco-enterprise. • 'Un-bundling' and marketing the biodiversity benefits of landscape-level activities, such as organic farming and aquaculture, sustainable forestry or carbon sequestration in the form of conservation credits or offsets are possibilities. Similarly, there is also good potential for expanding markets for biodiversity-friendly climate mitigation, through support for forest, wetland and soil conservation and other activities that sequester carbon in biomass. • A related possibility is to create biodiversity 'banks', both terrestrial and marine / aquatic that can be used to offset environmental degradation by responsible companies. Shell companies could be the initial 'buyers' but could also be 'sellers' of biodiversity credits (e.g. in the form of voluntary offsets) to other potential corporate buyers. • 'Viability' in biodiversity business must be qualified by recognition that, for the most part, financial returns are likely to be modest (well under 20% internal rate of return and more likely to be in the 5-10% bracket). This implies the need for long-term grant finance, alongside commercial investment, at least until better institutional arrangements can be put in place to allow entrepreneurs to capture private willingness-to-pay for the public benefits of biodiversity. • Turning biodiversity benefit – a quintessential public good – into cash flow is a major challenge for most market-based approaches to conservation. Experience to date has largely focused on *indirect* approaches, which deliver biodiversity benefits alongside more 'traditional' goods and services (e.g. food, fibre, recreation). These approaches often rely on certification systems to inform consumers about what they are buying. • Indirect approaches can be effective at

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achieving large scale-impact. However, they are sometimes constrained by the imperfect match between conserving biodiversity and producing other goods and services for the market (or reducing rural poverty). More work is needed to strengthen biodiversity monitoring and management systems in indirect biodiversity business models, while reducing certification costs and expanding market share for the companies involved. One person noted that certification has the potential to disenfranchise local communities because of the high costs – if these could be developed at low cost by local people for local people, great gains could be made. • Direct payments for biodiversity avoid some of the problems associated with indirect approaches, but are less well-developed internationally. Experience in several countries, especially the USA, but also Australia, Brazil, Canada and some European nations, demonstrates that biodiversity, in the form of endangered species and / or natural habitat, can be effectively commoditised and traded under appropriate regulatory frameworks (e.g. mitigation or conservation banking or payments for ecosystem services). Such approaches can generate not only significant new business opportunities but also potentially large conservation gains. • Extending direct market-based approaches to biodiversity conservation to other countries and ecosystems (e.g. marine) is another major need and opportunity. However, unfamiliarity with species / habitat payment and trading models in many countries suggests the need for an experimental phase of voluntary action, based on the willingness of some far-sighted companies and public agencies to pilot new approaches to biodiversity conservation. The main opportunities in the short-term include: one-off biodiversity offsets for site-specific development projects and on-going payments for ecosystem services.

The Scoping Study also revealed a number of ***critical success factors*** that need to be fulfilled for biodiversity business to thrive.

• ***Multi-stakeholder ownership***, particularly businesses but also government agencies and NGOs. A pre-requisite for involving others as this work proceeds will be to clarify the role and commitment of both Shell and IUCN. Several informants asked for a 'structured process' by which potential collaborators can get involved.

• ***The importance of public policy*** for stimulating biodiversity business and the need to involve governments. Voluntary action was recognised as valuable for awareness-raising and testing alternative approaches, and can be sufficient to drive major market changes where consumer preferences for 'sustainable' goods and services are strong. However, most informants agreed that regulatory reform is often required to ensure wide uptake, especially for intermediate goods (e.g. timber), or where consumers are unaware of the environmental implications of alternative production methods (e.g. biofuels).

• ***Coupling business development and / or technical assistance with appropriate finance.*** The challenge is to integrate biodiversity management into standard due diligence and project implementation processes, while ensuring that these additional measures do not unduly constrain the market. Putting too many conditions on SMEs, especially in developing countries, may be impractical where there is little technical capacity or support.

• ***Flexible financial models.*** Various financing instruments are used to promote biodiversity business, using combinations of debt and equity finance, on a commercial, non-commercial or 'sub-commercial' basis. Some practitioners indicate a preference for debt or quasi-debt finance, due to concerns about barriers to exit by equity investors in biodiversity business, but there is no strong consensus on this point. More experimentation and analysis is required.

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• ***Performance indicators***. Both process and output indicators are critical to the success of biodiversity business. However, these must be fit-for-purpose, simple and cost-effective. Several informants cautioned against devoting disproportionate effort to elaborate monitoring and evaluation as opposed to implementation.

