



## ***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 – Geoff Dabelko***

Well, welcome to the Woodrow Wilson Center. My name is Geoff Dabelko, and it's my privilege to be collaborating with the Pell Center and to be hosting today's event on behalf of former Congressman Lee Hamilton who is our present director. It's a real privilege to see Mrs. Pell here and to work with our friend Peter Liotta and the Pell Center. It's been tremendous. And we appreciate you all coming to hear what the four of us have to say on related but different topics.

And I'm going to, in some ways, pick up one of the bullet points of Peter's and focusing on the water issues. Building on some of the assumptions of the world that Peter has laid and try to, in some ways, have a particularly positive story even in the face of some real challenges and pose it as a question, water wars or water woes. Water management as conflict management.

We have seen these statistics before, but it never ceases to kind of shock me in terms of, when we are looking at water and understanding what in terms of we think about the water that we can use, it's really just a tiny fraction of the world's water. So 97 percent of the world's water is salt water, essentially. The oceans, right? Of the remaining 3 percent, most of that, almost 100 percent of that is locked up in ice. Mostly polar ice.

And so really, when we're talking about accessible fresh water focused on human needs, we're really talking about just a fraction. And this is to give you a sense, in Sub-Saharan Africa, the dark blue lines are water per capita availability in Sub-Saharan Africa in 1990. The light blue lines are what it is now -- or what it was in 1990. Excuse me. The dark blue kind of moving down and showing lower and lower levels of water availability per capita in Sub-Saharan Africa. So all countries in a state of water vulnerability, many in stress, and about 10 or so in absolute scarcity per capita.



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I'll give you a picture of the challenge, particularly for Sub-Saharan Africa, in terms of water.

Peter alluded to some of these figures. But right now, we know that we have 1.2 billion people without access to clean water, 2.6 billion without access to adequate sanitation. And adequate sanitation, I must say, is a fairly low bar, nothing that we're kind of used to here in the United States. Results among many results, and this, I would say, is probably a conservative estimate of at least 2.2 million deaths, mostly children under five, mostly dying from diarrhea, something, in many ways, completely preventable. We now how to deal with it. But we don't deal with it. And it moves to be a real challenge.

In part, you will hear a number of human security frames here and understanding what it is that's actually killing people. It doesn't always have to be at the end of a gun for us to care in this broadest security term. And I think this figure illustrates that.

So as a result, though, of particularly those scarcity graphics, we hear this phrase of "Water wars are coming." Countries are going to fight over water based on these scarcities. And we see it in our newspapers every time. This is a favorite refrain of newspaper headline writers, not always the journalists, but the headline writers, even if it's kind of a considered story, will blow it up in this context.

And then also, our politicians. Notably, often Egyptian politicians because the Nile River in Egypt, of course, sits downstream of the Nile, and there is great concern and understandable concern given the dependency of Egypt on the waters of the Nile. But there is a common refrain from senior politicians. You can see it kind of even continuing today, whether water is going to be the next source of war in the Middle East is the common refrain and such. But it's really framed as we have them now, and they're certainly coming. Just look at the scarcity figures.

I would suggest that there is a lot of logic, even not just those per capita figures. But we have 263 rivers that are shared by two or more countries. So our water systems are highly interdependent between countries.

This is a map of the Nile Basin. And in many ways, the Nile is the poster child for this argument based on the fact that particularly Ethiopian highlands are the source of so much of the water, a terribly poor country, lots of potential for hydropower and development. And





the Egyptians historically putting the kibosh on that because they're the stronger military power.

The question is this kind of future something that we should kind of accept on face value. And I would suggest that we shouldn't. The Nile Basin initiative is an effort that's been formalized since 1999, was going on before. But under World Bank and U.N. development program facilitation, you had all 10 countries coming together, very senior levels, continuing to, in the Nile Basin, and talking about developing a shared vision, which they have done, and transitioning from a rights to water to a needs to water to sharing benefits.

So it's starting by taking the political borders off the map, figuring out the irrigation needs, the energy needs, the ecosystem needs, the household needs, and trying to figure out the optimal utilization of water within a development frame to try to address the poverty across the basin and to be able to trade some of those benefits across borders when it makes sense.

All of this is framed in a development context. None of this is framed necessarily in a conflict prevention context. But I would make the case in part because of that water wars frame and the high politics of water in the region, that's exactly what it is, even though it's, frankly, tactically useful not to frame it in those contexts, but put it in the development context.

But we should, of course, say one case does not an argument make. And so to step back to the data, this is work that many of you will be familiar with, Aaron Wolf and colleagues, a geographer at Oregon State University, to my mind, the kind of go-to person on analyzing conflict and cooperation between countries over water. And Aaron and his colleagues took over 1,800 examples of interactions between states and coded them for most conflictual, down at the bottom, with formal war, to most cooperative, formally signing an international water treaty.

I think what's interesting, we see a big red line there around "verbal hostility." The politicians are really willing to rattle the sabers. But it, in fact, only rarely results in formal intentional use of force between countries over the issue of water. And the military acts, I think 27 of those 37 are the Israeli-Palestinian conflict. And so one case over-represents the ones where we see the most conflict.





What we do see is a lot of cooperation, a lot of it, again verbal, where there is a fairly low threshold. But we do see a trend, that may be slowing down, but a trend in the last 20 to 30 years of increased cooperation around basins, in part because of the interdependencies around water. And so you're starting to see part of my argument, which is, if we frame our water difficulties just in the most dramatic in terms of water wars, we're going to miss some of these opportunities for cooperation and garnering some of these joint development outcomes that are really, hopefully, ultimately benefiting people on the ground.

