

## **The socio-economics of DLDD – Towards a Global Assessment**

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Never before in the history of mankind has the sustainable management of natural resources been so critical to human survival. Our generation will set human history on the path to either sustainable development or self-destruction. The good news is we can still chose sustainability. The bad news: there is no time for procrastination. So, what will it be? Can we take bold new steps towards sustainable development? Or will we allow the moment to pass?

The World Economic Forum known as the “Davos Forum” is where great minds gather every year to consult on how to set and maintain the world economy on a pathway of sustainable growth, and where world leaders come in search of new thinking and ideas for a new development paradigm. This is surely the right place to share views on why the international community needs a global assessment of the economics of DLDD. DLDD stands for Desertification Land Degradation and Drought.

So I feel privileged to be here. I would like to express my heartfelt gratitude to the organizers, first and foremost to our host the Mayor of the City of Davos and to my dear friend Walter Amman, President of Global Risk Forum. Dear Walter thank you!

Last Monday, the International Herald Tribune had announced that the 2011 Davos forum “aims to shift from mode of firefighting” to a focus on risk prevention. If so then we are in business because that is precisely the main purpose of a global study on the economics of DLDD.

In fact Land Degradation is rarely accounted for as an economic issue, and drought barely accounted as a disaster. Because desertification, land degradation and drought are slow and silent phenomenon, they have a way of creeping up on us and thereby leading us to underestimate their socio-economic impacts.

What is land degradation and how does it relates to desertification and drought as well as human well-being globally?

### **Definitions and scope**

Land degradation is a “long-term loss of ecosystem functions and productivity caused by disturbances from which the land cannot recover unaided”. It is a progressive and mostly man-made disaster occurring in all regions of the world. When it occurs in the drylands, that is the arid semi-arid and dry-subhumid areas of the world, land degradation goes by the name of desertification. (GLADA’s Map)

Drylands are home to one third of the world’s population. Over the centuries, they have been one of the world’s major granaries. They still support 44% of its food productions systems and half of its livestock. Dryland areas are the 3<sup>rd</sup> most urbanized ecosystem; 8 of the world’s 20 major megacities are located in the drylands and 6 are in developing countries. This means that despite its specific vulnerabilities due to increased aridity and climatic variability, drylands are productive and desertification is not inevitable. .

But in the drylands, land degradation has more severe consequences due to greater vulnerability and lower resilience of ecosystems and populations.

The magnitude of land degradation as a global threat to human well-being is under-recognized.. Land degradation has affected one quarter of the global land area between 1981 and 2003 (at a pace of more than 1% per year!) according to the GLADA report (Global Land Degradation & Improvement Assessment report released in 2008).

Land is a finite resource base for food production and despite the imperative of increasing by 70% our food production by 2050 (*FAO when there will be 9 billion inhabitants on our planet*), few are aware that arable land loss is growing at the estimated rate of 30 to 35 times the historical rate and more than 1.9 billion hectares of land worldwide have become degraded since 1950.

What about drought?

Drought is a natural climatic phenomenon that accelerates desertification and land degradation.

Due to drought and desertification, each year, 12 million hectares are lost (almost 3 times the land size of Switzerland), where 20 million tons of grain could have been grown.

### **The causes of land degradation**

Land degradation is site-specific but its causes are both site related and exogenous. They are biophysical, socio-economic and institutional.

They are biophysical by the soil characteristics (type, structure, moisture) vulnerability to salinization, water and wind erosion, loss of fertility& productivity, type of vegetation.

They are socio-economic because deforestation, overgrazing, unsustainable agricultural patterns are among the drivers of land degradation. Population density, lack of infrastructure for erosion control, lack of access to markets could further exacerbate land degradation. Available evidence indicates that DLDD issues are closely connected to those of poverty especially in rural areas. In fact poverty is both a cause and a consequence of land degradation.

They are also institutional because policies and institutions affecting land use and land use change, market access and regulations are potential drivers of land degradation.

Because of population growth, changes in our food consumption patterns as well as need for more biomass for energy and industries, the competing claims for more land and water are likely to increase and the risks to sustainability to intensify.

### **What about DLDD and Climate change**

On one hand we know that land use and land use change and forestry (LULUCF) account for more than 1/3 of global GHG emissions

On the other hand climate change extremes and shocks such as drought, storms and floods exacerbate land degradation. DLDD and climate change are twined issues, two faces of the same coin but they are still to be acknowledged as such.

How will climate change affect future droughts?

These maps produce in the context of a study sponsored by the US National Science Foundation illustrate the potential for future drought worldwide over the decades indicated, based on current projections of future greenhouse gas emissions.

The study concluded that “We are facing the possibility of widespread drought in the coming decades, but this has yet to be fully recognized by both the public and the climate change research community”

Ladies and Gentlemen,

### **DLDD has far-reaching impacts**

Despite of being site-specific DLDD is a global issue that requires global commitment and action. DLDD directly affects globally 1,5 billion people who depend on dry and degraded lands for their livelihood. 42% of the world’s very poor live in degraded areas compared to 15% of the non-poor. That is why some have concluded that the geography of poverty largely coincides with that of land degradation.

**Food security and poverty alleviation:** *“We know that world poverty cannot be reduced without improvements in agriculture, especially smallholder agriculture. Most poor people are farmers. Most farm work is done by women. Their efforts contribute greatly to the domestic product of poor countries. Poor farmers can raise their productivity, and double, or even triple, their output.” (UN-SG Ban Ki-moon)* We must ensure that they do.

The majority of the developing countries have land-based economies 90% of the countries affected by desertification are in the developing world

We will not achieve the Millennium Development Goals, roll back poverty and build a more sustainable world unless we address the specific risks and vulnerabilities in the drylands and most of those risks and vulnerabilities are climate related.

