Zero Net Land Degradation[1]

Outcome of "Operationalizing the Zero Net Land Degradation (ZNLD) Target" session,
at the Sede Boqer 4th International Conference on Drylands Deserts and Desertification

8 January 2013

On 13 November 2012, a day-long session carried out during the 4th International Conference on Drylands, Deserts and Desertification at the Blaustein Institutes for Desert Research, Sede Boqer Campus of Ben-Gurion University, Israel, sought to address the Zero Net Land Degradation (ZNLD) concept through a series of presentations, followed by an open discussion and brainstorming workshop[2].

The first segment of the day began with an introduction to the ZNLD by Luc Gnacadja, Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD). Two scientists then each addressed one of the two components of ZNLD: how to use land without degrading it and how to restore already degraded soil and land. The second segment looked at implementation challenges and featured five presentations by people directly engaged in intensive work addressing land degradation on the ground.

The third segment was a brainstorming session that started with two presentations of possible obstacles to operationalizing the ZNLD target and another on a tool that could contribute to implementation efforts. During the brainstorming session led by a moderator and recorded by a rapporteur, the participants discussed opportunities, challenges, the roles of stakeholders, and future actions.

This document presents a synthesis of the outcome, including insights emerging from the deliberations and discussions taking place throughout this day long session.

[1] Authored by Pamela Chasek, Sem Shikongo, Uriel Safriel and Vivian Futran

[2] For presenters and discussants of this session, please see Appendix

The Zero Net Land Degradation target – a tool for achieving a land-degradation neutral world[3]

At the United Nations Conference on Sustainable Development (Rio+20) in June 2012 governments adopted "The Future We Want" outcome document, which recognized "*the need for urgent action to reverse land degradation. In view of this we will strive to achieve a land-degradation neutral world…."* (para 206). This paragraph sets a goal of maintaining a world in which the amount of already degraded land remains constant, i.e., it does not increase beyond the current (2012?) amount of degraded land. How this can be accomplished, given that the productivity of the global vegetation cover (which is an indicator or a proxy of land degradation) persistently declined[4] in front of our eyes during the 23 years between 1981 and 2003 in spite of the actions taken during this period to address land degradation and desertification?

These findings suggest that the rate of land degradation cannot be fully arrested, i.e., a zero rate of land degradation would be an ambitious and unattainable target. However, if the degradation rate is only reduced, then land-degradation neutrality could be achieved if this new degradation is offset by restoring the productivity of a similar amount of already degraded land. Thus, for setting a target for a zero **net** rate of land degradation—and in this way achieving land degradation neutrality—we should strive to reduce the rate of degradation on non-degraded land, and to increase the rate of restoration of already degraded land.

At this point it should be stressed, however, that although offsetting is a component of the ZNLD target, unlike the "cap and trade" system for emissions reductions this target does not in any way constitute a "license to degrade." It is not envisaged to restore the productivity of a certain degraded land for offsetting degradation that has taken place anywhere else on the planet. Rather, a "land degradation neutral world" is the sum of land degradation neutrality achieved by local communities the world over—implementing the adage "Think globally, act locally."

ZNLD is to be practiced at the local scale, in areas with already degraded land as well as land under use but at risk of degradation. Striving for global land degradation neutrality means encouraging local communities to minimize degradation and/or reduce the risk of degradation of the land they use, as well as investing in restoring the productivity of other lands in their

[3] Land degradation is defined as *"the reduction or loss … of the biological or economic productivity …"* of all types of land uses [UNCCD Article 1(f)], and Desertification is defined as land degradation in drylands [UNCCD Article 1(a)]. More recently researchers (Vogt et al., Land Degradation and Development, 22,150-165, 2011) suggested that *"**land degradation** is qualified as a **process** of persistent reduction or loss of biological productivity, whose **most extreme case** is that of **desertification,** and though the risk of land degradation and desertification is mostly addressed in the drylands, this also impinges on non-drylands."* Thus, the term "land degradation" in ZNLD includes all types of land degradation the world over, including that of "desertification," is used for this condition when occurring in drylands.

