

SECOND WORLD CONGRESS OF AGROFORESTRY

NAIROBI 23 - 28 AUGUST, 2009

Keynote Address on Policy Issues

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Director General of the World Agroforestry Centre, Mr. Dennis Garrity, Mr. Jan Heino, Chairman of this Panel, fellow panelists, distinguished delegates, ladies and gentlemen:

1. INTRODUCTION

I am sure you are all familiar with these statistics: in the last 40 years the human population of the Earth has doubled to about 6 billion; the global economy has grown six fold; food production has increased about 2.5 times; total global food production as well as per capita food production have increased and food prices have decreased; the number of undernourished people has decreased.

These gains in human well being have come at a cost, often unrecognized: more land was converted to cropland between 1950 and 1980 than in the 150 years between 1700 and 1850. Now, cultivated areas cover about 25% of the Earth's terrestrial surface. Water use has doubled, two thirds of which is used to support Agriculture; wood harvests for the pulp and paper industry have tripled; and marine fish stocks have been seriously depleted. (Report of the Millennium Ecosystem Assessment, 2005)

We are equally familiar with the confluence of disturbing situations which the world community is facing: food security, climate change, poverty, loss of species, degradation of ecosystem services, sustaining livelihoods and jobs. All of these relate directly to the occupations of the participants in this Congress: Agriculture, Forestry, Agro-Forestry, Land Management, Biodiversity Conservation, Water

Management, etc. All of these have at their centre ways in which Land is used. And it is therefore high time that we focus attention on the future of global land use, and the role of Agro-Forestry within that. You are engaged in marrying traditional practice in agro-forestry to modern science to present options, scenarios, 'imaginings' of landscapes that reflect interdependencies among trees, crops, livestock and people, and so I am very pleased to be invited to address you on the subject of the future of global land use, and to offer opinions about some of its policy dimensions. And I also congratulate you on holding this Congress on this theme, and I am ver pleased to be invited to address you on the subject of future global land use, and to offer opinions about some of its policy dimensions.

I will not go over the ground covered by the Executive Director of UNEP in his Opening Remarks. Nor will I consider the issues relating to the practice and profession of agro-forestry per se, as set out in the Working Draft for the Agroforestry Policy Initiative which is before the Congress for consideration.

You might well wonder, what is there left to say?

I hope I can build on what has already been presented to you by exploring some connections that agro-forestry needs to make with the rest of the system, so to speak, in order to achieve more of its potential for contributing to global land use and other related global goals. Yesterday I heard UNEP's Executive Director tell this audience that the "Agroforestry community is a universe to itself". I have taken that comment as a point of departure for my presentation. But first, a little context about the nature of the problem and challenge.

2. THE NATURE OF THE PROBLEM ANDE CHALLENGE

I believe that in this community it is widely accepted that the traditional sectoral approach to natural system management has largely been ineffective in maintaining ecosystem productivity and biological diversity, in stopping habitat fragmentation, and in halting the overall decline in ecosystem services critical for human well being. Paradoxically, impacts of approaches and activities in any one sector are seen and

felt in many others. It is therefore readily evident that the major intellectual, policy, programmatic, institutional and operational challenge is to understand and address the management of our natural systems – including land, the most valuable asset of any country – in a more systemic manner than we have done to date. That is my central proposition.

The challenges to be addressed go beyond land use per se. They include the need to provide for increasing food demand and food security. Demand for food is expected to increase by 50% by 2030, as population increases by about 7 billion people each month. With present food production systems, 30% per cent more freshwater is estimated to be required – in an era of increasing water scarcity, exacerbated by the vagaries of climate change. We will need to produce more food on less land with less water and with less external nutrients. That is your central challenge. [FAO] Somehow we must feed the expanding world, while conserving the environment and do so in the context of a changing climate.

Addressing this will require an integrated, multi-sectoral approach that focuses on properly functioning ecosystems that are resilient to the sum of the global changes we are currently facing. Ecosystem restoration and maintenance must go hand in hand with food production from here on. (Example of UNEP's work on Lake Faguibine in Mali.) This approach requires sensitization and enabling of policy makers and other stakeholders by providing the necessary diagnostic and policy analysis, scenarios, tools, capacity building, pioneering approaches and pilot demonstrations, and finally mainstreaming the desired approach into national development planning and practice. To do this we must look up from our laboratory benches and from our desks and reach out to the rest of the world. In this context I will refer you to the recent report by UNEP on *Ecosystem Aspects of the Food Crisis*, which canvasses policy implications and consequences of present agricultural systems on key ecosystem services, the trade-offs associated with agricultural production systems, and the urgency to consider models of food production which are sustainable. The approach will also require food production systems, including agro-forestry, to be developed in concert with water specialists, forest specialists, biodiversity specialists, and economists than they have done before.

