

Introducing the Congress Theme *Agroforestry – The Future of Global Land Use*

Dennis Garrity, Director General, World Agroforestry Centre

Thank you, Dr Kiome. And good **Morning**, colleagues!!

I join my friends Romano and Achim, and the entire **family** of the World Agroforestry Centre, in welcoming you to the ‘**Green City in the Sun**’, Nairobi, Kenya, to participate in this **landmark 2nd World Congress** of Agroforestry.

I want to **thank** Achim and the UN Environment Programme for its **great** support in partnering with us to co-host this occasion. **UNEP** is a great and **fitting** venue for such a gathering, as we **build**, through agroforestry science, **new visions** and **practical** solutions for creating sustainable agroecosystems, that make agroforestry a big part of the solution to our global environmental **challenges**, while providing the increased **food and fibre** to ensure a decent life for **everyone** on this planet.

2nd, I want to thank our **many** sponsors and investors who ultimately made this event possible. Their logos are shown on the back of your programme. To you we are most grateful for making this all possible.

3rd, I want to thank the **Government** of Kenya, for its enthusiastic **support** for bringing the Congress to this great **country** of incomparable landscapes, and hardworking farmers.

4th, I want to thank all my colleagues on the **Global** Organizing Committee for guiding the event content, and to everyone engaged with our **local** organizing committee who has sweated through the enormous task of making this all happen for us.

But most of all, I want to thank **you**, our hundreds of participants, for your tremendous interest in this event, and for the **contributions** that will surely make this Congress a **milestone** in the history of agroforestry science and practice. It is **your** intellect and your energy that will ultimately make it a **landmark** event that the global audiences will take notice of.

Agroforestry has now **come of age** as an integrative science and practice, and I can assure you it is now being **recognized** as at the **heart** of the solution to so many of the global and local challenges that face us all.

Let us turn to the theme of this Congress:
Agroforestry -- The Future of Global Land Use

Will agroforestry be the future of global land use?
That sounds pretty **far-fetched** to some people.

[slide of tree cover on agricultural land]

But tomorrow you will hear about the most recent **assessment** of tree cover on agricultural lands around the world, a study that scientists from the World Agroforestry Centre have just completed, based on a **detailed** analysis of full-cover satellite imagery. They found that currently, almost one-half of all farmed landscapes in the **world** have significant-to-**dense** tree cover.

This is over a **billion hectares** of agricultural landscapes with trees on them! A billion hectares!

And this study doesn't even take into account **all** of the Agroforestry systems with tree crops. That's because those systems have such **high tree cover** that they appear as **forests** on the satellite images, although they are actually farms with **agro-forests**.

[slide of FAO]

The FAO summed it up **succinctly** a few years ago when it declared:

*'The proportion of trees on farms and in forests varies considerably among countries, but **two trends** seem almost universal in the tropics:*

*-- the number of trees in **forests** is declining, but*

*-- the number on **farms** is increasing'*

The skin of **Gaia** is quietly re-growing its tree cover -- on **millions** and millions of farms. The evidence is further mounting that where there are **more people**, there are **more trees**.

This increase in tree cover on farms is crucial in **many ways**, not **least** to protect the forests themselves.

[slide of central highlands]

Imagine, for a moment, that the world actually **succeeds** in stopping deforestation some day soon, and in **locking up all** of the remaining natural forests in the tropics to reduce carbon emissions, protect watersheds, and conserve biodiversity.

Already, **billions** of dollars are slated for investment in these efforts. And, that **flow** of investments will surely grow **enormously** as a new climate change agreement is put into place.

But if this effort **succeeds**, **where** is all the timber, fuelwood, and other tree products **going** to come from?

After all, the **demand** for these critical products isn't going to decrease. On the **contrary**, it will continue to **expand** with renewed global economic growth.

That **burgeoning** demand will have to met largely from **farm-grown sources** of tree products. And if it isn't, demand will **far outstrip** supply, prices will **sky-rocket**, and all efforts to protect the remaining natural forests will **fail miserably**; all because we haven't paid attention to providing for **alternative sources** of supply from the farms outside the forests.

The smallholders of the world **will** respond. They have a **huge** role to play in generating this supply, and in saving the **last** of the **natural** forest domain. Small farmers will then **rightfully** be seen as the **saviours** of the forest, rather than, as at present, being **accused** of being their destructors.

Efforts must **massively** accelerate to assist farmers to produce more wood and tree products on their own farms as a crop, for the **burgeoning** markets.

Can it happen? **Yes**, it can!

It is **already** happening. Right here in **Kenya**, some **70%** of all wood is already sourced from farm-grown trees. And this is rapidly **growing**, assisting the country to **cope** with its forest protection efforts.

