

**TITLE: CLIMATE CHANGE AND THE MAKING OF A RADICAL WASH AGENDA**

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If climate change could induce the design and implementation of a radical WASH agenda, Ghana, and most of Africa for that matter, then it would have built a foundation for positive transformation *in the lives of the majority of its peoples. But we are in the living in the anthropocene and so the challenge is ours.* What political vision guides science and African scientists will be key to what problems they seek to solve and the solutions they offer. This is the argument of this paper, which sketches what a radical WASH agenda might look like in the context of Climate Change. First, the paper reflects on how one might think *through and beyond* the millennium development goals and link this reflection to practices and strategies of resource management in order to ensure the realization of rights elaborated in the African Charter of Human and Peoples' Rights. Subsequently, the paper discusses, from a WaterAid Ghana perspective, some of the legislation and policy necessary for the WASH sector in promotion of equitable and sustainable development. The paper concludes with a reflection on the necessary conditions and relationship that must exist between African scientists and the wider society for the realization of the collective well being of Africa's people and life-forms.

Pro-Poor; Radical WASH; Sanitation; Sustainability

## CLIMATE CHANGE AND THE MAKING OF A RADICAL WASH AGENDA

**“History shudders, pierced by events of massive public suffering.”**

---- Rebecca Chopp, *The Praxis of Suffering*

If climate change could induce the design and implementation of a radical water, sanitation, and hygiene agenda (WASH), in Ghana, and most of Africa for that matter, then it would have built a foundation for positive transformation in the lives of the majority of Africa’s peoples. The crisis of climate change, however, has not induced the design and implementation of a radical WASH agenda in Ghana. In fact, the other three global scale crises, which are also closely intertwined with climate change: food crisis, capitalist economic crisis, and energy crisis – have not led to the design of radical agendas of any sort in Ghana or elsewhere in Africa. (I am happy to be corrected).

Since we are in the living in the anthropocene, the challenge, then, is ours. That is to say, if humanity (and we should probably be very precise here) a particular segment of humanity, has ushered in a moment in history where humankind has become a force of nature, then the onus is on us to solve the problems they/we have created. Indeed, to the extent that we, Africans, are among those segments of humanity already disproportionately negatively impacted by climate change, we must find solutions. Or perish!

Here, then, is the critical importance of political vision. Put differently, what political vision guides African scientists will be key to what problems they seek to solve and the solutions they offer. This paper will sketch what a radical WASH agenda might look like in the context of climate change. It will do so, in part, by reflecting on how one might think *through and beyond* the millennium development goals and link this reflection to practices and strategies of integrated resource management in order to ensure the realization of rights elaborated in the African Charter of Human and Peoples’ Rights. Subsequently, the paper discusses, from a WaterAid Ghana perspective, some of the legislation and policy necessary for the WASH sector in promotion of equitable and sustainable development. The paper concludes with a reflection on the necessary conditions and relationship that must exist between African scientists and the wider society for the realization of the collective well being of Africa’s people and life-forms.

The first task is to state what is meant by climate change even if in an audience such as this it is not essential to over indulge such task. Suffice it to say that the understanding of climate change deployed here is in agreement with the standard understanding of the Intergovernmental Panel on Climate Change (IPCC). By climate change, I refer to the variations in atmospheric conditions, especially the levels of carbon dioxide and green houses gases in the atmosphere. It is the view among the majority of climate scientist that if/when atmospheric carbon dioxide surpass 450ppm (for others it is 400ppm) that the 2 degree threshold would have been surpassed thereby inducing a period of considerable variability in

weather patterns. This weather variability will be characterized by an unpredictable intensification of droughts, floods, intense heat waves and other climate related phenomena.

The implications of these potential hazards of climate change for Ghana are not insignificant. I shall enumerate only few. According to a study conducted by the International Food Policy Research Institute, “The price of rice that is projected to increase by 60 % without climate change could go up by as much as 121 % due to climate change” (West African Agriculture and Climate Change). An earlier study, the CSIR-WRI 2000 report on climate change and water resources, estimated that by 2020 there will be: a general reduction in annual river flows in Ghana by 15-20 %, reduction in groundwater recharge of 5-22%, a reduction in hydropower generation of 60%, and that all river basins will be vulnerable and the whole country will face acute water shortage (CSIR-WRI: 7). That the human cost will be great is obvious. This is especially true because if flooding on its own holds the potential to take life, in a context where sanitation coverage is between 13-15%<sup>1</sup>, flooding has the potential to cause the pollution of water bodies, which could in turn lead to cholera outbreaks and/or epidemics.