That said, I don't want to paint such a rosy picture as to suggest there is not a lot of conflict around water. I think for the most part, we've just been looking at the wrong levels between states. There is an awful lot of conflict below states in more local levels. So one that we're most familiar with, certainly have plenty of examples in this country, some of which are incidentally violent, not necessarily organized violent.

Something that's in the news now, again, not to suggest as some, I think, wrongly suggested that, well, Darfur is a climate change problem or Darfur is a water conflict. Well, there are all sorts of things that go into a crisis and a tragedy such as Darfur. And obviously, a conflict entrepreneurial regime in Khartoum exploiting this issue is first and foremost.

But I would say that on some of these issues, we can't understand the full picture, especially if we're going to try to fundamentally address it unless we understand some of the underlying issues, some of which are the demographics that Peter talked about. But also in this case, the notion that there have been fundamental changes from the water connection in terms of rainfall. So it dropped 30 percent over the last 50 years in this region, so long and sustained droughts.

The predictions in terms of climate change really largely based on declining availability of water, really meaning that foodstuff production in these areas are going to be bad. And then also just a loss of arable land because of the process of desertification.

So one can ultimately then -- really exacerbating what we have had historically in terms of the fights between the pastoralists and the agriculturalists, two different ways of making a living, but then really exacerbating and coming to a head, especially when someone is willing to exploit it for their own purposes, as the government in Khartoum is so willing to do.





Another, certainly privatization, and access, we'll hear a lot about this. There will be a movie entitled, notably, "Water Wars," even though it's about domestic privatization of water.

This is a picture from Cochabamba, Bolivia, where, again, only one person died at the end of the gun, which, of course, for that one person is terrifically tragic. But it was a protest largely around the privatization of the water and the delivery of services in the City of Cochabamba that led to widespread protests that then became protests about a lot of things, including the water, that brought down two successive governments in Bolivia. So high politics, even though it's not necessarily classic security in the definition of engagement of organized violence. Nevertheless, very high politics for those people and big implications for government.

Dams. This is Three Gorges, which is in China, we hear so much about. But I believe it was the 2000 World Commission on Dams Report looked at large dams in the, oh, I think it was since 1935, that estimated 40 to 80 million people -- that's a big gap. But 40 to 80 million people were displaced by large dam infrastructure. Not kind of conflict in the classic sense, but particularly when one factors in some fairly high levels of corruption and the inability for relocation, tremendously disruptive in terms of people's lives and welfare.

And so again, back to if we only frame the water crisis in this kind of water wars, we, A, are not tied to the evidence, and B, are missing a lot of what is important around conflict management around water.

And so to end on a more positive note, is to, in some ways, say, well, what is happening about that top part of Aaron Wolf's graph, in terms of cooperation. Is there something that cooperation is not just happening on its own. It's taking a lot of effort. It's taking a lot of dialogue. It's also taking a lot of insight on the part of practitioners at multiple levels, civil society as well as government, to build on and recognize interdependencies around water.

So how can we do that more proactively to break these links between water and conflict even if we're focusing at sub-national levels? And I think we see some examples, water playing very different roles, sometimes in active conflicts.

So you had literally Jordanians and Israelis meeting throughout their period of conflict to manage water, called picnic table talks, in part because they met at a picnic table in a border area. And in this sense, water, because of the various interdependencies serving as a lifeline





for dialogue when things are poor in other parts of the relationship. So the other parts of the relationship shouldn't be highly conflictual, but in part because of our dependency on water, and in some ways our inability to control it ourselves, kind of go and take it and bring it home with us, we have this dynamic where we see parties who are cooperating around it and providing this.

Good water makes good neighbors is also an example drawn from this region where very local, I mean school-to-school and town-to-town relationships develop between Israelis and Palestinians, Jordanians and Israelis, largely around the interdependence on sanitation. So the lack of treatment of sanitation on the Palestinian side, having negative health implications on the Israeli side, bringing those parties together that allow them, based on that interdependence, to go together and lobby at national levels and international levels, testify here up on the Hill in terms of influencing the foreign assistance debates in this country.

Now a base initiative I mentioned early on is one kind of example in this realm. The other, in terms of, okay, wow, that's great. Lifeline. But it's not really to the core of the issue. Water is still going to be a peripheral issue. So that, I would say, listen. Consistent with the notion that water is not what countries initially start fighting about, I would say that can be true.

And at the same time, water can be absolutely critical to ending a conflict. So whether it's India, Pakistan, Palestine, Israel, it's not what instigated the conflict. But you better believe you have to go through water to get out of the conflict. So in both of those situations, you have water as the focus of the negotiations to come out of it. So it doesn't get you into the problem, but you've got to go through it to get out of the conflict any sort of sustainable peace.

And just finally, to end with a photo that, you know, kind of looks like maybe not a vacation photo in that it's in front of a blown-up armored personnel carrier, but this is an Angolan former colonel and a South African former colonel, both of whom now are in the Angolan side working in government in the water ministry and the South African Tony Turton side working as a hydrologist and geographer in front of the Okavango River, a place in -- if you know that part of kind of Angola, Namibia and Botswana -- part of Southern Africa that during the apartheid era was the site of a lot of fighting, including these two gentlemen fighting on opposite sides.





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In part because of their experiences, they recognized the criticality of water to the development and to avoid going back to some of those days in terms of they saw the potential for fighting over water but also the ability for these issues to come together and have both been engaged, as have, including our government in supporting some of the negotiations in this basin, a basin that we don't hear a lot about.

It gets none of the headlines that something like the Nile does, but nevertheless is one where we have seen conflict in the region. We have seen water be a strategic asset in it. But we are also seeing it be part of the building blocks of this region of the world coming out of a really rough period in that apartheid era and finding ways to come together on water, and so trying to see the positive side of the interdependencies rather than the negative vulnerabilities.

So I'll stop there and thank you all very much.



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