[4] Z. Bai, D. Dent, L. Olsson, and M.E. Schaepman. 2008. Proxy global assessment of land degradation. *Soil Use and Management* 24:223-243.

community that have been abandoned since they are already degraded. Thus, land degradation neutrality will be first achieved at the local, ecosystem, watershed, and landscape scales, leading each country to strive to achieve land degradation neutrality, which will eventually lead to a land-degradation neutral world.

ZNLD Opportunities

Setting a target

Setting a target can help shape expectations and create the conditions for all stakeholders to assess progress and take appropriate action in addressing the issue. "Combating desertification," for example, is a goal, but achieving it requires a focus on tangible, pragmatically achievable objectives that can be specifically targeted. ZNLD is a focused, quantifiable and time-sensitive target that safeguards land and their productivity, thus contributing to local poverty alleviation as well as regional and global food security. Setting a zero net land-degradation target can help put this issue on the international agenda and generate the necessary political will, support and commitment, often expressed by attracting financing (i.e., the Millennium Development Goals).

Addressing an issue of global significance

The fact that 16 years after the UNCCD entered into force and the results of "combating desertification" are not evident on the ground, can be attributed to "desertification" being conceived as an issue specific to the drylands. It is only the relatively recent UNCCD Ten-Year Strategy that recognizes desertification in the drylands as a subset of land degradation, which occurs in all continents (excluding Antarctica) and directly and indirectly affects humanity at large. In this sense, land degradation is an issue of global concern, just like biodiversity loss and climate change. The ZNLD target, as a tool for attaining a land-degradation neutral world, is in line with similar targets addressing the subject matter of the other two Rio Conventions, such as the Aichi Biodiversity target and the REDD+ process.

Addressing global food security through reducing degradation rate plus increasing restoration rate

Land productivity and its soil fertility are finite, non-renewable resources used by people first and foremost for food production. Malnutrition still prevails across the globe, and famines repeatedly occur in certain areas around the globe. These phenomena are likely to be exacerbated by year 2050 when two billion people are added to our current population of seven billion. To feed the 2050 global population more land must come under advanced, efficient yet sustainable cultivation. But this would most likely be at the expense of current forested land, a loss of the indispensable regulating ecosystem services of forests, some of which are critical for supporting agriculture and making it sustainable. Therefore, humanity cannot afford to increase the expansion of arable land. There are only two distinct solutions to the problem. First, we cannot lose what we already have, the productivity of the land we currently use. Namely, we need to reduce the rate of productivity loss, the result of the current rates of degrading the land we

already use. Second, we cannot afford to give up land that has been productive but has become degraded; rather, we need to restore lost productivity.

Indeed, there is a lot of already degraded land in arid and semi-arid areas, and great potential for restoration exists. Positive actions are already in progress at the grassroots, private sector and government levels. Although restoration of land productivity may be more difficult and more expensive than avoiding degradation, ensuring that we match land degradation with land's productivity restoration—land degradation neutrality or ZNLD—may be a goal that can be achieved, one that would significantly contribute to local, regional and global food security, and *"improve the livelihoods of affected populations, improve the conditions of affected ecosystems and generate global benefits"* (the strategic objectives of the UNCCD).

Contributing to streamlining and synergies, and empowering the local land users

Streamlining the attention to desertification and land degradation into national sustainable development policies, generating synergies from joint implementation of the three Rio Conventions, contributing to global goals on forests, and empowering local communities of land users, especially women, are all aspired outcomes if we can successfully "combat desertification." As already noted, the slow pace of these efforts to combat desertification, however, has also hindered all the other benefits spelled out above. The ZNLD target is expected to be a much faster and more effective method for generating all of these added benefits.

ZNLD Challenges

Operationalizing ZNLD faces two major challenges, neither of which is new, but both need to be revisited and adapted to the ZNLD target. These challenges are that of appropriate attention to land productivity, and that of monitoring and assessing the state of the land and its response to the modes of its use. These two challenges are addressed below.

