



Woodrow Wilson
International
Center
for Scholars

Environmental Change and Security Program

***Making the Case for U.S. International Family Planning Assistance
(Report Launch)***

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Edited Transcript—Joseph Speidel

It's nice to join so many friends, once again, here at the Woodrow Wilson Center, and thanks, Geoff, for cueing up my presentation; being one of the academic Amish, I'm not very good at manipulating this thing. Today I'm going to talk about humanity's over exploitation of natural resources, and the degradation of life supporting ecosystems, and of course the link to population size and population growth. And at the end I'm going to not spend a lot of time on it, but suggest some of the solutions that do exist that we could implement and really haven't yet.

The U.N. sponsored a major study, the Millennium Ecosystem Assessment that was published in 2005, and unfortunately this got very little attention, but they did conclude that environmental in the last 50 years has become much more severe and much more extensive, primarily in the increasing demands for food, fresh water, timber, fiber, fuel, and other resources.

One of these resources is forest resources. Since pre-agricultural times, we've lost about 50 percent of Forest resources, and about 22 percent of this total loss has occurred in the 20th century. Currently about one third of the Amazon rainforest is already gone, I'm sorry, one quarter of the Amazon rainforest is gone, and perhaps one third of forested areas in Africa have been lost.

One thing that resource shortfalls translate into is food insecurity. And as you can see from the slide, there are pushing a billion people who are chronically hungry in 2007, worldwide it's about 17 percent of people, but in 15 countries and Africa, this reaches 35 percent, and most alarming is that one in three children, younger than five, in developing countries, suffer from either physical or mental stunting or both. A very large number of these are occurring in India, which is a country economically on the rise, but this obviously hasn't translated into food security for many people living in India.



environmental change & security program



Well, I'm going to go through some of the ecosystems that relate to food security, certainly one is fisheries. And currently about 75 percent of gullible fisheries are either at their biologically sustainable limit or overfished, and some have totally collapsed. Wild fish are certainly -- access to wild fish is certainly on the decline, but fish farming has replaced a lot of fish production.

Croplands are shrinking due to soil erosion and desertification, and its estimated that 10 percent of the earth's surface has already been changed from forest or rangeland into desert. I recall once on a trip to Indo-Tunisia, I went out to the desert and saw a wonderful Roman stadium and thought, why did they build this here in the desert? And only later did it dawn on me this was Rome's greenery, but it is now a desert.

It's estimated that productive capacity of 25 percent of agricultural lands, and that is an area equal in size to India and China combined, has been degraded. And, of course, our use of products from croplands such as converting corn to Ethanol drives up the price of grain, limits amounts available for export and the amounts for human consumption, worsening food security.

Water shortage is a growing problem, and there are various ways to measure water shortages, but it's estimated that by 2025, three quarters of people will face some degree of water scarcity. One of the most serious issues is the depletion of aquifers and some 300 million people -- million people living in India and China are threatened by loss of water from aquifers. Melting glaciers in places like India, China, and South Africa threaten irrigation during growing seasons, as is the snow melt in various countries: Iran, Afghanistan, Central Asia, and western United States.

One estimate is that in my home state, California, that we're going to lose 90 percent of the snow pack in another hundred years. This is a very significant issue because half of the fruit, grain, I'm sorry -- about half of the nuts and fresh vegetables come out of California, and if there's snow run off in the summertime, the irrigation will collapse in that state. By the way, California is the top agricultural state, with about twice the agricultural productivity of number two Texas or number three Iowa. So this is very important.

Another threat to food security is climate change, and it's suggested that past record temperatures might become the norm by 2100. I've listed some changes that every degree increase in norm due to crop yield, we had a precedent of this in the 2003 heat wave that hit





Europe. Some 50,000 people died from heat stress, but also in France the corn and fruit crop declined by 25 percent. The corn crop in Italy declined by 35 percent, so just rapidly rising temperatures threatens crop yields, as well as drying water that's needed to grow crops.

Now this graph shows carbon dioxide emissions per capita, which haven't changed very much, in fact they have just edge up a little bit, and the clear lesson from this -- these two charts is that more people means more carbon dioxide, which is a major greenhouse gas. Now here I have laid out the sources of greenhouse gases, and the one that really surprised me was that second one on the list: Livestock production. So that's mainly production of beef, pork, chickens, and so forth, and that makes up 18 percent of greenhouse gases, and surprisingly it's more than transportation, more than driving your car. So I guess the answer to this is we should all become vegetarians. When we go to McDonald's, don't buy the Big Mac, get the salad. But certainly that is something that can be done with regard to lifestyle.

Now let's turn a little bit more to the impact of humans on the environment, it related to their size, it related to their consumption per capita, and it relates to the environmental impact of the technology that's used to produce whatever is consumed. And there's certainly room for improvement with regard to all three of these issues.

