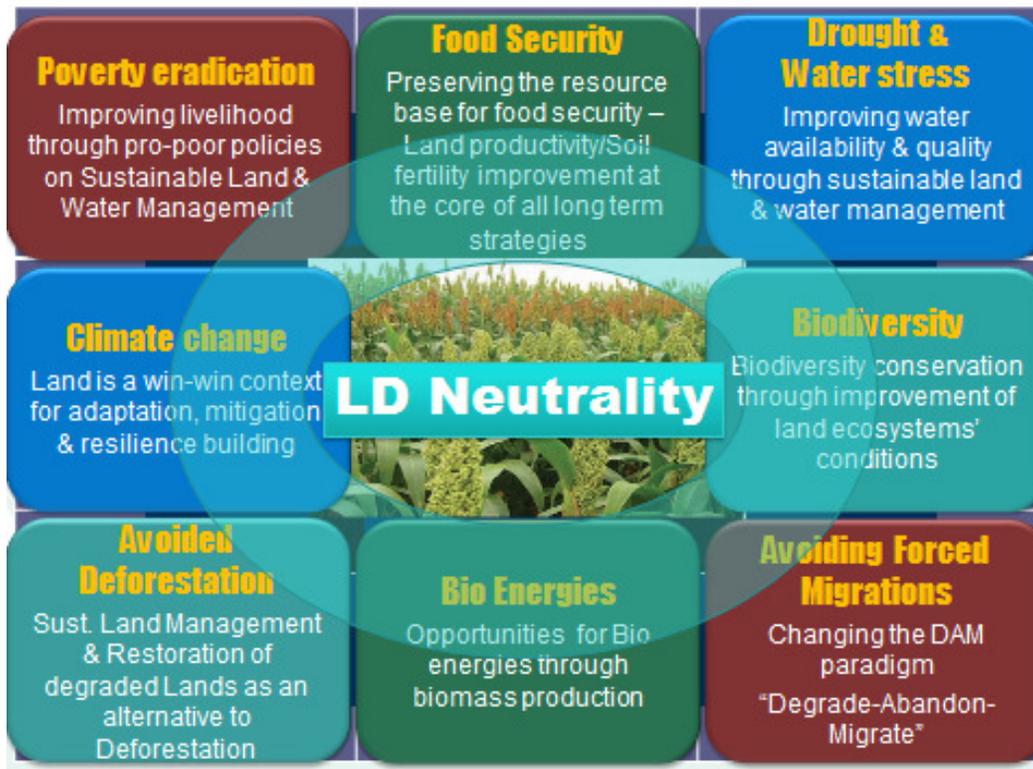**Issues Brief on**
Desertification, Land Degradation and Drought

(DLDD)

A. Stocktaking of Policies and Lessons Learnt:
Understanding Desertification, Land Degradation and Drought (DLDD)

1. Land is a vital resource for producing food and other ecosystem goods and services including conserving biodiversity, regulating hydrological regimes, cycling soil nutrients, and storing

carbon, among many. For those communities that rely heavily on land as their main asset, especially the rural poor, human wellbeing and sustainable livelihoods are completely dependent upon and intricately linked to the health and productivity of the land.

2. Land degradation refers to any diminishment of biodiversity and ecosystem functioning that negatively impacts the provisioning of ecosystem services and ultimately impedes poverty eradication and sustainable development. Land degradation is caused by human activities and natural processes, which are closely linked to the adverse impact of climate change and biodiversity loss. In addition to unsustainable agricultural and livestock management practices, other sectoral activities contribute to land degradation thereby reducing socio-ecological resilience and food/water security. When degradation occurs in arid, semi-arid and dry sub-humid areas where productivity is constrained by water availability, it is called desertification.

3. Ecological and economic systems are also disrupted by drought. Drought, like land degradation, occurs in most parts of the world, including humid regions. From the 1970s to the early 2000s, the percentage of the Earth's land area afflicted by serious drought has more than doubled. While the world's drylands continue to be the most vulnerable and threatened by DLDD, land degradation is a global phenomenon with 78% of the total land degraded occurring in terrestrial ecosystems other than drylands. Global assessments indicate that the percentage of total land area that is degraded or being degraded has increased from 15% in 1991 to 24% in 2008: with more than 20% of all cultivated areas, 30% of natural forests, and 25% of grasslands undergoing some degree of degradation.

