



THE ECONOMICS OF
LAND DEGRADATION

ELD CAMPUS
Module:
The ELD Initiative



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Abbreviations

BMZ	German Federal Ministry for Economic Cooperation and Development
ELD	Economics of Land Degradation
EU	European Union
GIZ	German International Cooperation
ICRAF	World Agroforestry Centre
IPBES	Intergovernmental Scientific and Political Platform for Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
LDN	Land Degradation Neutrality
MOOC	Massive Open Online Course
SDG	Sustainable Development Goal
SLM	Sustainable land management
SPI	Science-policy interface
TEEB	The Economics of Ecosystems and Biodiversity
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

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Background and objectives of the ELD Initiative

Land and water are facing increasing pressure from global trends like population growth, changes in lifestyles and consumption patterns, as well as competition between food and biofuel production. Climate change will compound these pressures, especially increasing the vulnerabilities of the rural population, where land degradation is already a serious concern.

By 2030, half of the world will be living in areas of high water stress, and as much as 2 billion ha of agricultural land have been degraded according to the Global Assessment of Soil Degradation (Gibbs and Salmon 2014). Yet, there is need to double food production by 2050 (FAO 2009).

Considering the on-going and increasing degradation of land and land-based ecosystems and the loss of productivity, there is obviously a pressing need to re-design current policies and clearly define guidance for future action for sustainable land management (SLM). Based on the work of scientists, practitioners, and experts, **the ELD Initiative provided a global assessment of the economics of land degradation, which showed that**



investment in SLM is not only economically rewarding, but also crucial for the well-being of current and future generations. To foster the integration of the economic value of the ecosystem services provided by land for human society into decision-making, the ELD Initiative developed a set of approaches that policy- and decision-makers can profitably build on.

The ELD Initiative is a global initiative, which was initiated in 2012 by the UN Convention to Combat Desertification (UNCCD), the German Federal Ministry for Economic Cooperation and Development (BMZ) and the European Union (EU). The Secretariat of the ELD Initiative is hosted by the German International Cooperation (GIZ) in Bonn, Germany, close to the UNCCD headquarters and BMZ.

You can find all information on the ELD Initiative on its website: [ELD Initiative](#)



The ELD network of partners share a joint **vision**, which is

- to transform the global understanding of the economic value of productive land based on both market and non-market values,
- to improve stakeholder awareness of socio-economic arguments for sustainable land management (SLM),
- to prevent the loss of natural capital, preserve ecosystem services, combat climate change, and address food, energy and water security.

ELD's core partners and contributors

Core partners of the ELD Initiative are think tanks, research institutions, NGOs, and organisations working in the field of international cooperation, for example:

- European Union (EU)
- UN Convention to Combat Desertification (UNCCD) and the Global Mechanism (GM)
- The United Nations Development Programme (UNDP)
- The United Nations Environment Programme (UNEP)
- International Union for the Conservation of Nature (IUCN)
- World Agroforestry (ICRAF)
- International Center for Agricultural Research in the Dry Areas (ICARDA)
- Stockholm Environment Institutes (SEI)
- Korea Forest Service
- University of Leeds, UK
- Australian National University (ANU)
- University of Bretagne, France (UBO)
- University of Mekelle, Ethiopia

Since its inception until today, the ELD Initiative has set up and coordinated the efforts of three working groups of international experts in the areas of data and methodology, economic valuation and scenarios, options and pathways to action. These working groups produce robust scientific outputs, feed the produced information into decision-making processes and support capacity building on ELD, where it has been identified as a priority.



ELD's contribution to the Sustainable Development Goals (SDGs)



The SDGs are a set of intergovernmental global goals that aim to focus progress and action towards the world's most pressing concerns, and they build on the Millennium Development Goals. The SDGs were finalised at the United Nations General Assembly in September 2015. The need to “promote an economically, socially, and environmentally sustainable future for our planet and for present and future generations” was translated into 17 SDGs. They include seminal targets for addressing poverty, hunger, equality (gender, income, opportunities, education, etc.), climate change, sustainable resource use, etc. All 17 SDGs can be viewed here: <https://www.unenvironment.org/explore-topics/sustainable-development-goals/about-sustainable-development-goals>.

