World Food Prize Symposium 2002
Thursday, October 24, 2002 - A.M. Session - Peter Gleick

PETER GLEICK

Good morning, everyone, Ambassador Quinn, Secretary Murano, Senator Grassley (if you're still here), colleagues, friends, ladies and gentlemen. I'm really honored to be here today. The World Food Prize is a wonderful event and connecting it with the critical issue of water is critically important. I am also honored to be on the program with some of my best friends and colleagues. It's a pleasure to come to a reunion, in a sense, with many of them.

The issue of water is a huge one. As Sandra Postel mentioned, it touches on so many different aspects of our lives. It's obviously intimately connected with the issue of food. It's also related to ecosystem health and to conflicts over water and to human health, and to the production and use of energy and the production of our industrial goods. Water is fundamental throughout our lives. I'm only going to touch on a small piece of this issue. I'm delighted that there are many other speakers who will touch on many of the other pieces of this issue, and hopefully we can at least by the end of the day come to some better sense of some of the challenges facing us and also some of the solutions.

What I'd like to do is talk about the question of basic human needs for water. That is the connection between water and human health at the most fundamental level.

The first point I'd like to make is that the failure to meet basic needs for water is probably the most fundamental failure of development of the 20th century. The fact that we're now in the 21st century with a communications revolution and a technology revolution and all of the wonderful things that are going to happen in the 21rst century, that we have failed to meet basic human needs for water for all of the world's population is, I think, a tremendous failure, a tremendous catastrophe in many ways.

If we do nothing to address the unmet needs that remain, as many as 120 million people will die between now and 2020 of preventable water-related diseases, and these are mostly deaths of children. And even if the millennium goal is met – and I will come back and describe what the millennium goal is – as many as 75 or 76 million people will die by 2020. And the millennium goal is the official target, and so even if we meet that target, we're facing a tremendous catastrophe.

Where are we today on this question of basic human needs for water? There are major unmet needs for water worldwide. The estimate today is that 1.1 billion people worldwide do not have access to basic, clean drinking water – something all of us in this room, I believe, take for granted.

There are 2.4 billion people worldwide, 40 percent of the world's population, that don't have access to basic sanitation services – again something most of us in this room take completely for

granted. And as a result of that, two to five million people a year die from preventable water-related diseases: cholera, dysentery, the diarrheal diseases – schistosomiasis, skinny worm. There's a whole suite of diseases related to the fact that someone doesn't have access to clean and safe drinking water and sanitation.

Where is this a problem? It's a problem in many parts of the world – in the major continental areas whose populations are without access to clean drinking water. This is the 1.1 billion people. The greatest populations without access are in Africa where there are almost 300 million people without access to adequate drinking water, clean drinking water, and Asia with almost 700 million people who don't have access to clean and safe drinking water.

And, the 2.4 billion people are without access to sanitation services. And, again, over 300 million people in Africa, largely Sub-Sahara in Africa, and almost 2 billion people in Asia without access to adequate sanitation services, and populations in Latin America and the Caribbean and even in parts of Europe.

If we take no action, between 50 and 120 million people will die between now and 2020 from preventable water-related diseases – these are diseases we know how to prevent. And as a result of this, the United Nations set forth a whole series of what were called The Millennium Development Goals. They relate to poverty, they relate to education, relate to water, relate to food.

There is one of them related to water. It was adopted by the General Assembly of the UN World Summit in September of 2000. And the water goal is to halve, by the year 2015, the proportion of people without access to safe drinking water. Now, that's not the number of people; it's the proportion of people. And the population is growing, and so we have 1.1 billion in 2000 estimated to be without access to adequate drinking water.

By 2015 if we meet the Millennium Goal, there will still be over 600 million people without access to safe drinking water. So that's tremendous progress, but that's not all the answer. Even if we meet the Millennium Goals by 2015, there is still going to be a terrible problem.

And if we meet the Millennium Goal, our estimate from a report we released about a month ago, just prior to the Johannesburg Conference, is that as many as 75 or 76 million people will still die from preventable, water-related diseases over this period between now and 2020. And to be honest, given the levels of commitment worldwide today, I don't think we're going to meet the Millennium Goal.

