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For the last day and a half we have heard a lot of hard facts and good scientific information about the major global challenges; and we really get concerned and probably emotionally depressed to see how near we may be to a global collapse. So please allow me to pollute your spirits with a big dose of optimism and hope.

Little bit about Costa Rica. Costa Rica is in the middle of two continents, it grew out of the ocean three million years ago, unites two continents and divides two oceans. Probably one of the richest places on earth in biological terms. Probably no other place on the planet where you can find such a diversity of life per square kilometer. Even so, Costa Ricans were fooled by nature into thinking that having such a diversity of lands and animals meant a wealth and richness of soils. And the way that the Costa Ricans understood that they might develop their nation was by developing agriculture. Forests were a burden to growth and economic development. So forests were destroyed to promote economic growth by developing agriculture. Agriculture was the major contributor for two-thirds of the twentieth century to the Costa Rican economy. And as forests were considered as nonproductive lands, most of the forests of Costa Rica were chopped down. And a huge beautiful nature landscape was transformed into an agricultural and cattle ranching landscape.

We were not aware that most of our soils—just probably 20%—were not good for agriculture and cattle ranching. That's why we said that we were fooled by nature. Because we thought that the soils were really productive in Costa Rica, the central government developed a lot of policies to expand agriculture by chopping down the forest because these were considered unproductive lands and to put the land "under production." Basically production means having cows, having bananas, rice, sugar cane, traditional crops. But we never understood how fragile the ecosystems were. We were very good at destroying forests. As a matter of fact, the government was very good at drafting policies, at creating institutions, to promote deforestation. There was a time in the early 70s when Costa Rica was the world champion in deforestation. We had the highest rate of deforestation per capita of the world. We were very good at that. Now we don't feel very proud about that achievement. Costa Ricans deforested most of their country.

And you can see the maps of the country being deforested throughout time [shows slide]. And we were left by the middle of the 1980s with just 21% of the country with forest. We call these slides "the striptease of Costa Rica" because Costa Rica lost all of her forest covering and was, we may say, topless, by the late 1980s. Society reacted to this loss of forest and biological richness by drafting some laws, and in 1969 Costa Rica took a brave decision, saying we need to protect biodiversity and stop deforestation. From then on, we began a 30-year process of learning by doing, at the end of which we were very successful.

Three things were very important. First, we understood that there were a lot of perverse incentives generated by central government economic policies where forests were considered unproductive land. We began to artificially and financially stimulate the sector by establishing subsidies and tax-exemptions for the forest sector until we came to realize that this was not politically sustainable. Then we did some research and we found out that deforestation was not caused by cattle ranchers or the timber industry or the cultural sector; it was just in response to a government policy. The responsibility for the deforestation was the central government's. It was not agriculture that was the major threat to the biodiversity of the forests, it was the minister of agriculture. It was not oil rigging and mining companies that were a major threat to forest destruction. It was the minister of energy and mines. It took us 30 years to understand that the central government is solely responsible for deforestation in Costa Rica, and this is the same for the rest of the tropical countries in the world.

So the government took a brave decision by setting a policy in '69 that hasn't changed in 30 years, where the country said we need to protect biodiversity and stop deforestation. By protecting biodiversity we use the most common instrument, which is called the "protected area" and we developed a system of protected areas which is probably well known. And biodiversity is well protected in probably 27% of the Costa Rican land by this system of private/public protected areas. But at the same time, we began to create institutions and policy to address the problem of deforestation which was very complicated. One of the major decisions was the institutional component. We created a ministry of environment, but not just environment. A ministry of environment in Costa Rica is a ministry of environment, energy, mines, and water. You don't have a bunch of ministers fighting each other to promote their own agenda. The Minister of Environment set the policy for energy, mines, water, and natural resources. That's why Costa Rica has one of the best productions of renewable energy in the world. 98.6% of the electricity is produced by renewable sources. And that is basically because of the historical fact that energy and environment is mixed together in an institution. Costa Rica has banned oil drilling, not just in protected areas, but in the whole country, because they believe that investing in biodiversity conservation is the best investment, that investing in oil rigging in this country is secondary to the moral component of climate change. Costa Rica, based on this institutionality, is now competing to become the first carbon-neutral country in the world. So when you build institutions where you gather together different components of the political agenda, and turn this into one institution, conditions improve dramatically.

The second aspect was that as soon as Costa Rica realized that deforestation was generated by policy from the central government, it declared deforestation to be an illegal act. Ladies and gentlemen, believe it or not, deforestation is still a legal act anywhere in the tropics, but all you need to do is go and ask for permit from central government and they allow you to do a land use change. So Costa Rica declared deforestation illegal and developed a market-oriented instrument by which ecosystems services that are given by forests are financially recognized. Costa Rica drafted new legislation in the mid '90s whereby owners of forests are being paid for the ecosystems services around carbon fixation, water protection, biodiversity conservation, landscape

building. The government identifies providers of environmental services, looks for the users of those environmental services, and works through political negotiations to charge for them. We have done a great job in carbon fixation. Costa Rica is probably the only country in the world that has an in-country mechanism to fully internalize the carbon fixation of environmental services being given by owners of forests to use for tree plantation. Costa Rica put a tax on fuels of 1.5% of the market value which generates between 8 and 12 million dollars, which goes to a special forest fund that just pays for carbon sequestration, for tree plantation, our forestry systems, and forests.