This integrated multi-sectoral approach is not yet the norm. To make it so, agricultural and land use managers must engage more intensively with policy makers across the spectrum of issues and with other professional communities, in order :

- to provide more evidence-based advocacy for sustainable, resilient agro-ecosystems;
- to bridge the disciplinary divides, the public administration silos, and the science-policy nexus through partnerships among the various communities (such as was attempted in the Millennium Ecosystem Assessment (MA) and the International Assessment of Agricultural Science and Technology for Development (IAASTD));
- to explore trade-offs, tipping points and synergies and propose appropriate management strategies;
- to examine extra-sectoral influences that impact on land use and its consequences;
- to counter the pressures that drive us to short term fixes through increasing the use of external inputs to agriculture;
- to explore and experiment with measures to support the inherent capacity of land and agro-ecosystems to substitute for some of these external inputs, without compromising their food productivity and supply of other key ecosystem services;
- to reverse degradation of ecosystem services through planning for multifunctional landscapes and manage trade-offs among ecosystem services.

3. EXPLORING CONNECTIONS AND OPPORTUNITIES

Fortunately, there are many global processes that are in train which offer ready-made opportunities for policy engagement in areas that are very directly related to agro-forestry and land use. Let me propose some of these to you, which may be appropriate avenues through which to advance the ideas relating to agro-forestry and global land use contained in the Policy Initiatives paper which is before the Congress for consideration.

3.1. Promote the importance of agro-biodiversity for sustaining agricultural productivity and ensuring food security within the global discussions on biodiversity:

Next year – 2010 – is designated as the International Year for Biodiversity. We are currently assessing the extent to which the biodiversity targets for 2010 has been achieved, and also setting up post-2010 targets. Next year the Conference of the Parties to the Convention on Biological Diversity (CBD) will also debate an international legal regime for Access and Benefit Sharing relating to biological resources, the third central objective of the Convention. Make use of these processes involving policy-makers to illustrate the interdependency between sustainable agricultural production systems and biological diversity required for processes decomposition of organic material and recycling of nutrients to the soil; regulation of temperature and waterflows; pollination of crops and fruits; biological pest control; crop variety and resilience; and degradation of toxic substances.

Join your voices to those who are trying to bridge the Science-Policy interface relating to biodiversity and ecosystems services (IPBES). Your discipline, your sector, your métier, stands to benefit from such a mechanism.

I mentioned the Access and Benefit Sharing regime being negotiated. It has long been recognized that secure land tenure and access rights, rewards for stewardship, and more recently payments for ecosystem services operate positively towards good protection and sustainable management of land and other natural resources. A comprehensive, equitable and enforceable Access and Benefit Sharing regime will work in harmony with your interests in agro-forestry and sustainable land use. Your community should not only help to bring this about but should capitalize on it when it comes into force.

Other opportunities you might capitalize on are the negotiations in the WTO and WIPO on intellectual property rights for life forms, genetic resources, traditional knowledge and folklore; as well as FAO's International Treaty on Plant Genetic

Resources relating to payment for genetic patent rights and for traditional knowledge and genetic material.

3.2 Advocate that agricultural and agro-forestry landscapes have potential to contribute to carbon sequestration while providing essential services for human wellbeing, such as timber, biomass for energy, and food, especially at the rural subsistence level. It is not just forests that we can employ for carbon sequestration. Use the discussions on forests to propel those others.

- Contribute to Reducing Emissions from Deforestation and Forest Degradation (REDD) in the context of the Climate Change negotiations by working to include agriculture, agro-forestry, biodiversity, and therefore global land use outcomes. That is, help to move REDD to REDD+.
- While REDD has been conceived mainly as a mitigation measure, the discussions provide an opportunity to advance biodiversity conservation, the maintenance of ecosystem services and sustainable land use in tropical forests. If REDD is included in the new climate agreement, this could lead to sustained financing for tropical forest conservation and sustainable management at large scale. This could have a positive effect on global land use. Will agro-forestry contribute to this or be eclipsed by it? You can advance the need and the opportunity for a systemic approach to mitigation of greenhouse gases, ecosystem services, and food for the human population.
- The extent to which positive outcomes for biodiversity conservation, maintenance of ecosystem services, agro-forestry (and therefore livelihoods, food production and food security) are realized will depend on how REDD is both designed and implemented. The details of the design of REDD are still to be negotiated. Decisions on such issues as the scope of REDD, and the setting of reference levels will have a significant impact on where and how much tropical forest is conserved, with important consequences for biodiversity, agro-forestry and global land use.