Address food security not only by avoiding degradation but also through restoring already degraded land

The strength of the ZNLD target is in its distinction between using land without degrading it, i.e., refraining from reducing or losing its productivity, and restoring already degraded land. There is much scientific, technological and agrotechnical knowledge and experience for using land without degrading it.[5] Much of this knowledge habitually comes under the umbrella of "Sustainable Land Management" (SLM) that in order to be successfully implemented its guidelines need local adaptation, for which more research is required. Similarly, there is much

[5] See, for example, World Overview of Conservation Approaches network (WOCAT), https://www.wocat.net/en/knowledge-base.html; N.G. Roling and M.A.E. Wagemakers, (eds) 2000. Facilitating Sustainable Agriculture: Participatory learning and adaptive management in times of environmental uncertainty. Cambridge University Press, Cambridge; M.A. Stocking and N. Murnaghan. 2001. A Handbook for the Field Assessment of Land Degradation. Earthscan, London.

scientific and technological knowledge about restoring productivity of already degraded land,[6] although not as much experience on the ground. One problem is that the literature and the practice often address both non-degrading use and restoration together, while these problems are often not the same. The issue of restoration is more complex since the methods and costs of restoration depend on and vary with the degree of degradation. Furthermore, prior to applying restoration measures to be followed by an advanced yet sustainable use, it is necessary to remove or at least minimize the effect of the direct, biophysical drivers that caused the degradation, as well as the underlying socio-economic and policy drivers of that degradation. In this sense using lands that are at risk of degradation and avoiding their degradation also requires identification of the direct and indirect underlying drivers of that risk and selecting the appropriate measures and land management practices that reduce these risks.

Monitoring and assessment

While land users need to adapt and adopt measures for using land without degrading its productivity and for restoring the productivity of already degraded land, they are often not aware of the need for monitoring and assessment, and habitually do not invest in these activities. However, ZNLD cannot be operationalized without monitoring and assessment, and unlike restoration and non-degrading land use, monitoring land productivity and its degradation is still a scientific and technological challenge, as well as financial and policy issue.

The scientific challenge requires answers to questions of detection and quantification of land that is at risk of degradation, and land that is currently being degraded by its users. It is also necessary to assess existing degradation, appraise its severity, and determine the measures required for the subsequent restoration, such that investments can be prioritized. The detection and quantification of land that is becoming degraded and land that is already degraded and hence candidates for restoration, are the first activities in local ZNLD implementation, to be followed by implementing practices for reducing degradation rates and by applying restoration measures. For evaluating land responses to these actions and asserting that land degradation neutrality has been achieved and is being sustained, monitoring and assessment of used land needs to function on a permanent basis. However, monitoring and assessment are also a scale issue, and technologies and methodologies employed for ground monitoring and assessment at the local level differ from the technologies and methodologies used for monitoring at the regional and global levels. Thus, there is an urgent need for authoritative and consensual monitoring and assessment at all scales as a way to detect progress on the road to target achievement.

A prerequisite for monitoring and assessment is setting indicators and baselines. The search for appropriate indicators should be led by the understanding of why land degradation matters to

[3]D.A. Bainbridge. 2009. Desert and Dryland Restoration: New Hope for Arid Lands. Island Press, Washington D.C.

people. We note that the 7 billion people currently on this planet depend on the biological products derived from the soil for their food, which are provided by the two billion farmers whose livelihoods depend on generating food from soil. This biological productivity of economic value (mainly food but also other biological products from the land, e.g., fiber, forage, firewood, medicinal and industrial compounds) depends on the local soil nutrients, soil organic carbon and soil biodiversity, and the ecosystem services such as water regulation and soil conservation provided by the site's and off site's vegetation cover of the soil, as well as by the socio-economic and policy drivers of change of these factors. Each of these can be measured, but important as each of them is, they are not intuitively linked to the need to protect the land and to monitor its performance as well as its response to restoration and conservation efforts. What should and could be relatively easily measured is, therefore, what directly matters to people, and this is the end product of the land—the biologically produced, consumed and marketed products. These are routinely monitored such that both persistent reductions as well as sustained improvements can be detected. Monitoring other ecosystem services that are involved in the provision of the marketed products may be also required for addressing sustainability, yet this monitoring is more complex[7] (and the local and regional effects of global climate change on productivity would require attention too).

Finally, once indicators are agreed upon, a monitoring system is in place and baselines are set at all scales, a mechanism for verifying degradation and restoration rates needs to be set by local or national governments and executed by experts. Such a mechanism would enable assessing the effectiveness of the measures mobilized for attaining the ZNLD target, and would determine what is still necessary to achieve the target.

