

Global Governance of Sustainable Land Use – Status and Perspectives

Uwe R. Fritsche^{a)}, Ulrike Eppler^{a)}, Leire Iriarte^{a)}, Stephanie Wunder^{b)}, Timo Kaphengst^{b)},
Franziska Wolff^{c)}, Alexa Lutzenberger^{d)}

a) IINAS (International Institute for Sustainability Analysis and Strategy)

b) Ecologic Institute; c) Oeko-Institut; d) Leuphana University
presenting author: Uwe R. Fritsche uf@iinas.org

Paper for the 2nd Annual International Conference On Sustainable Development Practice
September 17-18, 2014 in New York City

Abstract

Degradation threatens land in many parts of the world, causing and increasing poverty. To overcome or at least alleviate pressures on natural resources and livelihoods, innovative and effective governance is needed to strengthen responsible and sustainable land use practices.

The GLOBALANDS (Global Land Use and Sustainability) project initiated by the German Ministry for Environment identified “best practices” in terms of international policy options, their synergies and explicitly considered possible implementation as a key to forward global sustainable land use in an inclusive way. Key results of its collaborative research are:

- An overview of the most important international policies with relevant impacts on land use, and “windows of opportunity” identified to strengthen sustainable land use. The screening was not limited to main land use sectors such as agriculture and forestry, but also covered other policies impacting on large areas of land.
- A new concept for **integrated indicators** (socially inclusive and regionally differentiated) for sustainable land use in key areas. With ongoing processes to establish goals and targets at least for **some** aspects of sustainable land use, the questions of how to **adequately express** sustainable land use in terms of practical measurements is relevant. Often, indicators concern economic and biophysical properties of land, but lack reflection on both implementability, and real livelihoods of people (e.g. farmers, foresters, herders). There is a **specific gap** of indicators applicable for small-scale land users that creates a hurdle for inclusive policies, and may restrict political agreements on sustainable land use due to concerns for distributive effects. Given these challenges, GLOBALANDS developed a new complementary indicator approach to integrate environmental and social aspects through formulation of sustainable land use **practices** for different actors, and regions.
- Possible “ways ahead” to foster sustainable land use in the international governance system are activities to **strengthen** sustainable land use aspects in **existing** systems such as UN conventions. Furthermore, **safeguarding** of sustainable land use is required for project-level financing of bi- and multilateral donors, taking into account socially inclusive processes and actor-oriented indicators.

Key Words: indicators, land governance, sustainable land use

1. INTRODUCTION

Degradation threatens land in many parts of the world (CCD, 2014), causing and increasing poverty (Barbier, 2012; ELD, 2013). To overcome or at least alleviate the various pressures on natural resources and livelihoods (Fritsche & Eppler, 2013), governance needs strengthening and must foster responsible and sustainable land use *practices*. International policy can contribute to this.

There are some promising international initiatives aiming to address this, i.e. integrating land use into the *Sustainable Development Goals* (SDG); implementing the *Voluntary Guidelines on the Responsible Governance of Tenure* (VGGT; see CFS, 2012) and various activities to strengthen the *UN Convention to Combat Desertification* (CCD).

It remains yet open how synergies between existing instruments and UN conventions such as the *Convention on Biological Diversity* (CBD), the CCD and the *Framework Convention on Climate Change* (FCCC) could be strengthened in favor of sustainable land use. Furthermore, questions of adequate indicators and their implementation need to be addressed (UN-SDSN, 2014).

The research project *GLOBALANDS* (Global Land Use and Sustainability) initiated by the German Federal Environmental Agency and funded by the German Federal Ministry for Environment aims at identifying relevant international policies with a potentially high impact on sustainable land use. It also identifies possibilities and *windows of opportunity* to improve international policies on socially, environmentally and economically sustainable land use.

GLOBALANDS is a collaborative research project carried out by IINAS (International Institute for Sustainability Analysis and Strategy) in collaboration with Ecologic Institute, Oeko-Institut and Leuphana University Lueneburg. The project started in 2011 and runs through 2014, with an expected extension to April 2015.

The project has benefitted from various inputs during several international expert workshops, including at the Global Soil Week 2012 and 2013. The following sections present key results of the project's transdisciplinary research.

