

 **Capacity Building** RWANDA 2012  
**SUB-REGIONAL KNOWLEDGE EXCHANGE AND  
CAPACITY BUILDING WORKSHOP ON THE  
ECONOMIC VALUATION OF LAND AND  
ECOSYSTEM SERVICES**

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**LAND POLICY INITIATIVE**

**In collaboration with:**



Offering Sustainable Land-use Options

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## FINAL REPORT

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## I. BACKGROUND

Land lies at the heart of the economic and social development of Africa; it is also central to its environmental sustainability, as well as to maintaining peace and security. It is in recognition of the centrality of land in African development that the African Union Commission (AUC), together with the Economic Commission for Africa (ECA) and the African Development Bank (AfDB) decided to join hands in 2006 in establishing the Land Policy initiative (LPI). From 2006 to 2009, through a highly participatory process informed by regional assessment studies and multi stakeholder consultations, the LPI successfully developed a *Framework and Guidelines on Land Policy in Africa (F&G)*. This Framework and Guidelines (F&G) was endorsed in March 2009 by the joint AU Conference of African Ministers in charge of Agriculture, Land and Livestock.

The F&G provides a clear overview of the historical, political, economic and social background of the land question in Africa and elaborates on the role of land as a valuable natural resource endowment in attaining economic development and poverty reduction. Based on lessons and best practices identified in land policy development and implementation across Africa, it outlines how the land sector should perform its proper role in the development process. It promotes the need for a shared vision among all stakeholders of a comprehensive and coordinated land policy as a major factor in national development. It urges African governments to pay attention to the status of land administration systems, including land rights delivery systems and land governance structures and institutions, and to ensure adequate budgetary provision to land policy development and implementation. Its other fundamental purpose is to engage development partners in resource mobilization and capacity building in support of land policy development and implementation in Africa.

The 13th Ordinary Session of the African Union Assembly of Heads of State and Government held in July 2009, Sirte, Libya, adopted the “Declaration on Land Issues and Challenges in Africa” urging the effective application of the F&G in Africa as a valid tool to inform the development, review, implementation and monitoring of national land policy processes. In this Declaration, African Heads of State and Government committed to prioritize land policy development, implementation and monitoring in their respective country and allocate adequate budgetary resources to such policy processes. They resolved to ensure that land laws provide equitable access to land and land related resources for all land users, with specific attention to the land rights of African women which are key food producers across the continent. They also invited Regional Economic Communities (RECs) to convene periodic regional platforms to facilitate experience sharing, lesson learning and dissemination of best practices in land policy formulation, implementation and monitoring, based on member states experiences, while capturing and addressing land policy issues within their respective common agricultural framework.

The Sub-Regional Office for Eastern Africa (SRO-EA) of the United Nations Economic Commission for Africa (UNECA), in close collaboration with the African Union Commission (AUC)-ECA- African Development Bank (AfDB) Land Policy Initiative (LPI), organized an Ad-Hoc Expert Group Meeting (AEGM) in Dar-Es-Salaam, Tanzania on the topic “*Natural Resources and Conflict Management: The Case of Land*”. The event was held from 14 to 15 February 2012 at the margins of SRO-EA’s statutory meeting, the 16th session of the Intergovernmental Committee of

Experts (ICE). The main theme of the ICE was *“Harnessing the APRM Potential to Advance Governance of Mineral Resources in Africa”*.

At this meeting, the Global Mechanism (GM) of the United Nations Convention to Combat Desertification (UNCCD) gave a presentation on Economic Valuation of Land (EVL) as a vehicle to unlock the investment potential for Sustainable Land Management (SLM). Launched in 2008, EVL is a worldwide initiative to promote informed decision-making on the economics of land-based transactions, investments into land and natural assets, and the adoption of SLM, in general.

Through a multi-disciplinary scientific consortium called OSLO<sup>1</sup> (Offering Sustainable Land-use Options), the EVL initiative undertakes capacity building activities and pioneering studies to promote SLM through the assessment of the real value of land and benefits of responsible land use decisions. Central to this, is a profound analysis not only of the market value of land resources - in terms of food crops, fuel, minerals or pasture - but also of the non-marketed ecosystem services such as catchment’s protection, carbon sequestration, flood control, nutrient cycles and other local and global livelihood benefits. This innovative approach and methodology have the potential to stimulate virtuous behavior in land use and inspire new business models by generating compelling evidence in support of SLM and by demonstrating superior returns on SLM-smart investments.

The true economic value of land resources and ecosystem services is often unknown and the present and future impacts of natural capital depreciation are largely underestimated. As a consequence, ecosystems are exposed to excessive pressures, which inevitably lead to persistent environmental degradation and huge socio-economic impacts. The significance of these trends are heightened in situations where there are rapid and widespread changes in land use, with in particular the replacement of traditional multi-purpose land management systems with large-scale interventions driven by purposes that are not safeguarding local communities nor the natural assets in the long run. In such cases, the market price of land-based transactions tends not to take into account the total value in terms of the full range of ecosystems services that land generates.

The EVL approach consists of integrating the valuation of ecosystem services and scenario-based assessments in policy and planning processes in order to facilitate the identification of concrete options for more responsible land use. Furthermore, quantifying the changes in the total economic value of ecosystems and assessing the net socio-economic benefits of sustainable land and ecosystem management can significantly reduce the risks and uncertainties associated with policies and investments that rely on ecosystem functions. Through this, co-benefits in addressing sustainable economic growth and poverty reduction, reversing land degradation and strengthening the protection of ecological integrity may be realized.

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<sup>1</sup> OSLO has been established as a partnership of leading research and academic institutions, international organizations and UN agencies developed an innovative valuation methodology for land and ecosystem services. Key members include the Stockholm Environment Institute (SEI), the United Nations University (UNU), the Joint Research Centre (JRC) of the European Commission, CAB International (CABI), and the London School of Economics (LSE). For more information visit [www.theoslo.net](http://www.theoslo.net)

The EVL initiative is designed to equip policy makers, public and private investors and land managers with the tools and know-how to assess the monetary and non-monetary value of land and to identify the most effective incentives, market-based mechanisms, safeguards and supportive regulatory frameworks that can support SLM-smart decisions.

The GM presentation on EVL at the Dar Es Salaam event led to plenary discussions where participating countries indicated the need to build capacity and expertise at country and sub-regional level to assess and measure the real value of land under different land use scenarios. In particular, it was mentioned that both public and private actors involved in land management decisions would benefit from additional know-how in total economic value calculation and specific modeling techniques, such as those developed by the GM and the OSLO consortium.

With a view to addressing these needs, Rwanda Natural Resources Authority & Registrar of Land Titles (RNRA), the Land Policy Initiative (LPI), the United Nations Economic Commission for Africa (UNECA)'s Sub-Regional Office for Eastern Africa (SRO-EA), and the Global Mechanism (GM) decided to convene a sub-regional knowledge exchange and capacity building workshop on EVL for land valuers, Government officials and private stakeholders from the Eastern Africa sub-region.

## **II. OBJECTIVES OF THE WORKSHOP**

The overall objective of the workshop was to build the capacity of key actors involved in land use decisions in relation to the assessment of the real value of land, the understanding of the multiple benefits originating from ecosystem services, and the awareness of tools, methodologies, institutions and processes that can facilitate SLM adoption.

The workshop aimed to equip key actors involved in land valuation and land use planning with the capacity to understand the economic value of land and benefits from ecosystem services, as well as access to the methodologies, tools, institutions and processes that can support land valuation and sustainable land management. The workshop also provided a forum for sharing knowledge and experience on land valuation, as well as an opportunity for building networks of expertise and partnerships between key stakeholders in the application of innovative valuation approaches and instruments.

## **III. EXPECTED OUTCOMES OF THE WORKSHOP**

The workshop was expected to generate the following outcomes:

- provide a forum for sharing knowledge and evidence-based lessons and experiences, as well as for building networks of expertise in implementation;
- be instrumental to the identification of adequate policy reforms and/or the design of accompanying measures, such as incentives and market based mechanisms (IMBMs), risk management/mitigation tools and other enabling conditions for private investment and business assurance;

- strengthen the synergies and linkages in Eastern Africa on transboundary issues related to land management;
- be a basis for formulating a framework for building consensus and outlining future action by the various stakeholders, practitioners and development partners.

The workshop provided a wide array of presentations, panel discussions and case studies illustrating the validity of integrated ecosystem valuation approaches such as the EVL.

The workshop was facilitated by the OSLO Scientific Coordinator, Prof. John Soussan, and featured keynote addresses and presentations by international speakers, academics and experts from the OSLO consortium, as well as representatives from Governments and institutions engaged in complementary economic valuation assessments of land or ecosystem services, including from the private sector. The workshop included a combination of short presentations, expert panel discussions and highly interactive working group sessions. The programme of the workshop is included in Annex 1. Flash disks containing all related documentation were distributed to the participants.

Participants included valuers from the Institute of Real Property Valuers of Rwanda (IRPV), experts from several institutions involved in land management, journalists from Rwanda as well as real estate surveyors and land valuers from the public and private sectors from eleven Eastern African countries and a representative from the Intergovernmental Authority on Development (IGAD). A wide array of researchers from international institutions, representatives from various UN Agencies and development partners based abroad and in Rwanda also attended the workshop. The list of participants is included in Annex 2.

## IV. PRESENTATIONS & KEY FINDINGS

### *a. DAY 1*

#### Opening

**Mr. Hubert Ouedraogo (Land Policy Initiative-LPI)** delivered opening remarks focusing on the *LPI Five Years Strategic Plan and Roadmap* that was developed to guide the implementation process of the AU Declaration on land issues and challenges. He underlined that capacity development in support to land policy formulation, implementation and monitoring is one of the nine objectives of this strategic plan. He recalled that the LPI co-organized the event in close collaboration with the Government of Rwanda, the Global Mechanism and the Sub-Regional Office for Eastern Africa (SRO-EA) with further support from the European Union. He also confirmed that knowledge sharing and capacity development on *economic valuation of land and ecosystem services* would contribute substantially to the implementation of the AU Declaration on land issues and challenges, by helping African governments to address one key land policy knowledge gap.

Mr. Ouedraogo mentioned that the F&G highlights that African lands are not only economic assets but also represent a historical, social and cultural heritage. He referred to the on-going assessment study on *Large Scale Land based investments in Africa* (LSLBI) aimed to inform the

development of related Guiding Principles for sound investments. He stated that the issue of value of large tracks of land allocated to investors was vividly debated as part of the assessment as well as water resources. He ended his speech by indicating that the workshop was not an end per se and that the LPI hoped to build on this event to upscale learning initiatives on land valuation in other regions and countries of the continent.

In his remarks, **Mr. Boubacar Cisse (UNCCD Secretariat)** expressed the appreciation of the Executive Secretary of UNCCD Secretariat to the organizers of the workshop and to the Government of Rwanda for hosting the workshop. He indicated that economics of combating desertification, land degradation and the effects of persistent droughts are important issues of the UNCCD implementation process. He indicated that addressing this topic would facilitate the mainstreaming of Sustainable Land Management (SLM) related activities into country development strategies. He cited examples from Mali and Burkina Faso who attempted such exercise showing a strong need to address methodological approaches in relation to economic evaluation assessments. The ten-year strategy (2008 – 2018) puts a strong emphasis on the mainstreaming of priorities of National Action Programme (NAPs) into wider national development plans and strategies. Mr. Cisse underlined that convincing the ministries in charge of Finance and National planning remains a challenge that can be addressed through information on the economics of combating desertification, land degradation and droughts. He concluded by mentioning that the workshop would contribute to advancing the process with consensual methodologies.

**Mr. Simone Quatrini (GM)** delivered an opening statement on behalf of Ms. Elisabeth Barsk-Rundquist (Director of Programs and Officer-in-Charge, GM). The statement highlighted the importance of integrated and innovative approaches to resource mobilization and the crucial role that economic valuation of land plays in that respect. Evidence suggests that economic valuation of land can effectively inform better decisions on land management practices and inspire new business models by demonstrating superior returns of sustainable land management investments. The GM also supported the adoption of natural capital accounting systems to overcome the weaknesses of traditional metrics for measuring economic performance, such as gross domestic product (GDP). In closing, the GM thanked the OSLO Consortium and the other partners that contributed to the organization and funding of the workshop, namely the European Commission, the Land Policy Initiative (LPI), the Economics of Land Degradation (ELD), the United Nations Convention to Combat Desertification (UNCCD), CAB International (CABI) and the Government of Norway.