4. Indeed, the most significant geo-resource or natural capital asset is productive land and fertile soil. Nevertheless, DLDD processes have accelerated in the last century and each year an estimated 24 billion tons of fertile soil are lost due to erosion in the world's croplands. DLDD directly affects 1.5 billion people around the world (by 2008 estimate) and has a disproportionate impact on women and children. Women bear the burden of land degradation but can also be part of the solutions. In this respect, gender sensitive investments in addressing the conditions of degraded land will not only contribute to achieving food security, poverty alleviation and sustainability but also contribute to improving the living condition of women in ecosystems affected by DLDD.

DLDD necessitates a coordinated and coherent approach based on international norms and which promote policy coherence at national and international levels.

Between 1985 and 2005, the world's croplands and pastures expanded by 154 million hectares. In the last two centuries, humans have cleared or converted 70% of the grassland, 50% of the savannah, 45% of the temperate deciduous forest, and 27% of the tropical forest biome for agriculture. Agriculture is estimated to be the proximate driver for around 80% of deforestation worldwide. Productive land is becoming scarce. Population growth, climate change, unsustainable land use, land degradation and growing urban areas increase the pressure on productive land and water resources. At the same time, competition for productive land increases due to growing demand for food, fodder and agricultural raw materials for industrial and energy use.

DLDD and Linkages to Other Global Issues
5. Land is central to the "nexus" that links energy, food, water, and environmental health in an interdependent loop. Further, continued land degradation over the next 25 years could reduce global food production by up to 12%, resulting in an increase of up to 30% in world food prices.

Global trends such as population dynamics and the increasing demand for energy, food, and water are expected to dramatically increase pressure on the land. By 2030, the demand for food, energy, and water is expected to increase by at least 50%, 45% and 30%, respectively. Meeting these demands will require 175-220 million hectares of additional cropland. These needs will not be met sustainably unless we preserve and restore the productivity of our land. Business as usual will lead to more deforestation.

6. If hunger and food insecurity are to be overcome, an estimated 60% increase in agricultural productivity, including a 100% in developing countries, will be necessary by 2050. However, the world's ecosystems, biodiversity and associated goods and services are also under increasing pressure from the loss of crop diversity, the overexploitation of fish stocks, deforestation, degradation and losses of arable land, growing competition for increasingly scarce water and the adverse impact of climate change.

7. Worldwide, large areas of all continents are experiencing land degradation, with particularly high incidence along the west coast of the Americas, across the Mediterranean region of Southern Europe and North Africa, in the Sahel and the Horn of Africa and throughout Asia. Although land degradation is a generalized risk, some 40% of the world's degraded lands are found in areas with the highest incidence of poverty. Poverty is a global issue, it is largely rural and land is the main, if not the sole asset of the rural population.

8. Another compelling reason to view DLDD in its global context stems from the links between land degradation and two other major issues of global environmental change: climate change and biodiversity loss. Land is intimately related to climate change adaptation and mitigation, and its sustainable management provides a tool for addressing both. Maintaining and enhancing the condition of land contributes to biodiversity conservation and sustainably managing it and provides a viable alternative to deforestation and the degradation of other ecosystems. Recent analysis suggests that increased global warming could lead to extreme events occurring more frequently and with greater severity in a globally synchronized way. This could significantly reduce our resilience to drought and disaster risks at a global scale.

9. Sustainable Land Management (SLM) has the potential to make significant progress towards three critical global sustainability goals related to DLDD, namely food security, energy access, and water availability, with a focus on soil structure and land cover improvements. SLM practices significantly enhance soil water retention capacity and improve water availability, as well as replenish and elevate the groundwater table. By addressing the nexus of food, energy and water in an integrated approach, rural poverty can be significantly alleviated with SLM and other ecosystem-based tools, such as drought risk management (DRM).

