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## Africa: 'The Most Effective Vaccine against Child Death in Africa is a Glass of Clean Water'

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### INTERVIEW

Washington, DC — **Kevin Watkins**, the lead author of the UN Human Development Report and head of the office that produces it, visited **AllAfrica** recently to discuss this year's document. Released on November 9, the 2006 report notes that the average person in the UK or the USA flushes 50 litres of water down the toilet daily, while as little as 20 litres of clean water a day can save millions of lives and promote economic development. Excerpts from the conversation:

I think scarcity is a loaded concept when you apply it to water. If you look at water availability in Africa as a region, there is not a scarcity of water. The problem is when you start disaggregating the region. Africa's water is very heavily concentrated in a few countries, in a few places - often places where there are not many people - so there is a mismatch between where water is and where people are.

Discounting regions that are acutely drought prone - parts of the Sahel and northeast Kenya and so on – the real issue of scarcity in most of sub-Saharan Africa, we would argue, is a product of governance and how water is managed. Take Nairobi as a classic example. About 700,000 people live in an area called Kibera.

Clean water is acutely scarce. There is a child death rate something like seven times the Kenyan average because of water-related infectious disease - mostly diarrhea. Water is very expensive for people who live in Kibera. In fact, the per-unit cost of water is higher than it is in New York or London. So you could infer from that that Nairobi is a city where water is scarce.

But over the main road from Kibera, you have the Royal Nairobi Golf Course, which has the sprinklers operating on a 12-hour-a-day basis. Right next to the seventh green, you have [former Kenyan President Daniel] Arap Moi's house, which has a swimming pool and a very green lawn. So water is very scarce for some people in Nairobi but is very abundant for other people.

What we are trying to look at in this report is the politics of scarcity. Why is water scarce for some people and not for other people? There is a scarcity issue at a household level – but that is structured scarcity, and it is politically structured. It reflects decisions on investment and about how you govern the resource.

Part of the report looks at water for livelihoods. Water is a productive resource. Africa is in a different position than most other developing regions, because it has very limited water infrastructure. Probably 90 per cent-plus of African producers rely on rain-fed agriculture. So, as a region, Africa has got something like one to two per cent of global irrigation capacity. That means that the region is very highly dependent on rainfall, which is variable. It is that variability that makes agricultural production in Africa such a risky activity – and why you find such high levels of poverty relative to rural areas in south Asia, where they have irrigation.

There are obviously difficult questions around the irrigation issue. If you create irrigation resources, who gets access to them and who doesn't? We actually try to show, in the report, that in the parts of the Sahel where they have introduced irrigation, the access is being distributed in a very unequal way. So again, there is the question of structured scarcity - some people get it, and some people don't.

We are trying to sort of politicize the idea of scarcity. Too often people write about water problems as if this is somehow a natural or physical outcome. What we are trying to say that it is not a physical outcome, but it is a political outcome. You need to understand the politics of it, and that is what we are really trying to focus on.

### Women, Water and Development

A big part of what we do in the report is sorting out what the problem is. We commissioned a study, which we did with the World Health Organization, trying to understand the real public health outcomes from the water crisis in Africa. The headline number that comes out is: globally there are roughly two million child deaths as a result of not having access to clean water. And Africa is hugely over represented in that number. It accounts for something like a third or more, roughly 40% of total child deaths from water-related problems. That is a health outcome.

There is a parallel outcome, which is the impact of all of this on economic growth, and how that relates to investment in areas like public health and education. We estimate that the African region loses five per cent of GDP annually as a result of both women having to walk huge distances to collect water - which diverts labor, apart from the huge personal cost that it puts someone in - and the impact of disease on productivity.

And five per cent of GDP is a lot of GDP. It is more than Africa gets in aid! There are more people campaigning on aid and debt relief, but this problem dwarfs what goes into Africa through aid and debt relief. The real burden, when you get down to the household level, is uses of women's time. And I think that people do not understand the problem, to be honest.

In Kibera, you see these little kids, young girls, carrying 20 liter buckets of water. This is more than half of their body weight. Walking for more than an hour in rural areas is even worse.

The minimum amount of water that people need, and what we argue in the report, is 20 liters daily. We say 20 liters should be a right of citizenship. In rural villages in parts of east Africa, and even in urban areas, and people are using 9 or 10 liters of water a day.

