

LAND DEGRADATION NEUTRALITY

RESILIENCE AT LOCAL, NATIONAL AND REGIONAL LEVELS

FOREWORD

The United Nations Convention to Combat Desertification (UNCCD) was established in efforts to halt land degradation in 1994. Despite the twenty-year-long endeavors throughout the globe, the situation became worse. Experts estimated that in 2030, the demands for energy will rise 50%, food 45%, and water 30%. It is also expected that continuing land degradation will drive 700 million people out of their homes. In this regard, the land degradation issue became a matter which requires an immediate attention of the international society, an issue that must be dealt by all humankind; the enhanced implementation of the Convention is critical for our future survival.

In 2011, the Republic of Korea (ROK) hosted the 10th session of the Conference of the Parties to the UNCCD where it launched the Changwon Initiative in order to enhance the implementation of the Convention. It was a milestone in shaping the global response to land degradation, and the need for achieving land degradation neutrality was highlighted. The Government of the Republic of Korea has been actively supporting dialogues towards setting targets on desertification, land degradation and drought (DLDD) in and out of the UNCCD.

Through various activities, the Initiative is expected to contribute to achieving the goal of Land Degradation Neutrality (LDN) agreed upon at the UN Conference on Sustainable Development (Rio+20) in 2012. For example, the Greening Drylands Partnership (GDP) is being implemented in Africa and Latin America to contribute to restoring the degraded drylands through mobilizing additional resources as well as facilitating partnership arrangements. Another activity, the Land for Life Award is contributing to building capacity and raising awareness of sustainable land management practices around the world. There is also the Economics of Land Degradation (ELD) Initiative, which is a global partnership aimed at establishing a holistic framework for the consideration of the economic values of land in the decision-making process.

LDN has been emphasized in the process of negotiation for the Sustainable Development Goals (SDGs). It is anticipated to be a part of the framework for the SDGs and the post-2015 development agenda. With such global consensus, the establishment of a global target on LDN within the SDG framework is also expected. This will provide a way forward for the future activities of UNCCD and certainly encourage the Parties to the UNCCD to take a bold step toward a 'Target Setting Approach' as a timely response to the global request of saving our future.

Our land resources underpin all three – as proposed in the Rio+20 document The Future We Want: environmental, economical and social – dimensions of sustainable development. So let us work together to protect and restore these valuable assets. The ROK will continue its efforts to demonstrate progress towards Land Degradation Neutrality and realizing "the future we want".

Dr. SHIN Won Sop

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Minister of the Korea Forest Service

As Co-Chairs of the UNCCD Intergovernmental Working Group (IWG) on the follow up to Rio+20, it is our great pleasure to set out where we currently stand regarding land degradation neutrality (LDN). This brochure gives you the "state of the art" and reflects how far our understanding of the concept and our common vision for what is possible to deliver under the UNCCD has advanced in the last year.

The options for achieving LDN are numerous and diverse. They are as rich as the circumstances, priorities and capacities of the communities in which the idea might be adopted and applied. Essentially though, with LDN, we aim to reach a state where the number of people adversely affected by land degradation is falling; and, where we secure multiple benefits by progressively increasing the amount of land that is sustainably managed.

Delivery will be a question of vision and ambition at all levels. Prevention or avoidance of land degradation and desertification will have to be a key priority. But recognizing that prevention or avoidance is not always feasible; policies and practices that minimize land degradation can be more widely adopted. The Working Group is convinced that an integrated use of land resources and approaches that are land-user driven and based on the participation of all stakeholders are fundamental to future success. With these conditions in place, degraded land can either be rehabilitated to support sustainable food production or, where appropriate, be restored to its natural or semi-natural state.

Taken together, these actions would boost biodiversity and the health and productivity of the land above and below ground. Achieving LDN could contribute to global sustainable development efforts; it could deliver greater food, energy and water security and build the resilience of UNCCD Parties to the impacts of drought and other climate-related disasters.

For UNCCD and for the IWG, framing an enabling environment to stimulate and develop the knowledge, capacities and motivation needed to achieve LDN will be the next big challenge. With access to the right knowledge, policy and legal frameworks and economic incentives, we can achieve LDN. We can inspire improved land stewardship in all countries that consider themselves affected and choose to act.