**Eng. Didier Sagashya (Rwanda Natural Resources Authority-RNRA)** opened the workshop on behalf of H.E. Honorable Ambassador Minister Stanislas Kamanzi. He welcomed all participants to Rwanda, the land of Thousand Hills. He confirmed that the workshop was very timely in the context of the on-going land reform process. He recalled that in terms of land and property valuation, Rwanda enacted the law establishing and organizing the real property valuation profession in Rwanda in May 2010, and in the same month, a council of regulation of real property valuation profession in Rwanda was appointed. The Institute of Real Property Valuers of Rwanda was launched on 31<sup>st</sup> May 2011 thus the need for capacity building and knowledge sharing with other practitioners in the region for its members to learn from best practices. Mr. Sagashya informed the participants that Rwanda as well as other countries in the region faces the challenge of quantifying the value of its ecosystems, a part being lost to land degradation thus the need to know the monetary value of forests and parks.



## **Presentations**

On the first day of the workshop, participants were introduced to the following;

- basic concepts & methods of ecosystems services and economic valuation;
- the nature of interactions between human and ecological systems;
- the importance of trade-offs between different human needs and the potential of different ecosystem services;
- issues of scale, over space and time, and the need to work at local and national levels, understand the present and the implications for the future;
- the need to 'mainstream' through engaging different stakeholders and government agencies.

**Prof. John Soussan (Scientific Coordinator, OSLO Consortium) presented an overview of the overall purpose and objectives of the workshop and an introduction to the basic underlying concepts of ecosystem services valuation.** He also introduced the work of the OSLO Consortium and explained that the purpose of the OSLO initiative for land resources valuation was defined as to develop a comprehensive methodological approach and evidence base for assessing the costs of land degradation and the economic rationale for sustainable land management. The presentation argued that both problems of and technical solutions to land degradation were understood and key challenges in sustainable land management were developing an economic rationale for and incentives for the development of land management options. The presentation introduced the ecosystems services framework from the Millennium Ecosystems Assessment and basic concepts of valuation and the analysis of the returns on ecosystems investments. For additional Information, see: [www.theOSLO.net](http://www.theOSLO.net)

**Dr. Robert Costanza (Crawford School of Public Policy) addressed the participants by e-link. He reminded the participants that this is an era where humans have a tremendous impact on ecosystems, and in order to build a truly sustainable and desirable world, there is need for a strong vision for the future.** The concept of ecosystem services allows for the reframing of the current discussion, and talking about nature as an *asset*, something that can better human lives, rather than something 'out there' that needs to be preserved. Natural capital is an ecological life support system, and there is need to recognize that too little attention had been paid to these assets and Costanza highlighted that there is a need to communicate to the larger world that we can create a higher well-being by recognizing these assets and doing things differently. He introduced the Ecosystem Services Partnership (ESP), which aims to enhance communication, coordination and cooperation, and build a strong network of individuals and organizations engaged in ecosystem services. ESP enhances and encourages a diversity of approaches, while reducing unnecessary duplication of effort in the conceptualization and application of ecosystem services. By raising the profile of ecosystem services and promoting better practice, ESP also aims to increase opportunities for financial support and help focus the funding of individual organizations for more efficient utilization of existing funds. ESP will hold a conference in August 2013, in Bali, Indonesia ([http://www.espconference.org/ESP\\_Conference](http://www.espconference.org/ESP_Conference)). For additional Information, see: [www.es-partnership.org](http://www.es-partnership.org)

**Dr. Ferdinando Villa (Basque Centre for Climate Change) gave a presentation on "Ecosystem services valuation and service flows: bringing humans back in the equation" where he discussed the limitations in the current conceptualization of ecosystem services and some possible ways to improve it.** At the core of the presentation was the idea of decomposing

ecosystem services into benefits, each of which explicitly identifies the user groups involved and can therefore serve as a sounder base for valuation. Dr. Villa presented techniques and results to assess benefits in terms of not only their source in the ecosystem, but also their actual and potential effects on societies and the spatial flows that connects the two sides. Methods for quantification of flows and their relevance to policy-making were discussed and exemplified. For additional information, see: <http://www.bc3research.org/>

**Dr. Hannah Behrendt (the World Bank) introduced the *Wealth Accounting and Valuation of Ecosystem Services (WAVES): A global Partnership aimed to support countries with the move to natural capital accounting.*** The World Bank initiated a partnership called WAVES, which includes several UN agencies, national governments, NGOs, and academic and other institutions. Natural capital accounting provides crucial information to support growth and poverty reduction. In February 2012, the UN Statistical Commission approved the System of Environmental and Economic Accounts (SEEA) as an international statistical standard like the System of National Accounts (SNA). Now, natural capital accounting can be implemented at scale. The SEEA brings together, in a single measurement system, information on water, minerals, energy, timber, fish, soil, land and ecosystems, pollution and waste, production, consumption and accumulation. The Central Framework will be augmented with guidelines for 'Experimental Ecosystem Accounts'. WAVES is already starting to implement natural capital accounting and incorporate results into policy analysis and development planning in Botswana, Colombia, Costa Rica, Madagascar, Philippines, India, Vietnam, and Lao PDR. Furthermore, the WAVES Policy and Technical Experts Committee is contributing to the development of a methodology for ecosystem accounting. Building on the Gaborone Communiqué on NCA from the African Sustainability Summit, signed by 10 African countries, 62 (32 developing) countries signed the NCA Communiqué, endorsing the following:

- Implement natural capital accounting where there are internationally agreed statistical standards –the SEEA.
- Develop methodology for the more difficult to measure natural capital – ecosystem services
- Demonstrate how NCA can support decision-making for sustainable development

For additional information, see: <http://wavespartnership.org>.

**Dr. Lindsay Stringer (University of Leeds) gave a presentation on “*Livelihoods, ecosystem services & the knowledge challenges & uncertainties in drylands*” where she highlighted that dryland ecosystems play a diverse role in livelihood activities, with livelihoods depending on a range of inter-linked different ecosystem services.** The ways in which land is managed in pursuing livelihood activities affects the provision of further ecosystem services. Local livelihoods tend to depend on provisioning and cultural services, where the impacts of these livelihood activities affect other regulating and supporting services at larger scales (e.g. climate regulation via carbon storage, watershed protection, biodiversity etc). There is a lack of knowledge in relation to assessing the impacts of particular livelihood strategies and land management approaches on further ecosystem services across scales, and how the (non-carbon) co-benefits from sustainable land management can be valued. Many of the knowledge gaps in understanding dryland carbon storage stem from a lack of empirical data and scientific evidence, which limits the utility of scientific knowledge for research users such as policy makers and NGOs. Measurement challenges restrict the number of studies focusing on processes and trade-offs in drylands, impeding development of accurate carbon accounting methodologies. Incomplete knowledge of carbon cycles makes it difficult to up-scale plot or field-level studies to

inform regional or global model development, hindering accurate prediction of how land, non-carbon ecosystem services and livelihoods may be affected by climatic, environmental and other changes. Parallel is the need to draw together understanding from different disciplinary bases to develop applied research, grounded in sound science, to deliver policy-relevant outcomes of practical value.

For additional information, see: <http://www.see.leeds.ac.uk/research/sri/>

**Dr. Michel Masozera (WCS)** presented a case study in relation to *“Assessing the Values of Nature and Applications for Policy: A Case Study from Nyungwe National Park (NNP) in Rwanda”*. Numerous studies have been conducted to quantify biophysically and economically the benefits that natural systems provide to people. While such analyses are critical for understanding how natural systems are contributing to human well-being and estimating the costs that might be incurred if they are degraded or converted for other purposes, ecosystem service assessments and valuations have exhibited widely varying degrees of success with respect to how effective they have been at influencing policy or natural resource management practices. Integrating ecosystem service values into national decision making and developing markets for ecosystem services involves long processes of negotiations, discussions, policy development, and shifts in thinking (i.e. paying for something that was once free) with a variety of stakeholders. The completion of a valuation study is rarely the final step in the process of integrating natural capital into decision making and planning. Unfortunately, too many projects, for a variety of reasons, stop at this point. Assessments and valuation are rarely the end-point: ensuring that results get used and integrated into decisions often requires time, persistence, and negotiations with a range of stakeholders. Valuations can also be useful for awareness raising and priority setting with respect to funding, etc. but using valuation to influence decision making on the ground is often an-going process. Achieving the right balance between rigorous biophysical data and economic data is challenging but necessary for certain services, especially regulatory services such as watershed services. This presentation drew from WCS field-based experience in Rwanda to demonstrate the challenges and opportunities of conducting ecosystem services studies that are useful for effectively supporting decision making at local, national and international scales. In Rwanda, work on assessing and valuing the ecosystem services of NNP offers an important opportunity for conservation and a cost-effective way to provide services to the country, but doing this and translating result into action (i.e. PES) is an on-going process.

For additional information, see: <http://www.wcs.org/where-we-work/africa/rwanda.aspx>

### **Q&A**

Participants raised questions related to regulatory frameworks on protection addressing different types of users with conflicting interests; purposes of valuation (for compensation or others); preference-based evidence and willingness to pay; and linkages to social benefits. One participant commented that valuation itself is not useful unless there is a clear understanding of what it is for and how you want to use it and that there is often a disconnect between the studies and action.

Panelists answered by mentioning that evaluation per se is not useful and that it is often used as a shortcut with no follow-up on recommendations; the importance of time and geographic scale was emphasized, with the recognition that all ecosystems are valuable even if potential users may only need them in the future).

### **Panel Discussion 1**

The panel comprised of H. Behrendt, L. Stringer, M. Masozera and F. Villa and was facilitated by J. Soussan. The panel discussion raised very critical points such as:

- Traditional valuation methods are dealing with information based on existing rules and regulations but some approaches which have been introduced are challenging current practices and leaning more on valuation approaches that respond to specific needs. . Policymakers for instance, need tools that are easy to understand, that require limited data and resources and are easy to implement). Future evolutions need to be anticipated through proactive design of methods that go beyond just good practices. There is a high level of uncertainty on how to achieve the right balance between the different types of methods needed; the required level of capacity; and the appropriate market characteristics.
- Points were raised in conjunction with the reaction from Ministries of Finance regarding the introduction of natural capital into national accounting and the consideration of movable properties such as fisheries in addition to forests as an example.
- The private sector was recognized as playing an important part in implementing WAVES. Countries where WAVES is implemented also strongly support this approach (e.g. creation of water accounts in Botswana). Earlier skepticism with the use of natural capital accounting (NCA) is gradually disappearing after Rio+20. Valuation is important but not sufficient to make systemic changes happen.
- The World Bank Group recognize the importance to embrace the notion of natural capital and acknowledge that GDP is not exhaustive and reflective enough of complex natural resources interlinkages, and through the International Finance Corporation (IFC) is working on the involvement of the private sector in the protection of the value of ecosystem services and natural wealth in general.
- The system of environmental accounts was proposed as complementary national accounts (satellite accounts). This means that countries can choose on which type of account to focus on (as an example forest accounting if relevant and not mineral accounting if not relevant). In an ideal world, social capital (e.g. distribution of benefits from poverty alleviation) should also be included in these satellite accounts, but it is even more difficult to do than natural capital. This does not mean that social issues cannot be informed by natural capital accounts.
- There is a need to find entry points to further involve the private sector looking at national trajectory of the countries and what options they are facing (in relation to trade offs). There are two issues to consider when visioning the future, both relating to coordination: (i) the need for a national leading institution within governments to decide between conflicting policies arising from different government agencies and (ii) issues of coordination between donor organizations. WAVES is thinking on how to inform national development plans and implement them in the best way possible. The question of coordination is key and consequences from choices/actions are central.