Now if you have sick person in the house, and you have nine liters of water a day for cooking, for washing, for drinking, it's impossible to meet basic public health standards, apart from the huge costs in terms of children who get infected with unclean water. Actually, what we say in the report is that there's a lot of thinking that's going on about immunization – and of course that's critical – but, actually, the most effective vaccine that you can give against child death in Africa is a glass of clean water.

#### **Public versus Private Water**

It's a huge explosive issue in most countries. We come out in an aggressively agnostic position. Which is to say that for most poor people in most of Africa, this debate is totally irrelevant.

Most people in Africa are operating in totally privatized water markets – most poor people, I mean – regardless of what the formal water system. You've got 700,000 people in Kibera who are operating in a total free market for water. They get out of bed in the morning; they take their money to the water kiosk; they buy their water; they go home.

Arap Moi ought to have a big interest in whether the water utility is public or private, because he's getting cheap water. But for people in Kibera, this is a different story.

Africa has one of the lowest connection rates. It's about 40 per cent, officially, who don't have access to piped water or an improved water source. We say that the real figure is way, way higher than that. The other thing that we do, which is even more interesting in some ways, is we've got the national breakdown of who's got access to water and who doesn't. Then we've used micro-level household data for differentiating between the richest 20 per cent and the poorest 20 per cent, and some of those figures are very ugly for Africa. For example, in Ghana connection rate for the richest 20 per cent is something like 85 per cent-plus. For the poorest 20 per cent it is something like 10 per cent-minus, which comes back to the realities of these poor people who are in the water market, which is not connected to the utility.

#### **Climate Change – a Predictable Disaster**

We've got a very strong environmental- change, global-warming story on sub-Saharan Africa in the report. We've looked at the implications for the production of food staples of shifting climatic patterns, and I think that's a pretty disturbing story that the international community needs to take a lot more seriously than they have.

I'm sure everybody's aware that climate change is already affecting weather patterns all across Africa. It probably started in the Sahel in the 70's and 80's, and we see it now in Ethiopia and north-east Kenya and parts of southern Africa. So the first thing that people need to understand, which most people don't – people think of global warming as something that's going to really hit us in fifty years time, and, actually, this already happening to a lot of people.

Especially in Africa, this has a special relevance. It's one thing if you have more variability in rainfall in an irrigated system – because an irrigated system is a sort of guarantor against risk. You don't have that in Africa. If it doesn't rain, you don't grow food, and that's the end of the story. So it's more vulnerable than any other part of the world.

The evidence is that if you put together the changing rainfall patterns with the changing temperature patterns, you've got a story slightly less rain in many countries – but, even in countries where you might get more rain, it's going to be hotter. You've got more evaporation, and there will be less moisture in the soil. We have a map which shows parts of Africa where the projection is for declines in food staple productivity of 25 per cent or more.

Now, if you said to the average person in America, "How would you adjust to a 25 per cent drop in your income in the next 5 years or so?" it would create a big panic. This is a greater drop than you had in the great depression. Yet this is something which is pretty predictably coming down the line for sub-Saharan Africa.

What we've tried to do, rather than just looking at rainfall patterns, is to take the rainfall patterns, plus temperature change, and look at the implications of that for moisture in the soil and then go from that to crop productivity. You've got a whole belt across southern Sudan and the Sahel, but also in southern Africa; there are chunks of Zambia and Namibia, which are really adversely affected.

If you look at the Horn [of northeast Africa] for example, this is already chronically vulnerable to drought and hunger. So you are superimposing this on what is already a pretty disastrous situation. If you look at a map of the United States, most of the agriculture benefits from global warming. But even if it didn't, you've got populations who can adapt and adjust to these sorts of pressures. How do you adapt, when you're living on a dollar a day, to a 25 per cent drop in production? There's no adaptation capacity for that.

The problem, in terms of the response, is that at an international level, the whole debate about climate change is about mitigation: how do rich countries produce less carbon? Which is fine, and they should be producing a lot less carbon and do it very quickly, but even if they do, it's not going to change these outcomes. The carbon stock is up there, and you can't really change this projection. So the real question for a lot of Africa is: how do you adapt to the problem?

If you look at the adaptation story globally, some countries are drawing up really serious adaptation plans. For example, the Netherlands, has got a very good adaptation plan, and so Britain and California.