The enabling environment

Capturing the ZNLD opportunities and addressing the challenges it faces require an enabling environment. This includes the following:

Financial resources

While measures required for practicing non-degrading land use are likely to be within reach of most land users, restoring already degraded land requires investments whose returns are not immediate. Therefore, land users need greater access to credit and loans. Financial resources are also required for the monitoring mechanism. Monitoring in itself does not have tangible value to

[7] See the Millennium Ecosystem Assessment's "Desertification Synthesis": *"Land degradation is defined as a persistent reduction of biological and economic productivity. It is therefore logical to* ***measure productivity in terms of the 'things that ecosystems provide that matter to people'****—that is, ecosystem services. Doing so makes degradation quantifiable in an operational way, since many of the ecosystem services are measurable and some are routinely monitored. Furthermore, such an approach is robust, because it is based on flow of services to a broad spectrum of people"*

land users, but it is indispensable for operationalizing a quantifiable target such as ZNLD. Here international financial resources must be mobilized.

Awareness, motivation and empowerment

Currently available knowledge about sustainable land use practices (i.e., non-degrading) and restoration of degraded land is sufficient for attaining the ZNLD target. But there are obstacles to the implementation of theses practices, mainly conceptual (striving for short-term at the expense of long-term benefits), social (population pressures, gender inequality, inequity), economic (access and vulnerability to global markets), policy (land tenure, pastoral restrictions) and governance (weak institutions), that first must be addressed. For this, investment in education, awareness, motivation, and empowerment of individual land users, especially women, local community leaders, local and national governments, the private sector and national and international institutions at all levels, must be mobilized. At the international level, this could be done by harnessing international political will through the existing United Nations architecture and UN precedents, with no need for new and additional institutions and resources, but new and additional investments in motivating national governments and empowering local leaders are still required.

Upscaling and joint bottom-up and top-down ZNLD implementation

The road to the ZNLD target must have a joint upscaling and bottom-up trajectory. Local communities can strive to achieve zero net land degradation within local community boundaries, incentivized and led by motivated local leadership. Information about best practices and local success stories could then be shared both horizontally and vertically (local/community, national, regional and international), such that the ZNLD target at the global scale constitutes an aggregate of attained regional, national and local ZNLDs.

However, full success also requires simultaneous top-down leadership and support at the international level. This can be accomplished, possibly, through the adoption of a sustainable development goal on land and ZNLD within the context of the UN's post Rio+20 activities and the post-2015 development agenda. Leadership is also needed to integrate an operationalized ZNLD into the work of the UNCCD, the other Rio Conventions, relevant UN agencies, such as FAO, UNESCO, UNEP and UNDP, and international financial institutions such as the World Bank and the Global Environment Facility (GEF). With such simultaneous bottom-up and top-down approaches, stakeholders and policy makers at the national and regional levels will be in a better position to integrate ZNLD into national development and agricultural planning.

The way forward

The way forward is two pronged—first, recognizing existing projects suitable for ZNLD testing, establishing new pilot projects at the local community or landscape scales, and projects at the regional level, all guided by agreed-upon protocols and guidelines prepared/improved/adapted/ amended by multidisciplinary working group(s); the second—seeking recognition and support

for achieving ZNLD at the global scale through the United Nations system. Work on both tracks can be carried out in parallel, but tangible success of pilot and regional projects that test ZNLD at these scales—success that is also reflected at the policy level of local and national government mandates—would significantly facilitate and expedite the UN track. Thus, driven by local leadership, testing ZNLD on the ground at the community level and even at the regional level could take off immediately, irrespective of the time-table and pace of the UN processes. The community pilot projects track is addressed in more detail below.

