

Caux Dialogue on Land and Security

addressing the human connections between poverty, conflict and
environmental degradation

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I work for the WEF. The last part of Tony’s presentation in the issue of public private relationships is where I sit. The WEF sits in Switzerland and is an international forum for public–private cooperation. My role is to look after our public–private partnerships.

As the international system tries to get its head around global public good issues, whether it is the issue of trade, climate change or who governs the internet, arguably there is no edge of the sword that is hotter than the topic of the environment, and as a water person I would argue that water is one of the topics at the cutting edge for how we think of new models for common property resource management and governance. The WEF has focused a lot on the water on the agenda as an acute risk. You may have seen our Global Risk Report for this year, which puts water as one of the top economic risks to have an impact over the next decade. We did that before these stories really broke about California. For the past 5 years it has been one of our top economic risks. I think many of you are agricultural and water experts, and there are a few economists in the room.

I have been told to look through the Africa lens, to talk about agriculture but also to bring in the water. I can identify where these two worlds bump and don't quite figure out each other's dimensions of travel, and then to leave you with a deliberately provocative thought to spur discussion and debate.

So, the way into water. Here is one that I always use. How many of you in the room have been to Niagara Falls? About a third. How many of you have seen Niagara Falls in TV or film? There you are. Hold that thought about Niagara Falls. Let's switch to the US. The US burns about a billion tonnes of coal a year as part of its energy. That's about 38% of its energy use, even with the rise of unconventional gas, with a 40% increase in energy demand there will be a lot of coal being burned in the US. This is not a climate change discussion, this is a water discussion. The US geological survey suggest from their estimates that the amount of water you need in the US to produce that coal, but more importantly, the amount of water available you'll need for the geothermal power stations to cool the turbines and create the steam for that coal based electricity is about 75 trillion imperial gallons of water. Go back to Niagara Falls. Stay there for a 5 months, that is the volume of water that Niagara Falls will deliver, which is 75 trillion imperial gallons give or take. So the US needs a lot of water for that billion tonnes. That is the challenge, as it is one part of the energy conversation based around water. Remember those farmers suffering in the SW, mid west and west of the US in these drought conditions. Think about LA, and Nevada; there is the rub. How on earth do you drive an economy forward when you need that amount of water for energy, for food. Imagine you are Kenya, or Tanzania, who have dramatic growth targets for the development of their economies over the next two or three decades. Kenya aspires from their economic growth plan to grow by 10% per year until 2017 and 8% after that. The US would love those kinds of growth predictions. The US can spend about 40% of its GDP on government. About 7% of its population work for government. That is a lot of capacity. Arguably Kenya does not have that same capacity but still has those challenges around managing its environmental resource base, particularly around water, to deliver that growth. The same is the case with Tanzania. Tanzania expects to double its population by 2035. There are huge growth challenges and aspirations for key emerging economies of the world and I have deliberately picked two. If we are focusing on sub Saharan Africa there are large growth aspirations for those countries, and the same kinds of challenges that the US faces; water for energy, water for food, water for cities. How do you manage this conundrum?

A good way to get into this debate for this conversation is perhaps government and their plans. Tony rightly mentioned the role of the state in all of that. There is a big

plan, the comprehensive agricultural development plan for Africa. How do we grow our agricultural base over the next few decades in Africa. This is part of NEPAD, and part of the African union government pledges. Generally the idea there is to increase agricultural production by about 6% per year, by allocating about 10% of national budget. So there is quite a determination to improve agriculture as part of Africa's growth trajectory over the next couple of decades, focusing on land and water management, market access, food security; the sorts of topics which you would expect. Some of those plans are extremely ambitious. Tanzania aims to expand its irrigated land from 33,000 hectares of land to 1 million hectares of land, quite soon; the original estimation was to do it next year. It will not quite get there but within the next 5 years is the aspiration. There are very focused specific agriculture development zones. Special development zones to boost agriculture. Kenya seeks to increase its irrigation by 40,000 hectares p/a to 1.2 million hectares by 2030. It is interesting that this forms part of the economic development plan for Kenya, yet the water management plan, as many of you know, suggests only 625,000 hectares of land should be irrigated. There is a capacity challenge within different parts of the administration. This is not just a problem for Kenya. We know full well the federal problem of the US- the EPA, DOA- it is a problem which many administrations face.

Against that sort of backdrop, and going back to the rise of public private partnerships and the fact that our aid industry is a little bit fiscally constrained in many parts of the formerly rich world, there's a whole wealth of appetite to look at how you can leverage private investments to improve agriculture, and to improve food security. My organisation plays quite an important role in that debate. There is a particular PPP called Grow Africa which we have been instrumental in supporting. This brings together many of the companies which Tony has mentioned, and others, eg Coca Cola, Carlsberg, a lot of large companies interested in investing in Africa. That PPP, with the blessing of G7, is an attempt to match make that private investment. In general, Grow Africa has been given a thumbs up by all sorts of people, such as the African Union, APAD, donor agencies, African governments themselves, and also by many NGOs eg the One Foundation. It committed about 1 billion dollars of investment into the continent. However, going back to the link between agriculture and water, and energy, here is a challenge for us in the expert professions who seek to bring the pieces together. As well as being instrumental in an agricultural PPP, Grow Africa, in the World Economic Forum we have been active in a water PPP, called the Water Resources Group. This brings together many of the same companies which I just mentioned, many large water users. Nestle, for