So a new focus is needed on basic human needs for water. There are many water problems out there, many, but in my opinion the most fundamental challenge facing us is meeting basic needs for water for a hundred percent of the world's population. It should be the top priority for international water projects, to meet basic human needs for water supply, for sanitation, and for hygiene – a fundamental component of this. And that the goal should not be halving the proportion but meeting everyone's needs.

And there are many ways to do it. I'll touch on only a few of them. Other people speaking will touch on others of them.

But the focus, I believe, should be on community-scale efforts. Community-scale efforts have proven to be tremendously effective. They should be expanded, and they should be encouraged. But this is going to require new ways of thinking about water. It's much easier for international aid organizations to give a billion dollars for centralized, large-scale projects than to give a million dollars in a thousand increments at the community level, or a thousand dollars in a million increments at the community level.

But the community level projects are much more effective at meeting basic human needs for water. Communities know what they need, they are better able to manage their local water resources, and that's a challenge that we haven't figured out how to meet.

I also believe that access to basic water needs is a human right. I think the major human rights treaties, the statements, the covenants signed by nations around the world for the last 70 years contain both implicit and explicit evidence that reinforces the idea that there is a basic human right to water. And I think if we were to acknowledge that formally, it would help drive some of these efforts in the right direction to meeting basic human needs.

But the international water community has been slow to acknowledge that. There is at the political level difficulty for some parties to declare water a human right. Human rights is a political issue, but I think it's also a fundamental issue. And I think acknowledging the fundamental human right to water, which I believe is legally justifiable if not morally justifiable, would help us in moving toward meeting basic human needs for water.

I also would like to note – basic human needs for water, we're not talking about a lot of water. The amount of water required to meet basic needs is a very small amount, perhaps 50 liters per person per day, perhaps 10-15 gallons per person per day for drinking and for sanitation and for cooking and for cleaning.

We also have, as Sandra has hinted and as other speakers will discuss, an enormous issue related to the production of food, which requires much more water. But meeting basic needs for water does not require a huge amount of water.

And I would also like to argue that there is no spot on the planet that does not have the amount of water naturally occurring sufficient to meet those basic human needs. Or let me rephrase that. Every spot on the planet can meet basic human needs for drinking and for sanitation with local water resources that are available. It's a question of mobilizing those resources, making sure that the quality is adequate, and then making sure that the management and institutions are available so that people can get that water.

How to express this? All human beings have an inherent right to have access to water in quantities and of a quality necessary to meet their basic needs. Quantity and quality go hand in hand here.

The question about Bangladesh is a perfect example of that. Bangladesh had a tremendous unmet need, basic need for water in the sixties and the seventies, and people were dying because of the lack of access to clean drinking water, adequate, clean drinking water. And so an effort was launched to drill millions of tube wells at the community level to provide water. And the incidences of water-related diseases in Bangladesh dropped, and millions of lives have been saved. But no one looked to see whether there was arsenic in the water. And that's a challenge now that we're going to have to deal with, while still maintaining access to all of those local communities to their basic needs.

So what do we do? First, I think we need new commitments. We need firm commitments by governments at all levels, from the local level to the international level, to meet basic human needs.

I think we need commitments from international aid organizations to meet basic needs. I think the direction of funding in the water area should be refocused on meeting basic human needs as the top priority, secondary to massive, new irrigation projects, secondary to massive new hydroelectric dams. I'm not saying don't do those things, but I am saying that the priority ought to change.

And I think the commitments ought to include money, which is always important and rarely available in sufficient quantities, but also expertise. There's enormous expertise from the local to the international level. And training and education. Train and educate, and you've produced a lasting benefit, something that international experts who come and go don't provide.

I also think we need new thinking. We need a different way of thinking about water supply than we've thought about in the past. In the past water supply was a new dam or a new aqueduct. That's fine, but it's not enough, and it's the 21st century now, and that's 20th century thinking.

New supply also means the use of recycled water, the use of saline water where it's appropriate, the use of rainwater harvesting, the use of local groundwater resources that are shallow or deep, potentially in some places the use of desalinated water where it's appropriate. New supply means a lot of different things, and I think we have to broaden our ideas about what really constitutes a supply of water.