It is such moments -- in the context of an emergency or a national disaster -- that often illuminate most spectacularly the centrality of WASH to life. But we need not await the spectacular. We can simply attend to the mundane, to the quotidian. More precisely, we need only consider the structural violence of everyday life.

Consider the tragic story of Kamel Bashiru, the 8 year old boy, who recently died after falling into a pit latrine at his school, Greater Care International School. This story featured on a number of radio stations, but it did not *make* news. That is to say, the death of this child was rendered ordinary. There was nothing spectacular about a child literally dying in shit. All too quickly, the life and death of Kamel Bashiru was overshadowed by the tragic attacks in Kenya where Professor Awoonor and many others lost their life. What is it that makes it possible for Kamel Bashiru’s life to hold such little meaning for the larger Ghanaian society? To be sure, residents of Nima voiced their fury against the callousness that led to the loss of this child’s life. But where was I? Where were you? Where were we? Where was civil society? Where were all the god-fearing people? Where were the NGOs and their staff? How is it that there was no collective response to this *violence*? Who has been and who will be held to account? Is this only an issue for Greater Care International School’s administration or does accountability not go much further? What government institution(s) ensures the safety of school latrine facilities? Is it the same institution that allows structures to be built without latrines and then be allowed to be called schools? Reflecting on these questions allow us to see the structural violence of everyday life that is endemic to our society. Put more crudely, following the flow of water and the smell of shit and piss can tell us something about who are made to die.

There are many more Kamel Bashirus. Some don’t die in a latrine. It may be that they are one of the approximately 7.5 million children across the globe that dies before the age of 5

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<sup>1</sup> The JMP report asserts that sanitation coverage in Ghana is 13%. The MICS reports asserts that it is 15%.

due to a diarrheal related disease. It may be that they live a stunted life because the impact of repeated bouts of diarrheal related illness has limited the absorptive capacity of their intestines. But there are many more Kamel Bashirus. And, we are all complicit, unevenly so, but complicit nonetheless in the policies and practices that render them –those that are made to die.

It is against structural violence, unnecessary suffering, and death that WaterAid Ghana submits this radical WASH agenda.

### **A Radical WASH Agenda**

*Poverty wields its destructive influence at every stage of human life, from the moment of conception to the grave. It conspires with the most deadly and painful diseases to bring a wretched existence to all those who suffer from it. -- World Health Organization*

This paper takes as its starting point the following assumption: wealth and income inequality is that which most structures WASH injustice in Ghana. I have deliberately not used the more common term – WASH poverty – it has become too banal. Rather, I use the term WASH injustice so as to highlight the attendant structural violence. Given the aforementioned, the goal of a radical WASH agenda is not simply the goals of CLTS – to end open defecation and get everyone to have a household toilet. This is way too myopic a vision. A radical WASH agenda aims to end WASH injustice by enabling and achieving greater equality and equity in access to and control of resources. Therefore, while strengthening the resilience and vitality of communities, especially the most marginalized, by helping expand solidarity economies, is an important part of a radical WASH agenda, it goes further in imagining a more deeply democratized society where, for instance, economic democracy is not bracketed and elided. In short, ending WASH injustice must also be about deepening the democratization of our society, so that social inclusion is the norm.

Before going any further let me elaborate what might constitute a radical WASH agenda. By radical, I want to invoke rupture, a fundamental break with orthodoxy. I also want to highlight a prioritization of the most marginalized. Consequently, a radical WASH agenda implies a change in the order of things; it places the needs of the most marginalized as the first priority and prioritizes their substantive involvement in the making and implementation of this agenda. In this radical agenda, prioritizing the needs of the marginalized brings to the fore, the fundamental issue undermining WASH justice: massive inequality and social exclusion. The marginalized, in this radical agenda, are not simply recipients of “donor” “aid”; they are not “participants” who enter the fray only at the implementation stage to legitimize what was conceptualized and designed without them; rather, in a radical WASH agenda the marginalized are active protagonists in the making of the history of the present. Thus, a radical WASH agenda has a bold vision.