In 2015, the 12th session of the UNCCD Conference of the Parties is set to consider land degradation neutrality and the work of the IWG. As Parties to the Convention charting our future direction, we face an exciting and feasible challenge to reach land degradation neutrality.

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LAND UNDER PRESSURE: LIVELIHOODS UNDER THREAT

and degradation refers to any reduction or loss in the biological or economic productive capacity of the land resource base. It is generally caused by human activities, exacerbated by natural processes, and often magnified by and closely intertwined with climate change and biodiversity loss.

Currently the cost of land degradation reaches about US\$490 billion per year, much higher than the cost of action to prevent it¹. It is a generalized risk yet roughly 40% of the world's degraded land occurs in areas with the highest incidence of poverty². Land degradation directly impacts the health and livelihoods of an estimated 1.5 billion people³.

There are clear economic and environmental actions that can prevent and/or reverse land degradation. For example, the adoption of sustainable land management practices could deliver up to US\$1.4 trillion in increased crop production⁴.

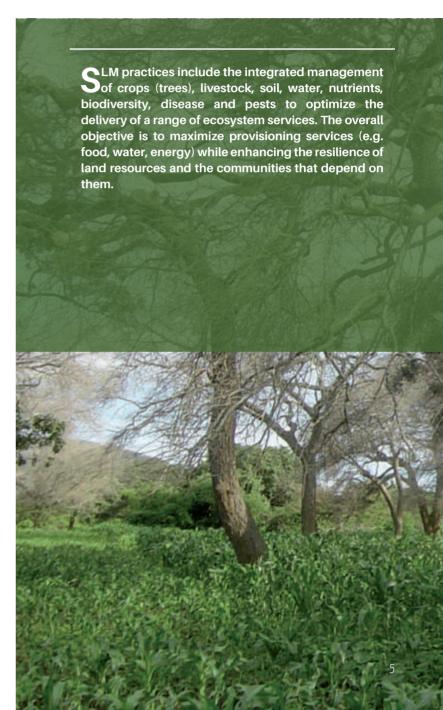
Land is a complex resource composed primarily of soil, water and biodiversity. The product of their interactions, ecosystem goods and services, is the foundation for sustainable livelihoods, social cohesion and economic growth. Communities and countries can no longer afford to squander this valuable resource.

In 2008, the Commission on Sustainable Development once again put a spotlight on the link between climate change, biodiversity loss and land degradation – warning that agricultural systems need to better adapt to the impacts of climate change to ensure food and water security⁵. Still, many countries are facing great challenges in harnessing their land resources for sustainable and equitable development.

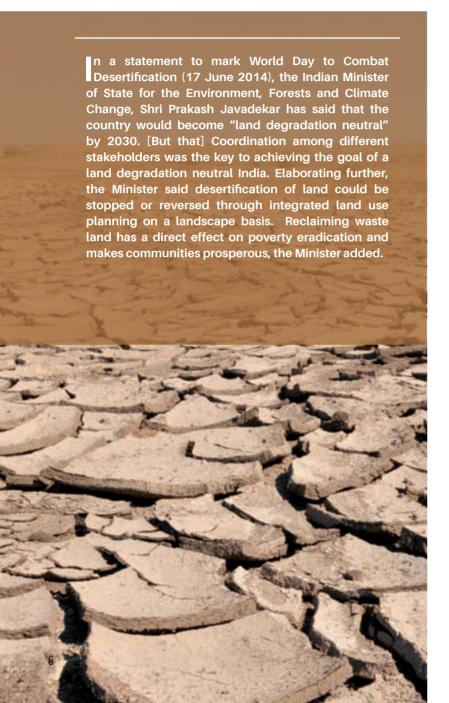
Solutions are at hand. A concerted global effort to halt and reverse land degradation, restore degraded ecosystems and sustainably manage our land resources is essential. This is the level of ambition needed to address the global challenge, namely:

How do we sustainably intensify the production of food, fuel and fiber to meet future demand without the further degradation of our finite land resource base?