- Estimating the trade offs is the key issue and the “missing link” when estimating values and linking-up valuation to societies and future generations. There is often focus on one eco-system service because it is easier. Most results are too simple and not really helpful in complex systems. It is important to be extremely cognizant of scale (national or global levels such as WAVES or REDD), as most interventions occur at regional or local levels and the issue is up-scaling or downscaling them. Larger projects would hold potential to mainstream ecosystem services. Multiple types of trade-offs were described: carbon storage vs. using it (global pressure-REDD vs. need for livelihoods-provisioning service), wildlife vs. agriculture and livestock, present vs. future values. Benefits need to be shared across scales and generations. There is also a need to examine what has been done in the past and transfer knowledge to other areas where needed.
- Population growth is a driver of land use change but it is mostly population growth in the context of globalization and urbanization. If the focus remains on population growth only without taking into consideration some other global drivers, there is the risk of not being successful in addressing the symptoms of population growth. Policies in Rwanda (e.g. Vision 2020) encourage shift from subsistence agriculture toward other economic activities, through training so that people can learn new skills. Models can help inform policy makers on potential consequences from business as usual. Whether natural resources and conservation are considered as pillars for economic growth, there would be still need to provide or create new economic activities.
- A key challenge is uncertainty. Despite the push for “no regrets” options, and the focus on harnessing synergies, sometime the solutions are not clear-cut and the decisions are far from easy. The drivers of change are critical – some of them are not obvious at first but are very powerful.

### **Countries’ sessions**

The session focused on country presentations (Rwanda, Kenya, Tanzania, Uganda, and Madagascar) aimed to share information, knowledge, and experiences in relation to on-going land policy processes and land valuation practices as well as development and implementation challenges and opportunities. The session was chaired and facilitated by Ms. Daya Bragante.

#### **Rwanda**

**Eng. Didier Sagashya (Deputy Director, RNRA) made a presentation on *Land Reform and Land Valuation in Rwanda*.** Rwanda is undergoing social and economic transformations after the 1994 Genocide against the Tutsi, instating a new Constitution in 2003 and a national land policy in 2004. Subsequently, an organic law related to land use and management was enacted in 2005. The policy and the law set principles for land ownership, land use planning and land administration, were inexistent and incoherent before. In order to ensure security of tenure, institutions in charge of land were established from the national to the cell level. Second legislations and design of programmes relied on experiences acquired through pilots of land tenure regularisation programme in 2007/08. With high political will, registration of all land in Rwanda was incorporated in the Economic Development and Poverty Reduction Strategy (EDPRS 2008-12). Under the leadership of Rwanda Natural Resources Authority (RNRA), a National Rollout programme for land tenure regularization started in June 2009 with support of DFID, EU, SIDA, IFAD and Netherlands.

The programme aimed at registering 10 million parcels of land in 2148 cells using Aerial Ortho-photos and para-surveyors for demarcation and cell land committees together with village leaders for adjudication. As of end of October 2012, 10.3 million parcels (100%) have been adjudicated and demarcated and 6.3 million leasehold titles approved and printed for issuance. The total cost for registering a parcel is between 5 and 7 USD. The target, now, is to have all titles for adjudicated and demarcated parcels issued by December 2013. To ensure the sustainability and maintenance of the land registry, a Land Administration System (LAS) and Land Administration Information System (LAIS) were developed. The System deals with all land transactions in electronic secure way and will reduce time and costs thus improving investment climate. In the same time Rwanda also developed a National Land Use and Development Master Plan, which was approved by Cabinet in January 2011.

Land Valuation in Rwanda is recent: the law establishing and organising the real property valuation profession in Rwanda was enacted in May 2010, and in the same month, a council of regulation of real property valuation profession in Rwanda was appointed. The Institute of Real Property Valuers of Rwanda was launched on 31<sup>st</sup> May 2011 and now has 77 members. This institute and its members are new and need capacity building and knowledge sharing with other practitioners in the region to learn from best practices. Land valuation in Rwanda faces challenges related to establishing land prices even though the Government established reference land prices throughout the country in 2010. Valuation methods proved by the law are:

- Comparable sales approach method
- Comparison to Nationwide Land Values as an Alternative land Valuation Method
- Replacement Cost Approach as an Alternative Valuation Method for Improvements
- Use of Multiple Valuation Methods
- Any other methods approved by the Regulatory Council

The last provides an opening to include valuation of ecosystem services and Natural Capital Accounting into valuation techniques that are currently in use in Rwanda. Rwanda looks forward to learn from the workshop participants and experts from International bodies on how to develop and initiate the new systems in Rwanda. Rwanda has undertaken an overhaul of its land reform; looking at what is in place and on-going programmes, one can argue that by the end of 2013, Rwanda will be the most prepared nation in Sub-Saharan Africa to meet future challenges regarding land administration and management.

## **Kenya**

**Mr. Anthony Itui (Senior Deputy Commissioner of Lands (Valuation/Chief Government Valuer, Ministry of Lands) made a presentation on *statutory Valuations in Kenya*.** He started with an introduction of the Ministry of Lands, the Department of Lands, the Valuation Division, the types of valuations undertaken and examples of valuation types and methodologies. Types of valuations include (a) valuation for stamp duty; (b) valuation for compulsory land acquisition; (c) valuation for rating; (d) valuation for alienation; (e) valuation for subdivision; (f) valuation for lease extension and/or change of user; (g) valuation for governmental leasing; (h) asset valuations for parastatals & government bodies; (i) valuation for public trustee administration; (j) valuation for purchase of land for settlement of landless poor. He indicated that several criteria such as market value, severance, injurious affection, relocation costs, loss of profits and disturbance allowance need to be considered in determining compensation. New Land Bills have

come into force in May 2012 following the adoption of the new country constitution in 2010 (Land Act, Land Registration Act, National Land Commission Act, Environment and Land Court Act) and repealed the Land Acquisition Act.

#### **Tanzania**

**Mr. Adam Yusuf Adam (Principal Valuer, Ministry of Lands)** gave a presentation on *Valuation Practice: Overview of Tanzania Policy and Experience*. He started by providing an introduction and historical perspective of valuation in Tanzania by underlining that the land tenure system was mainly freehold until 1965 when land was subsequently vested into the President and all freeholds converted to leasehold. He indicated that one challenge remains the insufficient communication and information sharing between the different departments within the Ministry. There are 48 private valuation firms and 182 registered valuation surveyors as of December 2012. Land value drivers include urban and rural land (as subjects of valuation); resettlement action programmes; real estate investment schemes (public and private); development of infrastructure and civil works; mining schemes and power generation programmes; water and roads expansion schemes; surveys and titling, forestation schemes, population expansion and distribution (urban growth); and property formalization programmes. He mentioned as part of challenges, the lack of a valuation act (though a valuation document will be submitted to the next Parliament session for review); inadequate and unreliable market data; and the absence of comprehensive property market researches for data bank and insufficient training in land valuation and business opportunities.

#### **Uganda**

**Mr. Gilbert Kermundu (Acting Chief Government Valuer, Ministry of Lands, Housing and Urban Development)** presented *Existing policies, activities and initiatives on land valuation and national accounting in Uganda*. He confirmed that 'land/real estate is the main resource used to obtain a livelihood as well as to accumulate wealth' threatened by increased demand driven by population growth. The Constitution of 1995 vest all land to the citizens of Uganda and prescribes the tenure regimes with registerable interests (customary, leasehold, mailo, freehold). There is another form of informal land rights such as bonafide occupation and 'bibanja'. The valuation practice is regulated by the Surveyors Registration Act ACP 275, 1974 which provides for the establishment of a Surveyors Registration Board (regulating three disciplines on land survey, valuation survey and quantity survey). All surveyors must be registered with the Institution of Surveyors of Uganda, an umbrella body under the Board. Challenges of land valuation include (a) limited public knowledge of the duties/services of valuers; high level of speculation on property values (speculative market); reluctance to adherence to recommended scale of fees; increasing cases of valuation variance as a result of inadequate property analysis (lack of reliable comparable database) and poor integrity; slow adaptation to international standards; low level of research in valuation studies; absence of graduate course tailored for valuation related aspects in universities; and rampant land fraud. As part of initiatives aimed to improve valuation, a code of conduct to discipline the profession of valuer was established; degree courses were introduced at Makerere and Kyambogo Public Universities; public-private partnerships were promoted; Land Information Systems to improve land transactions and documentation were introduced. The Uganda National Valuation Manual and Standards are under formulation and there is a plan to open a platform for trade under the East African Common Market protocol. He ended by mentioning that the real estate is a fast growing industry with new emerging sectors such as oil and gas, minerals and water rights;

proper market analysis and adequate consultations among valuers would help to the harmonization of methodologies and reduction of large variances in values.

### **Madagascar**

**Ms. Nancy Rambao Andriamisandratsoa (Chief of Department of Modernization in Land Administration, Office of the Vice-Prime Minister in charge of Development and Urban Planning) presented the Land Reform in Madagascar.** The policy reform started seven years ago and is four-pronged revolving around the following pillars: (1) renewal and update of land laws; (2) reorganization, modernization and computerization of land and surveying services (one stop shop addressing most customers' related services as well a new Land Information System were put in place); (3) decentralization of land management; (4) and national training plan on land management (458 local land offices operational in 2012 covering ¼ of local communities; land use plan under digitization; professional training on land management). Among identified constraints, there are land tenure insecurity and data information gaps. For more information: [www.vpdat.gov.mg](http://www.vpdat.gov.mg).

### **Q&A**

Key messages from presentations included the following:

- Rwanda is producing 30,000 land titles per day in three shifts. Land is considered as a capital and the title is used to get access to bank loan using land as a collateral.
- Protection of property rights is a key issue.
- A tailor-made approach and harmonized framework on land and ecosystems evaluation and natural capital accounting at national and sub-regional levels is key.

Participants raised questions related to the cultural value of land and the means to assess it; use of satellite images in land administration in Tanzania (valuers are requested to attach digitized image of parcels); existing land tenure systems; large scale land based investments; scope of valuation and nature/level of change (in terms of ecosystems services); synergies between land administration and land use planning; land governance and speculation; attaching monetary values to existing valuation criteria (disturbance allowance). Land rights differ from land uses and value comes with types of use (how to put a market value on cultural aspects?). Rwanda suggested that the LPI comes up with a programme to develop databases to support land valuation (to ensure the proper record of land market data and comparables before integration of ecosystem services, land ownership also plays a crucial role).

This plenary session was followed by working groups facilitated by countries aiming to pursue dialogue as well as exchange of experiences and approaches in addressing identified challenges. They focused on (a) understanding the starting point: present systems of land surveying & tenure; (b) the diversity of national systems and capacities; (c) examples of change and innovation taking place now or in recent years; (d) challenges facing national authorities in strengthening their systems to meet their existing mandates and responsibilities; and (e) the need to introduce new approaches in ways that are practical and relevant.

### **Working Group Session 1**

#### **Working Group 1**

- Moderated by Rwanda
- Participants: Kenya, Rwanda, Uganda, Tanzania, Eritrea



### *Where are the countries at?*

Participant countries had different systems of land ownership. In Uganda land is the property of the people not the state, whilst in Eritrea people cannot own land, it is all the property of the state. In Kenya there was a mix of public, private and community owned land. This obviously impacts on land valuation and impacts of natural resource valuation into overall land valuation. All countries have systems of land valuation, which is sometimes regulated at a national level, sometimes at a regional level and sometimes on an individual level. No country currently integrates ecosystem services into their land valuation methods.

### *What are the challenges?*

Countries face different challenges in relation to land valuation. In Tanzania, a major problem is the highly centralized valuation system meaning high levels of bureaucracy and long decision times on land valuation. A problem that cut across countries was the lack of information and data. Similarly countries had problems in not taking into account enough variables when valuing land.

### *What are the plans?*

All countries agreed that developing information on land rights and data on land ownership was a fundamental step. Land cannot be valued if it is not known who owns which parcels of land. There is also a desire to integrate more variables and factors (including Economic Value of Land) into land valuation education, practices and laws.