The same thing happens with water. Costa Rica has done a great job in internalizing the ecological costs of water. Those owners of forestry plantations up in the watershed are being paid for water production by users downstream of the watershed. And when private forest owners get paid for the carbon (saved) from environmental services, they will profit from owning forests; the opportunity cost of keeping forests is higher than any traditional and probably any other subsistence activities, and the scheme generates an excellent opportunity to keep watersheds, to keep forests, to protect biodiversity outside the protected area, but above all to work with people, farmers in indigenous communities.

The mechanism for the payment of environmental services in Costa Rica has been extremely good at contributing to poverty reduction in rural communities. The case of indigenous communities is an excellent example. Costa Rica has put more than 8.5 million dollars in the last ten years into paying for carbon sequestration in indigenous communities. This is the indigenous community in the Caribbean lowland of Costa Rica [shows slide]. And this is me as a minister with a check in my hand for 52,000 dollars for the payment of carbon sequestration services for the year 2005. That day, before paying them for that service, I asked the community "In what did you invest your resources with the money we gave you the year before?" And they told me "Minister, do you want to walk some more?" We had already walked five hours that morning. And they showed me 52 new homes, they showed me a new school, they showed me a new access road. All of those were financed by the payment for carbon sequestration carried out by that community. I took this picture in this community. The indigenous communities in Costa Rica are probably the poorest of the poor, but when I took that picture I realized, you know those kids they look healthy, they look nice, they look happy. Yeah sure, they are healthy, happy, and they look nice because through these financial mechanisms this community is really improving their living conditions. And this community really knows that it is not being subsidized by the central government, and that this is not aid money from the central government. This is a payment for a service they are giving to the Costa Ricans, which is carbon sequestration by keeping the forests of their indigenous community. That day we realized that we had designed a mechanism to stop deforestation, and it is generating a big impact in poverty reduction

Tropical restoration. This is a protected area that, based on the payment of environmental services, in 12 years we totally recuperated from cattle ranching. We have more biodiversity, the best quality of environmental service, we have even increased production of meat, we have happy farmers. The payment for environmental services in Costa Rica covers nowadays 10% of the country. You can see how it has increased from

1998 to 2005 [shows slide]. 80% of those beneficiaries are in the social segment that the government wants to help and whose living conditions it wants to alleviate. And we can do a lot of things. This is national parks. This is the plan of corridors linking all national parks within private lands [shows slide]. We can do that now that we have this instrument to really complement conservation and biological corridors. We don't have a lot of information to educate policymakers because at the beginning most policymakers, especially ministers of finance, never supported us because they thought that forests were unproductive lands. When we did economic assessments in Costa Rica we came to realize that forests generate a lot of money. In 2002, just the national parks generated 834 million dollars. That's 5.5% of the GNP of Costa Rica. They produce a lot of services. Most of those services are probably not accurately measured by our economic instruments. We've been working in Costa Rica to fully internalize those positive externalities that are given by forests.

So if we go back to the map of the "striptease" of Costa Rica [shows slide], you will remember we just had 21% of the country forested. Look what happened when we built institutions, when we reversed incentives and created positive financial instruments. We increased forest coverage to 42%, to 45%, to 52% in 2005. Costa Rica has become the only country in the world that has reversed deforestation. Has become the only country in the world that has decreased illegal logging from 82% which is a kind of world and tropical average according to FAO, to 15%. Costa Rica is the only country in the whole American continent that is every year decreasing forest fires.

To conclude, I remember one day that I was in the middle of the jungle in Costa Rica with the ministers of environment of Gabon and Congo and after going up and down the country with these two gentlemen, they asked me: "Minister, what can we do in our countries to do the same thing Costa Rica has done?" So I scratched my head for a while, I thought: Hmm, what can I tell them? And I came up with an idea. You know the only way you can do what we have done in Costa Rica is by having political stability. No way you can achieve these things without political stability. And I don't mean not having civil wars. I mean a government that keeps a policy no matter what political party is in power. A government that changes administration and only the minister changes and the rest of the team is there, continuing working. Costa Rica is a country that has invested in the biggest resource, which is the human resource. Costa Rica is a country without an army; it's a country that never had a war. If you don't have those enabling conditions, and you keep high rates of poverty, if you don't respect human rights, you don't have good governance, and you don't have a tradition of democracy, its going to be extremely, extremely difficult to do what Costa Rica has done.