2. SCREENING OF INTERNATIONAL POLICIES ON SUSTAINABLE LAND USE

GLOBALANDS undertook a comprehensive screening of international policies with land use relevance, and complemented by a screening of national land use arrangements in selected countries. The screening identified and analyzed international policies for their impact on sustainable land use, and was not limited to the main land use sectors (e.g. agriculture, forestry), but included policies concerning trade and investment policies, development or energy policies as those also affect land (Wunder et. al., 2013). Overall, the analysis covered more than 120 international. The selection of policies was conducted along two major criteria: the estimated *quantitative land use relevance* at global scale and a *high degree of qualitative impact* (negative or positive) a policy might have on soil and land use.

In the following, overarching findings from the screening and the analysis are presented as well as some observations on the policies identified in the screening and potential current windows of opportunities to strengthen sustainable land use within existing policies.

The first key observation is that there is *no overarching* sustainable “land (use) policy” at international level, even though three UN conventions (CBD, CCD and FCCC) deal with land-related issues. Those “land-related” policies that explicitly address land use typically do so only in their specific (e.g. agricultural, forest, biodiversity, climate, resource or development) contexts.

The current international policy frameworks on trade and investment can indirectly impact on land-related environmental regulation and on land use. The tremendous growth of foreign direct investment (FDI) in OECD countries and increasingly in developing countries in the last decades (Kaphengst & Bahn, 2012) is a result of the removal of regulatory investment barriers. Higher flows of investment are likely to exacerbate the extraction of weakly regulated resources and increase the exploitation of land with regard to agricultural and timber production or mining activities which are of major concern with regard to sustainable land use. In addition, the *Convention on International Centre for Settlement of Investment Disputes* (ICSID) gives companies the right to sue countries in terms of their investment policies and hence to challenge domestic environmental/ sustainability regulations. So-called *Investor-State Dispute Settlements* (ISDS) have rapidly increased in the last two decades.

The GLOBALANDS analysis furthermore shows that no international policy approach so far addresses competing land uses and demands for land. Instead, sector-specific policies still predominate. For example, EU biofuel policies do not consider the interaction with the food and feed sector, EU and other international agricultural policies hardly consider interactions with biodiversity etc.

Also, it has to be noted that current international policies do not or not effectively address the most significant drivers of unsustainable land use, such as (Western) diets, increasing consumption with respective growth of material inputs, population growth and poverty (see Fritsche & Eppler, 2013).

Nevertheless, the governance screening in GLOBALANDS also identifies a range of international policies that aim to promote sustainable land use, such as the CBD, CCD, to some extent the FCCC, the *Non-Legally Binding Instrument on All Types of Forests* (NLBI) and other initiatives. To a certain degree, these tend to be weak: they often lack political support and appropriate financial resources, suffer from a low level of implementation or their scope of application is restricted to certain regions. However, a number of policy developments suggest that the governance of sustainable land use at international level might gain momentum and that some windows of opportunity emerge within current policy-making processes:

First, in response to the widely recognized need to address the negative impacts of large scale land investments (often discussed under the term “land grabbing”) mainly in developing countries the *Committee on World Food Security* (CFS) has adopted the VGGT in May 2012 (CFS, 2012). The remarkable issue about the VGGT is that they were agreed among a broad global partnership of international, regional and national organizations of different types. Although voluntary, they entail clear provisions on responsible land tenure practices which can serve as an internationally agreed benchmark for future legally binding measures on land tenure at national and international level. Of course, the VGGT still need to prove their impact on the ground. Moreover, the adoption of the VGGT and the role of the (reformed) CFS in this process

also brought a new spirit to the international negotiations: participation of non-state actors in the negotiations was broadened and non-scientific knowledge inputs (such as traditional knowledge) were accepted. Both aspects might provide a reference for future land use governance initiatives. For example the CFS's *High-level panel of Experts on Food Security and Nutrition* (HLPE) was at this time the only UN science-policy interface which recognized that there are different bodies of knowledge, including science and more traditional forms of knowledge.

A second important international process that has the potential to ultimately benefit global sustainable land use is the development of the SDGs. The purpose of SDGs is to address the broad challenges of poverty eradication, environmental protection and sustainable consumption and production. They shall thus set at right the shortcomings and challenges of the UN's *Millennium Development Goals* (MDGs) which expire by the end of 2015. The agreed language in the Rio+20 outcome document "*The future we want*" can be an indicator that land will be of importance in the definition of the SDGs: in paragraph 206, the heads of states and governments "*recognize the need for urgent action to reverse land degradation. In view of this we will strive to achieve a land degradation neutral world in the context of sustainable development*" (UN, 2012). A beneficial outcome of this process could be a set of concrete goals, targets, and indicators as well as best practice examples of how to implement the SDGs on national and other levels. It remains to be seen whether and how the proposed goal on "zero net land degradation" will survive in the discussion. Currently (as of August 2014), a dynamic discussion takes place on national and international levels among policy makers, NGOs, academia and other stakeholders on how to integrate land into the SDGs.