example, is a large water user in order to grow all of that food. There is also Coca-Cola, the world's largest purchaser of sugar, which is quite a thirsty crop. These organisations have been working with governments like Tanzania, like South Africa, like Kenya, to help them figure out how much water you will actually need to deliver on one's economic growth plan, for example to 2030. Under 'Business as Usual' in Kenya, if you want to more agroprocessing, mining, agriculture, more irrigation, how much water will you actually need, compared to what is available in your country to safely do that, under Business as Usual management solutions? The findings are quite interesting to say the least. Some latest findings from Tanzania suggest rather unfortunately that national water demand is already 150% above safely accessible levels compared to current economic activity. Already. We haven't even gone down the line to 2030 yet. That is taking account of environmental flow requirements during dry periods. Business as Usual, than plan that Tanzania seeks to develop, that agricultural investment in irrigation etc takes us to 216% above what is safely accessible by 2030. Now that is nobody's fault that these numbers don't stack up, but we have a big stratification problem of water expertise, economists, agronomists, agricultural professionals, who really can't find an easy way to connect some of thee dots together. Which is challenging because Tanzania has a rather decent 94 000 million cubic meters of water available, but it is highly variable. This is the challenge.

The dry season has massive temporal changes in water availability in Tanzania. Tanzania currently has about 80/85% losses through irrigation. Lack of storage means that most of the irrigation happens in the rainy season when rivers can be diverted. The plans for irrigation are upstream of the hydropower, so in the wet season you take the water out and the hydropower is ok. In the dry season there is literally no water left for the hydropower. The Rufiji Basin, has about 80% of Tanzania's energy. So how is that going to work in that region to reach the agricultural productivity plans? And yet your hydro is downstream. Energy, water, food- the connectivity between that planning leaves a little bit to be desired. In Kenya, the statistics are equally challenging. Not as dramatic as Tanzania, but Business as Usual management of the water regime, to meet the 2030 plan in Kenya would result at the moment in a 31% gap between what is required and what is safely available.

So even when we look at the challenges between different decision makers we can see that things aren't quite stacking up. If we overlay that with the public- private partnership element, arguably a lot of work is still to be required. These are partnerships to deliver private money into specific projects to boost agriculture

productivity. Private money into specific projects, even with enhanced guarantees, risk reducing projects from the public sector, will be looking to derive a rate of return from that project maybe 5 years or maybe 10 years. But it is a private return because the money is coming in from the private side. So if the water piece of the analysis for that project appraisal is not fully costed in, you are essentially mining an economic good for the country, almost free-riding it to get the private returns out for your agricultural investment. And if the administration, or the government, or the region, or the world is not able to properly factor in the proper economic cost of the water into the PPP investments it is a false economy to a great extent, and arguably this is the challenge which is happening at the moment, as one is leveraging much more private capital into the space. It is even more urgent than ever before to get some of these costings right because these are now project appraisals taking place, not just a conceptual analysis of a country and how it might manage its resource base. And the money which is going in is quite large and significant.

So just to conclude here is a thought. What if we don't spend all of our intellectual energy over the next decade or so trying to have the most marvellous economics which fully costs in water as a social good and somehow convinces a hybrid public-private investment to factor that in to its cost benefit analysis. You can imagine how long that is going to take and how many elements to it there are. What if instead one follows the money, and for parts of Africa where there are ownership over some of Africa's great water towers, one takes a different approach. That slide which Tony put up where you could sense that Asia and other parts of the Middle East were going to be huge demanders of water in the future, that is not going to go away. The marketplace for food will get bigger and bigger and people will keep looking into Africa for how to access that food, basically accessing the water to produce that food.

What if you took a different approach? Imagine a Global Water Court in 2030, where an African government is working with that global water court to construct the right to a parcel of land which is well watered, perhaps with a 99 year lease. That arbitrator, that international institution, with all of its expertise to ensure that the farmers would still be working on that land, would attract the investment to grow the crops for that lease period, manage everything to do with social protection etc, and would award that lease to a particular client on the basis of this process. What if then, that award, down to the arbitrator being a multinational institution and able to provide guarantees, in the form of finance and use of balance sheet, that country who gave out that lease could go to the capital market and say 'I have 99 years of

future flow of rent for a large chunk of land, in a very well structured contract with all the social protections worked through. This is going to lever benefit for the farmers working on it and here is the income flow. And it is a high income flow because we managed to secure quite a high price on it. I would like to securitise that income flow please, and I want to take bonds to the capital market because I want to invest now in improving infrastructure in my country.’ This is not a huge conceptual step. it has been done in the world before and arguably could get us out of the challenge of allowing some forms of PPP to be less well constructed around their economic evaluation. It is a more structured approach, which could leverage the finance which is interested in investing into that country because of its water endowment. In a collateralised and securitised manner, an investment right now into schools, hospitals and infrastructure and that kind of thing. I will leave you with the thought, because that could be another way to go with this issue.

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More information about the Caux Dialogue on Land and Security 2015 is available at www.landlivespeace.org.