Land Degradation Neutrality (LDN) has been introduced as new guiding concept for SDG 15. LDN was defined by the parties of the UNCCD convention as

“A state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems.”

More information on LDN is provided in the module on land degradation versus sustainable land management.

The objective of sustainable land use includes the need to protect the key ecosystem services that land and land-based ecosystems provide to people: the production of food, feed, fibre, and fuel, carbon sequestration, nutrient cycling, water regulation, etc. The UNCCD has called for the goal of achieving land degradation neutrality by 2030 indicating that it is critical to achieve other international commitments to climate change adaptation and mitigation, conservation of biodiversity and forests, alleviating rural



Through its ongoing efforts to secure sustainable land management and a land degradation neutral world, the ELD Initiative supports, amongst others, **SDG 15**, and more specifically SDG 15.3 and SDG 15.9.

SDG 15: Protect, restore and promote **sustainable use of terrestrial ecosystems**, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a **land degradation-neutral world (LDN)**

SDG 15.9: By 2020, **integrate ecosystems and biodiversity values into national and local planning**, development processes and poverty reduction strategies, and accounts

poverty and hunger, ensuring long-term food security, and building resilience to drought and water stress.

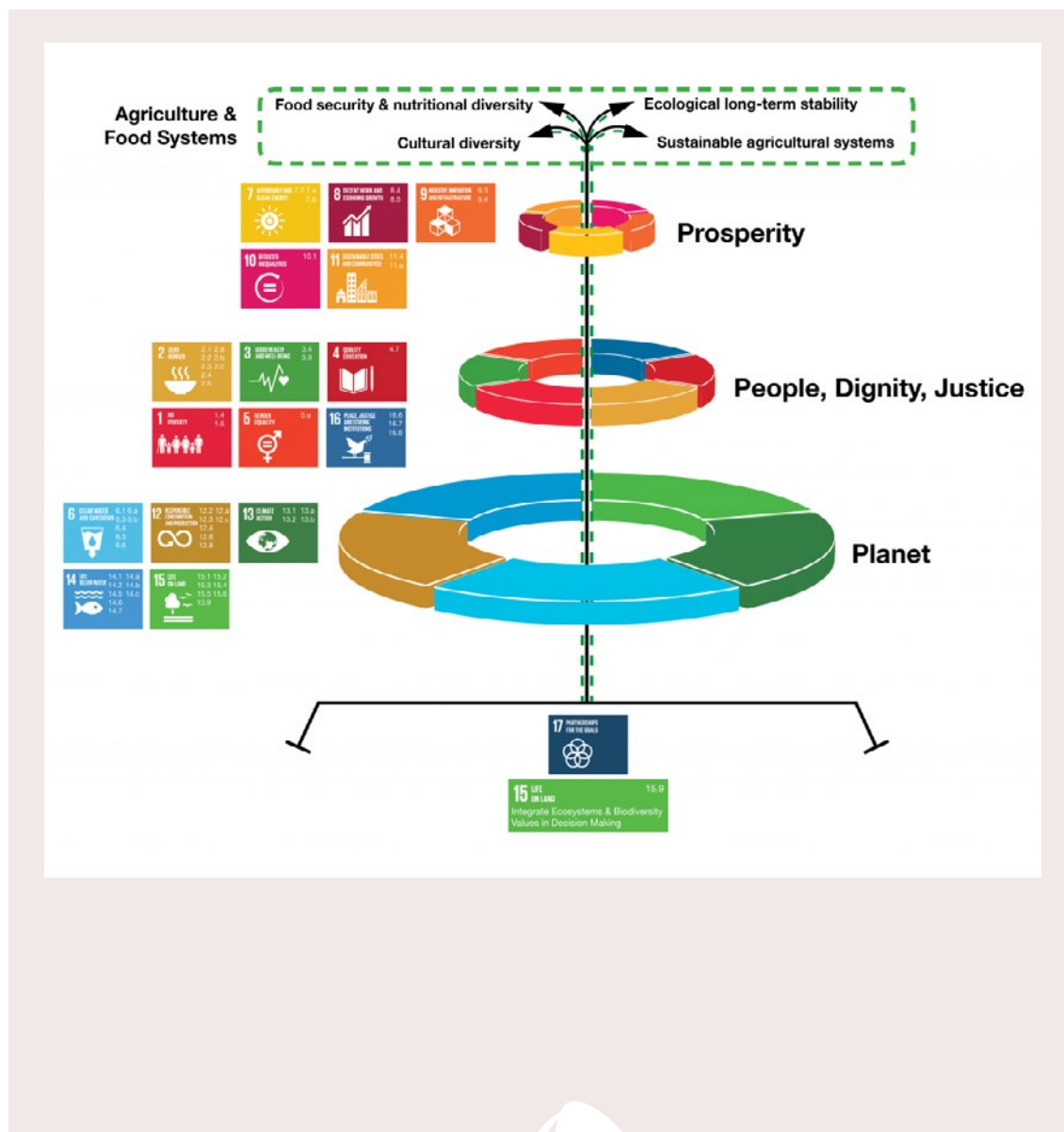
Land use is closely linked to job creation, food, energy, and water security, migration and urbanisation, climate change mitigation and adaptation, economic competition, and resource conflict and therefore to many of the 17 SDGs, as illustrated in the following figure.