Sustainable land management (SLM) practices, such as agroforestry and conservation agriculture, can boost yields and prevent future land degradation. Land rehabilitation and ecosystem restoration activities can also help recover productive capacity and other important services affected by mismanagement. A goal or target to achieve land degradation neutrality would help mobilize resources and fulfill our many commitments to more responsibly manage land resources.



SECURING THE ESSENTIALS OF LIFE



In the last 50 years, agricultural production has grown threefold, primarily due to increases in the yield of major grain crops⁶. However, these global achievements have come at a cost. Many regions are experiencing land degradation and the resulting loss of biodiversity and ecosystem services such as water regulation, pollination, carbon sequestration and erosion control.

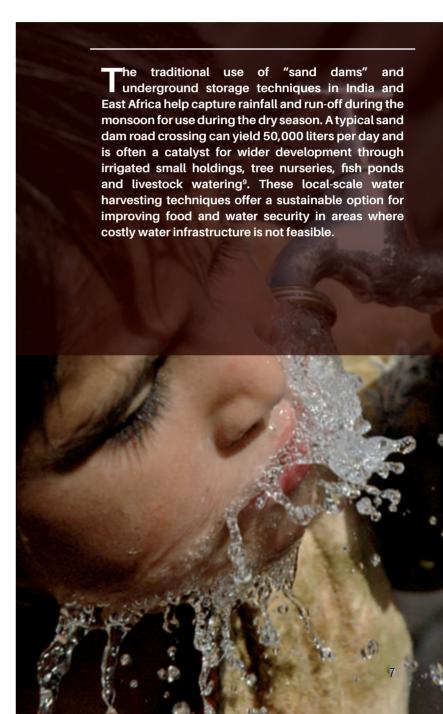
By 2050, it is expected that a population of 9 billion will increase the demand for food by 70% globally and by up to 100% in the developing countries⁷. Continued land and soil degradation will further imperil food and water security, particularly as climate change reduces water availability in the rain fed agricultural regions. Protecting these valuable assets will involve long-term efforts to secure effective governance and provide the incentives to enable the widespread adoption of SLM practices and ecosystem restoration initiatives.

Ver 5 million hectares of degraded land in the Sahel have been restored through a practice known as "farmer-managed natural regeneration". Crop yields have increased, wind erosion has been reduced, farmers have more firewood - crop residues and animal dung are used as fertilizers instead of burning them. To date, this has resulted in an additional half a million tons of grain production each year and enough fodder to support many more livestock; it has improved the food security of about 2.5 million people in the region. — World Vision, Winner of the 2013 Land for Life Award

Water availability has impacts upon all aspects of life. Scarcity and poor quality threaten public health and sanitation, food and energy production, and other means of industrial and economic development. It is estimated that 40% of the world's population suffers from water shortages, with close to one billion people lacking access to safe drinking water⁸. Sustainably managed land resources – as in the case of organic, ecological or conservation agriculture – can significantly increase water retention and filtration in soils to help ensure improved availability.

SLM and ecosystem restoration represent 'win-win' investments benefiting multiple sectors and stakeholders operating within the nexus of food and water security.

The Ramsar Convention's concept of "wise use" is perhaps the first application of the Ecosystem Approach and is an essential complement to Sustainable Land Management and argues for stronger links with the UNCCD. The ability of wetlands to supply clean water and provide resources such as fish and rice are some of the most important services that ensure the health and sustainability of urban, rural and coastal communities around the world. Protecting and restoring wetlands will be a critical element in national and global strategies to achieve land degradation neutrality and restore vital wetland services. — Dr. Christopher Briggs, Secretary General of the Ramsar Convention on Wetlands



BIODIVERSITY LOSS: ECOSYSTEMS AT THE BREAKING POINT

iodiversity is the basis for healthy and productive Dcroplands and rangelands. Halving the loss and degradation of ecosystems and restoring at least 15% of degraded ecosystems by 2020, in line with the Aichi Biodiversity Targets, and achieving land degradation neutrality, are essential steps towards sustainable development, helping us to produce more food, mitigate and adapt to climate change and reduce our vulnerability to disasters. — Dr. Braulio Ferreira de Souza Dias, Executive Secretary of the Convention on Biological Diversity