The Socio-Economic Impacts of DLDD

10. According to a recent study titled, *The Economics of Desertification, Land Degradation and Drought: Methodologies and Analysis for Decision-Making,* the global community is losing up to 5% of total agricultural gross domestic production (GDP) due to land degradation, costing some US$490 billion per year. The direct economic costs of land degradation at country level vary widely, with some as high as 6.6% of GDP in Paraguay, 9% in Burkina Faso and 24% in Guatemala. In China, over 400 million residents are affected by desertification, causing an annual direct economic loss that exceeds USD 10 billion. In India, losses due to erosion have increased by a factor of six between 1989 and 1994.

11**.** To effectively tackle DLDD, its drivers need to be addressed and instruments designed to incentivize SLM. Embedded in the understanding of the economics of DLDD is a set of methodologies for assessing the true societal impacts of land degradation, which includes issues such as forced migration and conflicts over scarce natural resources. These form the foundation for determining how to best allocate financial, technical, and human resources to effectively tackle DLDD.

Recent Policy Developments Addressing DLDD

12**.** The issues of land degradation, desertification and drought and their adverse impact on sustainable development have long been a blind spot for the international community. The entry into force of UNCCD in 1996 constituted a policy response to this challenge. Nevertheless, at a time when MDGs were adopted in 2000, the challenge was still overlooked. In 2007, Parties to the UNCCD, in the Ten-Year Strategy, recognized that addressing DLDD would serve to improve livelihoods of affected populations, restore degraded ecosystems and generate global benefits through effective implementation of the Convention. The UN General Assembly high level meeting in 2011 on DLDD was another landmark, which served to draw attention to the urgent need for the international community to prioritise DLDD. At the Rio+20 Conference, world leaders recognized that desertification, land degradation and drought, were challenges of a global dimension that affected the sustainable development of all countries and undertook to strive to achieve a land degradation neutral world and committed to monitor, globally, the status of land degradation and to reclaim degraded lands in arid, semi-arid and dry-sub-humid areas.

13. The recently held High-Level Meeting on National Drought Policy encouraged Governments around the world to develop and implement National Drought Management Policies, consistent with their national development laws, conditions, capabilities and objectives, guided, inter alia, by the following most salient point: to develop proactive drought impact mitigation, preventive and planning measures, risk management, fostering of science, appropriate technology and innovation, public outreach and resource management as key elements of effective national drought policy.

B.   Overview of the Sustainable Development Goal (SDG) Proposed
A SDG on Land Degradation Neutral World (LDNW) (The Future We Want, paragraph 206)

14. If scientific predictions are correct with regard to the reduction of productive agricultural land caused by DLDD, it is inevitable that poverty rates would increase and food security would decline in many countries. In the worst case scenarios, famine and widespread starvation would result. Long-term inappropriate forestry practices, especially in tropical countries, will lower the productivity of forests on which the livelihoods of its users depend, and hence further aggravate poverty. Declining productivity would lead to economic and political unrest and the destruction of the social and cultural fabric of society in many more countries. Global peace could also be threatened because of food, water and energy unavailability and /or insecurity.

15. Goals and targets for addressing the adverse impact of climate change, biodiversity loss, and poverty while ignoring DLDD will have only limited success. Since DLDD contributes substantially to biodiversity loss, exacerbates climate change impacts, and diminishes sustainable livelihoods and socio-economic development, an SDG focused on land degradation is required. Such a goal can help shape expectations and create the conditions for all stakeholders to monitor progress and take appropriate actions in addressing DLDD. Translating this aspirational goal into an achievable SDG will require a concerted global shift to the sustainable management of land

and water resources. A LDNW is simply a world where we (1) prevent or avoid the degradation of healthy and productive lands through sustainable land management (SLM) and sustainable forestry management (SFM) practices, including agroforestry, sustainable agriculture and livestock practices, water management, and soil conservation, and (2) where feasible, regenerating land that is already degraded. As we welcome another two billion people to our planet over the next 30 years, it is clear that we must restore more land than we degrade.

16. One possible approach would be to define the overarching LDNW SDG as "sustainable land use for all and by all" (for agriculture, forestry, energy and urbanization) and make it operational with three concrete targets: (1) Zero net land degradation by 2030 or achieving net restoration of degraded lands by 2030; (2) Zero net forest degradation by 2030; and (3) Drought policies and drought preparedness measures put in place in all drought-prone regions/countries by 2020.

