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Chapter 7 - Outcomes and conclusions

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THE ECONOMICS OF
LAND DEGRADATION

The Value of Land



**Prosperous lands and positive rewards
through sustainable land management**



www.eld-initiative.org

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Outcomes and conclusions

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Introduction

This report has explored the ELD Initiative’s approach to establishing economic valuation and cost-benefit analyses that can help identify economically desirable options, with examples and applications at the global, regional, national, and local scales. This includes outlining how to apply and understand these methods, which are further supported by the ELD User Guide (2015)¹, and ELD Practitioner Guides (2014, 2015)^{2,3}. Contributing experts have researched and analysed a variety of case studies and examples across scales, and it has been consistently shown that investing in sustainable land management can be economically rewarding with benefits outweighing costs several-fold in most cases. Approaches to sustainable land management must take into consideration the biophysical, cultural, economic, financial, legal, political, social, and technical conditions of each targeted area and scale, and analyses should consist of different, practical scenarios. This is so that land users can select and ensure the success of chosen sustainable management options. It additionally must include – though it often does by proxy – consideration of marginal populations and the rural poor, local and indigenous traditions, knowledge, land rights, gender, diverse livelihoods, and income equality, amongst other factors.

With desertification, land degradation, and urbanisation encroaching on fertile lands globally, now is the time to mobilise our collective resources – intellectual, physical, human, and financial. We must efficiently and effectively harness what ecosystems can provide in an economically and environmentally sustainable way. Beyond protecting existing fertile lands from degradation and adapting or changing land use where necessary to be more sustainable, over two billion hectares of land across the Earth are currently suitable for rehabilitation⁴. A multitude of international initiatives are being established with the objective of better food, water and energy security, including Germany’s

'One World, No Hunger' initiative or the Building Resilience through Innovation, Communication, and Knowledge Services project hosted by Comité permanent Inter-Etats de Lutte (CILSS), other initiatives related to sustainable development under climate change, etc. The ELD Initiative has compiled findings and recommendations from available literature, recent case studies and key ELD partners to guide the way to achieving the goals of improved food, water, and energy security. As we are in the middle of the United Nations Decade for Deserts and the *Fight Against Desertification*, guided by the target of land degradation neutrality, the time is ripe for action. To further cement this goal, the ELD Initiative presents the following findings and recommendations:

Summary of Findings

- Reduced productivity and increased demand for land threatens the security of the global food-water-energy nexus, human and environmental wellbeing, and particularly endangers the rural poor;
- Globally, annual ecosystem service value losses of USD 6.3 to 10.6 trillion occur, representing 10–17 per cent of the world's GDP and highlighting the importance of combating land degradation;
- Sustainable land management approaches and techniques can slow down or pause land degradation processes, and can restore foregone productivity and provide economic benefits and higher return on investments;
- Scenarios based on different development pathway options indicate that the adoption of SLM-enabling environments can provide an additional USD 75.6 trillion annually;
- Understanding the benefits from SLM helps decision-makers to make informed decisions on resource management and contribute to the maintenance of human-wellbeing;
- Sustainably managed land can help to maintain biodiversity, alleviate poverty, and foster economic prosperity, contributing to the SDGs in a number of ways;
- By adapting to SLM techniques for current and novel conditions under climate change, the 'carbon sink' function of land can be increased and help mitigate climate change;
- The ELD Initiative addresses the knowledge gap on the benefits of SLM by providing adequate tools, which guide the assessment of potential action pathways and activities:
 - The *impact pathway framework* provides understanding of different investment opportunities and options, which could be pursued by policy-/decision-makers
 - The *capital asset framework* focuses on human-wellbeing and highlights how humans and the environment are interconnected
 - The *ecosystem service framework* provides classification of the benefits, which are obtained from a specific landscape and helps to assess the full value of such landscape in the *total economic value (TEV) framework*
 - A *decision-making framework* with net economic benefits based on the TEV structures assessment of the most beneficial pathway;
- The ELD 6+1 Step approach functions as a frame for these tools and integrates them into a structured and applicable methodology. It provides a harmonised and internationally recognised method to identify the benefits from SLM;
- The integration of scaled perspectives is crucial for success of envisioned projects. Available data, appreciation, and prioritisation of natural resources and contextual factors can vary across national boundaries and thus must be addressed according to scale and context;
- Alliances between policy-/decision-makers and researchers provide essential feedback mechanisms and should be sought to ensure relevance and applicability of the economic assessment;
- Capacity building is key in creating the necessary understanding amongst stakeholders to disseminate key findings, stimulate discussions and feedback on assessment results,

ensure monitoring and evaluation of land use changes, and identify gaps in policies and the SLM framing environment;

