



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

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Woodrow Wilson International Center for Scholars

Edited Transcript – Peter Liotta

Dean mentioned the five topic areas that we have boiled down. We're talking about security, globalization, multilateral arts, humanities and education. This is the Young building where the Pell Center is housed. It's also a student dormitory, by the way. If you ever want to find out about our programs, what's going on, what we have in the future, what we have done in the past, including our publications, all you have to really do is Google "Pell Center."

It is an extraordinary, if I can say that, honor, the Pell legacy. There's almost no area that matters to us in the world that Senator Pell didn't touch in his career.

Let me just say one final thing. Last Monday, I read at the Redwood Library, the oldest operating library in the United States, with the chairman of the NEA, read my own poetry alongside Dana Joya. Senator Pell was the sponsor for the founding legislation for the National Endowment for the Arts, National Endowment for the Humanities. So I'm particularly privileged of being a poet and a novelist who happens to deal in security and policy issues as well.

So here is how we are starting out for the first presentation, how demographics and migration are changing the global map. All of these presentations, necessarily so, are a broad brushstroke, but I hope they're a useful one.

I think most of us know this slide. It's made a composite over a number of years by 254 defense meteorological satellite platforms. But it tells us a lot about the world. One is the haves versus the wants, energy abuse and release, since one can make that argument.

But there's also, I think, a very important thing to recall that if you look at the United States of America, 4.5 percent of the world's population, 28 percent of the world's gross domestic product and 25 percent of the world's energy consumption. As the world moves forward and



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progresses, et cetera, it would actually take six planet Earths to match the consumption patterns of the people in the United States. So there's a significant footprint right there.

Let me talk about the rapid change of demographics. Each dot on these images represents one million people. We can see the Mediterranean and East Asia around the time of the birth of Christ. It took actually 1,350 years for that population to double. Seventeen hundred, we can see South Asia, East Asia and indeed Europe starting to emerge as the dominant -- and West Africa as the dominant themes, advent of the industrial revolution, of course, can sustain a greater population.

And then we come to 1900. One point six billion people, the average American citizen, male, 47 years of age. Today, it's about 78 to 79. And there's other rapid demographic shifts that have occurred.

Cutting out of 1950, post-World War II, to the year 2000 is the largest demographic population growth in history, even though the particular fertility rates may not have been as high. You can see some significant changes occurring all the way up to 1985 and projections as high as 2020.

Now, having spent a good bit of time in the Siberian Central Asian steppe, we know the Sahel is actually reaching out, and people are not moving to Sahara or into the Andean ridge, there's just no more place to put those dots.

And although certainly the U.N. Population Division has shifted in its estimates, which is the right thing to do, the 1998 revision does suggest, in a very simple graphic that in fact, the majority of population growth that is occurring demographically is in the emerging world. That's significant.

Not the best graphic in terms of visibility, but it does point out a very interesting thing, that United States, so-called, whatever it means, developed states does remain demographically exceptionalist. But we see a completely different dynamic emerging with India to become the most populous state. But if you break it down a bit, if you look at Pakistan and Bangladesh, which was East Pakistan until 1971, their populations combined in 2050 exceeds the population of the United States of America, in fact, roughly after the turn of the century, Pakistan exceeded its population data of the Russian Federation, which is rapidly declining.





Ten-forty Window, human geographers use it. It was actually a term first used by Christian Evangelicals. Fifty-seven states essentially between 10 degrees north latitude and 40 degrees north latitude. These are the states that had the greatest socioeconomic challenges. Two-thirds of the world population, 82 percent of the world's poor. It's also a portion of the world for all sorts of reasons, not just resources, but human security challenges that we may not wish to be involved with in terms of our national interest for security, but in terms of our national interest in security, we cannot withdraw from this 10/40 in the future.

So I use the term "entangled vulnerabilities," because anything we talk about, whether it's demographics or youth bulges, which is a dangerous term -- by the way, we can talk about later -- are all interconnected with disease, climate change, rapid urbanization, depletion of resources, decline in food production, access and availability, soil erosion, desertification, mega-cities and the lack of viable warning systems. Although I would say to the U.S. intelligence community, this credits the use of the Argos system to track and as a projection for disease outbreaks. It's actually a very helpful warning system being put into place.

My argument is all these vulnerabilities, not direct threats, are interwoven, they're complex linkages interdependent and system chaotic. It's not pretty.

Give you one example and a few images. Lagos will be that focus feature. But Nigeria itself, in the space of a century, will grow by about 12 times. And more significantly in terms of urbanization, we'll see a significant factor moving towards urbanization. It's also significant in terms of the density factors that you can see the denser population which is also the location of the major oil fields where there have been any number of backlashes.

Lagos itself, just recently in 1990, was not among the world's largest cities. In 2005, it was the 15th largest in the world. In nine years, it may be as close as the third largest city in the world. Population density estimated at that greater than New York City, but large. In the Lagos slum, police rarely enter. Life expectancy is under 40. There's no doctors, no clinics. Raw sewage is dumped in the same place where fishing is the main industry.

