# APF Net Curriculum 3 INternational dialogue on forestry issues

## **Lecture 11 Global policy issues affecting the sustainable management of forests (Part 2)**

## **Part 2 Transcripts Duration: 00:17:50**

### Slide/Screen 1:

[Module IV, Lecture 11, Part 2]

### Slide/Screen 2

Now everybody talks about food security. What does it mean? It means 4 components of food security. Now everybody talks about food security. What does it mean? It means 4 components of food security. Availability, in order for food to be secured, it has to be available because you will hear a lot where we produces enough wheat to feed everybody? There is enough food in th world, enough crops, enough agriculture products to feed everybody in the world, but it's not evenly distributed, I mean some countries, they have over production of food, others they cannot have access to it, or it's not available for them, so it has to be available, means that there should be food and it has to be accessible. You know people cannot go and get food, it's not for free most of the time, and we live under a falacy that those countries who over-produce food, they should give it to the other poor countries free. This is what we are talking, but it's not realistic.. Developing countries producing more than they need, they donate food most of the time but more than that, they sell the food so it has be accessible. And the utilization, it should be utilized, it's not good to produce food that is not utilized by people. And finally the stability, because there's a lot of fluctuation in food production and accessibility, and availability because you know you have these natural disasters or man-made disasters, when you have fires, when you have wind, you have floods and so on. So these are the four components of Food Security.

### Slide/Screen 3

Well, we can look at also from other side because there's a lot of forests now converted to biofuel production. You know in many parts especiallly Latin American and now in Africa, many big companies many governments are converting, cutting the forests and turn it into biofuel crops, sugar cane, soy bean, a lot of oil palms and so on, this is a big competition between fuelwood and food, and it created a lot of problems few years back, and there was a big discussion, should we converted the forest to food production or biofuels? Also related to food production is the genetic variability in the forest and natural variability, and this is what we would be using for the future, we are using now because the food products sometimes we need to go to back to the forest and get the originally species the natural species to improve our genetic makeup of the food we eat. Climate change also is affecting this, very much. Many rural communities are increasingly vulnerable to crop failures because of the climate change. That's why forest is a safety net as mentioned before. When the climate changes, when you have fire, you have droughts, when you have all of these, you would find that a lot of failures of food crops and that's why people go to the forest. Well, there is a need to increase food production and the countries never stopped doing this. They thrived to increase food production. This was associated by deforestation. A lot of conversion of forested land into agriculture food production. Of course, it's in many tropical areas, there are some estimates that 80% of deforestation in the tropics is going to agriculture. This is a legitimate cause.. You cannot deny people food, you cannot say that OK, don't touch the forest even if you want to produce food, it doesn't work this way. But we need to regulate this, we need to have policies for converting forests into food production in a well-defined way, it's not like OK, we remove the forests and grow the crops, there must be policies for that at the national level, and of course it's controlled also by some international agreements.

### Slide/Screen 4

I'd like to talk about the agriculture and forestry integration because this is a new subject. We just got an article for this from UNESCO. We as a global community we need to take steps to make agriculture and forestry sustainable together. We have been working so far in silence. Forestry are different, alone from agriculture, and now it's time to integrate between the two at a global level and at a national level. We need to look at a sustainability channel both sectors, agriculture and forestry should be sustainable in terms of having policies again at the national level, at the local level, and of course government by international agreements to have food, feed, fiber and biofuels production in a holistic form. And it's very very important to look at the land use, technology, science, social and environment, economics of this whole new system which is composed of two production systems but integrated together, working together, not against each other, not separate from each other. There are very strong innovations and now how to plan and mix growth strategies for forestry and agriculture together. There are examples around the world, what we call multifunctional mosaics of planted forests and cropland to support the livelihoods of smallholders in addition to other economic, environmental and social goods and services. Already there are some examples now in the world, that you have a mosaic, means patched area like you have a village, say a land of about 200 hectares, 1000 hectares, small town with 10,000 hectares and so on, where they have mosaics. This piece remains as a natural forest, this piece is planted as a forest for fuelwood and others, and this other piece is used for agriculture but all of them has to go under one system components of one system, and with integration and no contradiction between the policies there, that's a very important issue.

### Slide/Screen 5

How to do the synergies in terms of policies? First of all, we have to ensure that there's no competition between the two sectors, otherwise it's not going to work. There must be some harmonization between the policies, integration of the policies, as I say, at all levels. If we need to increase a food production between 60 and 70%, and there is an estimate of 20% lost in the next few years due to climate change, we have to increase food production in the light of these things, the demand and the lost. Two ways to do this. Either vertical expansion which is intensification which means that we have a limited piece of land to produce food. We try to increase the yield per unit area and this is through fertilizer application, pesticides and so on, and there is a limit for that because if you're going corns for example in a piece of land, no matter where you can add fertilizer, you can regulate irrigation, you can pesticides whatever, I'm not recommending pesticides but anyway. There’s a limit because you cannot push the crop beyond its limits. If, and the best conditions, rice is producing 7 tons under irrigation and so on. 7 tons per hectare, there is a limit, it will never be 15 in the same area, no matter what you do, but it's a good tool intensifying the production and increase the production vertically. And there is also the horizontal expansion. Instead of growing rice on 10 hectares, you grow it 100, but where is the 90 coming from? Most of the cases it's coming from the forest, or degraded land, or desert whatever, but the productivity is lower. But there's no limit that's why we have to harmonize the forestry and agriculture policies. And this is going into optimizing the policies. Optimizing means that we get the best of two sectors in terms of synergy and planning.