In India, farm-grown timber now supplies about ½ of the country's burgeoning **demand** for wood. While in Bangladesh, farm-grown wood supplies **90%** of the country's needs. And the story is **similar** in other countries throughout the tropics.

The world will soon be awakening to the **crucial imperative** to **enhance** smallholder tree production systems to supply its **voracious** needs for tree products. And investments to **do** so through climate change mitigation funds will be **vastly increased**. We must be **prepared** with the science and the practice to enable this enormous transformation.

At the World Agroforestry Centre, we like to say that 'The **future** of trees is on farm.' What we now also know, is that the 'future of **forests** is on farms' as well.

Tree cover on farmlands in the temperate areas is **also** slated to continue growing.

This will be accelerated as Europe and North America **gear-up** to seriously reduce their carbon emissions, and to produce **biofuels** from ligno-cellulosic **woody** sources, a **far more** efficient means of producing biofuels for transport. In the US alone, fuel from **woody** sources is now estimated to be capable of producing **50%** of the fuel needs of the entire transport sector – compared to a potential of only **3%** for maize-based ethanol.

When you add to all this the demand for **fodder**, fruits, nuts, and the products of the many internationally-traded **tree crops** like rubber, coffee, tea, and cocoa, etc, the area of trees on farms will be further enhanced.

[slide of three subthemes]

During the next several days this Congress will be examining the **future** of global land use through **three sets of lenses** – which are our three Congress **subthemes**:

- 1. Food Security,**
- 2. Conservation and Rehabilitation of Natural Resources**
- 3. Policy to enhance agroforestry**

Our **distinguished** plenary speakers today will soon set the **stage** for each of these three **subthemes**. And we will then delve into **each** of them in much greater depth during the **following** three days of **symposia**, technical sessions, and **side** events.

Tomorrow we will focus on agroforestry for food security.
On **Wednesday**, natural resources and the environment,
And on **Thursday**, we'll be debating the Policy challenges of enhancing agroforestry.

Let's turn briefly to the **food security issue**.

[food security slide]

The entire world is now **painfully aware** that we face a very serious world food **crisis**. That's not news to **Africa**, where the vast majority of its people have faced a food security crisis for many **years**. The **much** higher food prices of recent months have **exacerbated** the pain of hunger in hundreds of **millions** of households.

African farmers aren't producing enough food for their **families**, not to speak of provisioning the urban **markets**. Food importation into the continent have been growing **relentlessly**. And food is getting less and less **affordable** for the desperately poor.

Fertilizer use is **pitifully low** in Africa, due to high prices, and the **risks** of frequent crop failure in an **uncertain** climate. Meanwhile, the land is **degrading** and soil fertility is declining everywhere. The **standard** solutions, just aren't working.

The question is, what are we as agroforestry scientists going to **do** about it? What are we going to contribute to **sustainable** solutions?

Such a crisis focuses the **mind** of policymakers. And as has oft been said, "A **crisis** is a **terrible** thing to waste." It opens up new **opportunities** for sustainable solutions. This is where agroforestry fits in. And here in **Africa**, it now **too late** for us to be **pessimistic**.

[Faidherbia in Tanzania]

Agroforestry **scientists** have been observing for many years the efforts of African farmers to create their own **evergreen agriculture**, using the biological resources that they already have.

Africa has **indigenous** tree species, such as *Faidherbia albida*, a leguminous nitrogen-fixing acacia-like tree, that exhibits a totally unique property: **Reverse leaf phenology**, enabling it to be highly **compatible** with food crops.

Millions of farmers across this continent have quietly **nurtured** these trees in their maize, sorghum and millet fields. **Why?**

Because Faidherbia goes **dormant** at the beginning of the rains and deposits **abundant quantities** of organic fertilizer onto the food crops to provide nutrients and increase yields, **totally** free of charge. They are **fertilizer factories** in the food crop fields.

These trees then grow their leaves and pods in the dry season,, providing a **crucial** source of fodder for their livestock when other plants are dried up. It is adapted to an **incredibly** wide array of climates and soils from the **deserts** to the humid tropics.

We scientists have **observed** farmers using these trees. We've appreciated their **unique** qualities. And so far we have **failed** do enough to refine, adapt, and extend the unique properties of these trees to the more of than 50 million food crop farmers who desperately need home-grown solutions to their food production problems.

And we have **failed** to inform the **policymakers**, and the whole farming **community** about the unique opportunities to exploit this indigenous **African** solution to the food production crisis.