17. SLM and SFM along with conservation and restoration will protect and enhance biodiversity and ecosystem services. This will lead to improved rain infiltration, increased water storage and availability, more biomass, and greater food security which in turn will reduce pressures on land and the need to convert forest to cropland. These restorative activities will result in economic growth for local populations, businesses and, through subsequent interlinkages, the global economy. Investments in SLM are analogous to investing in underperforming assets where there is potential for big returns in terms of economic livelihoods and environmental sustainability.

18. To utilize their full potential, agricultural ecosystems must be managed as part of the wider landscape while reinforcing the natural resilience of the land. Deforestation, degradation of catchments/watersheds and land degradation, especially in LDCs, LLDCs and SIDS all reduce nature's productivity as well as its resilience and its capacity to protect human communities.

19. Working towards a SDG on LDNW will require an appropriate mix of policy instruments and should be monitored and assessed on the basis of agreed upon indicators. Parties to the UNCCD have already agreed upon the use of a standardized set of performance indicators and eleven impact indicators are being considered, two of which are mandatory indicators on changes in land cover status and the proportion of the population living above the poverty line. Not only would this assist and create synergies with a number of other global commitments, there would also be added value to such a SDG by: providing a strategic framework for sustainable development policies; ensuring complementarity and coherence towards addressing DLDD imperatives; ensuring predictability and a concerted action globally; and stimulating action at all levels of governance.

Setting a SDG on LDNW is realistic. It can be achieved by restoring and regenerating land.

C. Recommendations for a Possible Way Forward

20. A SDG on LDNW is ambitious and yet to be fully developed. However, the potential benefits are significant in the short-term and absolutely necessary for long-term food security, poverty alleviation, and sustainable development. In order to achieve this goal, there is a need to put in place enabling conditions or support measures for a LDNW SDG.

Global Processes and Commitments
21. The global community and multilateral institutions now recognize the imperative to

sustainably manage land, ecosystems and landscapes, and where appropriate to restore their ecological productivity. While SLM is essential to any effort to reverse the current trends in DLDD, there is increasing recognition that conservation and sustainable use are no longer sufficient to stem the loss of biodiversity and ecosystem services. The second pillar of the proposed SDG on LDNW therefore calls for halting and reversing declines in productivity by restoring and regenerating land that is already degraded. Global assessments and commitments, such as the Bonn Challenge, estimate that there are more than 2 billion hectares of degraded lands worldwide with the potential for forest, landscape, and more often mosaic restoration, in which forests and trees are combined with other land uses, including agroforestry and smallholder agriculture.

22**.** The three Rio Conventions and international organizations that are working towards sustainable development are well-positioned to assist countries in their quest for enabling policies, support, and approaches that address both the causes and effects of DLDD. The interlinked objectives of the Rio Conventions - UNCCD, CBD, UNFCCC - address distinct and urgent manifestations that have the same underlying cause: land, ecosystem, and landscape degradation. Healthy soils and lands are critical natural capital assets that form the basis for not only agricultural productivity but also biodiversity and a multitude of ecosystem services such as carbon sequestration and well-functioning hydrological regimes. The LDNW embodies conservation, sustainable use and restoration, providing the building blocks of sustainable development.

23. Recognizing the multiple benefits that would result from a SDG on LDNW as well as the need for consistent assessments and monitoring tools to support the convergence of objectives and commitments outlined above -- will encourage effective policy and investment approaches among the Rio Conventions and other relevant partners. In order to make the most of these synergies at implementation level, it is essential that collaboration and coordination now begin at the level of implementation. In addition, a post-2015 global development framework will be essential to catalyze policy and mobilize resources in order to improve the conditions of the underperforming assets (land) of the poor and restore their productivity in order to effectively and sustainably achieve poverty eradication as well as food-energy-water security.