Pilot testing of ZNLD at the local, community level

The first step would be to search for, detect and identify already existing ongoing actions and projects whose success and experience can inspire and provide a model for others to adopt or adapt them for attaining local and regional ZNLD. On top of this, it is recommended to also identify suitable areas for new and innovative pilot projects, such that success in these sites could be replicated in other comparable areas. It will then be necessary to identify the relevant stakeholders that could define the roles and responsibilities of those involved in actions on the ground (such as, for example, Community Based Organizations [CBOs], partnerships with the private sector and government agencies, etc.). These could also determine guidelines for establishing baselines, monitoring and verification of the results of the projects, with respect to achieving the ZNLD target (e.g. as the GEF's Small Grants Program and land degradation focal area projects). Thus, there are several options for testing the operationalization of the ZNLD at the local community level. For an example, outlines for such options are spelled out below:

1. The UNCCD Secretariat in conjunction with governments and other actors, as relevant, contacts local NGOs or CBOs and other partnerships operating in rural areas, who are already working, or wish to work, with land users to improve their livelihoods, and inform them about the ZNLD target.

2. A few communities and local NGOs are selected for implementing ZNLD pilot projects.

3. In each selected pilot site, the commissioned NGO together with the community (and other stakeholders, as relevant, such as government agencies, other NGOs, experts and researchers who have been studying the area, etc.) will explore and agree upon site-specific, easily measureable but reliable indicators of land productivity, to be used for identifying degradation and thereafter monitoring the effectiveness of measures taken to address degradation.

4. Using the agreed-upon indicators, in each community, the selected NGO, together with the community and other involved stakeholders, will identify three types of land: used land with no signs of degradation and use practices that do not put the land at risk of degradation; used land where signs of emerging degradation are evident; and land that is no longer in use due to its current degraded state, resulting from a long history of degrading uses, yet has high restoration potential.

5. The NGO will then:

    a. Learn from community members about the different land use practices that have led to the current state of each of the three land use types, and their drivers;

    b. Quantify the overall size of the three land uses/states through field observations, mapping and GIS software, thus creating the baseline of land degradation in the pilot area; and

    c. Compile, together with the land users and assisted by technical consultants, a plan of action (selecting land use options that match the inherent potential of the land and would result in sustained yields), estimate the costs of implementation, and devise a strategy for fund raising and the allocation of funds.

Once the enabling environment (resources, stakeholder involvement and support) is in place, the project can be launched.

6. The project includes:

    a. Changes in use of the land that is being degraded;

    b. Exploring and strengthening the resilience of used land that is not being degraded;

    c. Restoring the productivity of already degraded land; and

    d. Setting and testing a monitoring system based on the agreed-upon indicators, for tracking the success of the actions on the ground—the long-term productivity in each of the three land use types, when factoring out the climatic variability and the effect of inputs (water, fertilizers, and pesticides). This will be achieved by setting milestones and assessing the monitoring data in each of these milestones until the position of the project area on the road to local ZNLD can be reliably determined.

        i. At this point in time the local community is expected to carry on with sustainable use of their land, with no dependence on foreign assistance and NGO support.

        ii. By that time it is also expected that the monitoring system established first on a regional scale and later on a global scale through the UN system, would enable incorporating the results of the local ZNLD into the global aggregated ZNLD system.

7. Finally, the results of the pilot projects should be shared through existing and new knowledge management systems, thus involving other local communities, people/private sector/public sector partnerships, as well as national, regional and international actors

around the world. This knowledge sharing would facilitate the move from local to regional and global ZNLD target implementation.

The UN, global scale track – Streamlining the ZNLD into a Sustainable Development Goal (SDG)

The pre-2015 actions

The United Nations Conference on Sustainable Development (Rio+20) in June 2012, agreed to launch an intergovernmental process to develop a set of global sustainable development goals (SDGs) to be adopted by the UN General Assembly. To date (January 2013), the General Assembly has established an open working group that will meet in 2013 to begin the process to elaborate these goals.

As called for in "The Future We Want," these goals should be *"action oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries, while taking into account different national realities, capacities and levels of development and respecting national policies and priorities."* Given this, it is logical that one of these SDGs should be on land and possibly be formulated to set a target for achieving ZNLD by 2030. If this goal is set, it could generate the necessary international political will, support and commitment to improving the lives of people in rural areas around the world, through striving to achieve the ZNLD target at all scales.

To accomplish this, ZNLD stakeholders and champions at all levels need to advance the ZNLD target at both the regional level—through any regional meetings that will contribute to this process—and at the international level—through the open working group.

