Adapting NRM in Africa: lessons learnt, ways forward and the 'sustainable land management programme'

Side Event on COP 17 UNFCCC, Durban Exhibition Centre (DEC), SA

Room Levubu River, Friday 02 december 2011, 16.45 pm – 18.15 pm

The side-event started with the presentation of the German funded research programme 'sustainable land management' and its African regional projects as an introduction and afterwards the talks discussed options for adapting NRM in Africa using different case studies (Kenya, South Africa, D. R. Congo) in adaptation and mitigation (agriculture, water, REDD+).

Speakers:

1. Prof. Dr. Ralf Seppelt (ralf.seppelt@ufz.de; Helmholtz Centre for Environmental Research UFZ; GER): **Research programme „Sustainable land management"**
2. Sabine Stuart-Hill, (Stuart-Hills@ukzn.ac.za; School of Bioresources Engineering and. Environmental Hydrology, UKZN, SA): **Water governance in South Africa - mainstreaming an adaptation agenda**?
3. Chinwe Ifejika Speranza (Ifejika.Speranza@die-gdi.de; German Development Institute (DIE) ,GER) : **Lessons from a resilient perspective on conservation agriculture adaptation practices in Kenya**
4. Marcus Kaplan (Marcus.Kaplan@die-gdi.de; German Development Institute (DIE) ,GER): **Opportunities and Constraints for Adaptation and Mitigation in African Agriculture**
5. Mari-Lise du Preez (mari-lise.dupreez@saiia.org.za; South African Institute of International Affairs, SA) : **REDD+ and governance in the Democratic Republic of Congo**
6. Romy Chevallier (Romy.Chevallier@wits.ac.za; South African Institute of International Affairs, SA): **The political barriers to climate change adaptation implementation in Sub-Saharan Africa**

Research programme „Sustainable land management“

Abstract:

Land use and land management puts considerable pressure on our planets' resources. There is almost no more land with sufficient fertility, which can be used for agricultural production without compromising other important ecosystem services (1) as we are harvesting up to 23% of the potential net primary production of our planet, more than any species before (2). Sustainable land management is thus supposed a key element for adaptation and mitigation of climate change, as land use and land use induced processes are the source of approx. 30% of the global greenhouse gas emissions. Secondly sustainable land management is a concept for developing solutions on a regional scale for which places-based approaches and case studies are appropriate (3).

To cope with these challenges, an interdisciplinary and integrative research programme on "Sustainable Land Management" (4) was established in 2010 which supports up to twelve regional projects, which investigate the relationship of land management strategies with respect to their impact on greenhouse gas emissions and ecosystem services. Funded by the German Ministry of Education and Research (BMBF) these projects investigate dependencies in hot spot regions of the world with place-based research studies, for instance in Madagascar and the Okavango Basin, aiming at the development of concrete and specific products and concepts for sustainable land management, which can be taken up by local stakeholders.

Additionally these projects are accompanied by a coordination and synthesis project which supports this by global consistent scenarios, outreach and stakeholder activities and provides concepts for synthesis and up-scaling of the results which will help getting transferable results (GLUES, 5). This approach is unique as synthesis and meta-analysis is assumed to be an important support for further integration of results and tools.

(1) Foley, J. A., et al. (2011) Solutions for a cultivated planet. *Nature*.
(2) Haberl, H., et al. (2007) Quantifying and mapping the human appropriation of net primary production in earth's terrestrial ecosystems. *PNAS*, **104**, 12942-7.
(3) Seppelt, R., et al. (2011) A quantitative review of ecosystem service studies: approaches, shortcomings and the road ahead. *JApplEco*, **48**, 630-636.
(4) URL: www.sustainable-landmanagement.net
(5) URL: http://modul-a.nachhaltiges-landmanagement.de/en/scientific-coordination-glues/

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Water Governance in South Africa – Mainstreaming an Adaptation Agenda?

Abstract:

The South African constitution enshrines the right to water for the wellbeing of its people. This is highly likely to be endangered by projected climate change. Additionally, the South African government has committed itself to a vast amount of different climate change strategies and policies. But, skills shortages, and inadequate regulatory and governance monitoring systems are serious challenges faced by water managers already.
Under this pressure the question is raised if South Africa's regulatory water frameworks and laws are supportive of adaptation to climate change and if there are ways of incorporating climatic and other uncertainties into decision taking processes. If adaptation to climate change in the water sector is to succeed water management must be flexible, challenge present decision-making and identify what needs to be adapted to.
Promising aspects are evident in that the water law and regulatory system offers sufficient flexibility and openness to cope with an adaptive and integrative management approach. But it is also fragile based on current problems of missing implementation and enforcement as well as political interests. Furthermore, a participatory and responsive approach is anchored in all laws, policies and strategies offering to understand and therefore, incorporate and focus on vulnerability issues that are arising from change.
However, water managers and water users act and live in a multiple stressor environment that partially hinder successful implementation of existing regulations; others are challenges new to water management / governance. Hence, the research adjusted the concept of windows of opportunity in order to enable innovative thinking, mainstreaming new knowledge and going beyond existing planning processes. Research activities show that South Africa seems capable of overcoming its challenges by leveraging outcomes from small scale innovative approaches.