## ***b. DAY 2***

On the second day, participants were provided with a description of the methodological approaches and valuation techniques developed and used by the OSLO consortium as well as by other global networks, international programmes and emerging initiatives aimed at assessing or quantifying the value of specific ecosystem functions. The panel discussion allowed the participants to raise methodological questions to all the presenters.

The presentations looked at a range of methods and initiatives concerned with different aspects of valuation, included case studies that showed the practical application of valuation at different scales and for different purposes and conveyed the following core message: there is no 'turn-key' solution that will work in all settings and for all purposes. Different methods are most appropriate for the valuation of different types of services. The choice of methods must reflect the data and resources available for doing the study and it is essential to include the users of the knowledge from the outset, to know what they need and why the study is being done. Most importantly, when doing a study, the process is as important as the outcomes: making sure all stakeholders understand and are involved in the choices made when conducting the study and feel a strong ownership of the results

### **Presentations**

**Dr. Mark Schauer (Economics of Land degradation – ELD) presented the ELD global initiative for sustainable land management. ELD is an initiative for a global study on the economic benefits of land and land based ecosystems.** The initiative highlights the potential benefits

derived from adopting sustainable land management practices and seeks to establish a global approach for analysis of the economics of land degradation. ELD partners supporting the initiative hail from the research community as well as from the policy sector. The first steps have been taken towards creating a robust scientific basis for sustainable land-use strategies, for food security and for raising public awareness of the importance of productive land systems. The participants declared their willingness to become involved in the initiative and to support its development through inclusive partnership. ELD Mission Statement:

- ELD develops a holistic framework for the consideration of the economic values of land in political decision making processes;
- ELD compiles and build a compelling economics case for benefits derived from sustainable management practices the sustainable management of land and soil on a global and local scale;
- ELD estimates the economic costs resulting from the degradation of land and related ecosystem services and compare them to costs of protecting the land;
- ELD sharpens awareness of the value of land and related ecosystem services;
- ELD will propose effective solutions, policies and activities to reduce land degradation, mitigate climate change and deliver food, energy and water security worldwide.

For additional information, see: [www.eld-initiative.org](http://www.eld-initiative.org)

**Dr. Stacy Noel (Stockholm Environment Institute-SEI) provided an overview of the *Offering Sustainable Land-use Options (OSLO) methodology*.** She discussed the rationale for the research and its main objective: valuing the contribution of ecosystem services to local livelihoods and the national economies of developing countries. The need to develop scenarios was discussed in detail, with examples drawn from the Millennium Ecosystem Assessment and the Valuing the Arc research project. Potential drivers of land degradation were also identified, including: land use conversion (deforestation, large scale agricultural development); climate change; population increase; and economic factors (consumption, production, globalization). The six steps of the methodology were reviewed: 1. Inception; 2. Assessment of land cover & ecosystem characteristics; 3. Analysis of Ecosystems Services Flows & Values; 4. Assessment of contribution to local livelihoods and national economic growth & development; 5. Identification of land degradation patterns and pressures; and 6. Analysis of Ecosystems Services Flows & Values.

For additional information, see: <http://www.theOSLO.net>

**Prof. John Soussan (OSLO) presented *the value of land resources in Tabora region, Tanzania. Supporting evidence-based decision making, i.e. the results of a case study on the application of the OSLO methodology*.** The analysis was based on a GIS assessment of land cover for the region, showing that most of the land was Miombo woodland, degraded woodland or wetlands. The study then assessed the value of the most important land resources of the area, based on an ecosystems services framework, including:

- Provisioning services: timber, non-timber forest products, agriculture, livestock, wetland products and others;
- Watershed & water resources management functions;
- Carbon Sequestration;
- Some estimates of tourism potential and other cultural values that could be quantified;
- Biodiversity: originally intended to value but no reliable data so it was omitted from the calculations.

Finally, the presentation discussed the potential for the development of sustainable land management options in the study area.

For additional information, see: <http://www.theOSLO.net/resources>

**Prof. Mike Christie (Aberystwyth University)** made a presentation on “*Valuation of ecosystem services in developing countries*” exploring the challenges to the economic valuation of ecosystem services in developing countries, and then offering a range of methodological, practical and policy solutions to addressing these challenges. Next, there was demonstration of some of these solutions through an empirical study that utilized a deliberative choice experiment to assess the value of forest ecosystem services in the Solomon Islands.

For further detail of these case studies, see the following papers:

- Christie M, Fazy I, Cooper R, Hyde H and Kenter JO.(2012) An Evaluation of Monetary and Non-monetary Techniques for Assessing the Importance of Biodiversity and Ecosystem Services to People in countries with developing economies. *Ecological Economics*, 83, 69-80.
- Kenter J, Hyde T, Christie M and Fazy I (2011).The importance of deliberation in valuing ecosystem services in developing countries – evidence from the Solomon Islands. *Global Environmental Change Human and Policy Dimensions* 21(2), 505-521.

**Ephraim Nkonya (IFPRI)** gave a presentation on the results of the research conducted by the International Food Policy Research Institute on land and natural resources management in sub-Saharan countries, using alternative valuation approaches.

**Dr. Lucy Wilson, member of the UN- National Ecosystem Assessment (UK-NEA) Secretariat based at the UNEP-WCMC based in Cambridge, presented the UK-NEA via a prepared presentation.** The UK-NEA is the first country-wide attempt at a fully national assessment on understanding nature’s value to society. Five-hundred people contributed to the assessment, producing an evidence base of 1400 pages, and importantly, it had an impact on policy by underpinning the government plans and commitments for the next fifty years, which were set out in the first white paper for England on the natural environment in twenty years. The UK-NEA provided a wealth of information on the state, value, and possible uses of ecosystems across the UK. It resulted in a huge evidence base, and a large portion of the chapters were about assessing the current environmental status and trends since the Second World War. The assessment considered the key drivers of change affecting the ecosystems in the UK, and the impact of those drivers. It valued change under possible scenarios which employed very different policy priorities, as well as different climate change scenarios. In addition, it considered a range of response options, and the roles of key players in key responses.

Finally, the NEA attempted to value the contribution of ecosystem services to human well-being, often referred to as “health, wealth and happiness”, through both economic and non-economic analyses. The assessment identified three types of well-being value: economic, health, and shared values. The methodology developed by the UK-NEA rejected attempts to estimate total values of ecosystem services, as many of these services are essential to continued human existence, and total values would therefore be underestimates of infinity. However, real world decisions typically involve incremental changes and require choices between options. The economic analysis therefore examined the value of observed trends, and feasible policy-related

changes. For more information on the methodology and detailed analysis, see chapter 7 of the technical report, and supporting technical papers.

The UK-NEA highlighted that ecosystem services are critical to our well-being and economic prosperity, but are consistently undervalued in conventional economic analyses and decision-making. The economic analyses helped to address two questions: Why the economic analyses of ecosystem services should be incorporated into decision making, and what are the economic implications of different plausible futures. The presentation used case studies to present the answers to these questions. The UK-NEA provided a wealth of information, and it also highlighted substantial gaps in the scientific evidence base, along with a number of practical challenges to implementing the ecosystem approach. The UK Government has committed to supporting a further two year follow-on phase of the NEA to address these issues. The follow-on phase aims to further develop and communicate the evidence base of the UK-NEA and make it relevant to decision and policy making at different spatial scales across the UK. The follow-on phase was started in February 2012, and will publish its findings in early 2014.

The UK-NEA is part of the Sub-Global Assessment Network, which is a platform of practitioners, both individuals and organizations, involved in ecosystem assessment at regional, national and sub-national scales. The network aims at improving capacity of assessments, sharing experiences, and lessons learned.

For additional information, see: <http://www.ecosystemassessments.net/>

**Dr. Johannes Forster (TEEB, Helmholtz Centre for Environmental Research – UFZ, Germany) presented an introduction to TEEB – *The Economics of Ecosystems and Biodiversity*.** TEEB is a global initiative funded by multiple donors including the European Union and the Governments of Germany, Norway, Switzerland, Sweden, Japan, the Netherlands, the United Kingdom besides many others, and is hosted by UNEP. It was created in order to assess the economic dimension of the services that biodiversity and ecosystems provide to human wellbeing. More than 200 scientists and practitioners from NGOs and business from around the world contributed to the study. It is focusing in particular on providing policy advice on how to better integrate the value of ecosystem services into policy making at the international, national, regional and local level. For each of the target groups a report was prepared providing an overview of the economic dimension for each of the policy levels along concrete examples. Options and opportunities for better taking biodiversity and ecosystem services into account are outlined.

One of the characteristics of TEEB is that it has an open architecture, inviting interested experts to contribute. The initiative has a broad and inclusive approach towards the multiple values that nature provides: it recognizes that not all values of biodiversity and ecosystem services, in particular cultural and intrinsic values of biodiversity, can be expressed in economic terms, but are still of importance for decision making. Therefore the TEEB approach for integrating the values of biodiversity into decision making follows the elements of:

- Recognizing that all values of biodiversity, including cultural and existence values, are part of the decision making process;
- Demonstrating for important ecosystem services also their economic value in order to raise awareness and for informing options of decision making;

- Capturing the economic value of ecosystem services in economic instruments, such as PES or others, where this can help to reduce conflicts over the use of biodiversity and maintain biodiversity and ecosystem services.

After the reports were published in 2010 (end of TEEB Phase I), outreach and dissemination of the findings followed (TEEB Phase II), targeting relevant policy processes. In particular the UN - Convention of Biological Diversity and EU policies on biodiversity were influenced by the findings of TEEB and numerous Governments got interested in doing TEEB national assessments. Since then, the number of countries undertaking TEEB studies is constantly growing: India and Brazil were the first that expressed their commitment to undertake TEEB national assessments, followed by the Netherlands, Germany, Norway and many others. At the same time other initiatives such as UNEP's Green Economy Initiative and the World Banks' WAVES initiative contributed to increase the awareness among policy makers on the importance of natural capital for development.

For additional information, and the TEEB reports, see: [www.teebweb.org](http://www.teebweb.org).

### **Q&A**

What are the assumptions behind methodologies/approaches? Importance of integrity and transparency in the research community (methodologies need to be flexible, robust and transferable). Capacity building is essential. Need to disseminate comparative studies on other continents. There may be a need for a team of environmental specialists (instead of individual land valuers) to comprehend and assess values of ecosystem services. The creation of specific toolboxes would be useful to enable countries to know on which types of services to focus. Valuations are very content-specific addressing needs of users. No real understanding of biodiversity related values.

### **Panel Discussion 2**

The panel comprised of M. Schauer, S. Noel, M. Christie, E. Nkonya, J. Forster and was facilitated by J. Soussan.

The panel discussion raised several issues, from the community level, to the practical level, to economic issues at the country-level. At the local level, issues discussed included the question of convincing local communities of changes in their attitudes. In fact, local communities were revealed as strong assets due to their strong understanding of their surrounding ecology and practical knowledge of daily life in the surroundings. The involvement of local communities extends all the way to the discussion of how to rank their importance in the distribution of benefits obtained from ecosystem valuation – a question which will (like most others) depend on the individual context.

From a practical standpoint, participants were interested in specific methodologies for assigning the value to ecosystem services, and use the valuations to leverage financing for projects in the sustainability market. Financial returns and market access were acknowledged as important goals, but ones that should be pursued on a solid foundation of well-conducted valuation studies.

A question was raised on how valuing natural capital can help attract investments into sustainable land use activities from the capital investors. The panel responded that this is possible and emphasized that private capital investors need to change their approach and

realize that their investments also need to have social and environmental returns in addition to the traditional economic return, in other words, triple bottom line investments. A point was made that it is important ensure that the local land owners have secure tenure rights so they too can share in the benefits of such triple bottom line investments. TEEB was highlighted to present good arguments for why private sector should invest in ecosystem services and nature

Participants expressed interest in a standard methodology which they could bring to their countries to begin implementing directly, but unfortunately such a standard does not yet exist. In fact, in most cases a specific methodology is difficult to quantify, and the valuation process itself may be more important than the final number. There is a need to look at the local context and adopt new approaches and techniques tailor made to the specific situation and need. Be open to develop new ways, was the message from the panel. The OSLO, TEEB, and ELD are among the initiatives seeking to enable new valuation studies, particularly in developing countries, as well as continuing to develop valuation methodologies.