We only have to look beyond our nose to see our WASH predicament. Maybe we should be grateful that our noses are often affronted by what has become all too normal to the eyes. The water, sanitation, and hygiene situation of our present moment leaves a lot to be desired. This WASH injustice, however, is not shared by all. We may all live in Ghana but we have

very different “realities” in regards to access to WASH services. Just how radically divergent these realities are was made clear to me when I solicited statements from individuals to share at this conference. The individuals live in communities where WaterAid Ghana has interventions and are quite actively involved in their communities. None, however, were prepared to make a statement about their desire and expectations for WASH provision to be shared at a forum like this. One could dismiss this position as one of apathy. But why not consider it as mere recognition of the abyss that separates those with standing from those without? Here is the abyss: “20% of the population is 22 times more likely to practice open defecation than the wealthiest 20% of the population.” There is more, low income earning people are robbed further because not only are they “more likely to have poor sanitation but they have to pay proportionately more for the negative effects it has” (WSP:2).

Allow me to share a few more details to give further texture to our WASH picture. The Red Volta is dead. The White Volta is under considerable pressure, some may say that it is slowly being killed by human actions.<sup>2</sup>

Let us turn to look more closely at sanitation. We all know of Lavender Hill. At the recently convened MOLE Conference, an important WASH sector conference, a presenter stated that approximately 120 tankers go to Lavender Hill to empty faecal matter directly into the ocean each day. According to the Institute for Water Resource Management (IWRM), approximately 90% of all collected excreta, in Accra, is discharged directly in the ocean (From Waste To Cash).

It has been claimed that picture is worth a thousand words. However, I have resisted the temptation to share some. Sontag and others have noted that representation via images does not necessarily inculcate feelings of empathy. On the contrary, images, especially those often repeated, can have a deleterious effect to the efforts for which they were mobilized. Rather than empathy, such images may entice pity, and even worst apathy. Let me then, and this is with serious reservations, highlight the argument of loss economic productivity, an argument which is preponderant in these neo-liberal economics times. According to the Water and Sanitation Program’s (WSP) *Economic Cost of poor Sanitation* report, Ghana loses Ghc 420 million every year due to productivity losses directly attributable to sanitation related sickness. Apparently this is a conservative figure because this cost, does not, for example, account for potential income lost in the search for toilet facilities. Professor Chris Gordon, Director of the Institute of Environment and Sanitation, University of Ghana provides another staggering statistic: one million latrines could eliminate the practice of open defecation, which now costs Ghana \$79 million per year.<sup>3</sup>

If purely economic logic should organize governance, then the arguments above, rooted in the logic and language of economic productivity, should have a great deal of salience for

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<sup>2</sup> This assertion was made by a staff member of the Environmental Protection Agency at an event hosted by WaterAid Ghana earlier this year. Because the statement was made off-record their identity has been concealed.

<sup>3</sup> Professor Gordon made this statement, quoting from the WSP report, at the 64<sup>th</sup> Annual New School Conference at the University of Ghana in January 2013. The Theme of the conference was “The Key to Future Health of Our Nation: Improved Water, Sanitation and Hygiene.”

governing elites. Even if the political class ignore that a primary reason for government is to promote the wellbeing of the people, then arguments rooted in the logic and language of economic productivity should resonate more loudly for governing elites, than the basic rights of all, to good health. Yet, paradoxically, sanitation continues to be marginalized. Consider the 2013 budgetary allocations to WASH sector: the allocation to the sector increased over the previous year. For 2013, the allocation was GH¢ 598,902,647. While this is welcome improvement in allocation it remains short of what was promised in the SWA compact. What is most critical for the point I wish to make here is that the budget for sanitation was cut by 50% (2013 Budget). How is this decision, this de-prioritization of sanitation, to be understood in a context where Ghana remains so far away from reaching the MDG on sanitation? At the rate at which we are proceeding it will take Ghana at least 190 years before it reaches the MDG sanitation goal of 54% coverage. So even though the discourse of productivity and growth seems, shall we say, oversubscribed, the systematic approach to WASH that is necessary remains lacking. Obviously, what is needed is more not less resources to be allocated for WASH in general, but sanitation especially.

This is the context in which a radical WASH agenda becomes critical. So let me now sketch some aspects of such an agenda. This is not meant to be exhaustive. It is meant to stimulate dialogue and catalyze well thought out action.

### **A Radical Agenda Policy Direction**

If tackling the WASH challenges requires major changes, then one of the most important is funding. A radical WASH agenda necessitates the financial prioritization of WASH. Which immediately begs the questions: financed how and what is to be done with this additional revenue? It also presupposes that there is political commitment to this radical WASH agenda.

