Launch of *World Watch* Magazine's Population Issue

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Edited Transcript—Karen Hardee

I'd also like to add my thanks to the Wilson Center, to Geoff Dabelko and colleagues and also to Tom Prugh and World Watch and Bob Engelman for allowing us -- or adding our article to this *World Watch* issue. And so on behalf of my colleagues, Dr. Leiwen Jiang and Malea Hoepf Young, I'd like to -- I'm pleased to present today on population, urbanization, and the environment. And Malea is here with us but Dr. Jiang sends his apologies. He had to travel to another meeting today.

So people have been moving, as we know, from rural areas to urban areas for generations. But this is the first year, 2008, in which half of us have become city dwellers. And what this means is that this has resulted in a concentration of nearly 3.5 billion of us human beings on less than three percent of the world's total land space. And as Tom said, the world's population -- or the urban population is expected to grow -- projected to grow by 2050 to 6.4 billion people in cities.

You know, when we think of cities, we tend to think of the world's mega cities, the New Yorks, the Mexico Cities, with 10 million people or more. But in fact 52 percent of the world's population lives in cities with 500,000 inhabitants or less. And we're just beginning to understand the environmental effects of these monumental changes in population movements and in sort of the amassing of buildings, factories, roads, vehicles on such small percentages of the world's land, and also the effects on fertility and population growth rates.

Urbanization has varied by region. And the world's more developed countries were predominately urban by the 1950s. And in fact the less developed countries will be predominately urban by 2019, with a lot of sort of country and regional variations. The world's more developed countries were predominately -- sorry. In relative terms, while developing countries will continue to be predominately rural for some years to come, in absolute terms developing countries are already home to over 70 percent of the global total urban population, a proportion that's going to increase in coming decades to over 80 percent by 2050.

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So what drives the growth of urban populations? Migration and the reclassification of rural areas to urban certainly contribute. But in fact the natural increase -- and this is the growth of the population that results from higher rates of births than deaths -- is actually responsible for more than half of urban growth. Natural increase is significant even though fertility rates are always nearly lower in urban areas than rural, and they're influenced by higher costs of child bearing. They're influenced by lesser needs for children's household labor, increased economic opportunities for women, as Bob was saying, increased access to education in urban areas, and also increased access to family planning services.

The graph that's on this slide shows fertility rates in three countries in East Africa and the urban and the rural differences. So, for example, urban fertility in Kenya, Tanzania, and Uganda was around 40 percent lower than the rural rates, but also well below the national averages. But all of these, as you can see, are still above replacement fertility, and that's the average number of births per woman at which population stabilizes, as Bob was saying, or 2.1. And in Uganda, urban women bear four children on average, contributing still to rapid rates of population growth in urban centers.

We've heard Tom talk about this sort of heat island effect of cities and the effect on water systems, on biodiversity, on ecosystem functioning, that all cause pollution. And the growth rates in many cities in developing countries stress the ability of local governments to enforce environmental and social protections, and to cope with the increase demands of infrastructure to meet the growing population, as we've seen. Such cities lack resources to treat hazardous waste, for example, and how to deal with solid waste management. We know that over a billion people, urban dwellers, live in informal settlements or slum areas that are often unconnected to even basic sanitation systems. And in some African countries, for example, 90 percent of the urban population lives in these kinds of slum areas.

We also know that -- we've all been watching with great interest as the Nano car from Tata Motors is being introduced in India, selling for $2,500 to increase car ownership among the middle class population. We're all watching to see what that does to, you know, pollution in those areas. But this also joined with a lot of use of diesel-powered vehicles and also use of poor quality automotive fuel, a lot of leaded fuels still being used, which are causing a lot of stresses in urban areas.

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But at the same time that we hear about the problems in urban areas, cities also offer a lot of potential benefits, including some that can be environmentally benign or even helpful. So in all countries that have attained high income levels, urbanization and economic growth have gone hand in hand. Technical innovations, access to information, efficient land and energy use, better living conditions, provision of clean water, and access to health care services can result in cities with good governance, decentralized to local levels. And we know of course that that's a big if. But that can happen.

Adequate funding for urban planning and infrastructure can lead to better quality life and reduce damage to the environment, both now and in the future. Increasing economies of scale resulting from urbanization can reduce per capita natural resource consumption compared with rural areas and smaller towns or cities. In New York, for example, the per capita greenhouse gas emissions are one-third the national U.S. average. And there are similar examples in other countries, in China, in Brazil, and in Columbia, and other cities around the world.

Some economists argue that the relationship between urbanization and the environmental change over time, that with a growing economy which often starts with urbanization, leads to increased consumption and waste emissions, but that when a certain level of wealth is attained, waste emissions actually tend to decline. And this is called the Environmental Kuznets Curve. And this theory has held for water pollution and some air pollutants that directly affect local areas, but the relationship becomes less clear and a bit more tenuous when the impacts such as biodiversity loss and global climate change occur beyond local areas.

So in gross terms, we know that fewer people mean fewer carbon emitters and potentially less greenhouse gases in the atmosphere. But per capita carbon emissions also vary widely and across and both within countries. This is a graph of some analysis that we did that shows future population growth in India using different scenarios of urbanization. So by 2050, total population will be 20 percent less under a medium urbanization scenario, assuming the population is 45 percent urban than under a low urbanization scenario, which is assuming a 35 percent urban population. But the higher consumption of fossil fuels in India will produce 25 percent more carbon dioxide emissions under the more urbanized scenario by the year 2100.

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So but what these results don't mean is that developing countries should actually reduce their energy consumption. Instead we need to be looking for ways for efficient technology transfer, providing modern, clean, and affordable energy resources to meet India's and the rest of the world's growing demands.

So just in summary, I think we've seen that urbanization is inevitable, and it's also accelerating, with most of the growth in the population in developing countries. And we've also seen that the relationship between population, urbanization, and the environment consumption is really complicated. There are negative aspects but then there also can be positive aspects. Larger, developed, urbanized countries are in a better position to achieve low carbon intensity by adopting new energy technologies. But some still, as we know, even in our own country, lack the political will to do so.

On the other hand, developing countries, with relatively high urban growth rates, will increase their carbon emissions through increasing energy use, which will boost their economies. But this of course raises the very difficult ethical question of equity in emissions between rich and poor countries, and again just highlights the importance of transferring cleaner and more efficient technologies without hindering development, and of course investing in family planning, as Bob so eloquently argued, so that women in urban areas and really all over the world can have the number of children that they want. Thank you.

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