[slide of Malawi faidherbia]

If scientists were invent from scratch, a tree species that **encapsulates** the ideal characteristics of an agroforestry tree, compatible and valuable in food crop systems, they would probably come up with something **pretty close** to Faidherbia. Thus, the tree is an **icon** of what agroforestry that can contribute to food production systems on this continent, and elsewhere in the tropics.

So why aren't we **deploying** it more aggressively? And why don't we use the most **advanced** genomics technologies to identify the **reverse phenology gene complex**, and transfer it to a **range** of other species that could then also be compatible with intensive cropping systems?

Isn't it time that we give such challenges the **attention** they deserve?

Clearly, agroforestry science has **much** to offer in overcoming the food security challenges in Africa, and elsewhere in the world. It evokes a **vision** of an **evergreen** agriculture, that will be a **beacon** to the world on how to practice conservation agriculture efficiently and compatibly with **trees**.

As we apply agroforestry in innovative ways to help solve the **food crisis**, once and for all, we let us recall the **penetrating** words of Albert Einstein, who said:

“Beyond your diagrams and equations, remember the **face** of the hungry man.”

[slide of 2nd theme]

The 2nd Subtheme of our Congress is the Conservation and Rehabilitation of Natural Resources

Here we'll be focusing on:

- **Agroforestry for climate change adaptation and mitigation**
- **Water and watershed services, and**
- **Biodiversity conservation**

This is the **year** of **climate change**, with the upcoming convention in Copenhagen. And the **role** of agroforestry in climate change adaptation and mitigation is the topic of many of the presentations in our symposia and technical sessions.

Agroforestry scientists and practitioners are working **diligently** to build the evidence base, the **measurement** systems, and the successful **projects** on the ground to make the case for full inclusion of smallholder **agroforestry** in climate change investments. We are looking at the **REDD** agenda, and how to make it work. We are building a rigorous **case** for the potential to scale-up. And we are looking **beyond** REDD to **Reducing** Emissions from **All** Land Uses.

[slide of multifunctional agriculture]

We know that agroforestry systems can **increase** the carbon sequestration capacity of agriculture, above and **below** ground, by an order of **magnitude** compared to other agricultural systems.

And we know that agroforestry is critical to creating a **multifunctional** agriculture that can provide better watershed services, and **enhance** the conservation of biological diversity. **Many** Congress presentations will be delving into just **how** this can actually be done. The concept of an **evergreen** agriculture has enormous implications here as well.

[slide of 3rd theme]

Our 3rd Congress Theme is about Policies to enhance agroforestry

You'll be hearing a **lot** this week about our new Global Agroforestry **Policy** Initiative. This is a **process** which the World Agroforestry **Centre** is **launching**, in collaboration with **FAO** and our many international, national, and local partners.

Some may ask, what **difference** can a policy change really make to enhance agroforestry?

Let me offer a **transformative** example.

[slide of desertification]

In the 1980s, the Sahelian country of Niger, at the edge of the Sahara desert, was in the throes of **catastrophic desertification**. **Then, in the** 1990s, catastrophe forced some creative thinking. The forestry regulations were relaxed by government. Farmers were **now** no longer **prohibited** from cutting down trees on their own farms.

They **now** had an incentive to farm more **intensively** with trees. And, a **remarkable** thing happened.

[slide of agroforests]

Farmers across Niger **responded**. Big time. They **dramatically** increased their efforts to regenerate and expand the tree populations on their farms, for their own good, and the good of the environment.

Agroforestry **suddenly** spread across the country by millions of hectares, protecting the land and the crops, enriching the soil, providing fodder, and providing new income sources from wood and other tree products.

The Sahel faces a **complex** crisis of desertification. Yet one single **policy change** transformed the **incentives** for **millions** of farmers, to regenerate the landscapes of Niger, and open up new opportunities for sustainable farming, at the very **edge** of the Sahara.

Encouraged by the experience in Niger, programmes to promote the farmer-managed **natural** regeneration of agroforestry systems are now being established in all the **other** countries across the Sahel, as part of a coordinated **regional** initiative to once again, **re-green the Sahel**.

Farmers **rose** to the challenge when they were offered the **opportunity** to do so: They proved, that “A **crisis** is a terrible thing to waste.”

The **future** of land use across the world faces **many** stark challenges – **food** security, **land** degradation, desperate poverty, **climate** change, and others. But agroforesters **have** the tools to address many them in an **integrated** and **practical** way.

[slide of girl]

Let us take courage that Agroforestry is **truly** the future of global land use.

Let us **build** on the **broad** shoulders of all those that have preceded us in this task.

And during this Congress, let us **focus** our science and practice, in **getting on** with the job.

Thank you!