FIGURE 1

The link between SDG 15 and other SDGs

Source: UNEP TEEB website, image used in a presentation from Rockström, J. and Sukhdev, P. at an EAT conference, <http://www.teebweb.org/sdgs/>



04

Similar initiatives under other UN environmental conventions

The ELD Initiative provides a specific scientific support to the UNCCD, by complementing the scientific and technical committee (CST) as well as the science-policy interface (SPI) of the convention. This organisational structure is similar to the other two Rio conventions- the UN Framework Convention on Climate Change (UNFCCC) and the UN Convention on Biological Diversity (UN-CBD). *Table 1* below demonstrates the structure and names of the most important reports, which have been produced and published in order to support the conventions. It also provides links to the corresponding websites by clicking on the names of the institutions and reports.

The ELD Initiative's Value of Land report can be accessed here:






ELD Initiative (2015) – [The Value of Land \(report\)](#)

ELD Initiative (2015) – [The Value of Land \(quick guide\)](#)

Further information on other land-related reports and links will be provided in the module on land degradation versus sustainable land management.

TABLE 1

The three Rio conventions and their attached scientific platforms

	 United Nations Convention to Combat Desertification	 Convention on Biological Diversity	 United Nations Framework Convention on Climate Change
	For more information please click here: UNCCD	For more information please click here: UNCBD	For more information please click here: UNFCCC
Body or platform responsible for scientific aspects	Committee on Science and Technology (CST)	Intergovernmental scientific and political platform for biodiversity and ecosystem services (IPBES)	Intergovernmental panel on climate change (IPCC)
Additional discussion platform on scientific aspects related to economics	ELD Initiative	The Economics of Ecosystems and Biodiversity (TEEB)	Stern Report on the economic consequences of climate change (2006)
Synthesis reports on or linked to land degradation	The Value of Land (ELD 2015)	Assessment Report on Land Degradation and Restoration (IPBES, 2018)	Special Report on Climate Change and Land (IPCC, 2019)



The 6+1 approach of ELD (in general)

Governments and policy-/decision-makers are facing a multitude of demands on limited land resources, and they require common metrics to compare options. These metrics are traditionally expressed in monetary terms. However, since land provides a range of ecosystem services, some of which cannot be easily measured in these terms (e.g., cultural and spiritual values, landscape beauty), it is important that land is given its full value, measured from the point of view of society as a whole.