The Post-2015 actions

In parallel to the SDG process, the UN system has also launched a process to build on and replace the Millennium Development Goals (whose target date is 2015) to address challenges such as sustainable development, continuing conflicts, human rights, rising inequality and demographic pressures. With consultations already underway, the UN system has set up a group of task managers to support the process by providing analytical inputs, expertise and outreach. While it is expected that the Post-2015 Development Agenda and the SDGs will eventually come together as one process, it is also important to raise the issue of ZNLD in this process as well.

The UN System Task Teams are set up along sectoral lines and there are a number of entry points for ZNLD on this list: inequalities; health; education; economic growth and employment; functional environment, governance; population dynamics; hunger, food and nutrition security; energy and water. In fact, it could be argued that land degradation is relevant to every single sectoral issue on this list. Each Task Team is coordinated by different UN agencies and the UNCCD and other interested parties should promote the ZNLD target within these Task Teams.

In addition, in July 2012 Secretary-General Ban Ki-moon created a 27-member High-level Panel to advice on the global development framework beyond 2015. The Panel, part of the Secretary-General's post-2015 initiative mandated by the 2010 MDG Summit, is co-chaired by President Susilo Bambang Yudhoyono of Indonesia, President Ellen Johnson Sirleaf of Liberia, and Prime Minister David Cameron of the United Kingdom and includes leaders from civil society, private sector and government. The panel has held two meeting to date, most recently in London in early November 2012. It is also worth promoting the ZNLD target to members of the panel through its upcoming consultations.

The role of the UNCCD, the other Rio Conventions and relevant UN Agencies

While the UNCCD has been at the forefront of the UN system's efforts to address desertification (as a subset of land degradation) and its exacerbation by drought, it cannot work alone in operationalizing and implementing ZNLD. Land degradation is directly related to people's livelihoods in rural areas but it is also interlinked with biodiversity loss, deforestation, climate change, poverty, migration and refugees and, most importantly, with global food security. Within the UNCCD, ZNLD should be streamlined into the Ten-Year Strategic Plan and in the operations of the Secretariat. The GEF, as the funding mechanism for the Rio Conventions, also needs to mainstream the ZNLD target into its resource allocation framework. The ZNLD target should therefore be addressed also by the Convention on Biodiversity, the UN Framework Convention on Climate Change, and the UN Forum on Forests. UN organizations like FAO, UNEP, UNDP and UNIDO can ensure that relevant programmes and plans work together with the UNCCD's efforts to achieve the ZNLD targets.

Recommendations

a. **Identify target audiences to introduce them to the ZNLD target**. At the local level: women, farmers, local community leaders, traditional leaders, religious leaders, teachers, and information brokers/media. At all levels: relevant government officials, academic and scientific networks, civil society actors, the private sector and industry, and UN institutions.
b. **Create awareness** of the need for monitoring and assessment, on top of the obvious need to reduce degradation and increase restoration rates.
c. **Determine guidelines for establishing baselines, monitoring and verification at all levels, starting with pilot testing at the community level.**
    - Define land degradation as non-sustainable use by the land user, when the objective of land use is the provisioning service (biological product of economic value).
    - Quantify (not just define) sustainable use (number of years of persistently high productivity levels that matches the land's potential, adjusted by controlling for climatic variability and change, and amount of inputs (irrigation, fertilizers, pesticides).

- Quantify the indicators to be monitored and the time frame required for assessing the success of restoring already degraded land.
- Explore the availability and state of data on harvested amounts of agricultural products, data on amount of inputs (irrigation, fertilizers, pesticides), and information on off-site effects and externalities at all scales (local, national, and global statistics on agricultural productivity). Reasonable availability of such data would make the harvested agricultural product (adjusted by the agrotechnical input data) a direct expression of land productivity that is of importance to people—a reliable global indicator for success or failure of achieving ZNLD at all scales.
- Produce an agreed upon and "official" guidebook for restoration, and for sustainable (i.e., non-degrading) use of non-degraded land.
- Establish a mechanism for reliably monitoring and mapping global, regional and national degraded land and the degree of degradation, and then prioritize the land to be subject to restoration efforts, depending on the degree of degradation.
- Set a mechanism for reliably monitoring and mapping land that is currently under use, and for classifying it by its current degree of degradation, land use practice and the length of time these practices have been in place.
- Translate action for attaining ZNLD into the policy and legal frameworks of governments, relevant UN institutions, funding agencies and other stakeholders.
- Once all the above is done, the ZNLD target is ready to be used, but only technically so. However, ZNLD cannot be implemented unless the social, economic, policy and governance constraints and stumbling blocks are addressed (e.g., selecting champions, sensitizing NGOs and civil society, and engaging governments at all levels.)