3.3. Advance your objectives of sustainable food production and food security through the Billion Tree Campaign.

This campaign—launched by UNEP, the Green Belt Movement and the World Agroforestry Centre in 2006-- is a mechanism for building public awareness and understanding and for mobilizing voluntary efforts. Again, this campaign originated as a way to motivate individuals, communities and countries to plant trees as a contribution to mitigation of green-house gases. It encourages the planting of trees in four key areas, namely:

1. degraded natural forests and wilderness areas;
2. farms and rural landscapes;
3. sustainably managed plantations; and
4. urban environments.

Such a global effort is warranted by the net loss of 20,000 hectares of forest per day, an area that is twice the size of Paris. This adds up to 7.3 million hectares per year. Today, only 20 per cent of the world's forests remain in large intact areas. I do not need to remind you that this has dire consequences: deforested and degraded lands lead to acceleration of biodiversity loss, soil erosion, and desertification which have in turn contributed to the current food security crisis. [FAO State of the World's Forests 2007]

The Billion Tree Campaign is transforming landscapes and peoples' lives in 166 countries. It is inclusive and is open to everyone — from governments and businesses, to community groups and individuals. We are optimistic that the target of seven billion trees planted before the Copenhagen Climate Change Conference will be achieved.

Can you imagine if we had conceived of this not just in a climate change mitigation framework but also in terms of food production, especially for low income groups subsisting on degraded or marginal lands or in brown urban centres?

Presumably the campaign will not stop with Copenhagen. There is an opportunity here not just to advocate and participate in tree planting, but also to advise and influence continued widespread planting of trees with species selection appropriate for particular sites and soil characteristics, and for providing food supplies – “the right tree, in the right place, for the right use” as was said in the ICRAF Media Release. The Billion Tree Campaign, with its global reach, can be orchestrated towards widespread agro-forestry and appropriate patterns of global land use. (In Brazil an NGO is trying to avoid clearance of rainforest for soy beans by offering cash payment to the landowner for letting the trees stand. This could lead to changes in the rate of deforestation).

3.4. Get ready now to advance your cause of agro-forestry during 2011, which has been designated as International Year for Forests.

Forests have had a long period of neglect since the Earth Summit in 1992 failed to achieve anything more than agreement on Principles, despite the many inter-governmental and non-governmental mechanisms and efforts since then. Now with the agreement in principle that Reducing Emissions from Deforestation and Degradation will be considered in a post-Kyoto Climate Change agreement, forests have potentially a new lease on life. Let us seize this opportunity to restore them to their central place as home of most of the terrestrial biodiversity of the world, home to millions of indigenous peoples and other forest-dwellers, sources of food, fuel, shelter, and livelihoods, and the educational and spiritual spheres which they represent. Here is a terrific opportunity to advance agro-forestry when there will be a focus on the many services which forests provide.

3.5. Get involved in the activities of the Convention to Combat Desertification (CCD)

Why? Because we must give priority to the estimated 2 billion people who live in drylands and are dependent on their dwindling ecosystems for subsistence. They happen to be among the poorest in the world. They are destined to be further afflicted by impacts of climate change. Their biodiversity is under threat, their pastoral cultures are in decline, their poverty is persistent, their future looks grim. Their situation makes it both necessary and possible to approach the issues which present in a systemic way.

A bright new light now shines over the Sahara, that iconic example of drylands. I am sure you have noted that the idea to power Europe with Sahara Sun is gaining momentum. This initiative is called Desertec, and its founders are lured by the view that more energy falls on the world's deserts in six hours than the world consumes in a year (according to The New York Times of 25 August 2009). Perhaps a financial opportunity might be in the offing here: if technology and financing make it possible to use North African sunshine to supply the energy needs of Europe, surely some of the financial savings can be made available to enable North African countries to adapt to climate change and to restore their ecosystems? There are examples that dry, degraded or desertified land can be restored to productivity, such as the Loess Plateau in China, the Niger Delta in Nigeria, and parts of Israel.

I hope that you can see the trend in my thinking, as time does not allow me to explore all the connections. There are many others.