Towards a Biodiversity Business Facility (BBF) Shell and IUCN are continuing to explore the feasibility of establishing a Biodiversity Business Facility (BBF), which would seek to address the success factors listed above. Based on our analysis, we believe that a BBF would need three main capacities or functions:

• ***Think-Tank***. This would address issues related to weaknesses in policy, legal and fiscal regimes, in light of the importance of public policy for stimulating biodiversity business, as well as issues such as biodiversity metrics and the effectiveness of technical assistance models. The Think-Tank would depend on grant funding and could also provide sub-grants, on a limited basis, to test new business models.

• ***Incubator***. This would provide assistance to potential investment opportunities to develop them to the point where they can sustain themselves. In addition to providing business development services, the Incubator could also conduct applied research on how to improve the effectiveness of such assistance. As with the Think-Tank, the Incubator would rely on grant funds but could operate on a partial cost-recovery basis and, over time, spin off some services that generate financial returns.

• ***Funding Mechanism***. This would invest in businesses that have the potential to deliver both a financial return and biodiversity benefit. It would seek to attract co-investors who may not require commercial rates of return in the first instance but are keen to see this market develop. A portion of the fund would deliver loans and / or grant finance to provide ongoing business development assistance and biodiversity management support to selected enterprises. Developing a BBF will not be an easy task given the size of the challenge and the range of issues that need to be addressed. There are two main options for establishing such a facility: • Develop the three components of a BBF simultaneously, i.e. establish the Facility as a stand-alone institution, recruit expertise, identify potential investors, collaborators and potential projects accordingly. This would probably require a detailed Feasibility Study on the concept of the BBF before any specific investments could be undertaken; or • Accelerate the process by selecting a small number of high-potential biodiversity business opportunities and nurture the BBF through the implementation of these investments. This might include work on policy reform, finding (co-)investors to support specific investment ideas, and business, management and / or technical assistance. There was generally more support for this approach among our informants.

Next Steps

Several high-potential investment opportunities have been identified which merit further feasibility analysis and development. The next phase of work is thus likely to involve the development of detailed business plans for a selection of these opportunities. This will necessarily involve more input from the conservation and business communities, as well as efforts to market the proposal to potential co-investors in the public and private sectors. In summary, the next phase will need to: • Make the case for a BBF to the business, conservation and other constituencies. • Clarify Shell and IUCN's role in, and commitment to, the development of a BBF. • Further develop selected biodiversity business opportunities to identify

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synergies around which a BBF can be constructed. • Establish an on-going process for enlisting new collaborators in this initiative, including existing biodiversity business initiatives and other members of the conservation and business communities, together with governments.

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Technical Discussion on International PES[2] (September 12-13, 2006)

This document was drafted by UNEP ETB, and does not necessarily reflect the views of the several organizations that supported the technical discussion. An official and more complete summary report will be made available on UNEP ETB's website: http://www.unep.ch/etb/events/2006-PESTD12-13Sep.php

Background and Objectives

The Geneva workshop was the fruit of a collaborative consultation process, initiated by UNEP, IUCN, and in close cooperation with the CBD Secretariat, on the perceived need to scale up payments for ecosystem services to the international level. Building on previous work and gatherings[3], a significant gap was identified between the considerable efforts taking place in various contexts at national and local level around the globe and the work being done at the international level.

The workshop on International Payments for Ecosystem Services (IPES), held in Geneva on 12 and 13 September 2006, sought to address this gap by joining experts from academia, the private sector, governments, international organizations, and NGO's to discuss the potential for developing PES at the international level. With approximately forty participants, the two-day event combined plenary and breakout sessions in an effort to collectively work towards developing a plan of action for IPES.

Setting the Stage

A background paper on International Payments for Ecosystem Services based on a literature review and summarizing the main opportunities and challenges, was circulated prior to the workshop. Following an introductory session, the discussion was initiated by the reactions to the paper, as participants highlighted the issues they felt deserved most attention. The need to work towards developing a regulatory framework for IPES was mentioned as an important step towards leveling the playing field, although it was immediately stated that no such mechanism was currently under discussion or negotiation.

The workshop participants then discussed the many types of ecosystem services and their relevance at the global scale, resulting in a general consensus that biodiversity-related services should be a central element of future work on IPES. The potential for bundling services together or for 'piggy-backing' on the carbon market were presented as significant opportunities for a more biodiversity-oriented payment mechanism.

[2] The event was co-organized by the United Nations Environment Program (UNEP) and the World Conservation Union (IUCN), in close cooperation with the *Secretariat* of the Convention on Biological Diversity (CBD), and co-sponsored by the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety of Germany.

[3] Notably: the High-level Brainstorming Workshop on the Creation of Pro-poor Markets for Ecosystem Service, which was organized by UNEP and held in London in October of 2005.