In the ideal scenario a radical WASH agenda is made by the people and by those they have allowed to lead them. This relationship is a dynamic one that is also deeply democratic, especially in terms of public participation, dialogue, and decision making. Perhaps we do not inhabit the ideal! If not, then, an important task is to increase the level of dialogue, participation, and decision making about WASH issues of the wider society. Were the political elite, across the political divides, to publicly commit to addressing the WASH challenges as a priority to the extent that speaking regularly and openly about sanitation and hygiene, not just water, became a standard feature of the political landscape, much would be gained.

To transform the WASH landscape, however, would demand more than words and campaign slogans. It requires at minimum three key objectives be realized. First, the transformation that is required needs resources. The Government of Ghana (GoG) is a signatory to major international agreements regarding WASH. For example, the GoG is a member of the Sanitation and Water for All (SWA) global compact; the GoG is also a signatory to eThekewni. According to the commitments made under eThekewni, the GoG promised to

commit 0.5% of its national budget to WASH. Not even these inadequate goals have been met. A radical WASH agenda would require that, at minimum, this allocation be tripled.

Second, transformation requires that much more resources be deployed with greater accountability and transparency. WaterAid Ghana often conducts “Accountability Day” forums in the districts where we work. Repeatedly, questions of accountability and transparency are raised by the communities and even district assemblies. For instance, communities are seldom aware of exactly how much funds have been allocated to district assemblies for addressing specific development projects in their communities. They do not know what interventions are planned and how much money has been allocated in the budget at the district level to realize the planned intervention. The accountability and transparency deficit extends upward. District Assemblies complain of, for instance, of receiving clearly articulated budget allocations. The disbursement of these allocations, however, is a major problem. Often times these disbursements come late, if they do arrive at all. Alternatively, the funds are allocated, but are misdirected and use for purposes other than they were intended. Thus, a radical WASH agenda demands much greater accountability and transparency in the decision making about and the actual allocation of resources to the WASH sector.

Third, to fundamentally transform the WASH landscape requires that resources, especially additional ones, be deployed strategically and with wider social goals in mind. It has already been stated that inequality and social exclusion over-determines the current WASH challenges? Tackling inequality and social exclusion is a necessary goal. More specifically, the allocation of additional funds to the WASH sector should be done in ways that enables income generation and asset building for marginalized communities and individuals.

Consider the following: what if the central government stopped stipulating that a certain percentage (I have not been able to ascertain the exact amount) of the budget allocated to districts must automatically go to ZoomLion or another private entity, but instead decentralized this process down to the community level. At the community level Sanitation Co-operatives<sup>4</sup> could be founded. Community durbars would allocate specific projects to these Sanitation Co-operatives. The District Assemblies would collaborate with communities to identify, for instance, sanitation reserves (areas for collecting and sorting refuse). At minimum what has been outlined above could provide a mechanism by which more than just employment opportunities are created. This process would also deepen the participation of communities in the management of sanitation and hygiene and therefore foster social inclusion and perhaps improve sustainability. Furthermore, because the Sanitation Cooperative’s operational principle is guided by the concepts of reduce, reuse, and recycle,

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<sup>4</sup> Sanitation Cooperatives are based on values of equity, inclusion and social wealth. They take the basic concepts of co-operatives and apply them to sanitation. Thus, Sanitation Co-operatives would seek to pay employees-owners living wages, management and decision making would be inclusive and democratic, and profits realized by the co-operative would be shared equally among members. Sanitation Co-operative could foster deeper community involvement in sanitation management thereby enabling sustainability and providing income generating opportunities for communities.

when done in tandem with the wider community and the district assembly, it provides the realization of wider social goals.

The key point of the example above is to suggest a small way in which WASH injustice could be creatively engaged to bring about wider development goals, and more social justice. As I have posited above, addressing WASH challenges, must necessarily seek to end social exclusion and create greater equity if the rights of all to water and dignified sanitation is to be realized. To reiterate, the minimum requirements are: more funding for WASH, more accountability and transparency with this funding, and utilizing this funding in a way that enables the realization of wider people-centered development goals.

### **Public Policy in the Context of Climate Change**

I have discussed the need for more funding for WASH, greater transparency and accountability in the use of those funds and that the utilization of such funds must also attend to wider social goals. Now I want to turn to discuss the importance of agriculture and public housing in a radical WASH agenda. As the discussion that follows will illuminate, the vision that guides these two areas, among others, will be key for Ghanaian society.