### **DLDD and Sustainable development**

DLDD do not only entrench people into poverty and jeopardize our food security. It also increases water stress locally and regionally, triggers biodiversity loss, deforestation, and is a threat multiplier for migrations and human security crises that destabilize nations and regions in the world.

In fact it is the loss of soil biodiversity that triggers a vicious cycle that begins with land degradation, followed by global warming, then a further loss of biodiversity and so on. Therefore, to break the vicious cycle of land degradation and climate change, soil biodiversity conservation is indispensable.

DLDD is also time-dependent and has impacts through time that are most often non-linear

### **How can we address DLDD?**

Land degradation can be prevented, degraded lands reclaimed and drought mitigated through sustainable land and water techniques supported by relevant institutional measures and policies.

So why is action so limited? This is because governments and the global community do not know the cost of non-action. That is why we need a global assessment of the economics of DLDD.

### **Towards the Economics of DLDD**

In order to take stock of existing studies, and evaluate gaps as well as options for conducting such a study, a meta-analysis has been sponsored with the support of the German Federal Ministry for Economic Development and Cooperation and conducted by a team of two well-

known institutions IFPRI (International Food Production Policy Research Institute) and ZEF (German Center for Development Research). Some of the following data have been excerpted from the meta-analysis.

In the past, some efforts have been made to assess the on-site and off-site costs of land degradation. The in-site costs are those related to the consequences of the degradation (such as erosion or loss of productivity).

In 1992 the first global assessment of land degradation based on expert opinion estimated the global on-farm cost of land degradation to be US\$ 42 Billion arising from loss of productivity of crops and livestock. According to a number of case studies, in-site costs mainly limited to soil erosion and decrease of agricultural productivity are in a range of 1% up to 10% of agricultural GDP.

For instance the total cost of soil depletion and overgrazing in Niger has been estimated as equivalent to 8% of the nation's GDP.

In the areas affected land degradation in Ghana, soil loss has impacted the poverty rate by +5,4%.

Off-site costs mostly related to off-site ecosystem services such as water treatment, flood control and aquifer recharge, biodiversity conservation and carbon sequestration are significantly high and should be appropriately accounted for. Off-site costs such as siltation of dams due to soil erosion are estimated to be about US\$ 18,5 billion globally.

The consequences of soil biodiversity mismanagement have been estimated to be in excess of **one trillion dollars per year** worldwide according to a study titled "Soil biodiversity: functions, threats and tools for policy makers" sponsored by the European Commission DG ENV and released in Feb 2010). Enormous indeed!

Therefore all indirect costs on the economy and the socio-economic consequences at all levels should be accounted for while assessing the impacts and costs of DLDD. The assessment needs to capture all changes attributed to action or non-action against DLDD; it should be built in a framework of 'Total Economic Value' where all use, non-use and option values will be considered.

But we should also look beyond the costs. Institutional assessments of DLDD are also needed because institutions and policies such as agricultural policies, land governance, market access and regulation, significantly influence land users particularly when it comes to the definition and the implementation of the Action scenario against DLDD.

### **Cost of Action Vs Inaction**

The costs of action relate mainly to the sustainable land and water management techniques, and the related institutional measures and policies. More often they are multiple of that of action according to many case studies. Therefore and in order to explain the rationales behind inaction we need to explore beyond considerations of costs.

For example, access to rural services such as agricultural extension services and markets are common reasons for inaction.

In many places in the world there are many success stories waiting to be scaled up and disseminated. So why are investments for preventing land degradation and reclaiming degraded lands so limited?

Various factors are impeding investments on economically viable options for sustainable land and water management. They range from institutional issues to policy failures, lack for basic and or structural infrastructures to lack of access to appropriate knowledge technologies and finances, market failures and inappropriate land governance, lack of frameworks and provisions for risk management and prevention.

Most of time, we take for granted the services provided by land. More need to be done to recognize the economics of resource depletion, particularly land degradation and to reflect this situation accordingly in nations and corporate balance sheets.

But we should be aware that it is the few centimeters of topsoil that stand between us and extinction. There's far more to topsoil than food. The things that live in and grow from this irreplaceable and finite resource also keep us clothed, the air and water clean, the land green and pleasant and the human soul refreshed. In that regard soil is a common good, a common wealth. Only now are we starting to comprehend how the tiny life forms in soil sustain productivity and the greater environmental balance.

The meta-analysis study in reference concluded that *“Despite the numerous challenges, a global assessment of the costs of Action and Inaction against DLDD is possible, urgent and necessary”*.

The UNCCD (the United Nations Convention to Combat Desertification), one of the three Rio Conventions born at the Earth Summit in Rio in 1992 and ratified by 194 Parties, is the sole legally binding global instrument that deals with land degradation.

The aim of the UNCCD is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability.

If we are serious about prevention of desertification, we must take action even beyond the boundaries of today's Drylands.

The UN General Assembly is setting the tempo by:

- By dedicating this decade 2010-2020 for awareness raising, education and advocacy on DLDD;
- By convening a high-level event for Heads of State and Government on 20 September 2011 at the eve of its 66<sup>th</sup> session in New-York on the topic of *“Addressing desertification, land degradation and drought in the context of sustainable development and poverty eradication”*

Ladies and Gentlemen,

Allow me here to conclude using this quote from Sir Winston Churchill:

"If you will not fight for right when you can easily win without bloodshed; if you will not fight when your victory is sure and not too costly; you may come to the moment when you will have to fight with all the odds against you and only a precarious chance of survival. There may even be a worse case. You may have to fight when there is no hope of victory...".

Thank you for your kind attention