Moreover, each of the UN "Rio Conventions" provides opportunities to strengthen sustainable land use:

The CBD with its internationally binding Aichi biodiversity targets and its Programmes of Work on forests, agriculture, drylands, protected areas etc. is among the most relevant international conventions with regard to sustainable land use. The recently launched *Green Development Initiative* (GDI) establishes a scheme for biodiversity-positive area management through registering and/or certifying biodiverse sites against the GDI standard. This initiative aims at attracting financial support from private investors for restoring ecosystems or their sustainable management.

Climate policies can provide synergies to improve the sustainable use of land. The *Reduced Emissions from Deforestation and Forest Degradation Program* (REDD+) offers financial incentives to maintain the carbon stored in forests and to manage forests sustainably. Ideally, this can be aligned with protecting biodiversity and with the generation of livelihood "co-benefits". The effectiveness of REDD+ will depend, among others, on the degree to which national drivers of deforestation and forest degradation are taken into account when implementing funding schemes. Moreover, closing land use related gaps in climate policies such as the inclusion of emissions related to the agricultural sector and peatlands can have significant impacts on sustainable land use as well.

Eventually, current processes under the CCD can be seen as a window of opportunity: it is the first and only internationally legally binding framework set up to address the problem of

desertification and land degradation. However, the CCD covers only arid, semi-arid and dry sub-humid areas, thereby targeting approximately 41% of the global land surface and living space for 35% of the world population (MEA, 2005). In addition to the limited scope, progress in the implementation of the CDD has been slow (CCD, 2007a) and the CCD exhibits a lack of impact: “*desertification trends show no signs of abatement and (...) there is a lack of strong achievements on the ground*” (CCD, 2007b).

However, in the last two years, there has been some political momentum: In 2012 the CCD Secretariat started an initiative on introducing a potential goal on *zero net land degradation* (CCD, 2012). The above quoted passage in the Rio+20 outcome document on the aim “*to achieve a land degradation neutral world in the context of sustainable development*” (UN, 2012) is a direct result of the CCD initiative.

Beyond the three UN Conventions, various (EU) resource policies and bioenergy policies might provide windows of opportunity. Especially within resource efficiency policies at EU level the land topic is of growing importance. The *Roadmap to a Resource Efficient Europe* (EC, 2011) includes the milestone that by 2020, EU policies are on track to achieve *no net land take* by 2050. Moreover, the EU Commission is planning to develop a *land communication* by 2015.

In addition, bioenergy policies provide an entry point: in parallel to globally increasing biofuel production, their sustainability (particularly with regard to impacts on the environment and food security) is discussed controversially (e.g.; FAO, 2013; HLPE, 2013a). In response to reiterated concerns, various governmental and private standards for the sustainable use of biofuels were developed (van Dam, 2010; WWF, 2013). However, subsequent studies and analyses made clear that standards and certification schemes focusing solely on biofuels inevitably lead to inconsistencies and leakage effects (e.g. indirect land use change). More recent approaches, therefore, seek to extend biofuels standards to biomass in general (Fritsche, 2012), as these have a potential for being aligned with a broader approach to sustainable land use.

Further *windows of opportunity* are in trade and investment policy which are negotiated bilaterally and between regions, and should include protective clauses also for sustainable land use. To safeguard impacts of investments on land use, the review and update of the *World Bank social and environmental Safeguards* and the current work on the *Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods and Resources* (PRAI) by the World Bank, the *International Fund for Agricultural Development* (IFAD), the *United Nations Conference on Trade and Development* (UNCTAD) and the *Food and Agriculture Organization of the United Nations* (FAO) are relevant.

The GLOBALANDS analysis also showed that implementing global policy frameworks strongly depends on national or even regional conditions (e.g., which actors are involved, local governance, level of corruption, etc).