d. Incorporate the ZNLD concept into the SDGs and the post-2015 Development Agenda. Champions at all levels need to advance the ZNLD target at both the regional level and the international level, through relevant regional meetings and open working group. The UNCCD and other relevant UN institutions should promote the ZNLD target within the UN System Task Teams set up for the post-2015 Development Agenda, and to members of the Secretary-General's High-level Panel to provide advice on the global development framework beyond 2015 through its upcoming consultation.

We believe that through following these ZNLD-related recommendations the attained global land degradation neutrality would improve land users' livelihoods and strengthen global food security.

APPENDIX

Speakers:

- **Caroli, Paolo:** CESUI, Limpopo Transboundary Programme, South Africa, (Italian Ministry of Foreign Affairs: Italian Development Cooperation Programme)
- **Gnacadja, Luc:** United Nations Convention to Combat Desertification (UNCCD)
- **Grainger, Allan:** School of Geography, University of Leeds, UK
- **Jayasinghe, Dinali:** UN Development Programme's Global Environment Facility (GEF)
- **Lal, Rattan:** Ohio State University, School of Environment & Natural Resources, USA
- **Muthui, Veronica:** UN Development Program's (UNDP) LEAD Project
- **Nknonya, Ephraim:** International Food Policy Research Institute (IFPRI)
- **Rinaudo, Tony:** Integration Team, World Vision Australia
- **Xue, Xian:** Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences (CAS)

Workshop Participants:

- **Akhtar-Schuster, Mariam:** PT-DLR, Berlin, Germany
- **Ben-Eli, Michael:** The Sustainability Laboratory, Israel
- **Berliner, Pedro:** Blaustein Institutes of Desert Research, Ben-Gurion University, Israel
- **Caroli, Paolo:** CESUI, Limpopo Transboundary Programme, South Africa, (Italian Ministry of Foreign Affairs: Italian Development Cooperation Programme)
- **Chasek, Pamela:** International Institute for Sustainable Development
- **Cherlet, Michael:** European Commission, Joint Research Centre (EC-JRC)
- **Fluss, Ilan:** Israel Agency for International Cooperation (MASHAV)
- **Gao, Zhihai:** Institute of Forest Resource Information Technology (IFRIT), Chinese Academy of Forestry
- **Gil-Bayaz, Amit:** Israel Ministry of Foreign Affairs
- **Gnacadja, Luc:** United Nations Convention to Combat Desertification (UNCCD)
- **Grainger, Alan:** University of Leeds, UK
- **Jayasinghe, Dinali:** United Nations Development Programme (UNDP) Global Environment Facility (GEF) Small Grants Programme (SGP), Sri Lanka
- **Keding, Viktoria:** Nadeet, Namibia
- **Kellner, Klaus:** North-West University, South Africa
- **Kumar, V. Vijay:** Gujarat Institute of Desert Ecology (GUIDE), India
- **Lal, Rattan:** Ohio State University, School of Environment & Natural Resources, USA
- **Martinez, Enrique:** Centro de Estudios Avanzados en Zonas Áridas (CEAZA), Chile
- **Mulaudzi, Thibwi:** Ministry of Environmental Affairs, South Africa
- **Nkonya, Ephraim:** International Food Policy Research Institute (IFPRI)
- **Rosenthal, Everlyn:** Center for International Agricultural Development Cooperation (CINADCO)

- **Safriel, Uriel:** Hebrew University of Jerusalem, Israel
- **Sciortino, Maurizio:** Italian National agency for new technologies, Energy and sustainable economic development (ENEA)
- **Shikongo, Sem:** Former Chairman of UNCCD Intersessional Intergovernmental Working Group (IIWG), Namibia
- **Thevs, Niels:** University of Greifswald, Germany
- **Zucca, Claudio:** University of Sassari, Italy