Agriculture's contribution to climate change is not insignificant. According to the Intergovernmental Panel on Climate Change (IPCC) as much as 12 of greenhouse gas emission can be attributed to agriculture. Of course, the type of agriculture that we are talking about here matters fundamentally. It is so called "modern" agriculture, that is, industrial agriculture that is primarily responsible for much of these emissions. Plantation, monoculture, industrial agriculture with its high dependence on petroleum based fertilizers and other inputs, and its non-ecological use of land and water resources have generated green houses gas emissions in an unprecedented way.

It is important to make this point clear, as peasant agriculture continues to be characterized as unproductive and, increasingly, as destructive, because of the slash and burn agriculture practiced by many communities, especially in the global South. The point being made here is not that slash and burn is inherently good and does not contribute to the emission of green house gases. That would be a fool's errand. Rather, I want to historicize agriculture's contribution to green house gases to make clear why thinking about agriculture is very important for Ghana as we confront climate change. The salient point is this: certain agricultural models contribute considerably to the emission of green houses gases, but agriculture practices are not monolithic, even if one model seeks hegemony and presents itself as a solution to challenges faced by humanity. The task, then, is to embrace and support approaches to agriculture which best enables us to contend with the multiple challenges that we face in the era of the anthropocene. In other words, needed at the policy level is an approach to agriculture that adapts and even mitigates the impact of climate change, as it builds the resilience of communities to the latter.

From a radical WASH perspective, industrial commercial agriculture is part of the problem not a solution. It is a path already tested. The Green Revolution was less a success than a failure. Surely, it enhanced crop production in Latin America and Asia. Yet, the benefits



derived went mainly to large scale farmers. But even those “benefits” were at considerable environmental costs (*The Ecologist*: 259). As if the lessons from Asia have taught perpetrations of the “Green Revolution” nothing, they are busy promoting a recycled version for Africa. Indeed, Africa is being targeted by a range of forces from agribusiness multinational corporations peddling genetically modified seeds to philanthrocapitalist<sup>5</sup> entities like the Alliance for a Green Revolution in Africa (AGRA).

Perhaps, it is still necessary to explicate the importance of food and agricultural policies for WASH. Why do food and agriculture policies matter to the WASH sector, to WaterAid Ghana? As stated above, agriculture, especially industrial agriculture contributes considerably to the pollution of water bodies. The use of inorganic chemical fertilizers, pesticides, herbicides, and fungicides has deleterious effects on water bodies. The more polluted the water body the more expensive is the treatment necessary to make it potable for human consumption. Furthermore, because many communities are not connected to piped water systems or do not have bore holes, their source of water may be lakes, rivers, and streams. When these water bodies are polluted such communities have no option than to use the polluted water. Of course this water also has dire implications for other life forms that inhabit or use that water source. The concern here is not simply the utilitarian anxiety, for example, about the impact on fish and fisheries. Rather, the intrinsic value of other life forms should also be considered as we preserve our water bodies.

Agricultural policies can be seen to affect WASH in at least two other ways: the destruction of small scale agriculture and climate change. The Ministry of Food and Agriculture (MOFA) is explicit about the development of commercial farming; the goal is explicit “modernizing agriculture.” This may be best reflected in the Ghana Commercial Agriculture Project (GCAP). Its website states the following:

Ghana’s current agricultural policy framework and national development plan emphasizes the importance of graduating from a subsistence-based small-holder system to a sector characterized by a stronger market-based orientation based on a combination of productive small-holders alongside larger commercial enterprises engaged in agricultural production, agro-processing and other activities along the value chain. To maximize the impacts of private investment in agriculture on development, a particular focus is to facilitate small-holder linkages with other commercial businesses through, for instance, contract farming and out-grower schemes.

What has been the experience of farmers pushed into contract farming and out-grower schemes? Is it possible that the expansion of commercial farming will lead to the further destruction of small scale agriculture, with serious indirect implications for WASH? The majority of the Ghana population is engaged in small scale farming. The destruction of agriculture based livelihoods caused by liberalization is arguably one of the push factors coercing rural-urban migration. The rapid and unplanned growth of cities in Ghana put

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<sup>5</sup> For a discussion of philanthrocapitalism see Jenkins 2011.

enormous strain on already taxed infrastructure. It also leads to the emergence of unplanned human settlements that lack adequate infrastructure for WASH services. In effect, the provision of WASH services becomes even more difficult than it is already.