These conditions influence which effects can be expected from a (national or international) policy on sustainable land use. Moreover, there is not yet a common understanding in the international policy debate of what “sustainable land use” means – for some, it is primarily about fighting environmental and soil degradation, others see it as a means to achieve food

security or environmental security more widely. Still others link sustainable land use to questions of rights and equity. Potentially, sustainable land use can be about all of these aspects but there are also potential tradeoffs between different of the above mentioned aspects (e.g. in terms of land use intensification or extensive use of land). However, before international policies can be developed, a discourse is necessary to clarify respective perspectives and reach joint understanding.

In this context, GLOBALANDS aims to develop a new approach with regard to sustainable land use policies and indicators that is described in the following chapter.

3. A NEW APPROACH: SYSTEMIC INDICATORS FOR SUSTAINABLE LAND USE

Within the ongoing processes to establish goals, targets and instruments at least for some aspects of sustainable land use (e.g. SDGs, VGGT, etc.), the question of how to *adequately express* sustainable land use in terms of *practical measurements* eligible for policy development becomes relevant. GLOBALANDS reviewed existing sustainability indicators with regard to land use and found that indicators on biophysical and economic properties of land are most widespread.

In contrast, indicators related to the livelihoods of people and their implementability for actors such as small-scale farmers, foresters, herders etc. are relatively scarce (Eppler & Iriarte, 2013), which is considered as a deficit (Ehlers et al., 2013). Similar conclusions were drawn by the *Expert Group Meeting of the Global Land Indicators Initiative* which proposed four new indicators, all related to land rights (GLTN, 2013).

The *Global Donor Platform for Rural Development* recently argued along the same lines: the nexus of land tenure, land rights and socially inclusive policies is key for future sustainable land use (GDP, 2013a+b).

The lack of adequate indicators applicable for small-scale land users creates a hurdle for inclusive land management, which may hamper political agreements on sustainable land use goals: policy-makers may be concerned about potential hidden distributive effects when indicators for global goals and targets mainly address biophysical (UNEP-WCMC, 2013) and economic (ELD, 2013) aspects of land and often neglect social and governance aspects.

Furthermore, most of current indicators concern environmental characteristics of land needed to ensure (or restore) its potential uses, including ecosystem services, and then address the impact side through defining “acceptable” levels of interference, or respective targets to be achieved over time. With regard to the current global discussion on SDGs this creates not only the problem of measuring e.g. soil qualities on appropriate scales (with respective cost) but also a *proliferation* of indicators which seems unsuitable for (political) agreement on the UN level.

In parallel, increasing large-scale land acquisitions and respective land uses by transnational corporations require social safeguards – at least more to *transparency* (Anseeuw et al., 2013; G8, 2013; ODI, 2013). Such land acquisitions can also impact significantly on biodiversity, soils, and water (UNEP, 2012a) so that both social aspects (including land rights) *and* biophysical and ecosystem aspects of land use need to be considered in a *metrics of sustainability land use*.

To be applicable in the context of the SDGs or other international policies, and to be negotiable in the respective policies, it seems reasonable to consider a more *compact* and *inclusive* approach to indicators for sustainable land use than the long lists that current proposals involve (e.g. UN-SDSN, 2014a; UNECE, 2013; UNEP, 2013).

Building on this, GLOBALANDS currently develops *systematic* indicators. The basic idea is to identify evidence-based land-use *practices* which are sustainable when carried out by specific *actors* (socio-economic context) in a given *region* (geographical context) as an aggregated *proxy* of sustainability indicators.

The leading thought for this is to distinguish between the one view on *land* use, and the other one on land *use*, and to combine both in a sequence to derive the aggregated proxy:

- First, existing metrics and indicators on land use are used to qualify which *practices* are sustainable. For this, current knowledge and evidence on e.g. sustainable land management in agriculture (IAASTD, 2009; LPFN, 2013; UNCTAD, 2013; UN-SDSN, 2014b) is used to derive a list of *sustainable practices*.
- Next, this list is differentiated to reflect *applicability for relevant actors* (e.g. small-scale farmers, community forestry, large-scale corporate operations). The last step is to *regionally differentiate* the sustainable land use practices (e.g. Liniger et al., 2011).
- Between Step 1 and 2, iteration is needed to reflect the social contexts especially regarding land tenure, and to consider *traditional knowledge*.

To operationalize land tenure and land right aspects in indicators, the working hypothesis of GLOBALANDS is that the VGGT *could* serve as a framework once implementation in countries, regions or by economic actors took place.