The ELD Initiative approach and methodology enables the economic assessment of current and future scenarios and land-use practices, allowing decision-makers, practitioners, and investors to see the trade-offs associated with different options or projects, and highlighting the benefits of SLM with sound data and evidence.

During its first phase of existence, the ELD Initiative developed a **holistic framework approach**.

ELD's holistic framework approach can be applied at different scales and scopes. It leads to the establishment of a scientifically sound cost-benefit analysis to inform decision-making. The final step is the actual implementation of the most economically desirable option(s) and is the responsibility of private and public decision-makers rather than scientists. It also requires action by land users. These actions can target either the state or the process of land degradation.

This approach is explained in detail in the module on the 6+1 step approach.

1. Inception-definition of the objective and scope of the study
2. Analysis and description of the geographical characteristics
3. Identification of ecosystem services types
4. Analysis of the role of ecosystem services in community livelihoods and economic valuation
5. Scenario development based on land degradation patterns, pressures and trends
6. Cost-benefit analysis (business as usual versus action) and decision-making

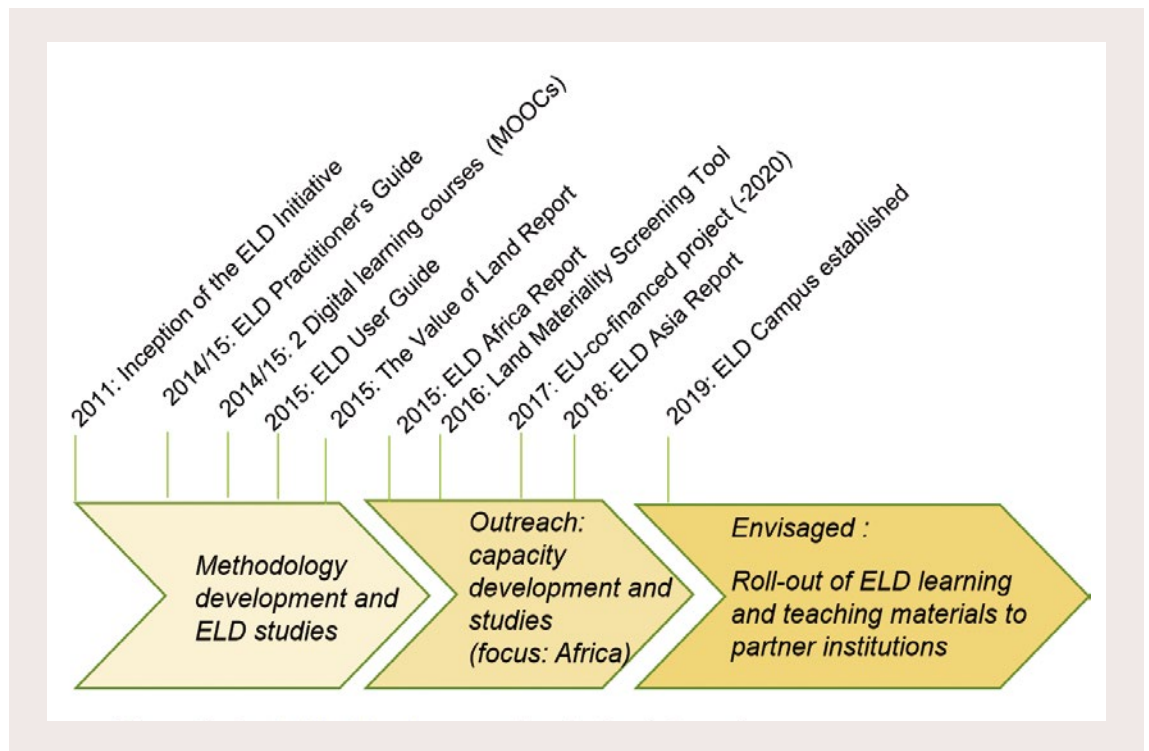
+1 step: Take action!