Let me say 24 November 2007, the district of Vier Debell two youths slam into a police car and sets off yet another round of threshold, or I don't like the term, but it's common, "trigger violence." And the outcome in the space of a few days was horrifying. It was actually more aggressive than a previous incident of 2005 in terms of the response.





We move a bit closer, a place that's near and dear to my heart is the elections and the aftermath. Moving out in networks of violence in some ways from Nairobi, both to Mombasa and to the Rift Valley. We look specifically at Karenjet. You can't see it necessarily in this picture, but those are Kalenjin, of tribal affiliation carrying machetes and hatchets, carrying mobile phones with mud-caked faces, going house to house.

And one of the true tragedies of democracy and violence: that what it says on that young man's forehead in the morgue is "Post-elections violence." At the same time, police reactions against viable opposition protests or democratic outpours was not pleasant.

The reason why this gentleman is using the figure of a rake is because that's exactly what happened to him. He was attacked with a garden hoe. A true image; yes, it's clearly staged. But it's the notion of cultural violence, both through the ponga and the Colorin, with a rubber tire. It's also the tragedy of, yes, we have reached an agreement, let's hope it lasts. But it also uncovers all these tensions being brought to the surface, not just one factor. Remember, we're talking about vulnerabilities.

Outside Kibera, being blocked from entering in to stage a protest.

And the final image of "No Raila, No Peace."

I want to give you an example of some pressure points. Now, this is a reverse image mat. It's almost like a breathing organ. Take a look at the population versus the energy consumption; versus HIV/AIDS rates; versus child mortality; versus total spending on healthcare.

Now, perhaps rightly so, there are all sorts of attacks on Robert Kaplan's 1994 "The Coming Anarchy." But I do think that map shows something. We are entering a bifurcated world. Part of the globe is inhabited by Hegel's and Fukuyama's last men: healthy, well fed and pampered by technology. The other larger part is inhabited by Hobb's first men, condemned to a life that is nasty, brutish and short. Although both parts will be threatened by environmental stress, the last men will be able to master it. The first men will not. Another more brutal way of saying this is, some cities are littered with garbage. Lagos is littered with corpses.





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We are indeed entering the urban century, a place we have really never been before in human history. Today, over 50 percent lives in cities. By 2030, we'll be approaching two out of three. Ninety percent, again occurs in these emerging world cities. One in six lives with unhealthy air quality. One in 50 is inadequate sanitation. One in 30 does not have access to safe water.

1950. 2000 estimate. 2015 projection. There was only, 1951, mega-city population of 10 million or more. That was New York City, although London was indeed approaching it. We can see the rapid changes in South America. We can see, indeed, Tokyo will remain the world's largest mega-city, 35.1 million in 2015. But yet it can handle its infrastructure. Those that experience rapid change such as Lagos, growing by a factor of almost 25, or Karachi by 21.

My all-time favorite example and the most ecologically fragile section of the world in the Bay of Bengal is the capital of Bangladesh, growing from 400,000 to 22.8 million in a space of 65 years.

Now, if you take the United States of America, New York City, that one mega-city is 1950 at a population of 12 million. Its population in 2015 would be 684 million people, twice the current population and the end sum of the United States of America. How could we possibly think that the capital of one of the poorer states on the face of the earth could survive that in isolation?

There were seven cities with 5 million or more in 1950. There will be 58 in 2015. Recall these are in the 10/40 Window. China is experiencing the greatest internal human migration in history, 90 cities with over 1 million population. My favorite example, the techno-city of Shenzhen, did not exist prior to 1979, and not until 20 years ago was it really significant. Today, it's a population of 13 million people.

It's important just in this image -- this is Sao Paulo. There's 240 heliports in Sao Paulo. There's 10 in Manhattan. So maybe Karl Marx was right. It's not just class stratification, it's altitude stratification. You actually fly above the chaos.

These are leading on the roads out to Soweto in the poison tyning pits. Off in the distance, you can see a skyline of Nairobi. This is Kibera, the largest slum. If you take the camera and move it down, this is the daily living condition.



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The favelas of Sao Paulo and Rio de Janeiro, but yet you swing it around, you look at this beautiful city in Gavara Peak.

So in terms of what is happening, more developed countries had advanced population migration is inevitably a factor to alleviate some of these aging populations. But those that are under environment stress will suffer more; infectious disease, more likely to outbreak. So there really are some huge challenges.

Let me end with a positive example, since some of this has been a bit bleak. The U.S. is the world's most prosperous nation-state with the largest population explosion in history, grown by a factor of over 75 times. That is not to say it is impossible. But it is to say that this all requires strategic planning, strategic intention and strategic investment.

One of my favorite quotes by Abba Eban, "Men and nations behave wisely once they have exhausted all the other alternatives." Thank you so much.



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