The GLOBALANDS project currently explores how far it is possible to define such systemic indicators for key land use sectors (agriculture, forestry) which especially include *small-scale land users* and take into account traditional knowledge, and respective evidence. Both aspects have played an increasing role in current international policy processes, such as the development of the VGGT that – as described above - have been developed with a broad alliance of actors and put an increasing focus on the inclusion of traditional knowledge. Another recent example is the *Intergovernmental Platform on Biodiversity and Ecosystem Services* (IPBES) that aims to mainstream issues of biodiversity and ecosystem services into important sectoral policies such as agriculture, forestry, fisheries, and energy and that will be guided by the principle to “(...) *recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems*” (UNEP, 2012b Appendix 1, para 2d).

The new approach of *systemic* indicators for sustainable land use which reflect both analytical and traditional knowledge is *complementary* to existing, detailed biophysical or socially explicit approaches, and is meant to facilitate complex negotiations - such as the SDGs - by offering suitable proxies.

The systemic indicator approach needs further testing and refinement before it is applicable for this endeavor, and ongoing work within GLOBALANDS will concentrate on delivering examples for defining systemic indicators, and will also consider limitations of the concept for real-world application and implementation (IINAS, 2014).

4. WAYS AHEAD TO FOSTER SUSTAINABLE LAND USE IN THE INTERNATIONAL GOVERNANCE SYSTEM

The current research and discussions in GLOBALANDS on options to improve governance of global sustainable land use led to three key approaches:

- Activities to *strengthen* sustainable land use aspects *within existing* global governance systems such as UN conventions, and their respective protocols, and implementation programs.
- Better *safeguarding* of sustainable land use for project-level financing of bi- and multilateral development agencies and bodies, with corresponding action for private banks.
- Developing and implementing socially inclusive and actor-oriented *systemic* indicators for sustainable land use to support negotiating the SDGs, and to improve safeguarding.

As the GLOBALANDS project applies a *transdisciplinary* approach, its research includes interaction and discussion not only with the academia but also with key stakeholders especially from governments and civil society.

The presentation and discussions during the 2nd Annual International Conference on Sustainable Development Practice are a key element in this, and will be followed-up by further discussions in international expert workshops (for details, see www.globalands.org).

ACKNOWLEDGEMENT

This paper benefited from discussions in the GLOBALANDS Project Working Group meetings, and from the Project Advisory Board.

We are also indebted to Alexander Müller (IASS) and Maryam Rahmanian (Centre for Sustainable Development and Environment, Iran) for informal comments and discussions.

All errors and omissions remain the sole responsibility of the authors.

The GLOBALANDS project is funded by the German Federal Environment Agency (UBA) through the German Federal Ministry for Environment (BMUB) under R&D contract 371193101.

REFERENCES

- Anseeuw W et al. 2013: Creating a public tool to assess and promote transparency in global land deals: the experience of the Land Matrix; in: The Journal of Peasant Studies vol. 40 no. 3, pp. 521-530
- Barbier E 2012: Natural Capital, Ecological Scarcity and Rural Poverty; World Bank Policy Research Working Paper 6232; Washington DC
<https://openknowledge.worldbank.org/bitstream/handle/10986/12083/wps6232.pdf?sequence=1>
- CBD (United Nations Convention on Biological Diversity) 2013: Biodiversity meeting affirms key role of traditional knowledge in implementing UN biodiversity convention; Press Release Oct. 12, 2013; Montreal <http://www.cbd.int/doc/press/2013/pr-2013-10-12-8j-en.pdf>
- CCD (United Nations Convention to Combat Desertification) 2014: Desertification - The Invisible Frontline; Bonn
http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/Desertification_The%20invisible_frontline.pdf
- CCD (UN Convention to Combat Desertification - Secretariat) 2012: Zero Net Land Degradation. A Sustainable Development Goal for Rio+20; Policy Brief; Bonn
http://www.unccd.int/Lists/SiteDocumentLibrary/Rio+20/UNCCD_PolicyBrief_ZeroNetLandDegradation.pdf
- CCD (UN Convention to Combat Desertification) 2007a: Report of the Conference of the Parties on its eighth session, held in Madrid from 3 to 14 September 2007. Addendum Part two: Action taken by the Conference of the Parties at its eight session; ICCD/COP(8)/16/Add.I
- CCD (UN Convention to Combat Desertification) 2007b: Report of the Conference of the Parties on its eighth session, held in Madrid from 3 to 14 September 2007, Annex IV; ICCD/COP(8)/16
- CFS (UN Committee on World Food Security) 2012: Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security; Rome
http://www.fao.org/fileadmin/user_upload/nr/land_tenure/pdf/VG_Final_May_2012.pdf
- EC (European Commission) 2011: Roadmap to a Resource Efficient Europe; Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions; COM(2011) 571 final; Brussels
http://ec.europa.eu/environment/resource_efficiency/pdf/com2011_571.pdf
- Ehlers K et al. 2013: Soils and Land in the SDGs and the Post-2015 Development Agenda; UBA, IASS, EC-JRC <http://globalsoilweek.org/wp-content/uploads/2013/10/Soils-and-Land-in-the-SDGs-and-the-Post-2015-Development-Agenda-A-proposal-for-a-Land-Degradation-Neutral-World-goal-and-targets.pdf>