A second way in which agricultural policies may affect WASH is the impact the former has on climate change. Because this model is likely to rely on high input chemical agriculture and reductionist plant genetics, it does not reduce the contribution of agriculture to climate change. Instead, by diminishing the use of integrated natural and regenerative processes, such as soil regeneration, nitrogen fixing, and nutrient cycling, by deprecating the knowledge and skills of small farmers, the pursuit of expanded industrial agriculture and agribusiness increases the likelihood that Ghana will increase its contribution to the emission of carbon dioxide. The predicted rise in atmospheric temperature and the attendant unstable weather and extreme weather hazards will negatively impact farmers, and the entire society. There is little doubt that policies that prioritize export driven commercial agriculture are likely to contribute to an increase in climate vulnerability.

For a radical WASH agenda, a minimal aim is to reduce the vulnerability of communities to climate variation. Therefore, in a radical WASH agenda, the most desirable approach to agriculture is one based on the expansion and intensification of agro-ecological approaches. First of all such approaches tend to have a positive water impact. In 2008, a study entitled *Organic Agriculture and Food Security in Africa* was released by the United Nations Conference on trade and Development in conjunction with the United Nations Environment Programme (UNEP-UNCTAD capacity-building Task Force on Trade, Environment and Development). The authors of the study note that organic soil fertility management does not only eliminate the cost and negative impacts of non-renewable chemical fertilizers and pesticides, but also increases water retention and soil fertility, reduces erosion, and raises the water table (Pretty et al. 2008).

Certainly, the aforementioned benefits of organic agriculture to water should be a key issue for consideration when designing agricultural policies. Other agro-ecological approaches also provide major benefits to farmers, their communities, land, water bodies and fauna. In short, national agricultural policies should be designed to strengthen the capacities of communities and our nation to mitigate climate change.

## **Housing**

For a radical WASH agenda, housing is a critical area of concern. That adequate housing is of fundamental important to human well being is a given. Safe housing contributes to good hygiene practices, dignified sanitation, and the safe use of potable water. Safe housing should also contribute to the effective management of faecal matter. In effect, the quality and availability of housing has implications for the WASH sector of any country.

It is evident that the housing situation in Ghana is undesirable. For the majority of people, the available housing stock is inadequate in terms of both quantity and quality, a fact especially true for rapidly expanding major cities like Accra, Tamale, Kumasi, Takoradi-Sekondi and Koforidua with their ballooning populations. The shortage of housing is also

implicated in the development of informal settlements, which inevitably tend to have poor, if any, water and sanitation infrastructure in place. Further, the general poor availability of housing is compounded by the predatory practices of property owners. As if demanding, illegally, that tenants pay rent 1 year, but most often 2 years rent, in advance is not extremely predatory, many property owners refuse to provide adequate and quality latrine facilities for tenants renting their properties. Insatiable greed to maximise profits makes it, they think, better business sense to build another room for rent than provide adequate toilet facilities. The implications for WASH are deleterious.

“C” lives in a compound house. At any given time there are approximately 38 people living in this compound. They share one latrine. Often there is a queue to use the latrine and/or the bath. When the wait becomes too much, a “flying toilet” rescues those in need. This is a story that was relayed to me. Even if anecdotal, this is not an anomaly. It is a banal every day fact. WaterAid Ghana staff hears these stories all too often. The point is evident: the failure of property owners to provide sanitation facilities increases the likelihood of public health risks. Additionally, existing housing arrangements, especially compound housing, does not allow for each household to have its own toilet. Therefore, the numbers of people sharing a facility often exceed its carrying capacity. Maintenance and sustainability are two of the casualties.

When property owners refuse to accept their responsibility to provide adequate sanitation in the properties that they rent, they are in fact stealing from the society and putting us all at risk. Such property owners steal a subsidy in order to maximize their profits, by shifting this individual cost of sanitation to the general public. The economic gain such a property owner may derive comes at the expense of the right to dignified sanitation for individuals and the society at large to the public good of a healthy and safe environment.