For example:

3.6. There is much work on the ecosystem side, covering a wide range of issues, in which UNEP is engaged which you might draw upon. This includes policy oriented work for example on organic farming, on biofuels; methodological work on integrated water resource management, on ecosystem restoration; field work on biodiversity, biosafety; pioneering work like piloting REDD along with UNDP AND FAO. Much much more. We need to build closer links in order to synergize better. In this regard, the recently established Science-Policy Forum between UNEP and the

CGIAR Centres located in Nairobi is a very creative start. Let us make great use of this Forum.

3.7. The Green Economy Initiative coordinated by UNEP which is looking at Green Jobs, economic valuation of biodiversity, and green growth possibilities, provides a very good context to advance agro-forestry as part of the solution to the multiple global needs. The report “Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World” produced by UNE, ILO, and the International Trades Union Conference, already highlighted that "Agroforestry has a greater potential to sequester and store carbon than most land-use changes. The potential exists not in the level of carbon stored, but in the vast amount of underutilized land that can be enhanced by adopting this practice. Depleted agricultural and recently deforested land can be transformed into high productivity cropland and store an average of 80 tons of carbon per hectare or more”.

3.8 In private conversation with Prof. Swaminathan, he spoke about the **lost crops of the Incas**, about the era when they relied on about 300 crops for their food and health security. That legacy was lost as Agriculture came to rely on a handful of crops, required by and perpetuated by the industrialization of Agriculture. The same might be said about the lost crops of Africa. In a similar conversation with Dr. Devendra, he mentioned to me that there are **5 million small – less than 2 hectares – farms in Asia which are demonstrating viability and sustainability** even on such small scale, and largely through mixed farming. Surely we would want to advocate and advance policies that would reflect the merits of small scale, when sustainability is a central objective alongside food production?

3.9. In this context let me call your attention to a new development. We are now seeing **large corporations acquiring significant land holdings outside their home countries to extend their industrialized agriculture method and secure their own supplies for commodities**. It is a development fraught with dangerous consequences for land use, forests, environmental impacts, and sustainability – all the things that concern this Congress and your professional communities. In addition, there are latent concerns for equity and sovereignty over land within the

targeted countries. Surely we would want to advise about the dangers of such an approach?

3.10. Instead, we need to **accelerate the extension of good practice** wherever we find them. For example, the Satoyama approach practiced for generations in Japan. This is a Japanese term for rural landscapes that comprise several types of ecosystems including secondary forests, agricultural lands, irrigation ponds, and grasslands, along with human settlements, now covering about 40% of Japan's landmass. Its philosophical underpinning is the symbiotic interaction between humans and the environment. Exactly what we need to achieve worldwide.

3.11. Then there are issues of **technology support and transfer** to address, to scale up your own work from the laboratories and from the pilot farms and fields, and to support the overall orientation to agro-forestry and land use that you advocate.

3.12. There is also the matter of **public education** in support of the overall direction. We are at the mid-point of the Decade for Education for Sustainable Development. We cannot afford to ignore the need to educate the global public to understand why we need to make dietary choices that are compatible with the overall goals, including personal health. Looking back over the past twenty years of the sustainability movement, I hold the view that we have been fixated on the policy makers, with comparative neglect of the equal importance of influencing the public – whether as electorate or consumer – in making appropriate decisions.

Now, all of this may seem to be a lot of effort – and it is. Influencing public policy is not easy. I do not intend to suggest that all of you must cease being specialists and seek to make all of these connections on your own. The effort that is required of specialists is to work more smartly, more strategically, with more linkages with other specialist and professional groups, to move from systems thinking to systems doing, and to do so with urgency. Systems doing does not automatically flow from systems thinking. We just have to look at the way the world community responded to the food crisis of 2008, which in my view did not reflect the last five decades of advance in our systemic understanding about how food production, ecosystem services, land use

and environmental sustainability interrelate. We all have to do a lot more to bridge this gap.

3.13. Strategic partnerships are vital to a systemic approach. UNEP is increasingly working through **partnerships**. This event itself, organized jointly by ICRAF and UNEP, points to the kind of partnerships that will be required to make the kind of connections that I have indicated.

3.14. Finally, Mr. Chairman, to move more assertively to forge new partnerships, the CGIAR System will have to settle the long-standing policy question about **how far the Centres should go in bridging the Research-Development divide**. Can they afford not to do so I ask, if their work is to become more influential in influencing global policy in all the areas of their portfolio?

Thank You.

Nairobi 27 August, 2009

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