### Slide/Screen 6

The last global issue here is the forests as a source of bio-energy. You heard about bio-energy, what is happening now. Ethanol extraction in Brazil and many many countries around the world, there is a lot of bio-energy production which means energy coming from biological source, sugar cane, fermentation, so you can read about this, but this is one thing. The other thing is actual biomass in the forest and agriculture by-product. About 1/3 of traditional biomass energy supply from the forest. You know when you look at the global consumption of energy, about 1/3 globally is coming from the forest, and from 2/3 of these are coming from agroforestry system and from manures, you must know that there are so many villages around the world, they use cow dung and so on, dry cow dung and others form energy and crop residues, so that is a lot of energy coming from biological sources. And as I said before according to FAO statistics that more than half of the wood removal in the world is used for fuelwood and this is again a bio source of energy. It is not only that you can get from petroleum and so on, this is a biological source. There is a considerable potential to increase the food-based, forest-based bio-energy to make substantial fraction of future energy needs. Now many countries and many private sectors are turning to the forest to increase the material for bio-energy.

### Slide/Screen 7

But we have concerns about these. As I said before, there is a competition between food production, food security, especially where there's a poverty, unstable government, fragile system and using the same piece of land instead of producing food, producing crops that could go to bio-energy. It will, this competition will be accelerating with the climate change. A few years back, there was a big competition between for corn, for example in the U.S., a big discussion. Should we, the U.S. produces a lot of corn, I'm just using this as an example, I don't mean to single out one country, but in the US, there was a lot of production of corn and there was a debate. Should we allocate this corn for food or ferment it and produce bio-gas or biofuel, right? So this is something difficult, something economic, something social, it's a big discussion but there is a competition. If we overproduce corn, who’s going to buy it? We cannot give it free of course. But there may be instead of selling it to the people to make flour and eat it, there are other companies will say, we take it and extract bio fuelwood from it, that's something to think about globally, it's concerning now. Now there's more concentration on integrated natural forests, planted forests, agroforestry and restoration of the degraded land to be a good source of biomass. And biomass is converted to bio-energy and again I'm coming back to the integration. Natural forests, planted forests, agroforestry restoration of degraded land as a source of biomass.

### Slide/Screen 8

One of the new things now in the world is the landscape restoration through tree planting and agriculture production and there's a lot of money now coming from developing countries to help developed countries with degraded land to restore the degraded land and turn it into food production and may be fuelwood production as well. Another incentive is the bioenergy markets. You know many countries now, Brazil for example, sell a lot of ethanol coming from biological materials, whether sugar cane or other sources, and the money coming from these are incentives to the restoration of degraded landscapes. Of course there are some examples where people don't worry about the restoration, they just go to that, fertile land and use it. All in all it's a very important issue and it creates a lot of interests globally. Some countries are accused of going to Africa and buying large areas of land of forest land and just cutting the forests or deforesting and converting the land into biofuel, biomass production for biofuel. You would hear a lot about it. And more and more is happening in the future.

### Slide/Screen 9

What are the global forest policy, bioenergy policy issues that we have to be concerned about? It's quite simple, as we outlined, sometimes biofuel production can have a negative impact on ecosystem because when you have a piece of land, cultivate it with a bioenergy crop like soy bean, like palm oil or soil or sugar cane, you know the producers tend to add more and more fertilizer, use a lot of chemicals and even some croplands in some countries, you know the farmers found it's more profitable, not to produce food but to produce biofuel crops. It happened in many countries, Australia, some examples, Africa and so on. So this leads to deforestation and we need to look at the negative impacts and have a national strategy to organize all of these. So this competition, food/fiber/fuel/fodder should be addressed at the national resource management strategies. Each country now will have to look at their own strategies related to how are we going to have these 4 main products, food/fiber which means wood and others, fuelwood and fodder; how to coordinate these policies, integrate these policies, organize these, harmonize policies, so that we can do the correct or the sustainable natural resource management.

### Slide/Screen 10

So this is the end of this lecture 11 and I'm giving some lectures, you can, or some references you can refer to, it would give you a good example of the three global issues as related to forest, and as I say this is what we are facing now in the world, not only at the global level but it's a global problem, but we'd have national implications in terms of national policies and national plans of action, and of course national funding of these issues.

### Slide/Screen 11

Thank you, this is the end of lecture 11 on Module IV.

[End of Module IV, Lecture 11]