- Multi-stakeholder consultations on regional, national, and sub-national scales also facilitate the identification of entry points for transition towards SLM, and integration of results into ongoing and relevant policy processes, such as contributing to development plans or action plans contributing to international conventions, such as the UNCCD;
- An enabling environment created through supporting biophysical, cultural, economic, environmental, financial, political, social, and technical conditions must be in place to successfully motivate the uptake of SLM;
- In order to enable action by land users, a wide range of incentive mechanisms has been identified by the ELD Initiative and are available for policy makers depending on contextual factors. These can be divided into:
 - Public payment schemes involving financial incentives paid to or by the government to promote the uptake of SLM technologies
 - Open trading under regulatory caps or floors to create markets by reducing and subsequently marketing degradation of ecosystems or rehabilitation credits
 - Self-organised private deals can be established between individuals or companies and help to balance costs and benefits from land degradation and SLM
 - Eco-labeling of products and services providing a strong incentive to the private sector to re-design its land management or investment endeavours;
- The design of appropriate incentive systems depends on the context, and is of high importance where SLM is not perceived as a viable approach without external support. The appropriate selection of incentive mechanisms to support SLM uptake can be informed, e.g., by a tool developed by the GM & CATIE (2012), which includes:
 - Quantitative scorecards, highlighting the impact of incentives on pre-defined success factors
 - Qualitative assessments indicating which mechanisms help to achieve previously set goals
 - Cost-benefit analyses;
- Several success factors have been identified, which need to be considered and taken into account when reshaping the enabling environment:
 - Mobilisation of necessary funding for investments. This can be raised in cooperation with multi- or bilateral donors, but also by accessing collective funds. Integrated funding strategies help to mainstream the different resources
 - Securing a stable macro-economic environment that allows long-term planning and investment by private financiers
 - Future-proof SLM technologies by taking into account future developments such as climate change. This can also include a mix of SLM technologies, which are socially and biophysically applicable
 - Integration of ecosystem services into decision-making, and reflection of the value of land in legal systems and design of property rights
 - Secure policies that address the uptake of SLM by benefiting providers of ecosystem services while respecting good governance principles
 - Ensure that selected SLM technologies, which are incentivised comply with the cultural and social setting;
- Barriers which hinder the adoption of SLM technology need to be identified, discussed, and addressed. Participation of different stakeholder groups ensures that all perspectives are integrated accordingly and avoids future obstacles to more sustainable pathways.

Recommendations

Economic considerations:

- Sustainable land management can be facilitated through a range of instruments, from state land ownership and regulatory mechanisms to more

incentive-based approaches, including financial instruments (e.g., subsidy reform, or tax breaks) and the development and enhancement of new markets for different ecosystem services (e.g. payments for ecosystem services, carbon credit commercialisation, etc.). Identification and elimination of perverse incentives (e.g., encouraging overharvesting) is a necessary step, especially when commercial markets are created;

- Economic instruments should maximise social value, human well-being as well as economic value, i.e., create shared values⁵ that do not compromise an equitable distribution of benefits, and;
 - Economic measures should create incentives for land users to invest in land resources (e.g., by preventing the provision of certain services at the expense of others).
- **Policy and institutional considerations:**
- Greater efforts are required to capture the benefits and costs associated with ecosystem services. Policies that fail to take a holistic approach to valuing ecosystem services will require amendments to ensure that land degradation is comprehensively addressed and thereby avoid seen and unforeseen social and economic costs;
 - Combined socio-economic, cultural and environmental assessments are key in policy development that aims for sustainable livelihoods with limited environmental impacts;
 - Political leaders need to demonstrate increased willingness to act on the evidence-base for sustainable intensification of land use, in particular to fairer policies with respect to land ownership and access;
 - Land degradation issues need to be mainstreamed into development frameworks, plans, and strategies need to take into account cultural implications that impact livelihoods;
 - By enhancing harmonised national capacity and inter-sector institutional building, increased coordination and implementation of existing policies can be achieved, as well as the mainstreaming of land issues across sectors, policies, and disciplines towards sustainable and inclusive economic growth.