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Developing IPES

Before focusing on the specific design of potential IPES schemes, the participants expressed the need to focus more on the demand side when thinking about scaling up PES. Privately funded schemes were seen as having greater potential for efficiently channeling international transactions, but more communication with the private sector is necessary in order to establish clear gains from trade. It was often reminded that any efforts to scale up PES need to carefully assess the risk of generating perverse impacts. Consequently, social equity and poverty reduction objectives should be integral elements in the design of any future IPES scheme.

Within this context, the participants worked on exploring various types of IPES schemes. The focus was on identifying mechanisms that would be most effective at stimulating the demand and increasing the funding source for ecosystem services, while supporting their sustainable and efficient supply. The main avenues that were explored were: the use of biodiversity offsets and certification, the integration of additional ecosystem services (mainly biodiversity) into the existing carbon market, the creation of a global 'cap-and-trade' regime for biodiversity, an open (virtual) marketplace enabling auctions and calls for tender, and the establishment of a new fund capable of ensuring long term funding for IPES.

The main areas of controversy surrounded the relevance of offsets and certification within the IPES discussion, the measurement and valuation of biodiversity, national sovereignty, the focus on protected areas, and the desirability of ranking different areas in accordance to the level of service provision.

Next Steps

In accordance with the workshop's main objective, the participants dedicated the last sessions to discussing ways of moving forward with IPES. Consequently, a plan of action was drafted, covering cover necessary additional research, possible pilot projects, promotion, and capacity building.

There seemed to be a consensus that the linkages between IPES and the use of both certification and offsets needs to be further explored through analytical research in order to address the potential risks that these mechanisms might present. Also, further research on the inter-linkages and overlaps between ecosystem services was suggested, notably through mapping efforts. Maximizing the potential for bundling was seen as an important component of the scaling up process. For an eventual cap-and-trade regime, it was suggested to establish a thorough evaluation of the carbon experience before working on expanding the model to other ecosystem services.

Outreach efforts should be targeted towards pre-existing projects and efforts that could potentially integrate IPES. The Kyoto negotiations were identified as an important platform for expanding IPES. However, other conventions and multilateral environmental agreements should also become increasingly familiar with IPES. Finally, the private sector was also identified as an important partner for future work on IPES, as additional efforts on establishing a business case for biodiversity are pursued.

For further information, please contact: Fulai Sheng, Economics and Trade Branch, United Nations Environment Programme (Fulai.sheng@unep.ch)

Getting Started: An Introductory Primer to PES

DRAFT
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FOR COMMENT, INPUT, AND OFFERS FOR CONTRIBUTION

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SECTION 4:

INFORMATION ON SOUTH AFRICA & CAPE TOWN

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INFORMATION ON SOUTH AFRICA

Geography

- A diverse topography including 2,500 km of coast, subtropical regions in the Northeast and a rugged, dry and mountainous interior
    - The lack of rivers and lakes has caused a great shortage of freshwater
- Land area: 1,219,912 sq km
    - 3.5 times larger than Germany
- Endowed with many precious resources, such as rich biodiversity, gold, diamonds and platinum

Contemporary History

- Named a republic on May 31, 1961 after a referendum in October, 1960
- Segregationalist laws, known as apartheid, created a social and economic divide between White minority and Black majority
    - Apartheid caused great disparity of wealth and power
    - Repeal of the apartheid laws began in 1990, and all Blacks were enfranchised in 1994
- South Africa's economy is the most developed in Africa, with a GDP/capita of US$12,160
    - Wealth is very unevenly distributed, however, as vibrant urban commerce exists alongside poverty among Black communities
    - An estimated 50% of the population lives below the poverty line (2000 est.), while the unemployment rate is over 25% (2005 est.)

Demography

- Approximately 46 million inhabitants
    - Life expectancy: 42.7 years
    - Population living with AIDS: 21.5% (2003 est.)
- South Africa is composed of many cultures and ethnic groups
    - Black 79.3%, White 9.3%, Colored 8.8% and Indian/Asian 2.5%
    - Ethnic groups include Zulu, Xhosa, Basotho and Bapedi among many others
    - There are 11 official languages
- Many diverse cultures, art forms and music styles throughout the country
- Only about 30% of South Africans are farmers
    - Only 15% of land is suitable for farming

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- Services constitute nearly two-thirds of South Africa's economic activity

Environment

- Home to over 20,000 plant species
  - 10% of earth's known species
  - Nevertheless, forest covers only 1% of the country's landscape
- Government is currently enacting pro-PES and pro-sustainable agriculture legislation
  - Private payment schemes for watershed services have been established to address the country's water shortage
  - The Department for Water Affairs and Forestry's Working for Water program is a public scheme that has been particularly successful
  - There exists great potential for scaling up of biodiversity, carbon and water markets

