

SESSION REPORT | African Soil Seminar | Nairobi, 28-30 November 2016

SOIL RESTORATION FOR ACHIEVING THE 2063 + 2030 AGENDAS IN AFRICA: LINKING GLOBAL AMBITIONS TO LOCAL NEEDS

Title	Soil and landscape restoration for Water Security: Creating the enabling frameworks
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1 | DESCRIPTION

Since the mid-2000, with the unprecedented hikes of food and oils prices, the question as to whether the world will be able to feed itself in the coming decades agitates international development forums and has become, for many countries, an issue of priority for national security. The global food security challenge of the world has also elevated the strategic importance of water and land/soil resources; with the African continent perceived as the region where the most significant reserves of underexploited freshwater and agricultural land are located. The continent is hence at the centre of global competition for these two resources. However, current large scale production schemes in African countries require unsustainable levels of freshwater abstraction and expansion of the arable land frontier. At the same time, smallholder farmers, which make up more than 80 percent of African agricultural production, are often excluded or even severely threatened by those developments. Both lead to the enormous extent and increased pace of land degradation that the African continent is facing and to the paradox that Africa is today the most vulnerable continent to food insecurity and poverty.

In policy and wider development schemes, land/soil and water have been increasingly managed in isolation from one other. But, land use change has a direct effect on groundwater and surface water; increasing water productivity in agriculture cannot be delinked with measures addressing the productivity of the land; access to water rights is in many instances mediated by access to land; improving land tenure security is often an indispensable incentive to adoption of sustainable water management practices; etc.



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Against these backdrops, this session explored benefits and challenges associated with soil protection and restoration practices that integrate sustainable land and water management practices and discussed how governance and development schemes can provide for enabling conditions for a sustainable and socially just development. The following key questions were covered:

- How can soil restoration and protection help mitigate declining availability of freshwater and arable land?
- In soil restoration efforts, what is the value-added of an integrated approach to land and water management compared to business-as-usual?
- How can soil/land and water policies create conditions that enable just, inclusive and sustainable management of degraded resources?
- And lastly, how do national and international agreements (e.g. the 2063 and the 2030 Agendas) and development schemes — e.g. NEPAD’s TerrAfrica Programme (which promotes sustainable land management) or NEPAD’s AFR100 (African Forest Landscape Restoration Initiative) — consider this in their design and therefore create traction for processes that empower the least powerful?

2 | MAIN DISCUSSION POINTS

Matheus Zanella (IASS) opened the session mentioning the complementarity between the Global Soil Forum and the African Soil Seminar as platforms to push the issue of soil high on the agenda of international, continental, interregional and regional development agendas. He emphasized that soil and water as resources are highly intertwined and it is difficult to imagine one without the other.



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Following the introductory remark, **Kiros Hadgu** from ICRAF Ethiopia discussed in detail the vast experiences in watershed level land and soil rehabilitation interventions from the Tigray region in Ethiopia. He further elaborated on the **central role of local communities’ participation** all the way from project initiation and community sensitization to implementation and follow-up. He underlined the need to start from local innovations and knowledge in order to transform degraded landscapes into productive and resilient systems and hence shifting to an integrated and inclusive restoration approach while adding value to restored soils and landscapes. In addition, Kiros mentioned that the creation of an enabling environment for scaling-up of restoration practices needs to consider the different socio-cultural values, political and bio-physical contexts. The added value of following an integrated community based watershed management is in its capacity to improve water resources for soil fertility and scaling-up of these interventions require systematic synchronization of the different initiatives and clear and coordinated communication among farmers and other key stakeholders.

Discussing **affordable technologies** for soil and water conservation in rain-fed agriculture systems in West African savannah regions, **Paul Kleene**, Groupe de Recherche et D'Action sur le Foncier (GRAF), highlighted SLM practices such as planting soil fertilizing and forage producing trees, recycling biomass, using compost and manure, and early tillage to prevent soil loss.

Dougbedji Fatondji, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Niger, presented on the **economic and nutritional empowerment of women** through regeneration of abandoned and degraded landscapes in the Sahel. He said Moringa trees have been successfully planted in zai holes filled with manure (a drylands farming technique), coupled with water harvesting in micro catchments. The rows of Moringa also provided opportunities for inter-planting high-value annuals such as okra and rozella. The role of Moringa is key in conserving the soil and as a source of food to households in their project site.

Moustapha Lo, Senegal River Water Development Office, said that since its introduction in the 1990s, the Senegalese Land Use and Allocation Plan (POAS) has contributed to an efficient and effective rural land and water use management in the Senegal River catchment. He also described the use of the Système d'Informations Foncières, a tool that analyses geospatial, land-use and other data to map out soil types and associated land use, including livestock, agriculture and fisheries. Their approach is sensitive to various resource users and livelihoods and thus effective in **resolving potential conflicts**.