You will not find a single credible climate-change adaptation plan in sub-Saharan Africa, even if you look up poverty-reduction strategy papers for sub-Saharan Africa adaptation to climate change. There is almost no funding for it. In fact, aid to Africa for agriculture has been cut really heavily over the past decade or so.

So this is a totally predictable disaster. This isn't like the tsunami, where you couldn't anticipate it. You can absolutely anticipate, over the next thirty years, that we're going to see more droughts, more floods, more rural livelihoods in jeopardy. And yet there's no real policy response, either at the national level or the global level. We are really trying to highlight that particular threat.

#### **Across National Boundaries**

There is map in the report that shows shared river basins – and I think more Africans live in shared-river-basin countries, as a proportion of total population, than in any other region. So trans-boundary water is the real water story actually in sub-Saharan Africa.

How it affects water scarcity is not clear cut. There are parts of Kenya that have a lot of water and parts without. There are parts of the Sahel that have got quite a lot of water, and then parts without.

But there are trans-boundary water disasters in sub-Saharan Africa, as you find elsewhere. Lake Chad, in a way, is Africa's Aral sea [shared by Uzbekistan and Kazakhstan]. It has

shrunk to something like half of its 1970 parameters, and that's really a consequence of countries not negotiating how to manage a shared water resource. You've got Nigeria building big irrigation schemes, which has drained it, and Chad itself, which has diverted large amounts of water from it. It's a classical example – if you don't negotiate and come up with a shared solution, in the end everybody loses.

You have to look at how the water is used. I think I'm right in saying irrigation would be one of the major uses of water from Lake Chad, or from river sources feeding into Lake Chad. By and large, these are enormously inefficient systems, because they haven't been maintained – the investment hasn't been there. So there's a loss of water. In a lot of cases, the irrigation systems themselves were not properly designed, so you get saturation and flooding, which lead to problems with sanitation. That reduces the productivity of the irrigation system.

As with any problem of scarcity, you have to ask how efficiently the resource is being used? And it's very interesting. In most of the world, irrigation systems are far more productive than rain-fed systems. In a lot of sub-Saharan Africa, you find the opposite. The people who are producing in floodplains are very, very efficient producers. Parts of the Sahel do have very good irrigation systems, but around Lake Chad, those systems are notoriously inefficient, which, again, is why it's not only a scarcity issue.

The analogy I often draw about scarcity is that if you ask people, "What is it that you mean by scarcity?" they say, "Well, it's in short supply." If you ask what they mean by short supply, they say, "People want more water than there is available." To which my response is: well, if I open a garage selling Porsche cars for 2,000 dollars, Porsche cars will be in short supply. It's the same way with water. If you treat it like it's a completely infinite resource – you don't price it properly, you don't manage it properly – it's in short supply. A lot of scarcity is manufactured scarcity - the result of poor governance.

### Prescriptions

The report is in two sections. There is "Water for Life" – the water in peoples' houses for drinking, sanitation – and "Water for Livelihood", which is how you manage water as an environmental resource. In the Water for Life part of the equation, we say this is one of the great development challenges facing Sub-Saharan Africa. If you look at the research we did in-house, we show that just introducing clean water into a household or providing sanitation in the household can reduce the risk of childhood death by something like 40 per cent.

We say governments need to legislate for water as a human right, and they need to mean it. Don't just put it in the constitution; legislate for it. South Africa has made it a right of citizenship that water providers have to provide everybody with 40 liters of water free. They have been progressing towards that, and there are huge debates about it in South Africa – whether to do it public or private. But at least they're moving in the right direction, and at least there's a debate about it. In most countries, there's not even a debate about it.

We also say governments should be spending around one per cent of GDP on developing water and sanitation systems in rural areas and in urban areas, which doesn't sound like a lot. But the current average is probably about 0.2 or 0.3 per cent. And then you get the question, "Is it affordable?" Well, if you compare it with military spending in a lot of countries, it's a tiny part of the military budget. Ethiopia spends maybe 20 times more on the military than it does on water and sanitation. You'd have to ask where the biggest risk for the average Ethiopian comes from. It's actually water and sanitation.

We then argue that even if you had African governments moving in the right direction, which some of them are trying to do through national policy towards water, there's a financial constraint. That constraint is partly because aid donors haven't prioritized water very much at all. So we argue that aid donors ought to double their commitment to water, which means about \$4 billion per year increase, and most of that should go to sub-Saharan Africa.