I've laid out little demographic data here. There is some good news, obviously, since 1950 when the world had 2.6 billion people, the birthrate was much higher, but the annual increment of growth was not nearly what it is today, which is about 78 or 79 million. Even though the birthrate has come down substantially. And I put the U.S. data on there just to show that the U.S., also, is growing quite rapidly. Of course our growth has a lot to do with immigration and the fertility of immigrants.

This is the -- these are the familiar charts that you've seen that show the various variant low, high, and medium that the U.N. projects. Certainly I think we would be advised to do everything we can to help the world to reverse the low variant, but that doesn't seem to be happening. Although just two weeks ago the U.N. released new demographic projections, and there was a little bit of good news in that. The old projections said that if we had constant fertility, that is to say no change -- no decline in death rate -- sorry, birthrate -- because all of these projections, even the high, suggest fairly substantial decline in birthrates. If we had no change than we would peak out in 11.9 billion, that was the old projection. The new projection is 11 billion, which suggests that maybe we aren't doing so badly.





Anyway, here's some population growth figures for various regions. I think the most amazing one on here is Africa growing by 100 percent, adding a billion people, and I question whether really that's going to happen. In fact, let me just grab this one number that I wrote down for Nigeria. Okay, Nigeria is currently at 148 million people. The projection is that Nigeria would be 282 million people in 2050. So Nigeria is a country about the size of Texas. Somehow I can't imagine all 300 million Americans living in Texas, for various reasons.

But I just don't think that's going to happen. And if it does, I think the human condition is not going to be in great shape. I put the U.S. on this table because it shows that the U.S. is actually growing pretty rapidly, just about as fast as the rest of the world, now of course, once again, that isn't because of our birthrate.

Now here's another aspect of growth that I'm sure doesn't get much attention, but in Africa there has been a livestock explosion along with the population explosion of people. And we've already noted that livestock are a huge contributor to greenhouse gases, but also are not friendly to the environment in terms of other ways, especially in the Sahel.

Here's another slide that relates to food security. Certainly the area of cropland has dropped very dramatically over time. And even if we reach that U.N. median projection there will be even less crop land. Of course this varies dramatically between countries, some countries are well off, others are not.

Now I would like to turn to family planning and as Steve mentioned, certainly one place we can all agree on is working to reduce unintended pregnancies. As you can see, both in the -- both in the U.S. and around the world, just about half of the births are unplanned, and if we can get rid of unattended pregnancies, we can make a big dent in growth rates.

One of the crucial problems we're not doing better is because of the lack of financial resources. Of course we need trained personnel, we need contraceptives, we need many other things, but money can help buy all of those things and the money is missing. There are many different estimates of how much money is actually needed to run family planning programs. I looked at about four or five different estimates, but a reasonable round number for family planning plus a good delivery system is about 15 billion dollars a year.





The Cairo conference suggested that a third of the funds should come from donors, which would be five billion a year. We could argue that maybe a higher percentage should come from donors, right now the U.N. aids ask for two thirds of donor funds go to address AIDs, but as you can see from this chart, almost all population resources, 80 percent of population resources are going into HIV/AIDS, and that family planning and reproductive health get much less. It's certainly of the five billion that's needed from donors every year, less than 20 percent is available.

Now let me turn to the perhaps some solutions to the dilemma we seem to be in. I think we - the main thing we need to do is move from a fossil fuel based petroleum economy into an electric economy, powered mainly by wind, photovoltaic, and other renewable resources such as hydro, geothermal, and biomass. Some people have suggested we need to go nuclear, but others say, well, nuclear power is just a starter kit for nuclear weapons, we shouldn't go there and it's way too expensive. Certainly we need to improve public transportation, we need to raise the energy efficiency of appliances and certainly heating of homes and buildings can be changed. In fact there are good models, buildings that essentially require no outside energy resources. I've been to the Aspen institute, and they have a home where they say the electric bill was like five dollars a year, and this is in the Rocky Mountains. But they are able to do it through technology. And my final comment on this slide: We should minimize the consumption of meat.

Here's some possible features of a new economic system that can restore national systems. We need to replant forests and limit their use. Forests have been replanted in South Korea, in Japan, and also forests are re-growing in North America and Russia. We can conserve and rebuild soils, we can restore fisheries. I think establishing these huge marine reserves, which are no-go-for-fishing areas could make a huge contribution. And we need to preserve water resources.

I think the implications of continuing population growth for the environment are very serious, and the projected growth possibly to 9.8 billion people unless we strengthen family planning programs is of serious concern. We also need to reform our economic systems, if not we're in big trouble. One thing that I think is favorable, is that we know how to do family planning, we know what it costs, we know that it works, and we do already have much of the knowledge and technology to help preserve the environment. But we are certainly having a shortfall of political will, lifestyle choices, and financial resources.