The panel emphasized that the valuation itself is just one step in the process, and that the process itself may be even more important than the accuracy of the numbers. Another point made was that some ecosystem service you may not be able to quantify and that this should be made available so you present a transparent process. It is also important to find ways of communication these not quantifiable values.

The panel touched on some of the non-financial benefits of ecosystem services, such as cultural and health benefits that accompany long-term access to resources. This raised the question of how are future benefits of ecosystem services valued, and the idea of a zero/Negative discount rate. This is a controversial issue, and raised the question of whether or not it was in fact better focus on other issues.

Emphasis was placed by the panel on a diversified stakeholder base to begin with. There is a value to involving these stakeholders, including policy-makers, even if they are not yet able to add value to the initiative. Broad involvement across stakeholder groups will help to mainstream and scale-up projects, and efficiently communicate goals and demands (and products) directed towards specific target audiences.

In the ensuing working groups, the participants had an opportunity to understand in more details the different valuation models, methodologies and techniques used by the approaches presented in the morning and explore their potential application to their priority areas of intervention: i.e. geographical areas, sectors, activities.

## **Working Group Session 2**

### **Working Group 1 on OSLO/ELD**

The working group looked at two case study countries, Eritrea and Rwanda. To inform the discussion, national priorities were discussed and it emerged that both countries had prioritized the enhancement of food security through agricultural interventions, including irrigation and soil water management measures. The group then worked through the six steps of the OSLO valuation methodology. The results were that overall the methodology could be operationalized in the two countries. There were some issues regarding data availability: GIS data, information

on incomes derived from ecosystem services, and specifics on livelihood patterns were identified as potential data gaps. In conclusion, working group members from both countries felt that valuation research would be a useful policy input for decision making in their respective countries.

### **Working Group 2 on TEEB**

The working group looked at three TEEB case studies: Forest restoration in Tanzania, wetland conservation in Kampala, and Forest Ecosystem service valuation in Indonesia. Participants shared their own experiences, which included: compensating for the impacts of mining operations in Rwanda; issues of illegal logging and sand extraction in Kenya; a road through the national park in Nairobi; and prescribed valuation techniques in Tanzania. The participants raised the issue that often land-valuers are prescribed what (and how) to value, leaving little room to explore alternative valuation methodologies. Participants agreed that it would be necessary to involve those that make the rules for land valuation. The important role of politics and power in decision making was also acknowledged. In fact, the problem was presented that sometimes economic facts play a minor role when it comes to decision making. Participants agreed on the importance of education and awareness about ecological functions in the environment, and agreed that in this respect the TEEB approach would be helpful in these regions as a primary tool to make the case for sustainable land use options.

### **Working Group 3 on “Environmental valuation of land: Approaches and Methods” (UNU-INWEH)**

This session provided a brief overview of frameworks used for environmental valuation and of the different valuation methods. Participants analyzed an existing published case study following a guide document with a list of questions. The exercise aimed to empower decision-makers to assess why estimates of environmental values can differ, and judge their reliability and validity. It also aimed to raise participant awareness on data constraints in implementing environmental valuation methods, institutional and technical capacities, the assumptions behind the methods, the spatial and temporal scales, and potential links and synergies with other methods.

### **Working Group 4 on WAVES & NCA**

The key characteristics of the WAVES approach to natural capital accounting can be summed up with the keywords integrated and interdisciplinary:

The WAVES natural capital accounting system is integrated accounts for natural capital through an integration framework that measures interaction between economy and environment, and brings together information from different sources to derive indicators and analysis. Further, the accounts themselves are consistent and complementary to the System of National Accounts (SNA).

The WAVES program is interdisciplinary because it brings together, in a single measurement system (the SEEA), information on water, minerals, energy, timber, fish, soil, land and ecosystems, pollution and waste, production, consumption and accumulation.

The SEEA Central Framework has been adopted as an international standard by the UN Statistical Commission in 2012, and shall be augmented by two other parts of the SEEA: Experimental Ecosystem Accounts & SEEA Extensions and Applications.

The WAVES system of natural accounting has important policy applications, and is designed to help inform decision making. In this regard, WAVES assists countries through a Policy & Technical Experts Committee to develop methodology for ecosystem accounting, especially valuation approaches consistent with the framework.

### ***c. DAY 3***

Participants were introduced to a series of tools and platforms to assist in valuation activities and land use decision-making. The presentations gave information on different programmes and initiatives for valuation, including several that are working to build easily-accessible platforms for accessing methods and collaboration. Understanding and communicating the roles of different stakeholders for valuation and for developing sustainable land management were seen as key issues. The need for people doing valuation to be able to select the most appropriate methods was re-emphasised. The technical valuation was identified as one stage in multi-stage processes of analysis and consultation. Communications is a key, which means understanding what different audiences need: the challenge is to get the right information to the right people in the right form and at the right time.

#### **Presentations**

**Dr. Ferdinando Villa (Basque Centre for Climate Change) presented two technologies for assessment and valuation of ecosystem services.** The first, ARIES (ARTificial Intelligence for Ecosystem services: [www.ariesonline.org](http://www.ariesonline.org)) is a web-accessible software infrastructure that allows computing sources, sinks, users and flows of ecosystem services, along the conceptual lines sketched in his presentation of Day 1. The second technology, the SERVES database developed by Earth Economics ([www.esvaluation.org](http://www.esvaluation.org)) allows users to retrieve economic valuation data from published studies and to apply them to a user-defined context using a transfer function based on land cover type and area. He then presented a way forward for the integration of these technologies and provided a realistic perspective on the role of such tools in decision-making.

**Dr. Philip Saner (UZH) made a presentation on *Valuation Support Tools for Biodiversity and Land Productivity*.** Economic valuation of land needs a multidimensional approach to reveal all added benefits of ecosystem services, but also to highlight interactions and the costs associated to their loss. In this context understanding the relationship between biodiversity and land productivity is fundamental. There is strong evidence from long-term studies that support the finding that diverse systems yield higher biomass and reduce greenhouse gas emissions. The studies show a positive relationship between biodiversity and productivity and quantify how much diverse systems can increase productivity compared to monocultures. And they determine to what extent a diverse ecosystem can alter stability and resilience after natural disturbance. Diverse systems are an asset and should not be reduced to their importance for conservation only. Alternative routes exist and are in use at small scales. For example community gardens in Africa support the daily energy need and can be both, diverse and sustainable.



**Mr. Daniel O'Hara (CABI) gave a presentation on *Decision-Making support tools and Communication Tools*.** The tools and methodologies developed by researchers require application to real life circumstances. The gap must be bridged between researchers and practitioners if the methodologies are ever to have real use and uptake. There are two stages:

1. Developing decision-making support tools: At various points in the week support tools of different sorts were discussed. The need to develop a 'toolbox' for practitioners was highlighted, other participants have pointed out that methodologies have to be integrated into education tools. CABI in the past has a history of developing tools and resources out of research and making them applicable – e.g. R4D, the Plantwise Knowledge Bank, Research to action. These make research openly available to those who put it into practice.
2. Communications and awareness-raising: As the decision support tools become available these must be communicated in appropriate ways. Based on the various different audiences the tools must be tailored and marketed in different ways. Awareness of the availability of these tools, and the benefits of natural resource valuation, must be built.

An example is social media, as a powerful awareness-raising tool. Effective content, widely disseminated, can engage and involve various levels of stakeholders. They become aware of the benefits of land valuation, are directed to the tools, and have the option to disseminate this further.

**Ms. Jamison Ervin (UNDP) presented on behalf of UNDP a set of e-learning modules, particularly a course on Valuation and Mainstreaming via a prepared presentation.** She discussed several challenges to building capacity of national focal points and conservation professionals: How to efficiently find and absorb the information they need, given the vast number of resources available; the difficulty of supporting implementation of major conventions; effectively sharing lessons learned across departments and across countries. In addition, there is a wealth of theoretical information, but practitioners often find that practical case studies and examples from their peers is the most helpful information. The E-Learning Partnership between UNDP and CBD has been created in response to these challenges. The idea was to create e-learning modules that were similar to the Rosetta Stone software in that they are interactive, comprehensive, yet also concise and easy to digest. They would be available on-line or off-line, in multiple languages, and unlike Rosetta Stone, they would be completely free. The consortium, led by UNDP and CBD, involved more than 40 partners in all.

To date, more than 3500 practitioners have taken a course on protected areas from more than 150 countries, and [conservationtraining.org](http://conservationtraining.org) has more than 9,000 registered users. There are 14 modules on protected areas, ranging from ecological gap assessment to sustainable finance to management effectiveness. 5 more modules are planned for 2013. Based on this success, the UNDP/CBD partnership is expanding to develop a new set of e-learning modules around the topic of NBSAPs, or National Biodiversity Strategies and Action Plans. Topics include economic valuation of ecosystem services, incentives, resource mobilization, target setting, climate resilience, and land restoration, among others. To access the course of valuation and mainstreaming, go to [www.conservationtraining.org](http://www.conservationtraining.org). For more information, contact Jamison Ervin@undp.org for questions or comments.

**Dr. Margot Hill (UNEP FI) made a presentation on *E-RISC, A new Angle on Sovereign Credit Risk*.** Global Footprint Network and a number of asset owners, investment managers and information providers have partnered to advance metrics that will enable financial institutions to integrate natural resource and environmental risk indicators in sovereign credit risk models. To achieve this, the E-RISC project (Environmental Risk Integration in Sovereign Credit Analysis) assesses how growing natural resource scarcity and environmental degradation can impact a country's economy, and in turn what financial risks these pose in the context of sovereign credit ratings. It analyses five nations' (Japan, France, Brazil, India, and Turkey) natural resource-related risks over short, medium and long term risk horizons, and provides a tentative framework for comparative assessment of countries that could be further developed into a ranking or rating system. Results indicate that growing global resource scarcity exposes importers and exporters, as well as ecological creditors and debtors, to increasing risks linked to both commodity price volatility and environmental degradation. Results across the five countries studied show that these risks vary widely across countries that are at present rated similarly by Credit Rating Agencies. This project also aims to contribute to the development of metrics for enabling financial institutions to implement the *Natural Capital Declaration*.

**Dr. Mark Shauer (ELD) presented on the ELD reports as possible tools for engaging decision makers from different levels of the policy sector and the private sector.** He further elaborated on a GIZ tool to engage decision makers for integrating ecosystem services into development planning (IES). The stepwise IES approach aims to provide practitioners with a practical and policy-relevant framework for integrating ecosystem services into development planning. The presentation was to give a first impression of the stepwise approach on how to recognize, demonstrate and capture the value of ecosystem services in order to integrate it into development planning. The working group in the afternoon would elaborate on an example from the participating practitioner's sphere of influence, working through the different steps of IES. More information on IES can be provided by the ELD Secretariat, hosted by GIZ ([www.eld-initiative.org](http://www.eld-initiative.org))

**Dr. Johannes Förster (TEEB, Helmholtz Centre for Environmental Research – UFZ, Germany) provided additional information on TEEB.** The TEEB approach follows the three elements of recognizing, demonstrating, and capturing the values of biodiversity and ecosystem services (see presentation on TEEB introduction on day 2). For integrating the value of biodiversity and ecosystem services into local and regional decision making, the TEEB six-step approach has been developed. It includes the following steps, which are not a fixed recipe, but can be applied in alternative order, depending on the specific local context:

1. Specify and agree with the relevant stakeholders on the issues that contribute to the problem related to the loss of biodiversity and ecosystem services.
2. Identify the ecosystem services that are how highest relevance for human wellbeing.
3. Define the information needs by decision makers for being able to take more sustainable decisions on land use practices. The information needs define the methods for assessing the ecosystem services including qualitative and quantitative methods, as well as monetary and non-monetary methods.
4. Assess the ecosystem services with the methods identified in step 3.
5. Identify and appraise policy options / land use options that can better take the values of biodiversity and ecosystem services into account.