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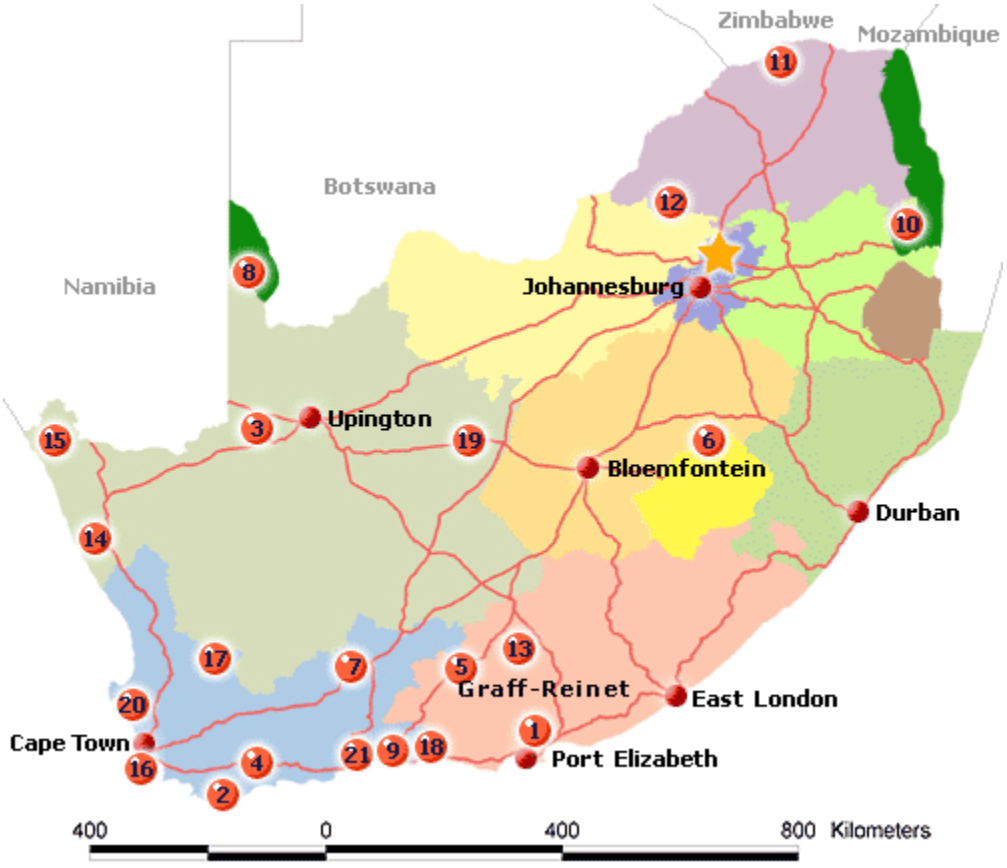
National Parks

1. Addo Elephant National Park
2. Agulhas National Park
3. Augrabies Falls National Park
4. Bontebok National Park
5. Camdeboo National Park
6. Golden Gate Highlands National Park
7. Karoo National Park
8. Kgalagadi Transfrontier Park
9. Knysna National Lake Area
10. Kruger National Park
11. Mapungubwe National Park
12. Marakele National Park
13. Mountain Zebra National Park
14. Namaqua National Park 15. Richtersveld National Park
15. Table Mountain National Park
16. Tankwa Karoo National Park
17. Tsitsikamma National Park
18. Vaalbos National Park
19. West Coast National Park
20. Wilderness National Park



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INFORMATION ON CAPE TOWN, SOUTH AFRICA

General Information

- Located on South Africa's West coast, at the northern end of Cape Peninsula
    - Climate varies widely, from cool, rainy winters to warm, dry summers
    - City is located in a mountainous region
- Third most populous city in South Africa (2.9 million inhabitants)
- Capital of the Western Cape province
- Home of South Africa's National Parliament
- Architecture in the "Cape Dutch" style
- Popular tourist destination

History and Demographics

- Cape Town was center for many anti-apartheid leaders
    - Robben Island, a penitentiary 10 km from Cape Town, held many of those against the apartheid
- Economy has recently boomed due to tourism, real estate and construction
    - Unemployment, however, is 19.4%
    - Of those unemployed, 58.3% are black
- Demographic Breakdown: Colored 48%, Black Africans 31%, White 19%

Attractions

- Beaches
    - Several famous beaches, such as Boulders, Clifton and False Bay
    - Waters of Atlantic Ocean are cold from Antarctica
- Table Mountain National Park
    - Table Mountain is the spectacular backdrop to Cape Town
    - Park also includes the Cape of Good Hope
    - Park is split into three unique sections
- Victoria & Alfred Waterfront
    - Commercial and culture center**,** with over 200 shops
    - Port is still in operation
    - Location of the Two Oceans Aquarium

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Map of Cape Town

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