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Environmental Change and Security Program

Future Shock: How Environmental Change and Human Impact Are Changing the Global Map

Tuesday, March 4, 2008

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Edited Transcript – David Smith

Thank you very much. I'd like to thank the Pell Center and particularly Mrs. Pell for inviting me here. And I really appreciate the opportunity to speak with you all. I'm going to talk about poverty and environment links in Africa. I manage a joint UNDP unit, poverty and environment program in Africa. And what I want to talk about is how environment, defined in the broadest sense to mean natural resources like land, fisheries, water is linked to poverty and ultimately how it can contribute to instability and insecurity.

This is, what are poverty and environment links? What do they mean on the ground where people live? This is a canal in Bamako in Mali. It's grossly polluted. It stinks. There's clouds of mosquitoes so thick you can hardly walk through them. And these people live in a village next to that water. And that is their only source of water. They use it for cooking, cleaning, washing, clothes, their children. So their sickness rates from malaria waterborne diseases are really high. And they can't afford to do anything about it. They can't afford the medicine. They can't afford the hospital treatment, so their children get sick and die.

This is a hillside in Rwanda. Rwanda is an extremely steep country. If you look at that, the state farmland, there's no real terracing. Every time it rains, the soil just washes down the hill, gets washed down these rivers, lowers soil fertility, lowers agricultural production and fills up hydroelectric reservoirs with silt so they generate less electricity.

This is from the post-election violence in Kenya. And ultimately, conflict over environmental resources which are exacerbated by degradation and bad management, they don't necessarily spark violence, but it can be an underlying issue that provokes or prolongs. And this is what happened in Kenya because competition over the land is a big issue.

So what does unsustainable use of the environment cost? It costs in terms of health; waterborne diseases. It kills people. Waterborne diseases again. Soil erosion reduces



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agricultural productivity. And in nice countries in Africa, agriculture is the single largest part of the economy. So year by year, soil erosion causes reduction in food production. So it reduces income. And then ultimately, as people compete for ever-declining environmental resources, there's tension, there's competition.

Competition over the land in Rwanda was really part of the problem. It helped spark it. In Kenya, there's competition over land because there's not enough water, there's not enough grass, there's not enough trees. So people get out their bows and arrows and their AK-47s and they fight over water points. So it contributes to insecurity.

These are just some example of how environmental unsustainably kills millions and costs billions. As was pointed out before, about 2.2 million people in developing countries, mainly children, die every year from waterborne diseases. At one time, it's estimated that half of the total number of hospital beds in developing countries are occupied by people suffering from waterborne diseases. Now, if you've got 2.2 million people dying every year, and there's probably nearly -- I think the figure is about 1.2 billion people get sick every year, and you multiply that by \$5 to \$10 that it takes to treat people and fix them, depending on the severity of the disease, you know, this is billions of dollars.

Respiratory diseases caused by enodal smoke from solid fuels kill an estimated 1.6 million people annually. Urban air pollution kills about 800,000 people annually. So some of these links, to give you specific examples of how environmental unsustainability, land and water use and poverty are linked, if you overgraze, you get reduced grass growth, more soil degradation and erosion, decreased livestock numbers, decreased production, decreased incomes.

With water pollution, you can't use the water. People get sick. People die. If you deplete water, then you have similar production problems. You can't grow as many crops so your people go hungry or they lose income. Deforestation, similar problems; erosion, sedimentation. Soil washes down the hills into the hydroelectric reservoirs.

In Rwanda, we've calculated how many megawatt hours per year are not produced now because the hydro lakes are filling up with silt. And it costs about 65,000 U.S. dollars a week in terms of imported diesel, petrol and generators.





Fisheries, very good example, decreased fishing catches cause decreased income. People have no work, no food.

So in summary, then, unsustainable use of the environment reduces the social and economic benefits produced by the environment. So people get sick and die. Farmers grow less and earn less. In other words, development is hindered over time by environmental damage. And this contribution of the environment to social and economic development is often poorly understood.

And this means that environmental sustainability, it's not a policy priority. People tend to think of the environment as, you know, birds and bees and fisheries that we have to look after because they're nice and all that sort of thing. But environmental resources are the essence of development. If people don't have enough land, if they don't have enough water in developing countries, then the countries won't develop because 80, 90 percent of the population depends on these environmental resources.

We in the rich countries, what is the link to us with agrarians in the Midwest that grows wheat? We need it for our bread. But if production declines, we're not going to go hungry. In these countries, if the environment is damaged, people suffer. And when people suffer, tensions rise, and it can lead to a whole world of worse problems.

And so that's why in UNDP and UNEP, we have this program where we work with economists and planners in the ministries of planning and finance to convince them that environmental sustainability should be a priority because if they don't look after the environment, over time, production falls. So incomes fall, so the country will find it harder to develop.

So we work to try and get environment as part of the ministry of finance priority, as a ministry of planning priority, as a ministry of agriculture priority because it's in these other sectors that the key decisions are taken and impact on the environment. The ministries of environment are almost powerless in most countries, so we need to convince the minister of agriculture, the minister of finance, of planning, that environment matters.

And here we have a well-known slide that shows all the links between things like environmental scarcity and violence. And if we look at this in the context of what's happened in Kenya, in the environmental scarcity, we have tremendous competition over





land. If we go to the social segmentation and weakened institutions, we have poor democratic institutions, poor government structures. And then when you get a trigger like the election violence, everything comes together to create a terrible mess.

So these are some examples of polity in environment: security linkages with competition for land in Kenya, clashes over scarce water and pasture in Darfur, but also Kenya. Transboundary waters, climate change and general competition over increasingly scarce natural resources. We have negative impacts on one party while the other water pollution makes people downstream ill. We have a lack of alternatives. If you are rich, you can buy an alternative. If you are poor, you don't have an alternative. And that's what helps lead to tension.

So this is one reason why UNEP and UNDP are very happy to be working with the Pell Center. UNEP and the Pell Center are collaborating partners. We recognize the need to highlight the links between poverty and environment and security.

We also need to develop and promote multilateral solutions. And support for this from key governments is vital. The U.S. government is critical here. And I'd like to highlight the very positive role taken by the U.S. government in helping to resolve the situation in Kenya. It's been vital to reaching the agreement.

And I think that Senator Pell, he's a strong supporter of the multilateral system but not an uncritical one. So I'd ask that we have support, but critical support for the U.N. We know in the U.N. we have to improve. But like all good bureaucrats, we respond to positive economic incentives. So if the U.S. is using, like the British government and the Irish government are doing, and saying, you show us you're working together better, you show us we're making a difference on the ground, and we'll give you increased resources. It's a very useful model.

So what we want to do with the Pell Center from now on is work on practical ways of how we can integrate environment economic security linkages at a country level work, because as that Homer-Dixon model showed and some of the presenters had made clear, everything is like this. And if you don't get the inter-linkages understood, and if you don't reflect them in your policy solutions, you're not going to go anywhere.





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I'm an economist, and economists always come up with dismal things. And there's a thing called the theory of the second best, which succinctly is that if you get one part of the big picture wrong, you can actually make the big picture worse. So you've got to get everything right. Thank you.



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