6. Assess distributional impacts of the policy option: There can be winners and losers. Try to identify how possible conflicts can be resolved, e.g. through compensation schemes, provision of rights, such as land tenure, or mechanisms for access and benefit sharing.

The TEEB six-step approach was explained along a practical example of forest restoration in Tanzania. There, the re-introduction of traditional management practices helped to restore the dry forests and the ecosystem services they provide for local communities. Hence the empowerment of local communities and creation of awareness was key to better manage the forests and thereby re-establish streams of income for local communities in form of vital ecosystem services (e.g. better access to fuel wood, fodder in dry season, water services) which had been lost due to ecosystem degradation. More detailed information on the TEEB six-step approach can be found on the TEEB website ([www.teebweb.org](http://www.teebweb.org)), specifically in the report TEEB for Local and Regional Policy Makers and in the quick guide to the same report: <http://www.teebweb.org/teeb-study-and-reports/main-reports/local-and-regional-policy-makers/>

He assured that the panel discussion would allow participants to seek clarifications from all the presenters and ask for more details or references to relevant material, contacts, and case studies. In the ensuing working groups, participants will discuss how to remain engaged after the workshop in the context of concrete follow up activities, such as:

- (i) adaptation/customization of traditional land valuation methodologies and practices,
- (ii) further scientific/research work, including development of ad hoc curricula for university-level education, capacity building activities, e-learning tutorials, etc.,
- (iii) awareness-raising at relevant forthcoming national and international events,
- (iv) mainstreaming EVL approaches in land-use decision making, and
- (v) country case studies to assess the value of land and ecosystem services, the costs of land degradation and the benefits of sustainable land management.

Other follow up activities that may originate from the discussions could include specific valuation studies at local, national or sub-regional level, communities of practice, standards and metrics, etc.

### **Q&A**

The Q&A session discussed how we can ensure that the number of new initiatives and approaches presented at this workshop are sustainable. Dr. Margot Hill (UNEP FI) acknowledged that it would be a long way before the different approaches will be adopted in financial decision making, but that the process has started. J. Forester from TEEB emphasized that it is the stakeholders and countries are driving the demand and sustainability by deciding if they want to do TEEB studies or adopt other initiatives and approaches.

### **Panel Discussion 3**

The third panel consisted of a group of experts and high level stakeholders and experts that shared their respective perspective coming from governments, the scientific community and the regional and international development community.

### ***Introduction by panellists***

**Mr. Egide Gatsirombo (ITPV)** started the panel discussion by saying that economic valuation is a new idea for the region. Given the critical importance of land in many countries, support is needed to ensure that the right information is coming at the right time.

**Dr. Lindsey Stringer (U. Leeds)** underlined that there is will from the scientific community to support the methodological work but emphasised the need to get policy makers on board. She stressed that one should not work on valuation of land and ecosystem service in silos but that there is a need to approach the work in a cross-disciplinary way, e.g. economists in collaboration with environmentalist. It is also essential to work with local communities as well as policy processes. Stringer said that there is a necessity to identify gaps and fill these, and that we need to make the information and knowledge available for policy makers. She concluded that the idea is not to get rid of old policies and make new ones, but to look for good practices and build on these.

**Mr. Hubert Ouedraogo (LPI)** stated that all African countries have made efforts of tackling their land issues but with limited result because of technical capacity limitations and piecemeal approaches. He underlined that the policy level also needs to be tackled in order to ensure that the right policies are in place to support good land use planning and sustainable land management. He called for a better understanding of what land is given to what economic sectors and said LPI would like to push to develop principles for sustainable investments in land.

**Ms. Elsie Attafuah (UNDP)** highlighted three emerging issues:

- (i) The issues of **disconnect between the scientific community and the decision makers**: she said the messages presented to decision makers are key and that one need to be able to link the messages about sustainable land management to GDP growth, health, and other priority development processes. She recommended taking advantage of policy dialogues and other sessions where messages can be put forward. She also emphasised the need to identify champions, e.g. parliamentarians.
- (ii) **The lack of technical capacity** was the second constraint she brought up.
- (iii) **Lack of limited data**: Data collection may be costly but there are financing instruments for such things at country level, e.g. from the donors based in the countries.

**Dr. Robert Ladu Luki from South Sudan is the leader of the** independent commission that is responsible for developing a new land act. The commission has undertaken consultation with all stakeholders in South Sudan. The previous land act says that land that is not registered is state land but this is now changing (land will belong to people). He stressed that the state has a role when land is given to investors, but the people need to be consulted.

In the discussion that followed, participants called for specific research tools for economic valuation. Different countries have different land policies and it is difficult to develop a “one solution that fits all”. There is a need for tools that can help moving this work forward and create processes to which various stakeholders can contribute.

### **Working Group Session 3**

#### **Working Group 1 on PRACTICE**

The group was tasked with the discussion of the following points:

- Monetary and non monetary values concepts
- Is the valuer a relevant professional in ecosystems valuation?
- Conclusions included the following remarks:
- Multi-profiling is necessary.
- Ecosystem valuation also refers to non monetary values.
- Much needs to be done in the future as the techniques are new; the valuers, governments, and the communities are not aware of the general context of ecosystem valuation.
- Education of the communities about ecosystems valuation is key.
- At country level the sensitization about ecosystems must be promoted.
- There is great need of a strong ecosystem legal framework.
- Need to initiate ecosystem valuation pilot projects in the region.
- Participants in this workshop may form a professional forum or a community of practice for further sharing the knowledge and experience through current media technologies.

#### **Working Group 2 on POLICY**

The group discussed how scientific results can be integrated into policy processes. It was expressed that there is a need to establish buy-in for the scientific results not only on higher decision maker level, but that there is also a need to build on local knowledge and to involve local stakeholders from the outset to ensure implementation. The dialogue with all stakeholders is crucial for the success, and the process itself (putting agreements on paper) can be as important as the final outcome in a number of ways, even if there are conflicts occurring during the discussions. Pre-workshops within the specific stakeholder groups are helpful to establish a position before inter-stakeholder group meetings are initiated.

To allow for integration it needs an agreed platform. A map of the stakeholders is a good tool to get an overview of the players involved. It needs to be assured, that the process is inclusive and transparent and that occurring costs are shared. The group agreed that a holistic approach is necessary for the credibility of the process; the word “land valuation” is deemed a misnomer and not sufficiently broad. The group further discussed how the power play of different players can be managed, how the interests of different stakeholder can to be balanced. Tools / games to involve people closely in decision making were identified as a knowledge gap by the group. The group further exchanged on how informal conservation processes can be facilitated (including by providing jobs by the government).

Identification with the process from an early stage is necessary, because people might officially agree to a government decision, but might still continue unconcerned by the new framework. In the direct science –policy interface, scientific numbers will often be contested. Stakeholders would often prefer to choose to find solutions themselves. It was underlined that decision makers do not want science to give the answers, rather they only ask for numbers and data for facilitating the decision making. Timing of the change process is also crucial since changes in the policy cycle need to be taken into account as well.

Participants of the working group engaged in in-depth discussion on the scientific processes in land valuation. It was discussed how the results with counties with different approaches can be compared and the group asked for a common flexible framework (guidelines, a more broader approach) which could be applied in different countries. The group agreed that as a good tool to engage decision makers a list of examples can serve well. Participants of the WG discussed a number of examples from the respective countries, including Kenya, Eritrea, and Tanzania.

The debate included and exchange on the importance of rights to ecosystem services and of different systems of ownership. Property/Resource rights can turn into a real obstacle in the implementation and are important factor to be considered. The group further engaged in a discussion on quantitative and qualitative values and agreed that quantitative values work better with decision makers. As the basis of the scientific activities and because of different entry levels a knowledge gap analysis should be conducted which already involves all stakeholders (even different Ministries). This can help scientists to better target any capacity building and training materials.

#### ***d. DAY 4***

On the fourth day on *Maximizing Benefits from Land Valuation*, participants will hear from representatives from the public and private sector about the rationale and benefits of using these innovative approaches to the economic valuation of land and ecosystem services. Examples will be presented on how putting a value on land has made public and private investments into SLM possible, and how the total economic value of land has been instrumental in the establishment of incentives and market based mechanisms to scale-up sustainable land use and restoration. In this connection, impact investments, risk management strategies and business assurance tools will be presented and discussed with the panelists. In the afternoon session, a Market Place will allow the workshop participants to further explore synergies and discuss bilaterally with the international experts strategies and roadmaps for future collaboration at national, sub-regional or global level.

**Ms. Elsie Attafuah (Technical Advisor to UN-REDD in Zambia)** focused on lessons and experiences from the Practice of Total Economic Valuation of Land at the macro level. Using examples from Zambia, Tanzania, Ghana and Mozambique, the presentation sought to address the use of total Economic Valuation of land (TEV) to optimise land management, minimise externalities and generate public benefits. In order to put the presentation in context, the presenter highlighted six challenges to TEV notably : a) lack of effective of mainstreaming of TEV outcomes into broader national policy processes (e.g. Poverty Reduction Processes; b) weak linkages between TEV and investment programmes and financing instruments (e.g. CAADP, REDD+, climate change programmes, sector wide programmes); c) policy inconsistencies and disconnects at sector level; d) lack of strong stakeholder engagement processes; e) non exploitation and use of strategic partnerships and partnership platforms with convening power to leverage outcomes of TEV; and finally f) lack of viable alternative options along development trajectory based on TEV results.

In light of the above-mentioned, the presenter underlined key areas that will help address the challenges to optimizing TEV at the macro level. These included:

A. Conducting outcome mapping to clearly outline what one seeks to address or influence with the outcomes of TEV;

B. Identifying Entry Points and opportunities such as through Poverty Reduction Strategies, investor policies, National Development Plans and mainstreaming, investment programmes and then mainstreaming the results of TEV into these;

C. Enhancing Stakeholder Engagement and building strategic partnerships with business sector, key sectors, media, civil society and parliamentarians, amongst others; and

D. Supporting Programme Development such as SLM Investment Frameworks and Financing Strategies seek to leverage opportunities, demonstrate multiple benefits and upscale TEV outcomes.

The presenter concluded by underlining the importance of building on the momentum that TEV provides through strategic partnerships, country-led and country-owned initiatives and business 'unusual' processes.

**Dr Emmanuelle Quill rou (UNU-INWEH) made a presentation on “Benefits of land valuation for public decision-makers: guidance and lessons from experience”.** This presentation provided a recap on a few benefits that land valuation can bring, provided a few examples of how economic values can be used to improve management, and emphasized that the valuation context, participation of all stakeholders and complementary analyses drawing from disciplines other than economics are key in deriving reliable economic values.

**Ms. Siv Oystese (GM) discussed how the values of ecosystem services can be used to establish incentive mechanisms that can encourage land users to adopt sustainable land management practices.** If a value is given to an ecosystem service, it is possible to price and compensate efforts made by those conserving and protecting this service. Adopting sustainable practices that protect the ecosystem services may often be more expensive than business as usual and there is often a mismatch between the stakeholders paying the costs of maintaining land resources (e.g. opportunity cost of not converting a forest to cropland) and beneficiaries (e.g. downstream water users benefiting from the regulation of water flows). There are a range of mechanisms that can facilitate the payment by the beneficiaries to the stakeholders maintaining land resources. Such mechanisms can be called *incentives and market-based mechanisms* as they encourage companies, communities and other private land users to adopt and invest in SLM practices as well as enable the land users to cover the cost of adopting sustainable practices. The presenter gave an overview of a number of incentives and market-based mechanisms and examples on how these work. She also introduced a screening tool that help identifying which mechanism would work in a given national or local context.