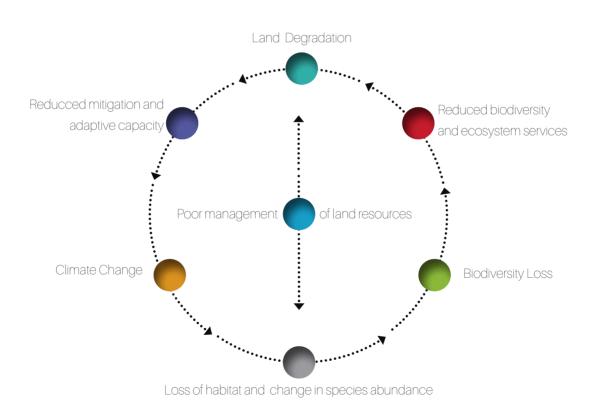
We depend on biodiversity and ecosystem services for our daily needs and for our economic and cultural development. This not only includes food production and wild harvesting but other activities such as industry, tourism and handicrafts. Land degradation and climate change are having significant and irreversible impacts on biodiversity around the world.

Land degradation is reducing the resources available to all species, making us all less resilient and more vulnerable to the impacts of climate change. Local species, wild relatives and their gene pools can provide an important development pathway for improved crop and livestock diversity and resilience in the face of environmental changes. Biodiversity and habitat loss contribute to the insecurity and impoverishment of some of the most fragile communities and nations.

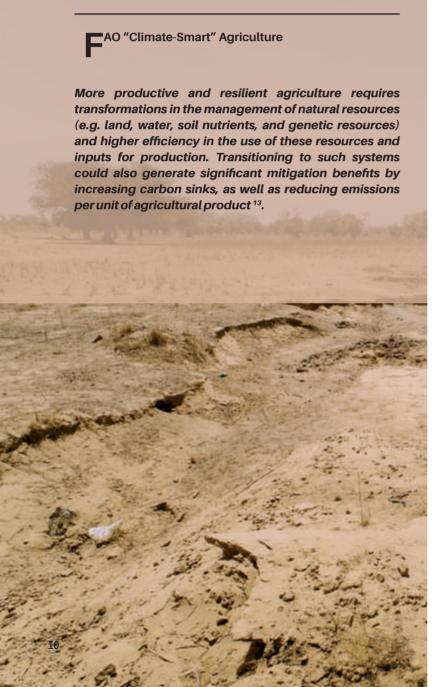
LAND AND CLIMATE CHANGE: INEXTRICABLY LINKED

Land degradation is both a cause and a consequence of climate change. Most troubling, land degradation and climate change can form a 'feedback loop' whereby food production increases emissions while the loss of soil and vegetation significantly reduce potential carbon sinks. The result is more greenhouse gases in the atmosphere feeding an energetic cycle of land degradation, biodiversity loss and climate change.

Figure: Feedback loops and the objectives of the Rio Conventions



CLIMATE-SMART LAND MANAGEMENT



The world's cultivated soils have lost between 50-70% of their original carbon stocks¹⁰. Some of these make up the world's estimated 500 million hectares of abandoned agricultural land that serve no productive or ecological purpose¹¹. By restoring soil health on these degraded lands, we would not only increase food production but could potentially sequester between 1-3 billion tons of carbon -- equal to 1/3 of annual $\rm CO_2$ emissions from fossil fuels¹² -- and at the same time avoid further emissions from deforestation and wetland destruction.

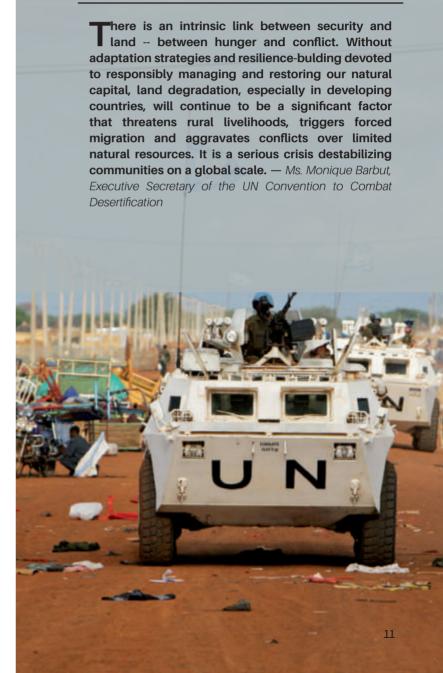
While land degradation is acutely felt in the world's drylands (i.e., arid, semi-arid and dry sub-humid areas), an estimated 80% is occurring outside these areas¹⁴. Of the estimated 1.5 billion people subsisting on land that is in decline, the majority are small farmers. Climate change directly threatens their livelihoods and future security.