In short, addressing the housing situation is critical to addressing WASH and other public health challenges. Here, then, are some suggestions from a radical WASH perspective that could be considered. First, there is a need for a massive public housing projects, especially in urban and some peri-urban areas. Of course such a suggestion is heretical in a moment where the “free” market and privatization gospel holds much sway among elites and the general public. It is, however, evident that the real estate developers in the private sector will primarily construct housing for elite consumption that excludes the masses. Witness the burgeoning developments of gated communities and luxury apartment. Similarly, individual property owners renting to low-income earners do not systematically provide adequate dignified sanitation. And even if this was the case, the fact that these property owners often violate the law blatantly and compel prospective tenants to pay 2 years rent in advance, in effect forces those with the most limited means to turn to self-provisioned homes in urban areas – informal settlement.

Consequently, other measures must be put in place if housing, the WASH sector, and public health more broadly are to be addressed. Public housing is an option that needs to be seriously considered. Public housing could be designed in innovative ways, where “public” does not necessarily mean government managed. Indeed, key is maximum participation of people in the affairs of such a venture. Thus, the state could support the emergence of

housing trusts and housing co-operatives which put ownership and management in the hands of organized communities. Again, realizing wider national goals of social inclusion and equity would underpin how these institutions are designed. Rather than housing been promoted as an investment in a capitalist market where speculators could wreak havoc on the availability of housing for people with the most limited economic means, housing would be seen as a public good and right.

Consider a public housing cooperative arrangement, where individuals can contribute labour to the construction of the housing structure and its maintenance. This labour is counted as part of their rent, in a system where they rent to own. Ownership, however, does mean the right to sell in the capitalist market, rather it can only be sold back to the housing co-operative i.e., in a social market to limit arbitrary rent increase, speculation, and flipping.

The benefit of the state leading such an initiative also enables other critical WASH interventions to be advanced. The nation urgently needs the implementation of a national rain water harvesting policy that is robustly enforced. The provision of public housing by the state provides an ideal environment for the implementation of this rain water harvesting policy on a national level, especially in urban areas. Key objectives of this policy would be to capture rain water to support a multiplicity of uses. At the household level these include gardening, washing and flush toilet systems. Rain water harvesting could also support irrigation for urban agriculture, (as we know much of our urban agriculture is irrigated by sewage water exposing us to a host of pathogens). It could also support other livelihood activities that don't require treated water. Rain water harvesting would also be integrated into a system to ensure ground water recharge. An additional benefit would be to prevent this resource being waste as run off surface water, which increases the likelihood of floods. Ideally, grey water recycling would also be systematically built into the water systems of these public housing units.

The state leading the development of public housing provides another potential advantage. It is an opportunity to move the nation away from the wasteful sewage systems, so expensive to establish and maintain. In short, the state could lead the way in implementing the use of ecological sanitation (Ecosan). Currently, all over the world, where ever there is a functioning sewage system, it tends to be based on water for the safe removal of faecal matter from populations to a place of disposal. This is a highly wasteful use of water, in most case treated water, which is expensive to treat. In many countries of the global South, relatively small percentages of the population are connected to sewage systems. The prohibitive cost of establishing the necessary infrastructure for such systems is partly to blame for the absence of these systems in countries like Ghana. To be sure, non-provision of "waste" removal/disposal systems is a serious public health risks. However, the current non-provision of water based sewage system can be viewed as an opportunity. It could be an opportunity, especially if the state took the lead in developing public housing, to develop more ecologically appropriate approaches to transforming human excreta, a resource in transition, into a resource. Implementing eco-sanitation systems would save water and energy (for treatment of water and movement of faecal sludge) as well as provide fertilizers that could be used for urban agriculture.

Finally, were the state to take the lead in charting a course for public housing, it could simultaneously, by facilitating substantive community participation, provide the country an opportunity to think deeply about how to design and build inclusive green cities. This is of critical importance as Ghana becomes increasingly urban. In other words, a radical WASH agenda takes current housing challenges as a magnificent opportunity to address nation-building, by making social inclusion a primary goal and confronting WASH injustice in a holistic way.

A close reader may be asking by now what makes this agenda “radical” or even a WASH agenda? After all this seem to be common sense. However, it is evident that common sense is no longer common. So in way all that is “radical” about this agenda is that it rejects orthodoxy, the dominant – non-sense.