**Mr. Simone Quatrini (GM) delivered a presentation on “impact investments”, an emerging trend in the capital markets that can provide a new impetus to sustainable land management.** Impact investments are defined as investments in companies whose primary goal is delivering social and environmental good, whilst also delivering competitive market returns. Ranging from development finance institutions, to large institutional investors (e.g. pension funds), to private foundations and high net-worth individuals, impact investors dispose of a variety of asset classes and financial instruments that match their return/risk/impact profiles. The total managed value

is currently estimated at approximately USD 50 billion (i.e. 41% of total ODA). Mainly, it includes investments in microfinance, community development finance, and clean technology, covering virtually all economic sectors and cross-cutting initiatives. Market analysts such as J.P. Morgan predict that by 2020 there could be between USD400 billion and USD1 trillion invested this way. In conclusion, Mr. Quatrini listed a number of essential conditions for capturing the potential of impact investments, including the establishment of innovative financial products and syndicated facilities such as “environmental impact bonds”, currently being developed by the GM in collaboration with UNEP Finance Initiative.

**Dr. Justin Jonson (Threshold Environmental Pty. Ltd) presented a case study from Australia on restoration of ecological systems and associated natural capital.** Degraded lands have less natural capital and provide fewer ecosystem services than fully functional ecosystems. In the southwest of Australia, a project was implemented which used a carbon market financial driver to restore a full portfolio of natural capital values and associated ecosystem services. The project partners collectively supplied the individual components required for realisation of sustainable land management practice, including: 1) gaining secure tenure of the land, 2) identifying the specific outcomes sought, 3) undertaking research to build investor confidence, 4) securing investment for restoration works, and 5) actively applying best practice on-ground techniques to deliver the outcomes sought. The project demonstrates best practices as it restored valuable but unfunded non-market ecosystem services as secondary benefits to the carbon offsets purchased. This project provides one example of solution based approaches that leverage green investments to restore full portfolios of natural capital and the associated ecosystem services they provide.

#### **Panel Discussion 4**

The panel discussion comprised of E. Attafuah, E. Quillérou, S. Oystese, S. Quatrini and J. Jonson and was facilitated by J. Soussan.

The discussion addressed the importance of integrating agricultural land, and development, with the conservation of natural assets. In this respect, the diversification of land-use and income flows is one way to minimize land use risk. Diverse investments are one way to respond to both environmental and traditional market demands. For example, there are companies who invest both in logging activities and carbon sequestration. Mixing business opportunities can also increase the marketing potential of a business that can sell itself as environmentally and socially beneficial.

Participants raised the issue of public / private partnerships, referencing the tension between the possibility for investment and growth with the potential conflicts that often exist between the goals of large-scale investors and local communities. The panel responded by emphasizing the newness of these kinds of partnerships, and the importance of government at this stage in their development. It was suggested that having a set regulations in place surrounding these partnerships can help to increase their success, as the success of ‘social impact bonds’, and hopefully the ‘environmental impact bonds’ to come.

The issue of trade-offs was brought up, with the question of whether there ever are ‘win-win’ scenarios, and how those might be achieved. The panel responded that successful scenarios will hinge on the demonstration of the benefits of ecosystem services across stake-holders and decision-makers. Advocates need to be able to capture the benefits that ecosystems provide,



and translate them into feasible solutions. In many cases, the costs of inaction aren't monetary, but social. For example, climate change as a result of deforestation has been cited as one of the causes of increased malaria incidents. Economic valuation, itself, can't do the entire job. The values have to be understood and have an impact on the system in which the analysis is applied.

Going forward, the panel underlined the importance of balancing investment needs with the needs of the community, ensuring that land transactions happen at fair, equitable prices. These issues need to be mainstreamed, and put on the agendas of policy makers. The general feeling is that we are moving towards a shift in the way in which we look at ecosystem services, but nevertheless must continue to seek out innovative ways to encourage these shifts. Capacity building will play a large role, in this respect, to build a critical mass of advocates and networks for ecosystem valuation.

### **Market place**

The last session of the workshop consisted of a "market place" where participants were able to discuss bilaterally with representatives of the various organizations and network of experts that contributed to the workshop. This session was highly interactive and well attended, and served as a basis for exchanging more detailed information on the various initiatives related to land and ecosystem services assessment, as well as contact details. The market place session proved particularly helpful for outlining indicative roadmaps, possible solutions and practical steps in response to the needs articulated by the countries during the workshop, particularly as a result of working group session one.

During the market place session, the German Federal Ministry of Education and Research (BMBF) collaborative research programme on Sustainable Land Management was presented. Using trans-disciplinary research approaches, the programme aims to improve our understanding of interacting ecological and socio-economic systems and help design better land management policies. The links between land management, climate change and ecosystem services are investigated in twelve regional projects in various parts of the world including Africa (Okavango Delta and Madagascar), Asia, Europe and South America. In close cooperation with their local partners in science and practice, these projects seek for strategies for maintaining important ecosystem functions and services. The projects will develop exemplary solutions for sustainable land management and mitigation of climate change (greenhouse gas emissions – GHG). All projects are supported by the scientific coordination and synthesis GLUES. The projects aim at developing exemplary solutions for sustainable land management and mitigation of climate change. In close cooperation with their local partners they will design strategies for maintaining important ecosystem functions and services and provide decision support tools based on the scientific findings.

For more information please visit: <http://nachhaltiges-landmanagement.de/en/>

### **Closing Remarks**

In his closing statement, Mr. Simone Quatrini (GM) recalled that the objectives of the workshop were to:

- provide a forum for sharing knowledge, lessons and experiences in valuation of land and ecosystem services,
- initiate a platform for building networks of expertise in implementation,

- identify necessary policy reforms or measures,
- understand instruments, such as incentives and market-based mechanisms (IMBMs), risk management tools and other enabling conditions for private investment and business assurance
- strengthen synergies and linkages particularly on transboundary issues
- discuss potential follow up activities and roadmap for future action.

The feedback from the participants and their interactive participation in the workshop's panel discussions and working groups clearly indicated that these objectives were met. In the absence of turnkey standard solutions for the economic valuation of land and ecosystem services, there is a need for more research, application and normative work towards the development of adequate solutions. The statement also emphasized that substantial progress is being made by the scientific, international, business and financial communities, which generates a momentum for the integration of ecosystem services in decision making that should not be missed. In conclusion, Mr. Quatrini thanked the Government of Rwanda as well as the funders, co-organizers, speakers and all the participants for having contributed to a successful workshop.

Mr. Hubert Ouedraogo concluded by highlighting that land policy issues are very complex and that there is an important need for continuous awareness raising of policy makers (development of policy briefs) and mainstreaming of land in country, REC/IGO programmes and strategies. He mentioned the May 2013 Forum on Large-Scale Land Based Investments. Mr. Egide Gatsirombo delivered closing remarks on behalf of RNRA, congratulating the organizing team for a successful workshop which represents a cornerstone for Rwanda in its efforts de implement land valuation.

## V. CONCLUSIONS & WAY FORWARD

### Main analytical workshop conclusions

Land degradation is a detriment to long term sustainable development and comes with an economic cost for individuals and societies at both micro and macro scales. Land and people are integrally connected; land lies at the centre of economic development. Yet at the same time, modern economic systems are slow to integrate the costs and benefits that flow from the use of natural capital. This unfortunate situation has allowed for an ongoing exploitation of land, its natural capital, and associated ecosystem services generated from them. The result is an increasing global trend of land degradation.

To address the challenges of this degradation -through restoration of natural capital and by combating desertification - an appropriate economic valuation of land, natural capital, and ecosystem services should be acknowledged. It is clear that such valuation is not always straightforward. Benefits gained from natural capital and associated ecosystem services can be delivered over varying timeframes (such as the mitigation of a one in ten year storm flood surge) and are often supplied across boundaries of tenure (for example a wetland area that crosses a national boundary). Such conditions make the measurement and fair distribution of reward (economic payments) difficult to deliver in a consistent and equitable manner.

The recent four-day capacity building workshop and sub-regional knowledge exchange aimed to map out many of these issues. The workshop brought together land valuers, policy makers, government officials, facilitators, members of the scientific community, and private industry to present and discuss the many angles that seek consideration in order to achieve our objectives.

The workshop began with outlining the broad principles and definitions of natural capital, followed by presentations from Rwanda, Kenya, Tanzania, Uganda, and Madagascar on land valuation on a country by country basis. It was clear, as also highlighted in the *Land Policy in Africa: Eastern Africa Regional Assessment* publication (Nsamba-Gaiya, et. al., 2010), that legal pluralism, land tenure security, and state sovereignty over land are just some of the issues which complicate the process of consistent land policies across the African continent.

The **land valuers** in attendance were very intrigued by the new paradigm of natural capital valuation and the broader concept of ecosystem services. In their terms, they recognised these new concepts as potentially serving as an additional component of valuation to include in their assessments of land. However, as that kind of valuation is based in the natural sciences, they seek support to develop a standardised and consistent methodology to quantify assessments and allow economic valuation. As Didier G. Sagashya simply put it, 'we want to know the value of our forests and our parks.'

The **policy makers** concerned are those who are faced with the hard decisions of continuing with business-as-usual policies, or instead instituting some innovative policies to enable the valuation of ecosystem services. Policy makers seek simple solutions and uncomplicated explanations of who will benefit and who will not, when changes are made from business as usual policy. Step one is clarifying that a shift in policies would be of benefit; step two is providing specific policy advice on what type of changes are required and why.

The **government officials**, such as staff in charge of management of various sectors such as the Departments of Land, Dept. of Environment, Dept. of Agriculture, Dept. of Finance, Dept. of Health, also have an important role in terms of Joint Programming, and facilitation of the strategic and efficient co-investments of public funds toward the realisation of SLM practices. This can occur in a number of ways, including Government funded infrastructure projects, land holder payment schemes, outreach, education and capacity building.

The **facilitators** help build connections between donors, host countries, institutions, academia, and industry. The facilitators are the unifying glue enabling these projects to get off the ground and gain momentum. The facilitators are faced with a diverse and varied range of interlocutors and are therefore required to use their best judgement in setting up potential collaborations.

The **scientific community** (academia) can contribute to the objective of delivering SLM and abating land degradation by providing advice on scientifically rigorous methodologies for measurement and ongoing quantification. This work includes the provision of methodologies from various silos within the academic community including environmental economics, ecology, and geography (geospatial modelling) to name a few. The link between forefront scientific knowledge and policy and practice is often lacking.

Members from **private industry** also make several contributions to this collective effort. For example, industry may be the appropriate conduit for converting methodologies developed by the scientific community into operationally and economically feasible packages.

### **Additional lessons learned**

One major shift in communications that may benefit collective objectives toward the inclusion of economic valuation of land, natural capital accounting and broader integration of payments for ecosystem services into modern economies may be in the selection of examples to illustrate our point. New case-study style examples may need to be presented which more clearly articulate the real-world dynamic of how such ecosystem services fit into different contexts. For example, referenced at the global scale, the value of ecosystem services is articulated using trillion dollar figures. Another example was put forth by Michel Masozera on the cost of land degradation and associated flooding in Rwanda, which was referenced as US\$4-22M. While such values may have served a purpose in the early days of presenting the concept of ecosystem services, actual valuation of natural capital at the project scale is actually quite low.

### **Challenges & Trends**

It is clear there are challenges to achieving the full valuation of land and natural capital. It is also evident that such valuation is required to catalyse the appropriate retention, management, and restoration of ecosystem services. Recommended methods to move forward into practice are:

1. Document and evaluate existing projects which use payments for ecosystem services to protect, manage, and/or restore land, ecosystems and natural capital.
2. Identify strategic sustainable land management project opportunities which provide a very clear triple bottom line in terms of ecosystem services benefits, social gains, and economic profitability.
3. Develop new projects to demonstrate the effectiveness of incentives and market based mechanisms in attracting public and private investments to protect, manage, and/or restore the natural capital. One crucial aspect is convincing champions (investors or

businesses) to take early action in SLM investment. Building a portfolio of successful projects could be useful there; presenting an ES need for which industry payments were brokered, and SLM practices were successfully implemented in return. This will, in turn, help establishing best practices, mitigating investment risks and developing standard criteria for SLM compliance across all land use sectors. Measurement of ecological returns is a relatively long-term process, so ongoing monitoring of key indicators is required to demonstrate returns on investment.