FORCED MIGRATION AND CONFLICT: A NEW GLOBAL FRONTLINE

Land degradation not only endangers families and communities but is a threat to wider peace and stability. This can take the form of conflict between pastoralists and subsistence farmers competing for more productive land or neighbors fighting over increasingly scarce water and fuel resources. When land becomes unproductive, people are often forced into internal or cross-border migration; in some cases, entire villages leave their ancestral land for overcrowded urban areas.

Conflicts in Africa, the Middle East and Central Asia are particularly prone to relapse due in part to continued poor governance and the failure to address land and water management issues in the post-conflict period. The UK Ministry of Defence predicts that areas with larger youth populations, lack of employment opportunities and poor governance are likely to suffer from instability which could lead to insecurity and conflict within the 2045 timeframe.

An estimated 135 million people will be at risk of being displaced by desertification over the coming decades, due to water shortages and reduced agricultural output¹⁵. In sub-Saharan Africa alone, some 60 million people are expected to move from 'desertified' areas to northern Africa and Europe by 2020, and this figure is highly likely to increase out to 2045. At the same time, growing urban unrest could pose major security challenges with the potential for countrywide repercussions¹⁶.



THE SCIENCE BEHIND LAND DEGRADATION NEUTRALITY



The concept of land degradation neutrality was first introduced as "zero net land degradation" in a proposal tabled at Rio+20. This goal or target would be achieved by: (a) managing land more sustainably, which would reduce the rate of degradation; and (b) increasing the rate of restoration of degraded land, so that the two trends converge to give a zero net rate of land degradation¹⁷. Land degradation neutrality is considered a hybrid lay-scientific concept now being refined in parallel processes so that scientific analysis leads to findings that will help policy makers¹⁸.

The most distinctive feature of land degradation neutrality as a strategy to address land degradation is the integration of the three activities prescribed by the UNCCD (Article 1(b) of the Convention

Text): the "prevention and/or reduction of land degradation", the "rehabilitation of partly degraded land," and the "reclamation of desertified land." However, this strategy is not envisaged as a "license to degrade" or a grand compensation scheme to restore the productivity of one area of land to offset degradation that has taken place elsewhere¹⁹.

While the science points to proven action on the ground to achieve land degradation neutrality, its implementation also requires significant attention at the national and international level as it pertains to the global risks to food and human security, the climate system and biodiversity. Most of the scientific knowledge needed to support the goal of land degradation neutrality exists, however various challenges remain, including:

- scaling up locally relevant tools and technologies;
- overcoming social constraints and reforming economic incentives;
- creating enduring institutions and equitable governance systems; and
- improving methods and indicators for monitoring, evaluation and communication.²⁰

Moving forward, there is an immediate need to identify existing projects suitable for testing the concept of land degradation neutrality and establishing new projects at the local community or landscape scales.

STRIVING FOR BALANCE: THE FUTURE WE WANT

Land degradation is posing increasingly serious challenges to sustainable development in all countries. World leaders, at Rio+20, agreed on the urgent need to reverse land degradation and recognized that good land management provides significant social and economic benefits. So they set a new level of ambition – to strive to achieve a land degradation neutral world.

Paragraph 206: We 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.

Rio+20 heralds a global commitment to achieve a land degradation neutral world or, in other words, a world where all countries individually strive to achieve land degradation neutrality. This paragraph captures an aspirational global goal where the total amount of degraded land remains constant or even decreases.