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Lessons from a Resilient Perspective on Conservation Agriculture Adaptation Practices in Kenya

Abstract:

Responses to climate change in semi-arid areas such as conservation agriculture reduce weather and climate impacts on agricultural production and dependent livelihoods and increase their resilience. Positive impacts include increases in soil moisture and water availability, food production and food security, and incomes. However, some farmers in the larger Laikipia District-study area in Kenya worry about the likely impacts of herbicides and the unintended impacts of adopting conservation agriculture such as reduced job opportunities for the poorer farmers in the communities. As food production increased, the farmers neither had adequate access to markets nor post-processing facilities that would absorb their increased harvests, highlighting the limits of the rural economy. Increasing farmer incomes through sale of harvests was thus limited. Balancing improving individual resilience of farmers (system component) with improving the resilience of the rural economy (system) is thus crucial to reduce likely negative effects. Reaching the very poor farmers in the communities through conservation agriculture requires accompanying measures such as subsidizing the costs of inputs in the initial period of adoption. In addition, development actor constellation was crucial for the successes achieved in the study area - a private company producing seeds and herbicides provided the farmers information and insurance for drought related-seed loss, the public extension and research organisation involved, provided the farmers with advice on various conservation agriculture practices. This study thus highlights the importance of integrative approaches, in terms of actors involved and the inter-linkages between sectors, and between systems and their components. Hence, a national or subnational agriculture policy and strategic approach to conservation agriculture will likely yield more benefits than stand-alone projects and more studies are required to consolidate the above findings.

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Opportunities and Constraints for Mitigation and Adaptation in African Agriculture

Abstract:

Agriculture will increasingly be affected by the impacts of climate change, but it is also responsible for 10-15 % of the global greenhouse gas emissions. The largest increases in emissions from the agricultural sector are expected for Sub-Saharan Africa (SSA). In addition to adaptation and mitigation, agriculture must ensure food security, contribute to poverty reduction, strengthen the resilience of rural communities, and must not create negative impacts on the surrounding ecosystems. The IPCC identified several agricultural approaches that may contribute to reducing emissions. If adapted to local conditions properly, most of them may create synergies, but sometimes also trade-offs with the other functions of agriculture. Intensifying the use of synthetic fertilizers, e.g., increases harvests and thus contributes to adaptation, but at the same time it also results in higher emissions. As the availability of land in SSA is limited, and as agricultural expansion may have negative impacts on the environment and the climate system, production should be preferably increased through sustainable intensification.
So far, large-scale implementation of sustainable, multifunctional practices was constrained in SSA through decades of neglect of the agricultural sector, both nationally and internationally. Therefore, extension services are often poor or non-existing and access to important assets is lacking. Unclear land rights are another example from the long lists of constraints in SSA.
Improving access to various resources and strengthening institutions on all levels would support the implementation of a sustainable agriculture. Integrated approaches should be followed that not only focus on the mitigation component, but also emphasize further environmental and social benefits. Finally, the process of including agricultural mitigation under the UNFCCC may benefit from experiences made in the REDD process, and the two sectors should be linked, as agriculture is the most important driver of deforestation.

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Governance and REDD+ in the DRC

Abstract:

This presentation considered both the impact that governance issues can have on REDD+ and the potential impact of REDD+ on issues of governance in the DRC. It was based on a case study chapter written for the Chr. Michelsen Institute (CMI) in Norway.
Attaching a financial value to forests which were previously regarded as "worth less" will have a significant impact on the power relations in forest-rich countries. The DRC provides a good case in point. Despite its forest riches, the forestry sector contributes relatively little to the DRC's Gross Domestic Product (GDP). REDD+ could change this. The sheer size of REDD+ potential in the DRC has upped the profile of the forestry sector and with it also that of the responsible ministry.. This leads to both opportunities and challenges. On the one hand REDD+ may act as a catalyst in the process towards addressing much-needed national coordination between the forest and other sectors. Forestry could also be included as a priority sector in the country's second Strategic Document for Growth and Poverty Reduction (DSCRP). On the other hand, an increased profile for the Ministry of Environment, Nature Conservation and Tourism (MENCT) has an impact on power relations within the DRC government. In a context where ministries are known to compete for resources, an initiative the size of REDD+ could serve to intensify existing tensions or even create new ones.

REDD+ can also aggravate tensions between domestic elites and marginalised communities, many of which depend directly on the forests. Such tensions are exacerbated in countries with unclear or complicated land tenure arrangements. In the DRC, formal land tenure exist side-by-side with customary arrangements. As illustrated in other natural resource sectors (like mining or oil), tenure tensions tend to flare up as soon as land value increases. On a more positive note, field-level REDD+ pilot projects provide a long overdue learning opportunity.

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Political barriers to climate change adaptation implementation in Sub-Saharan Africa (SSA)

Abstract:

Although scientific evidence highlights the urgent need for adaptation action in SSA (the most vulnerable to the impacts of climate change), there are numerous delays in implementing adaptation policy. This paper offers some insight into the political factors that contribute towards this delay (among others): the incompatibility of short-term presidential timeframes and election manifestos and long-term timeframes needed to deal with climate impacts; an apparent lack of political leadership and will to drive the prioritisation of a pro-poor adaptation agenda and link it to existing development actions and policies. This is also against the backdrop of an outstanding global policy process and uncertainty about improved financial and technical resources for adaptation implementation , as well as capacity building to improve its resilience.

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