Past and present activities of the ELD Initiative

The figure below shows key activities of the ELD Initiative since its inception.

FIGURE 2



Please find a [detailed timeline](#) as well as further information on case studies, publications and capacity building on the Initiative's website: www.eld-initiative.org

2011 – 2016

During the first phase of ELD, the initiative developed a holistic framework for the consideration of the economic values of land in political decision-making processes. Based on this framework, two Massive Open Online Courses (MOOCs) were realised in 2015, providing access to the ELD methodological approach and ideas on how to utilise economic information in decision-making processes.

In 2015, ELD also published its first core report "The Value of Land":

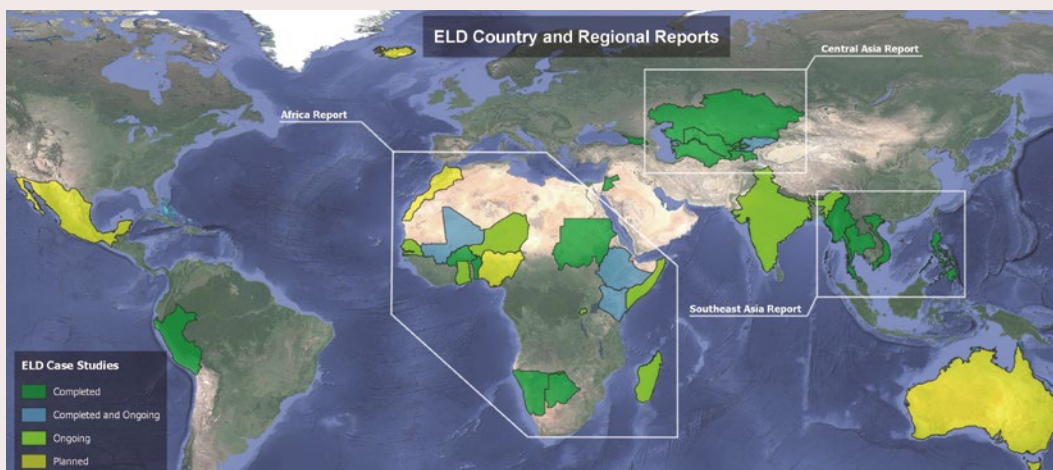
ELD Initiative (2015) – [The Value of Land \(report\)](#)
 ELD Initiative (2015) – [The Value of Land \(quick guide\)](#)

An additional emphasis was put on raising awareness for the growing issue of land degradation and the resulting loss of services for human livelihoods. Numerous ELD studies were undertaken in different countries (see map 1).

M A P 1

ELD Case Studies

Source: ELD Initiative 2019



Completed ELD studies / processes	Ongoing ELD studies / processes	Planned ELD studies / processes
Benin	Ethiopia	Australia
Botswana	Ghana	Iceland
Burkina Faso	India	Mexico
Ethiopia	Kenya	Morocco
Georgia	Kyrgyzstan	Nigeria
Jordan	Madagascar	
Kazakhstan	Mali	
Kenya	Niger	
Kyrgyzstan	Rwanda	
Mali	Senegal	
Myanmar	Somalia	
Namibia		
Peru		
Philippines		
Sudan		
Tajikistan		
Thailand		
Turkmenistan		
Uzbekistan		
Vietnam		

Countries highlighted in blue: ELD studies / processes are both **Completed** and **Ongoing**