A goal and/or target focused on land degradation neutrality would also give more incentives to take coordinated actions for better monitoring, assessments and solutions. The Rio+20 outcome document, The future we want²¹, provides a clear vision that will guide the formulation of the Sustainable Development Goals (SDGs) and the post-2015 development agenda.



Paragraph 207: We reaffirm our resolve, in accordance with the United Nations Convention to Combat Desertification, to take coordinated action nationally, regionally and internationally, to monitor, globally, land degradation and restore degraded lands in arid, semi-arid and dry sub-humid areas.

After Rio+20, the 11th Conference of the Parties to the UNCCD established an Intergovernmental Working Group (IWG) to develop concrete options for implementing and monitoring land degradation neutrality²². The IWG fully recognizes that these options are as numerous and diverse as the contexts in which they might be applied.



To make the target precise and measurable, and to enable the international community to take action, the IWG is preparing a science-based definition of land degradation neutrality as well as related options and their implications for national programmes and resource mobilization. The IWG's current working definition of land degradation neutrality is:

a state whereby the amount of healthy and productive land resources, necessary to support ecosystem services, remains stable or increases within specified temporal and spatial scales.

In many countries, achieving land degradation neutrality will require a paradigm shift in land stewardship: from 'degrade-abandonmigrate' to 'protect-sustain-restore'. This means cooperation among various sectors and national sustainable development plans that embrace complementary management options:

- adopting sustainable land management policies and practices in order to minimize current, and avoid future, land degradation; and
- rehabilitating degraded and abandoned production lands as well as restoring degraded natural and semi-natural ecosystems that provide vital, albeit indirect, benefits to people and working landscapes.

The IWG report and recommendations are intended to contribute to the further deliberations of the UNCCD Parties on the follow up to Rio+20, and taking note of the final SDGs framework to be approved by the UN General Assembly in September 2015.

MAINSTREAMING SOLUTIONS FOR THE POST-2015 WORLD

At the UN Conference on Environment and Development in Rio de Janeiro in 1992, the global community recognized that healthy and productive ecosystems will be necessary for sustainable and equitable development. This gave birth to Agenda 21 and the three Rio Conventions, namely the Convention on Biological Diversity (CBD), the UN Framework Convention on Climate Change (UNFCCC) and the UN Convention to Combat Desertification (UNCCD).

They reiterated these commitments and common goals with even greater urgency twenty years later at Rio+20. The SDGs and the post-2015 development agenda provide a unique opportunity to fulfill our obligations to better manage our land resources for the benefit of all.



SUSTAINABLE DEVELOPMENT GOALS: TAKING TARGETED ACTION TO SCALE

Outcome of UN Open Working Group on Sustainable Development Goals 24

Proposed goal 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

Proposed target 15.3: by 2020, combat desertification, and restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation neutral world



The experience with the Millennium Development Goals and targets demonstrates that a target-setting approach can help shape expectations and create the conditions for all stakeholders to assess progress and take appropriate action. For land degradation neutrality, this would include increased awareness of land degradation as a global threat to food and water security.

The UN Open Working Group on SDGs presented its proposal for the goals and targets to be considered by the 69th UN General Assembly in what is expected to be a yearlong intergovernmental negotiating process. The final SDGs will be agreed to in September 2015.

By adopting a goal and/or targets to "halt and reverse land degradation", governments will take action and, for the first time, explicitly recognize the unacceptable costs of inaction (i.e. continued land degradation), in terms of social cohesion, economic development and environmental sustainability.

Of the 17 SDGs being proposed, 15 have targets that are linked to the sustainable management of land resources. The proposed targets within the SDG framework are being defined as aspirational and global. Each government is therefore responsible for setting its own national targets guided by this global level of ambition but taking into account national circumstances.

DEMONSTRATING PROGRESS: DELIVERING RESULTS

Land degradation neutrality, as an aspirational target, is expected to be more successful than previous and current efforts to effectively draw the attention of people and the international community to the significance of healthy land and soil to human well-being and to the risks brought about by land degradation. This target will bolster our resolve to not give up on lands that have already lost their productivity.

With the support of the Republic of Korea, the UNCCD secretariat has launched a new initiative – the Land Degradation Neutrality project. The project aims to provide technical assistance to a voluntary group of 14 countries with diverse socio-ecological conditions for mainstreaming land degradation neutrality in the process of aligning their National Action Programmes to the UNCCD's Strategic Plan.