It also means a completely new way of thinking about demand for water, and Sandra mentioned this, and I agree completely. We have to rethink the issue of water use productivity, both technical efficiency – doing more with the water we have, and Sandra said it very well – and reallocating water from one use to another. And in California we are exploring this now, and in the Middle East they're exploring it, the idea that shifting water use from one kind of use to another kind of use can be a measure of productivity and efficiency, that we can increase our ability to do what we want to do without using more water.

We have to rethink the scale of management, and the smaller the scale of management in many instances, the better the results. Public participation – in the past water management was done by

a small number of people, engineers often, men often, and I say this as a man trained in engineering, often. But we are also learning increasingly that public participation makes water projects work. If the public is not involved from the beginning from the decisions at the very beginning of the design of a project all the way up to management of a project, it's not going to work as well. We're learning that over and over again. And strong water education and technical information programs are vital.

Finally, let me leave you with the message that we have to focus on basic human needs for water. But, as I said at the beginning, water is a huge topic, and I don't want to leave you with the idea that this is the only challenge facing us, and I'm sure other speakers won't.

I want to remind you that we also have to think about the issue of agricultural water use, and other speakers will address this much more than I. This is, after all, the world food conference and World Food Prize. But the issue of doing more with the water we have is fundamental.

The risks of water conflicts. Water is an international issue, and it's a controversial issue, but it's also a local issue and a controversial issue. This picture on the left is the Alabama gates in the Owens Valley in California where Los Angeles in the early part of the century went to get water for Los Angeles, and they took water from the farmers of the Owens Valley, and there was violence there. We have experience with this in the United States.

And on the right it's the mountain aquifer underlying Israel and the West Bank and parts of Jordan where there is tension and conflict over shared water resources. The Jordan River is shared by Israel and Jordan and Lebanon and Syrian and the Palestinians in the West Bank and even a little bit of Egypt as part of the watershed of the Jordan, and it's a small river. You can imagine the political issues there. This is the mountain aquifer, but this is a groundwater issue.

Is there going to be violence over water in the future? I think so. Has there been in the past? Yes. Are the mechanisms for reducing tensions over water adequate? No. We have treaties – they're not always signed by all the participants. Sometimes we have discussions. I've been a participant in Middle East water discussions for many years. I'm delighted to see many of my friends from that region here today. But the discussions over water...

The issue of climate change – this could be a whole talk by itself, which you're not going to get from me, although you could. Climate change is a real problem. Climate changes are coming. The truth is climate changes are happening already, and the risks for our water resources are significant. Climate change will affect the availability of water, the demand for water, the quality of water, in ways that we're just beginning to understand.

This picture on the right is from the Mississippi River from the serious floods of the year 2000. That was a 1 in a 500 year flood on the Mississippi, that is, a severity of flood they expect to occur only once every 500 years. Well, there was a 1 in a 500 year flood on the Mississippi in 1993 also. That sort of thing makes hydrologists very nervous and flood planners very nervous. We have to deal with this issue, and we have not adequately addressed it.

And finally, water in ecosystems. Water is fundamentally tied to natural ecosystems, and our use of water and our withdrawal of water from natural ecosystems has terrible ecological effects which are important in their own right. But we're fundamentally tied to natural ecosystems. And so what goes around comes around.

This top picture is from the Aral Sea where the 24 endemic species of fish native only to the Aral Sea are now extinct because of water withdrawals from the sea that have led to an increase in salinity, a decrease in the size of the sea, water withdrawals for the production of cotton in this Central Asian portion of this region.

The bottom picture is the Colorado River Delta. We share the Colorado River with Mexico. We have a treaty, allocates the waters of the Colorado – plus some waters that we thought were in the Colorado that turned out not to be – to U.S. and Mexican farmers and to U.S. and Mexican cities. And nothing was allocated to the Colorado River Delta, an incredibly rich ecosystem now dying because no water reaches it in average years.

We have to bring natural ecosystems back into the picture. They have to be a fundamental piece of what we do.

Thank you very much.

_____