



**Ministry for Foreign Affairs**

*Department for Multilateral Development Cooperation  
Section for Global Environment and Climate Change  
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**Annex II to National Report to the UNCCD: Swedish Research on DLDD**

The Ministry for Foreign Affairs presents as an annex to the 2012-2013 National Report to the UNCCD additional information on research activities financed by Sweden on Desertification, Land Degradation and Drought (DLDD).

**Stockholm Environment Institute (SEI)** research fellow Stacey Noel together with the Economics of Land Degradation Initiative (ELD) published a report in 2013 which shows that actions to prevent and reverse land degradation can be financially rewarding, bring environmental benefits and contribute to poverty eradication. The report argues that land's economic value is chronically undervalued, and that a focus on short-term gain motivates the highest extraction rates possible from land, leading to unsustainable land management and degradation. Yet the adoption of sustainable land management, the authors argue, could deliver up to USD 1.4 trillion in increased crop production, among other benefits. The authors also argue that the costs of taking action to prevent and/or reverse land degradation are usually less than the benefits that can be obtained for investing in and applying sustainable land management practices, and they offer case studies to support this argument.

Economic instruments to reverse land degradation trends include: payments for ecosystem services, subsidies, taxes, voluntary payments for environmental conservation, and access to micro-finance and credit. In addition, facilitating change requires adaptations to legal, social, and policy-focused contexts that favour sustainable land management.

The name of the publication is *The rewards of investing in sustainable land management* and the publication is available through the link on

this page: [http://www.eld-initiative.org/index.php?id=51&tx\\_ttnews\[tt\\_news\]=54&cHash=8b573b7d1cd770cc05d555a314013278](http://www.eld-initiative.org/index.php?id=51&tx_ttnews[tt_news]=54&cHash=8b573b7d1cd770cc05d555a314013278)

**Stockholm Resilience Centre (SRC)** works with UNCCD related research in at least three ways. Investments in small-scale rainfall supplied agriculture in semi-arid areas as a way to meet multiple objectives (increase the productivity of smallholder agriculture to reduce hunger, meet population growth and ensure poverty reduction, while agriculture is more sustainable and turn the trend of desertification). Projects in this area include “Smallholder System Innovations in Watersheds (SSI)” with cases in both Tanzania and South Africa. SRC has also directed a project regarding water harvesting (WhATER) in Tanzania and Burkina Faso. An ongoing project in Ethiopia called “Triple green” involves the understanding of how to integrate water resource management in agriculture.

Submitted to peer-review journals:

Sinare, H., Gordon, L.J., Enfors, E.I. Multifunctionality of Sudano-Sahelian village landscapes. *Landscape Ecology*, submitted.

Murzabekov, O., Gordon, L.J., Börjesson, L. Enfors, E.I., Mahamane, A., Tougani, A. De-coupling or re-coupling of people and land? Exploring interactions between re-greening and livelihood diversification in the Sahel, *Ecology and Society*, in revisions.

Land use change effects on rainfall in drylands:

Keys, P. W., R. J. van der Ent, L. J. Gordon, H. Hoff, R. Nikoli, and H. G. G. Savenije (2012), Analyzing precipitation sheds to understand the vulnerability of rainfall dependent regions, *Biogeosciences*, 9, 733–746, doi:10.5194/bg-9-733-2012

The following articles are related to Whater (whater.eu), where SRC is responsible for WP4 and WP8: ‘opportunities and impacts in transformations of degraded a/o vulnerable dry land areas, with specific focus on SSA’:

Bouma, J., Critchley, W., Barron, J. 2012. A review of the recent literature on water harvesting in Sub-Saharan Africa (Chapter 3). In: Critchley, W. & Gowing, J. (Eds) *Water Harvesting in Sub-Saharan Africa*. Routledge, London

Kaboré/Sawadogo S., Ouattara K., Balima M., Ouedraogo I, Traoré S., Savadogo M and Gowing J., 2013: Burkina Faso: a cradle of farm-scale technologies. In: Critchley, W. & Gowing, J. (Eds) *Water Harvesting in Sub-Saharan Africa*. Routledge, London pp 51-69. ISBN: 1136273050, 9781136273056

Karpozoglou, T., Barron, J. (resubmitted after review june 2014 ) Pathways for sustainable transformation in Sub-Saharan Africa using water-harvesting technologies: A global and regional perspective (*Phys Chem Earth J* )

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Ouedraogo, I, Barron, J., Tumbo, S., Kahimba, F. (submitted) Detecting systematic and random land cover transitions in the semi-arid agro-ecological landscape of northern Tanzania. (due for Ag. Wat. Man.)

Issa Ouedraogo, Jurgen Runge, Joachim Eisenberg, Jennie Barron, Seraphine Sawadogo/Kaboré: (re submitted after review June 2014) The Re-Greening of the Sahel: Natural Cyclicity or Human-Induced Change? LAND  
doi:10.3390/land30x000x

Under watershed developments in dryland India, for sustained livelihood, poverty alleviation and environmental enhancement with ICRISAT:

Karlberg, L., Garg, K., Barron, J., Wani, S., : Agricultural water interventions and livelihoods: watershed development programmes in the Kothapally watershed, India (submitted Agricultural Systems, June 2014)

Garg, K.K., Wani, S., Barron, J., Karlberg, L., Rockstrom, J. 2012. Upscaling potential impacts on water flow from agricultural water interventions: opportunities and trade-offs in the Osman Sagan catchment, Musi basin, India. (Accepted Hydrological Processes online June 2012)

Garg, K.K., Karlberg, L., Barron, J., Wani, S., Rockstrom, J. 2011. Assessing impacts of agricultural water interventions in the Kothapally watershed, Southern India. Hydrological Processes, Available online 4 May 2011

In addition, Sweden participates in the EU project **RECARE** to prevent degradation and although Sweden is not an affected party the **Swedish University of Agricultural Sciences (SLU)** conduct soil related research projects in the Nordic countries.

Please see <http://www.recare-project.eu/> and <http://www.slu.se/Global/externwebben/nl-fak/mark-och-miljo/jbhy/dokument/Int%20peat%20journal%202%202009.pdf>