The objective is to demonstrate in practice that implementing this approach is not only achievable in the short and medium term, but will produce considerable societal and economic benefits in the short, medium and long term. This includes supporting efforts for monitoring and reporting progress towards land degradation neutrality.



The Land Degradation Neutrality project framework for implementation has 4 major components:

- Establishing a structured dialogue between government, science, business and civil society communities on land degradation challenges, priorities and opportunities for immediate action:
- Identifying the gaps and synergies within the National Action Programmes while considering land degradation neutrality as a key strategic goal;
- Formulating the appropriate spatial scales and set of indicators that reflect each participating country's circumstances and capacities, and setting targets, on a voluntary basis, for achieving land degradation neutrality; and
- Implementing strategies at the community/landscape level on a pilot basis in order to evaluate policies and practices that aim to achieve land degradation neutrality by 2030.

In order to ensure high quality in the delivery of baseline information, in each partner country, at least 2 experts from national research institutions and academia, internationally recognized for their work in the area related to land-use and land-use changes, in a variety of domain ranging from environmental





to social sciences and economics, will be associated to the project activities. The participation of these scientists will be important to provide insights during the design of the LDN reporting, monitoring and verification system and the preparation of guidelines for the achievement of LDN targets worldwide.

For the identification and implementation of land restoration projects foreseen to be supported by the Land Degradation Neutrality project, it is important to approach, in consultation with designated government officials from partner countries, NGOs, local community organisations, farmers associations and cooperatives that are already active and live in geographical areas concerned by land degradation and actually hosting degraded lands subject to restoration.

Two additional features of the Land Degradation Neutrality project are the participation of developed countries located outside arid regions and that of sub-national governments. The Land Degradation Neutrality project will produce a series of standardized country progress reports, including lessons learned and field experiences, which along with the final report of the IWG will be presented for consideration at the UNCCD's 12th Conference of Parties and other relevant international fora. While the initial phase is planned until mid-2015, the Land Degradation Neutrality project may be prolonged and extended to other interested countries.

RIO CONVENTIONS: NURTURING COMMON GROUND

BD's Aichi Biodiversity Targets

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.



Many land-based practices, such as SLM, sustainable forest and integrated water resources management, can help communities and countries adapt to the impacts of climate change and halt biodiversity loss. Thus improving the condition and productivity of land resources while at the same time providing significant mitigation or carbon sequestration co-benefits.

As a result of this common ground, the Rio Conventions are uniquely poised to work together to support results-based land management practices on the ground. While many of the CBD's Aichi Biodiversity Targets²⁵ will contribute to land degradation neutrality, two targets are particularly relevant and stand out as great enablers.

The UNFCCC, which is currently negotiating the post-2015 climate agreement, has recognized that sustainable natural resource management is essential for both adaptation and mitigation. Parties to the Convention have affirmed that adaptation must be addressed with the same level of priority as mitigation.

The objective of the UNFCCC's Cancun Adaptation Framework (CAF) is to enhance action on adaptation, including through international cooperation and coherent consideration of matters relating to adaptation under the Convention.

The CAF invites Parties to undertake, inter alia: "Building resilience of socio-economic and ecological systems, including through economic diversification and sustainable management of natural resources." ²⁶

WEIGHING UP PROGRESS: PROMOTING SYNERGIES IN REPORTING

By using common indicators or monitoring and evaluation frameworks, the Rio Conventions and their finance mechanism, such as the Global Environmental Facility, would be in a position to better assess and compare the effectiveness of land management policies and practices in meeting their common goals. This would greatly contribute to the enabling environment by:

- creating opportunities for collaboration among diverse sectors and stakeholders:
- enriching reporting processes and serving the long-term goals of the Rio Conventions: and
- supporting a more harmonized approach to sustainable development.

A practical approach that could build on existing methodologies and global datasets is currently being pursued by numerous UN organizations and partners. If successful, it would vastly improve reporting on the current state of land resources as well as help monitor progress made towards a goal and/or target focused on land degradation neutrality.



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PHOTOS

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