This should be particularly encouraged in developing countries to support land policy and planning, as sustainable land management is key in poverty alleviation and job creation;

- Policy recommendations should target all sectors involved in land use and management, drawing on the strengths of each in advancing sustainable land management, and;
 - Subnational and local level institutions should be reinforced, so that payments for ecosystem services and other economic instruments can be enacted.
- **Private sector:**
- The private sector needs to become actively involved in sustainable land management, especially those who desire to invest in land and its people, as well as land managers;
 - For private sector involvement to be achieved, evidence of the returns on investments of sustainable land management practices must be generated, and;
 - The private sector has a key role to play in the scaling up of successful interventions but requires appropriate incentives to share the costs of remedial or preventative practices that are often beyond the reach of small holder land users.
- **Communication:**
- Communications on land degradation must be tailored to meet different stakeholder needs, involve two-way dialogues at country and local levels, and be made available, accessible, and visible to all in a timely way, and;
 - ELD networks can feed into existing networks such as National Coordinating Bodies in support of the implementation of National Action Plans (NAPs), and should be extended to the local (village) level, allowing the provision of additional input and feedback to national platforms.
- **Scaling up (and out), and best practices:**
- There is a need to go beyond fragmented, one-off projects. A systematic approach

should be established to scale up (and out) successful innovations for transdisciplinary approaches that enable an understanding of how land and land use can be better planned and managed from different scale and stakeholder perspectives;

- Partnerships should be fostered between government, civil society, private sector, international, and regional actors, in order to build multi-stakeholder teams that allow resource, learning, governance and knowledge gaps to be addressed, enabling SLM;
- The up-scaling process has to be linked to national priorities and budgets in order to be effective;
- ELD champions at different scales should be identified and encouraged to raise public awareness of the issues;
- Key barriers to up-scaling (e.g., lack of financial resources, knowledge, institutional capacity, and adequate national policy, economic, legislative and regulatory frameworks) must be removed, and;
- Projects that have been successful in addressing SLM using participatory methodologies, even if small in scale, should be used as models for up-scaling where appropriate.

■ Taking action:

- Assessments can be performed with limited data availability (methods like multi-criteria decision analysis can be used effectively when data is limited), and taking action now is more critical than ever. Time should not be lost debating semantics or refining assessment methods, as uncertainty is inevitable but not an excuse for not taking action;
- The ELD User Guide¹ and approach (step-by-step economic valuation and decision support tools) should be adapted for implementation by national and sub-national stakeholders, and existing studies should be put in place;
- Local participation must be ensured through review and integration of the different approaches and decisions by local actors;

- There is a need for more detailed information on how action can be implemented (pathways and toolkits for decision-makers);
- Landscape-scale computer simulation models can help create and evaluate scenarios for ecosystem restoration compared to business as usual, and should be used to engage the larger public in thinking about the kind of future they really want, and;
- With the adoption of the SDGs countries will have the incentives to build capacity for holistic assessments of land use change options based on a thorough economic analyses of the costs and benefits using the methodology and approaches that the ELD has provided.

Next Steps for the ELD Initiative:

The work of the ELD Initiative is intending to continue beyond the initial time frame of 2015 to a next phase which will see the fostering and reaping of further benefits from the network of experts, practitioners, and decision-makers that has been established. It will retain its mission statement and vision as noted in the beginning of this report.

The ELD Initiative will take a stronger role in facilitating improved decision-making, as the scientific results of the Initiative's research activities will be transformed into decision-support tools.

The ELD Initiative has become institutionalised and has established a positive global reputation, with a presence in many different countries and institutions (e.g., the new portfolio of collaborative research programs of the CGIAR). As the Initiative has evolved, there has been an increase in requests for training and further studies. Based on these requests but also the need for action on the ground, the ELD Initiative will reduce their focus on pure research and fill the gap of action-oriented research, with a clear focus on national and regional issues, linked to national and regional decision-making processes. This will include co-funding of case studies, the establishment of additional funding partnerships with organisations capable of research support, the extension and integration and exchange with relevant partner networks, and the development of