- ELD (Economics of Land Degradation) 2013: The rewards of investing in sustainable land management; Interim Report for the Economics of Land Degradation Initiative: A global strategy for sustainable land management; Bonn http://www.eld-initiative.org/index.php?eID=tx_nawsecured1&u=0&file=fileadmin/pdf/ELD-Interim_Report_web.pdf&t=1382472648&hash=e46737e4d7decc3ee0cb53b7dd5df75b0b2fa705
- Eppler U, Iriarte L 2013: Sustainable Land Use Indicators - A Compilation for WP3; GLOBALANDS Working Paper AP 3.2 prepared by IINAS; Berlin, Madrid
- FAO (Food and Agriculture Organization of the United Nations) 2013: Biofuels and the Sustainability Challenge; Rome <http://www.fao.org/docrep/017/i3126e/i3126e.pdf>
- Fritsche U 2012: Sustainable Bioenergy: Key Criteria and Indicators; D 4.1 Delivery of the Biomass Futures project funded by IEE; Darmstadt
http://www.biomassfutures.eu/public_docs/final_deliverables/WP4/D4.1%20Sustainable%20Bioenergy%20-%20criteria%20and%20indicators.pdf
- Fritsche U, Eppler U 2013: Global Land Use Scenarios: Key findings from a review of international level studies and models; GLOBALANDS Working Paper AP 1.3; Darmstadt
http://www.iinas.org/tl_files/iinas/downloads/IINAS_2013_GLOBALANDS_AP-1_3.pdf
- G8 (Group of Eight) 2013: 2013 Lough Erne G8 Leaders' Communiqué; London
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207771/Lough_Erne_2013_G8_Leaders_Communique.pdf
- GDP (Global Donor Platform for Rural Development) 2013a: Land in a post-2015 framework; Platform Policy Brief no. 9; Bonn
http://www.scribd.com/document_downloads/197654261?extension=pdf&from=embed&source=embed
- GDP (Global Donor Platform for Rural Development) 2013b: On Common Ground - Donor perspectives on agriculture & rural development and food security & nutrition; Revised version following member consultation in 2012-2013; Bonn
http://www.scribd.com/document_downloads/141131838?extension=pdf&from=embed&source=embed
- GLTN (Global Land Tool Network) 2013: Communique Expert Group Meeting of the Global Land Indicators Initiative; The Hague
<http://www.gltn.net/index.php/resources/publications/publications-list/finish/3-gltn-documents/132-expert-group-meeting-of-the-global-land-indicators-initiative-eng-2013>
- HLPE (High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security) 2013a: Biofuels and food security; HLPE report 5; Rome
http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-5_Biofuels_and_food_security.pdf
- HLPE (High Level Panel of Experts on Food Security and Nutrition of the UN Committee on World Food Security) 2013b: Investing in smallholder agriculture for food security; Rome