2017 – 2019

While the economic approach – in particular cost-benefit analyses (attempting to estimate total economic value) – help policy- and decision-makers to take informed decisions against land degradation, the reality of activities on the ground and demands must also be considered in order for SLM to actually be implemented. This is why in its second phase of the ELD Initiative, which began in 2016, the Initiative started supporting policy- and decision-makers through several mechanisms:

- providing training in economic valuation of ecosystem services;
- the undertaking of regional, national, and sub-national studies on the economics of land degradation; and the provision of national-level scenarios and economic results for ecosystem services;
- set-up of funding partnerships to support the implementation of best-practice SLM techniques,
- the extension and creation of partnership networks,
- capacity building through training for policy-/decision-makers, and outreach to universities, as well as
- the development of a toolkit for the mainstreaming of the economics of land degradation into policy making.

Targeting key institutions from national research and policy sectors, the ongoing activities of the ELD Initiative are focussing on the joint development of economic assessments of multiple land use options. Meanwhile, the ELD Initiative provided training on its economic approach for both policy- and decision-makers and researchers in the partner countries. More than 100 experts from universities, public agencies and NGOs have participated so far and qualify as ELD experts and ambassadors. The national institutions currently analyse the costs of land degradation and benefits of action in specific land degradation hotspot areas within the target countries. These study areas have been defined jointly with all stakeholders involved. The ELD Initiative provides tutoring services by international experts for the studies as well as for the development of policy recommendations. Exchanges with the international research community also broaden participants' competencies in analysing land related problems in socio-economic, environmental, and economic dimensions, and to develop suitable policy solutions.

The monetary benefits of sustainable land use methods are communicated to key stakeholders and policy- and decision-makers of relevant sectors, targeting different levels of governance and using stakeholder specific communication materials.

Ultimately, the project will provide a sound economic basis for political and/or investment decisions regarding land use options.

For more information please refer to the ELD's website related to the project:

http://www.eld-initiative.org/fileadmin/user_upload/ELD_EU_project_engl_181009_web.pdf



Regreening Africa Project

In 2017, the Project **“Reversing Land Degradation in Africa by Scaling-up EverGreen Agriculture”** commenced. The project aims to improve livelihoods, food security and climate change resilience by restoring ecosystem services. The project target countries are Ethiopia, Ghana, Kenya, Mali, Niger, Rwanda, Senegal, and Somalia.

The project is financed by the European Commission and co-financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and is carried out jointly by the Economics of Land Degradation (ELD) Initiative and the World Agroforestry Centre (ICRAF).

Important links and further reading

ELD Initiative

<http://www.eld-initiative.org/>

UNCCD

<https://www.unccd.int/>

SDGs

<https://www.unenvironment.org/explore-topics/sustainable-development-goals/about-sustainable-development-goals>

SDG 15

<https://www.unenvironment.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-15>

The link between food and agriculture and the SDGs

<https://pbs.twimg.com/media/Dokr1SLX4AAt9PR.jpg:large>

ELD report: The Value of Land (2015)

http://www.eld-initiative.org/fileadmin/pdf/ELD-main-report_en_10_web_72dpi.pdf

ELD report: The Value of Land, quick guide (2015)

http://www.eld-initiative.org/fileadmin/pdf/Quick_guide_-_The_Value_of_Land2015.pdf

The Economics of Ecosystems and Biodiversity (TEEB)

<http://www.teebweb.org/>

Stern Report on the economic consequences of climate change (2006)

http://mudancasclimaticas.cptec.inpe.br/~rmclima/pdfs/destaques/sternreview_report_complete.pdf

IPBES Assessment Report on Land Degradation and Restoration (2018)

<https://www.ipbes.net/assessment-reports/ldr>

Special Report on Climate Change and Land (2019)

<https://www.ipcc.ch/report/srccl/>

References

FAO 2009, *World Summit on Food Security*, FAO, Rome, Italy
(available at www.fao.org/wsfs/world-summit/en/)

Gibbs and Salmon, 2014, *Mapping the world's degraded lands*, Applied Geography



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