4. Develop partnerships to facilitating bodies to draw in individuals and organisations that are able to collectively pool their skills and knowledge to identify, plan, and implement some large scale projects demonstrating best practice.
5. Ensure mechanisms are in place to measure the outcomes of works undertaken in a consistent and verifiable manner.
6. Be open to various models of delivery including a) community-based models, b) private industry-based models, c) government-based initiatives, and d) combinations of each.
7. Ensure all activities are well publicised and communicated; keep messages authentic, including elements of projects that did not work well or failed in delivery.
8. Research and Development (R&D) by collating, reviewing and applying current measurement techniques outlined in the scientific literature. The key word here is application, rigorously field test input, data variable selection and associated collection techniques to evaluate efficiency and effectiveness of selected metrics. Things that look good on paper do not always fit well with what one finds in the field.

#### **Potential orientations**

1. Institutions would greatly benefit from access to monitoring and accounting methodologies which can be used to measure the success of their efforts. Alternatively, the development, training, or certification of reputable third party measurement consulting businesses would be a stronger option for ensuring vigour and valid assessments.
2. Identify criticality and sustainability thresholds (for instance based on Flow Maps, see Ferdinando Villa, 2012) to arm those lobbying policy makers with clear information to develop regulation to protect those flows.
3. Explore more effective means to get research results and their implications to policy makers.
4. Select and support 'project champions' to demonstrate best SLM practice at various scales; 'map' and publicize the ongoing results of on-ground works and associated economic and ecological outcomes.
5. Work with scientific community to identify critical flow areas (Ferdinando Villa, 2012) where multiple services are delivered, and channel resources to ensure these areas are those which get the attention (as opposed to areas in which only one ecosystem service is present and easily measured). This is also called 'Flow Mapping' and can inform sustainable development.
6. Seek to increase the number of projects where academic inputs and outputs are more closely aligned with on-ground work, and less so on conceptual development of theory and publication (this will require new income streams to justify changes).
7. Need to explore more strongly the links between the biophysical and socio-economic fields of study.
8. Need to collate cost fees for third party monitoring and verification.

9. Identify opportunities to run on-ground SLM activities where private industry and community driven objectives meet.
10. Document and illustrate examples of trade-offs between business as usual land use projects and improved land use management (SLM) practices. Define beneficiaries and quantify values gained.
11. Continue to partner with the World Bank on their WAVES and SEEA programs and keep abreast of which countries are participating and what issues have arisen in a comparative context.

### **Way forward**

The workshop clearly highlighted the need for further partnerships between all participating stakeholders with a view to pursuing awareness raising of key players such as policy makers through land policy briefs and capacity building at national and sub-regional level on mainstreaming; CSOs and the private sector, through targeted events; and the academic sector through the development of tailor-made curricula and training material. Consideration of land tenure in productive sectors such as agriculture and energy (and related compensation/taxation schemes) will need to be further emphasized and linkages to existing FAO voluntary guidelines on the responsible governance of tenure as well as other initiatives presented at the workshop such as the WAVES NCA strengthened.

## ANNEX I – PROGRAMME

### DAY 1 – SETTING THE SCENE

|               |   |   |
|---------------|---|---|
| 09:00 –10:00  | Opening Remarks   | LPI<br>UNCCD<br>GM<br>MINIRENA                                  |
| 10:00 –11:00  | Concepts, principles and definitions<br>(3 presentations)   | J. Soussan (OSLO)<br>R. Costanza (ESP)*<br>F. Villa (ARIES)     |
| 11:00 – 11:30 | HEALTH BREAK  |   |
| 11:30 –12:15  | The values of natural capital<br>(3 presentations)  | H. Behrendt (WB)<br>L. Stringer (U. Leeds)<br>M. Masozera (WCS) |
| 12:15 – 13:00 | 1 <sup>st</sup> Panel of Experts (P1)   | P1Panelists   |
| 13:00 –14:00  | LUNCH   |   |
| 14:00 –16:15  | Examples from the Africa region<br>(5 presentations)  | Rwanda<br>Kenya<br>Tanzania<br>Uganda<br>Madagascar             |
| 16:15 –16:30  | HEALTH BREAK  |   |
| 16:30 –18:00  | Working Group Session 1 (WG1):<br>Country-level experience with land valuation;<br>natural capital accounting (NCA); opportunities/<br>challenges | 4 working groups  |

(\*) = video-link

## DAY 2 – ECONOMIC VALUATION APPROACHES

|                        |  |   |
|------------------------|--|---|
| 09:00 – 09:30          | Recap of Day 1   | J. Soussan (OSLO)<br>& WG1 rapporteurs  |
| 09:30 – 10:30          | The OSLO approach to the Economic Valuation of Land (EVL)<br><i>(3 presentations)</i>  | M. Schauer (ELD)<br>S. Noel (SEI)<br>J. Soussan (OSLO)  |
| 10:30 – 11:00          | HEALTH BREAK   |   |
| 11:00 – 12:00          | Synergistic and complementary approaches to the valuation of ecosystem services: models, methodologies and case studies<br><i>(4 presentations)</i>  | M. Christie (U. Aber)<br>E. Nkonya (IFPRI)<br>M. Tierney (WCMC)*<br>J. Forster (TEEB)   |
| 12:00 – 13:00          | 2 <sup>nd</sup> Panel of Experts (P2)  | P2 panelists  |
| 13:00 – 14:00          | LUNCH  |   |
| 14:00 – 17:30          | Working Group Session 2 (WG2):<br>Methodological approaches; specific technical issues linked to the socio-economic and environmental assessment of land and ecosystem services; practical valuation exercises | 4 working groups :<br><ul style="list-style-type: none"> <li>• EVL (OSLO / ELD)</li> <li>• Biodiversity (TEEB)</li> <li>• Valuation assessment (UNU)</li> <li>• Natural Capital Assessment (WAVES)</li> </ul> |
| HEALTH BREAK DURING WG |  |   |

(\*) = *video-link*



## DAY 3 – FROM THEORY TO PRACTICE

|                        |   |   |
|------------------------|---|---|
| 09:00 – 09:30          | Recap of Day 2 + Reports from WG2   | J. Soussan (OSLO)<br>& WG2 rapporteurs  |
| 09:30 – 11:00          | Valuation support tools (e.g. Multi-layer mapping tools, GIS, databases of SLM practices, Knowledge sharing platforms, quantification tools, etc.)<br>(4 presentations)   | F. Villa (ARIES)<br>P. Saner (UZH)<br>D. O'Hara (CABI)<br>J. Ervin (UNDP)*  |
| 11:00– 11:30           | HEALTH BREAK  |   |
| 11:30 – 12:30          | Decision support tools (approaches and instruments to mainstream land and ecosystem values into land-use policies, investments and related decisions)<br>(3 presentations)  | M. Hill (UNEP FI)<br>M. Schauer (ELD)<br>J. Forster (TEEB)  |
| 12:30 – 13:30          | LUNCH   |   |
| 13:30 – 14:30          | 3 <sup>rd</sup> Panel of Experts (P3): Q&A/discussion on the challenges in strengthening evidence-based policy making in Africa   | Panelists representing government, science, international donors  |
| 14:30 – 17:30          | Working Group Session 3 (WG3):<br>Enabling activities and other collaborative initiatives to be undertaken after the workshop (e.g. capacity building initiatives, communities of practice, public-private partnerships, development of norms, standards and metrics, etc.) | 4 working groups :<br>Practice in field valuation<br>Scientific challenges<br>Communication & Awareness-raising<br>Mainstreaming & Policy Development |
| HEALTH BREAK DURING WG |   |   |

(\*) = video-link

## DAY 4 – MAXIMIZING BENEFITS FROM LAND VALUATION

|               |   |   |
|---------------|---|---|
| 09:00 – 09:30 | Recap of Day 3 + Reports from WG3   | J. Soussan (OSLO)<br>& WG3 rapporteurs                    |
| 09:30 – 10:30 | Optimizing land management, minimizing negative externalities and generating public benefits at the macro-level based on the total economic valuation of land: guidance and lessons from experience<br><i>(2 presentations)</i> | E. Attafuah (UNDP)<br>E. Quillerou (UNU)                  |
| 10:30 – 11:00 | HEALTH BREAK  |   |
| 11:00 – 12:00 | Impact investments: generating social and environmental benefits while securing financial returns by valuing natural capital. Views and experience from the private sector<br><i>(3 presentations)</i>                          | S. Øystese (GM)<br>S. Quatrini (GM)<br>J. Jonson (TE Ltd) |
| 12:00 – 13:00 | 4 <sup>th</sup> Panel of Experts (P4)   | P4 panelists  |
| 13:00 – 14:00 | LUNCH   |   |
| 14:00 – 16:00 | Market Place session for networking, interaction and partnership building   | Stalls / Poster Sessions<br>All participants involved     |
| 16:00 – 16:30 | HEALTH BREAK  |   |
| 16:30 – 17:00 | Workshop evaluation and feedback from participants  | All participants involved                                 |
| 17:00 – 17:30 | Closing Remarks   | GM<br>LPI<br>MINIRENA                                     |

## ANNEX II – LIST OF PARTICIPANTS

|                  | COUNTRIES & INSTITUTIONS | Names                              | Address  |
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| <b>COUNTRIES</b> |                          |                                    |  |
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| 3.               | ERITREA                  | <b>Mr. Tseggai Teamrat Temelso</b> | Director, Office of the Minister<br>Ministry of Land, Water and Environment<br>P.O. Box 976<br>Asmara, Eritrea<br>Tel : +291-1-126112/ 124633/ 123284<br>Fax: +291-1-123185<br>Email : <a href="mailto:tseggaiteam@gmail.com">tseggaiteam@gmail.com</a>  |
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| 7.  | <b>MADAGASCAR</b>                   | <b>Ms. Andriamisandratsoa Nancy Rambao</b> | Chef du Service de la Modernisation Foncière<br>Vice-Prime Minister in Charge of Development and Urban Planning<br>(Direction Générale des Services Fonciers)<br>Anasy<br>Tel : 261 34 0552279/33 14 72801<br>Email : <a href="mailto:smf@vdat.gov.mg">smf@vdat.gov.mg</a> ,<br><a href="mailto:nancy.dds@gmail.com">nancy.dds@gmail.com</a> |
| 8.  | <b>RWANDA</b>                       | <b>Mr. Sagashya Didier</b>                 | Deputy Director General<br>RNRA<br>P.O. Box 433<br>Kigali, Rwanda<br>Tel: +250 788301811<br>E-mail : <a href="mailto:didier.sagashya@rnra.rw">didier.sagashya@rnra.rw</a>  |
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|            | <b>COUNTRIES &amp; INSTITUTIONS</b> | <b>Names</b>                  | <b>Address</b>   |
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|     | <b>COUNTRIES &amp; INSTITUTIONS</b> | <b>Names</b>                                   | <b>Address</b>  |
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| <b>37.</b> | <b>RWANDA</b>                       | <b>Mr. Evariste</b>             | Journalist   |



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| <b>50.</b> | <b>RWANDA</b>                       | <b>Mr. Sinabubariraga Ildephonse</b> | Journalist<br>98.7 KFM (Radio)<br>Kigali, Rwanda<br>Tel : +250 788352064<br>Email : ildephonse@gmail.com   |
| <b>51.</b> | <b>RWANDA</b>                       | <b>Ms. Kankwanzi Florence</b>        | Journalist<br>Radio Rwanda<br>Kigali, Rwanda<br>Tel : +250 788873758   |
| <b>52.</b> | <b>RWANDA</b>                       | <b>Ms. Léocadie Nyirankunzimana</b>  | New reporter<br>Voice of Africa Radio<br>Kigali City<br>Tel : +250 788971899<br>Email : <a href="mailto:leocados@gmail.com">leocados@gmail.com</a> |
| <b>53.</b> | <b>RWANDA</b>                       | <b>Ms. Mutuyimana Vanessa</b>        | Journalist<br>Business Daily<br>P.O.Box 4305<br>Kigali, Rwanda<br>Tel : +250 722982951   |

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| <b>59.</b> | <b>TANZANIA</b>                     | <b>Mr. Mukaja Chris</b>              | Estates Officer/Land Economy<br>Surveyor<br>Tanzania Revenue Authority  |

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