- [http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-6 Investing in smallholder agriculture.pdf](http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-6_Investing_in_smallholder_agriculture.pdf)
- IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development) 2009: Agriculture at a Crossroads - Global Report; Washington DC
[http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Report%20\(English\).pdf](http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Report%20(English).pdf)
- IINAS (International Institute for Sustainability Analysis and Strategy) 2014: Global Sustainable Land Use: Concept and Examples for Systemic Indicators; Fritsche U, Eppler U, Iriarte L; GLOBALANDS Working Paper 3.3; Darmstadt, Berlin, Madrid (forthcoming)
- LPFN (Landscapes for People, Food and Nature Initiative) 2013: Reducing Risk: Landscape Approaches to Sustainable Sourcing; Kissinger G, Brassler A, Gross L; Washington DC
http://landscapes.ecoagriculture.org/documents/files/reducing_risk_landscape_approaches_to_sustainable_sourcing.pdf
- MEA (Millennium Ecosystem Assessment) 2005: Ecosystems and Human Well-being: Synthesis; Washington DC <http://www.maweb.org/documents/document.356.aspx.pdf>
- ODI (Overseas Development Institute) 2013: The Possible Shape of a Land Transparency Initiative; Locke A, Henley G; London <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8599.pdf>
- UN (United Nations) 2012: Report of the United Nations Conference on Sustainable Development; A/CONF.216/16; New York
<http://www.uncsd2012.org/content/documents/814UNCSD%20REPORT%20final%20revs.pdf>
- UNCTAD (United Nations Conference on Trade And Development) 2013: Trade and Environment Review 2013: Wake up before it is too late - Make agriculture truly sustainable now for food security in a changing climate; Geneva
http://unctad.org/en/PublicationsLibrary/ditcted2012d3_en.pdf
- UNECE (United Nations Economic Commission for Europe) 2013: Framework and suggested indicators to measure sustainable development; prepared by the Joint UNECE/Eurostat/OECD Task Force on Measuring Sustainable Development, May 2013
http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/2013/SD_framework_and_indicators_final.pdf
- UNEP (United Nations Environment Programme) 2013: Embedding the Environment in Sustainable Development Goals; UNEP Post-2015 Discussion Paper 1; Nairobi
http://aquadoc.typepad.com/files/unep_post2015_discussion_paper_version2.pdf
- UNEP (United Nations Environment Programme) 2012a: The Fifth Global Environment Outlook (GEO-5); Malta http://www.unep.org/geo/pdfs/geo5/GEO5_report_full_en.pdf
- UNEP (United Nations Environment Programme) 2012b: Report of the second session of the plenary meeting to determine modalities and institutional arrangements for an intergovernmental science-policy platform on biodiversity and ecosystem services;

- UNEP/IPBES.MI2/9; Panama City
http://www.ipbes.net/images/documents/Panama%20meeting%20report_En.pdf
- UNEP-WCMC (United Nations Environment Programme World Conservation Monitoring Centre) 2013: Improving measurement and reporting of progress for the United Nations Convention to Combat Desertification; UNEP-WCMC biodiversity series no. 34; Cambridge <http://www.unep-wcmc.org/medialibrary/2013/06/05/99d83cf3/UNEP-WCMC%20Biodiversity%20Series%20no%20%2034-Final-Web-LR.pdf>
- UN-SDSN (United Nations Sustainable Development Solutions Network) 2014a: Indicators for Sustainable Development Goals; A report by the Leadership Council of the SDSN; Draft for public consultation <http://unsdsn.org/wp-content/uploads/2014/02/140214-SDSN-indicator-report-DRAFT-for-consultation.pdf>
- UN-SDSN (United Nations Sustainable Development Solutions Network) 2014b: Monitoring the Performance of Agriculture and Food Systems; TG7 Issue Brief
<http://unsdsn.org/files/2014/01/Monitoring-the-Performance-of-Agriculture-and-Food-Systems.pdf>
- UN-SDSN (United Nations Sustainable Development Solutions Network) 2013: Solutions for Sustainable Agriculture and Food Systems; New York <http://unsdsn.org/wp-content/uploads/2014/02/130919-TG07-Agriculture-Report-WEB.pdf>
- van Dam J 2010: Update: Initiatives in the field of biomass and bioenergy certification; Background document prepared for IEA Bioenergy Task 40
<http://www.bioenergytrade.org/downloads/overviewcertificationsystemsfinalapril2010.pdf>
- Wunder S et al. 2013: Governance screening of global land use; GLOBALANDS Discussion Paper; Ecologic Institute, Oeko-Institut; Berlin
http://www.ecologic.eu/globalands/sites/default/files/131022_GLOBALANDS_AP2_web.pdf
- WWF (World Wide Fund For Nature) 2013: Searching for Sustainability – Comparative analysis of certification schemes for biomass used for the production of biofuels; Schlamann I et al.; Berlin http://assets.panda.org/downloads/wwf_searching_for_sustainability_2013.pdf