TABLE 7.1

Areas of action for the ELD Initiative, post-2015

Capacity building (development of training materials)	<ul style="list-style-type: none"> ■ Virtual e-learning ■ Further facilitation to develop user-based assessments ■ University courses ■ Training for economic assessments targeting national level decision-makers (e.g., Soil Leadership Academy (see <i>Appendix 1</i>) and training for land degradation neutrality)
Regional work	<ul style="list-style-type: none"> ■ Extension of the ELD regional hubs and networks (see <i>Appendix 1</i>) ■ Expert databases and using ELD as a knowledge hub (methods and data case studies, background information, experts) ■ ELD in Africa (presentation at regional meetings, collaboration, etc.)
Science-policy dialogues	<ul style="list-style-type: none"> ■ Scientific support to assessments and case study implementation (Tunisia) ■ Stakeholder consultations and engagement for the establishment of policy-relevant tools
Private sector	<ul style="list-style-type: none"> ■ Extension of collaboration groups in knowledge portals ■ Increased focus on smallholder and gatekeeper organisations (World Business Council for Sustainable Development (WBCSD), World Resources Institute (WRI)) ■ Link to existing organisations (i.e., Commonland, Natural Capital Foundation) ■ Contribute to implementation of the tools (e.g., ELD Land Materiality Risk Assessment tool, to be released late 2015) ■ Link to the insurance sector (e.g., micro-insurance as a tool for smallholders in linking to the private sector), with research (e.g., AXA foundation, coop partners, etc.)
Other	<ul style="list-style-type: none"> ■ Link to special initiatives (e.g., SEWOH of BMZ), and research in the soil/land context ■ Link to climate change (e.g., Climate Smart Agriculture, REDD+, etc.) ■ Link to the Collaborative Research Programs of the CGIAR

an automatised tool kit. This list of non-exhaustive efforts will follow the 6+1 step approach supported by the ELD Initiative and focused on:

- Awareness-raising and introductions to the ELD Initiative
- Brief scientific study on the gaps and options, linked with training of local experts so these research methods can be duplicated (capacity-building)
- Presentation of results and options for sustainable land management scenarios to policy-/decision-makers

Table 7.1 outlines specific areas for action post-2015 for the ELD Initiative.

Final Conclusion

As we shift into uncertainty over future climates and other major global stresses on water and land, it is critical that we take informed action to protect and preserve our natural resources in a

sustainable manner for ourselves, for others, and for generations to come. As part of global efforts to address these issues, a wide range of experts and practitioners, through this report, have established:

- A review and database of the economics of land degradation and desertification, and the need for, and benefits of economic approaches to sustainable land management as one of the solutions;
- A guideline for the ELD approach to holistic cost benefit analyses through total economic valuations (with the provision of other methods and approaches where there are temporal, spatial, logistical, or financial constraints), that can function at any scale;
- A global approach to the ecosystem services that land and land based ecosystems provide, the types of trends functioning at this scale, and the possible models which can make projections based on different scenarios;

- a regional perspective on the benefits of sustainable land management, emphasising the need for larger databases to understand the net present value of action versus the costs of inaction at this scale;
- National and local stakeholders engagement processes to provide scientific inputs to the development of appropriate national action plans, determination of appropriate pathways to action, and integration of local knowledge while building up local capacity for resilience in sustainable land management, as well as capacity for policy-and decision-makers to make informed and beneficial decisions;
- A review of conditions for success, and;
- An understanding of the broader networks, collaborations, and partnerships that are both available and possible to work in harmonised efforts for a land degradation neutral world that uplifts the people to achieve security, livelihoods, self-sustenance, and equality.

The Constitution of the Iroquois First Nations people of what is now North America contains a powerful belief that it is our responsibility to look ahead and consider the impacts of our actions on those seven generations ahead of us, *"In every deliberation, we must consider the impact on the seventh generation... even if it requires having skin as thick as the bark of a pine."* Even beyond that, the ethics of stewardship create a responsibility for us to care for the welfare of all environments on earth and the interconnected web that keeps everything balanced.

It is our expectation that the economic tools, methods, and guides presented here and in all other endeavours of the ELD Initiative act as both a catalyst for and driver of sustainable land management through an understanding of the economic rewards of investing in such, for a land degradation neutral world for ourselves, and for generations to come. May the holistic understanding and experiential knowledge of land management like that of the Iroquois drive efforts to restore balance to a world that includes careful, relevant consideration for the well-being, livelihoods, security, and health of all global citizens, man, woman, child, and nations alike.

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