And then finally, we say that we need a global action plan – that you can't leave this to individual governments to resolve, because the problem is too big, and you can't assume the individual aid donors that you've got in-country are going to provide the critical mass of support. So, the same way that we have a global strategy for HIV/Aids, we argue that you need one for water and sanitation.

A big part of what we're arguing for in the report is for the G8, the World Bank, the IMF to take up this idea of a global action plan for water and sanitation, which I think would make a real difference in Africa. That's the prescriptive side on that story.

On the livelihoods part, we back the argument of the Africa Commission on Water that there does need to be more irrigation capacity in Africa. That's really critical; the harvesting of rainfall and all of those sorts of things really matter. But if you go down that road, you need to make sure that it is small farmers who benefit, not large foreign investors. Unfortunately, what we've been seeing, certainly in parts of west Africa, in cases that we document, it is big foreign investors who are benefiting from this very limited irrigation.

We also have a case study from Tanzania – an example of where you've got small farmers downstream – small pastoral farmers, but also rain-fed and river-fed agricultural producers – and you've had large enterprises locating themselves upstream and using huge amounts of water, either for the production of power or for the production of export commodities.

That's diverted water from downstream users. The problem is that national authorities have acknowledged the rights of private investors upstream, but they don't acknowledge the rights of small producers downstream, often because these people aren't claiming private property rights. They're using shared environmental water resources, which you can't put a property title on.

So one of the critical questions for the future is how African governments manage that tension.

We looked at ways in which private companies can make it easier for small communities to get access to water. It's not strictly speaking micro finance, but there payment systems where you can reduce the upfront cost of connecting, or can find ways of doing the connections which are cheaper for people in slums than they are for people in high income areas.

It's a really important area. There are some people, I guess especially in the NGO community, saying that you can't talk about water markets, that water is a human right, and you shouldn't talk about it like a commodity. To which my answer is, fine, but in the real world, most people are operating in water markets.

The real question is how can you make these markets work for people? Because at the moment you've got a market which is great for rich people – it provides them with cheap, affordable, subsidized good quality water – but is a disaster for poor people. Part of the way you change that market is structure. Regulation has to be part of it, but introducing more competitive structures is really, really important.

You ask about what a post-conflict country, such as Liberia, can do with so little resources. Every country is different, but I would say they should pass a water law, which says that our

ambition is to establish water as a right of citizenship for every Liberian and set clearly defined targets, year by year, for how to move towards this goal – and under this law, require any water provider, whether public or private, to report publicly on the progress they are achieving towards this goal. Have a regulatory body, which is politically independent, that will monitor these guys and will report publicly to the country as a whole on what they're doing.

Secondly, prioritize this in the National Poverty Reduction Strategy and try to move towards this one per cent of GDP target.

Thirdly, call on the country's donors to really get behind the national plan of action. This is really where a global plan of action would kick in, because the problem in Liberia is that you don't have a critical mass of donors who are prioritizing water and sanitation.

The way aid is negotiated is at a country level; you do it with a consultative group. So even if President Ellen Johnson Sirleaf comes up with the best plan in the world and her donors say they'd like to do something to help, if they're not from countries that are prioritizing water and sanitation themselves, she needs a facility that she can go to, where she say, 'Look, we're all committed to the Millennium Development Goals. You ask me to achieve these targets; you tell me it's a partnership; now where do I go?'

Unlike HIV/Aids, where she could go to the Global Fund, or unlike education where she could knock on the door of the World Bank and say, "We want entry to the fast track initiative", you've got no where to go on water. So I think throwing her weight behind the global action plan would be a third priority.

I've worked on Africa a lot, but I've never really worked on water before. You go through these research exercises and you read 500 ultra-boring UN reports and World Bank reports, and everything is about pricing and marginal this and that and then, when you go to Kibera, you really get it. I wish I had gone to Kibera before I had written the report. You realize that in the lives of ordinary people, it's hard to find something bigger than water.

I always used to be struck, when I worked for Oxfam and I used to go to villages in Zambia or Tanzania, that people have this sort of primordial drive to get their kids into school. Similarly, you can try to explain the need for clean water to people in Britain, and they sort of look at you. You talk to people who have lost kids to diarrhea – I mean this is the twenty-first century. This is so wrong, and yet it doesn't even figure on the national political agenda in most countries. At the international level, it's not even a blip on the radar. To me, that's just extraordinary.

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