Bridging the Science-Policy Gap: Knowledge Transfers and Capacity Building
24. Meaningful progress towards a SDG on LDNW will require a solid and up-to-date scientific and technical basis and the wide availability of knowledge and lessons learned from previous experience, thus the imperative to establish a globally agreed and recognized, credible and transparent authority on scientific and technical knowledge on land and soil, including land degradation and desertification. Establishing a global data base for measuring and monitoring the extent of impacts on productivity, the environment and populations affected at national and regional levels, generating pilot projects in regions with global DLDD 'hotspots', and quantifying the impacts of adopting SLM and other interventions (on soil quality, water resources, populations affected, and land cover) in cooperation with key global institutions such as the FAO, UNEP and the Global Environment Facility, and developing recommendations at the global and regional levels will facilitate the implementation of strategies and policies to achieve the SDG on LDNW.

25. Another important aspect in bridging the science-policy gap is the understanding and respect for traditional and local approaches to natural resource management. In many low and middle income countries, traditional knowledge and practices related to sustainable agriculture,

livestock, and agroforestry management can make significant contributions to rebuilding ecological infrastructure and reversing land degradation. When adopting a multi-level stakeholder approach to SLM, scientific information must be coupled with indigenous knowledge to offer a better basis for decision-making.

26. At the same time, advanced technologies, such as high resolution satellite images and meteorological satellite data, in conjunction with historical/ existing ground-based data and maps, provide information necessary to examine the nature, trend and scope of the DLDD processes and formulate relevant policies. It is therefore imperative to strengthen capacities of policy makers to access and use Earth observation and in-situ data and information in a timely manner to monitor the state of land degradation and desertification and to predict and assess the extent of droughts in support of decision making processes at the national and international level.

27. Finally, the formulation of a specific and quantifiable definition for a SDG on LDNW will be critical to its success. While recognizing the current limitations of global and national datasets, baseline assessments and periodic monitoring utilizing biophysical and socio-economic indicators of DLDD will nonetheless be required to demonstrate and measure progress towards the LDNW SDG. Mapping and other tools emerging from data-based spatial analysis are developing rapidly offering a number of techniques that allow us to measure and compare biophysical, climatic, and ecosystem status and trends, and more recently ecosystem services in the landscape context. These tools will be essential for policy- and decision-makers in prioritizing land management and regeneration efforts. National, sub-national, and local assessments will be useful to governments, corporations, and communities when formulating policies and action plans that identify appropriate interventions for halting and reversing land degradation trends.

Partnerships and resource mobilization for a landscape-based Multi-Sectoral Approach
28. Partnerships at all levels will be needed to achieve a SDG on LDNW by the year 2030. In this regard GEF and the development banks will have a crucial role to play in achieving a land degradation neutral world. This would be a smart investment in allocating resources to the GEF land degradation focal area and would yield multiple benefits. An inclusive, partnership-building approach whereby relevant stakeholders can participate and engage in long-term commitments would also be important. Local partnerships among governments, corporations, and communities have proven successful in leveraging scarce resources to address DLDD, and making the transition from degraded and unproductive lands to those that are sustainably managed.

29. All sectors of the economy benefit directly or indirectly from nature and their engagement is required for the transition to the green economy in the context of sustainable development and poverty eradication. Above all, land regeneration should be seen as the foundation for an integrated development strategy that involves diverse stakeholders with common goals -- starting with food and water security, jobs and sustainable livelihoods, drought and disaster mitigation, and the ongoing struggle to reduce poverty and socio-economic inequality.

D. Conclusion
30. If we do not take bold action to protect, restore and manage land and soils sustainably, we will not achieve our commitments for climate change adaptation and mitigation, biodiversity conservation, forest and MDG targets; we will not alleviate rural poverty and hunger, ensure long-term food security or build resilience to drought and water stress.

At Rio+20, world leaders agreed to strive to achieve a land-degradation neutral world in the context of sustainable development. We must recognize that the many millions of people who manage agricultural systems, from the very poorest to the most commercialized producers, constitute the largest group of natural resource managers on earth. Their decisions, as well as those of the world's 7 billion consumers, will shape global food and nutrition security and the health of the world's ecosystems into the future. The challenge is to support better decisions by using all the tools at our disposal for reversing land degradation trends and gearing towards a LDNW by 2030.