Augustine Mhike, Ministry of Agriculture, Zimbabwe, presented a case study of the Silalabuhwa irrigation scheme, drawing **attention to increased capacity among farmers in carrying out soil tests**, water and solute measurements and improved crop production techniques.

During discussions, participants highlighted further solutions, lessons and opportunities for upscaling successes. The contributions noted the intrinsic connection between soil and land restoration and water management and highlighted different ways in which soil restoration can mitigate declining water and arable land. Examples discussed included reclamation of land affected by gully erosion, the use of slope barriers or gabions to allow infiltration and recharge ground water, and the promotion of community sensitization and capacity building in water catchment areas.



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On land and water policies that create the conditions for just, inclusive and sustainable management of degraded resources, it was noted that the Ethiopian case study has successfully implemented a community based participatory watershed management approach. This approach saw the commitment of villagers in introducing various Sustainable Land Management (SLM) measures and indicated their acceptance and ownership of the project.

RELEVANCE IN LIGHT OF THE 2030 AND 2063 DEVELOPMENT AGENDAS:

The experiences discussed at the session provide compelling evidence that **soil restoration and conservation approaches combined with improved water management techniques and practices contribute to furthering the 2030 Agenda for Sustainable Development and the African Union's 2063 agenda** – The World We Want for Africa.

The practices of exclosures (Hadgu on Ethiopia), agroforestry and bio-reclamation of degraded land (Fantondji on Niger) allow for regeneration and re-greening and help restore the productivity of lost and often abandoned farmland. This contributes to target 15.3 of the 2030 Agenda (restoration of degraded land and soil). Water management techniques being promoted by African farmers help improve soil fertility while strengthening the resilience of agriculture systems in the context of climate change, particularly growing rainfall variability and water deficits. Practices and techniques discussed at the session include groundwater recharge (Hadgu on Ethiopia), water harvesting systems (Fantondji), weired dams (Kleene for the Sahel region in general), and other small-scale traditional techniques for improving water retention capacity of the soil. These practices contribute to Aspiration 1 (section 10 – increasing agricultural production and productivity) of the Africa Union 2063 Agenda and to Goal 2 (doubling of agricultural production while implementing resilient agricultural systems) as well as Goal 6 (target 5: implementing integrated water management at all levels).

The importance of community mobilization and agency for ensuring responsible management and stewardship of soil and water resources at local level was underscored. This is illustrated in the case of community-based soil restoration in Ethiopia (Hadgu), in canal rehabilitation and water saving practices in Zimbabwe (Mhike), and in prevention of land- and water-related conflicts in Senegal (Lo).



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The presentations also stressed the key role of land tenure security and equitable access to land as incentive for long-term investments in the conservation of soil and water resources and in the restoration of degraded land. In Niger (Fatondji) it is shown how the rehabilitation of degraded soil through bio-reclamation could be an opportunity for providing secure land tenure rights to women in situations where they are typically excluded from land ownership rights. Similarly, women are at the forefront and benefit from community mobilization to restore degraded land in the Tigray region of Ethiopia (Hadgu). These approaches contribute to Goal 5 of the 2030 agenda (Achieving gender equality and empowerment of women and girls) and to AU's Agenda, especially to Aspiration 6 (section 50 – empowerment of African and ensuring rural women have access to productive assets).



3 | KEY MESSAGES

The following major points resonated during the discussion session and the presenters reflected back on them:

- The watershed approach is the most suitable to address the land degradation issue in a sustainable manner. Its added value lies in its capacity to improve water resources for soil fertility management.
- Land tenure and land security is necessary for investment on land and SLM. This could also reinforce watershed approach implementation.
- International water and land policies and agreement have to be disseminated widely at the scale of individual countries to effectively address SLM challenges. This requires the involvement and engagement of all stakeholders.

By way of conclusion:

- All in all, the exchange was rich and allowed to share countries' experiences given different environmental, social, economic and political conditions.
- General call was to respect key principles for an inclusive approach and the suitability of investments in land.
- Each case is a specific case. Thus, developed key principles have to be adapted when designing and implementing approaches.
- Soil restoration approaches combined with improved water management can be effective in furthering the poverty alleviation, food security, sustainable resource use and gender equity objectives of both the 2030 Global Agenda for Sustainable Development and the Africa Union 2063 Agenda – the World We Want for Africa.

Further Information: [IISD Highlights](#) [Global Soil Week](#)