### **On Budgets and Money**

Given all that has been said above the onus remains to say something, even if briefly, about the current national budget. I am sure the reader may ask and where is the money to fund the bold vision articulated here. I shall make some comments on this too. But first let me briefly engage the national budget out-dooed in March of this year with a focus on its relevance to the WASH sector. I will only address one issue that was in the budget –Resource Generation for the WASH sector. The budget document suggests that environmental taxes are one potential source of revenue. This seems valid. One might wonder, however, if the tax regime is sufficiently inclusive. For example, when the budget excludes “agricultural products” does it mean that it is excluding petroleum based fertilizers? Since these are proven water pollutants, do they need to be subjected to the tax regime? What is the level of environmental taxes on extractive industries? For example, do the mining, timber, and oil sectors, all contributors to environmental degradation, pay a commensurate amount in taxes based on both their profits and contribution to pollution? Critically, how rigorous is the current legislation to prohibit (or at least minimize) the use of the worse pollutants and how rigorous is the enforcement of the legislation? Were these resources targeted specifically for the WASH sector would they provide a sufficient revenue stream to fund the sector at the level required?

According to the joint UNICEF and ISSODEC review of the 2013 budget more than 75% (the report asserts that it is 86.6%) of the funding for the WASH sector comes from “donors.” This is unsustainable. Any nation-state endowed with the natural resources of Ghana but remains incapable (or is it unwilling?) to provide adequate water and sanitation for its population is, as a friend of mine put it, “not a serious nation”. A simple and eloquent truth! Serious nations take control of their natural resources for nation building. But how does one take control of natural resources for nation building in a context where the gospel of growth privatization and trade liberalization remain sacrosanct? What strategic sectors of the economy may need to be *within* the public realm to produce the necessary revenue to fund a radical WASH agenda? And if privatization has proven to be facilitative of corruption without delivering the promised efficiency, how might we think *otherwise* and develop governance systems that enable the democratic and effective management of resources,

providing the necessary accountability and transparency, to ensure the resources serve the needs of all, especially, and prioritizing, those most marginalized?

### **African Scientists, Science and Society**

*Arrogant to the point of insanity BIG SCIENCE, has become powerless to check the excess of its success. This is not so much because of any lack of knowledge, as because of outrageousness, share hubris of a headlong rush without a slightest concern for covering its rear; its incredible ethical and philosophical deficit. Paul Virilio 118)*

In lieu of a formal conclusion, I offer some reflections on the necessary relationship between African scientists, science, and society in the era of the anthropocene.

This era has not ushered in equality. Rather, the pre-existing inequalities that find their origin in colonial imperialism and which have been, for the most part, sedimented by neo-colonialism will now be exacerbated by climate change. Consequently, the anthropocene is not a great equalizer. Most indicators suggest that climate change will not negatively impact the overdeveloped countries of the global North, as countries of the global South. Cruelly, the countries most responsible for the problems that face humankind and most life forms are the least affected. This reality will not last long. The UN Human Development Report for 2007, “Fighting Climate Change,” reminds us that:

Climate change is the defining human development challenge of the 21st century. Failure to respond to that challenge will stall and then reverse international efforts to reduce poverty. The poorest countries and most vulnerable citizens will suffer the earliest and most damaging setbacks, even though they have contributed least to the problem. Looking to the future, no country—however wealthy or powerful—will be immune to the impact of global warming.

The fact that no country or individual is ultimately immune makes it more apparent that climate is a public good. Even the World Bank has referred to climate as a “global public good.” However, recognizing climate change as a public good does not address either the asymmetry in climate change vulnerability, or the responsibility of its causal agents. That the majority of the population in countries of the global South are already facing the devastating consequences of climate variation has not made the main polluters willing to act responsibly. It is this that has led to demands for climate justice.

Climate justice, then, may be understood as a conception of justice that seeks to address the historical debt that the global North owes to the global South for ecological exhaustion. That is to say, the global North bears the responsibility for the historical production of green house gases and has also been the primary beneficiary of green house gas emissions. Therefore, it owes an ecological debt to countries of the global South which requires that it the global North compensate the former for the increased vulnerability created for its populations. Similarly, the global North is also responsible for facilitating the mitigation of vulnerability in the global South. In short, climate justice is about addressing ecological degradation so

that those who benefit most from ecological destruction bear the cost of righting the wrongs caused for those who bear the brunt of global warming and the attendant climate hazards.

The relationship between African scientist and societies is therefore important for realizing climate justice. As is the case between nation-states, so to within them – it is the most marginalized that are made most vulnerable to the hazards of climate variation. If the ethical status of a society is to be measured, it can be done by examining how that society treats its most marginalized. It is here that the concept of *ubuntu* comes to the fore.

Ubuntu as a philosophical system may be pithily captured in the formulation: we are therefore, I am; I am therefore we are. This is a clear ethical and moral injunction. It highlights mutuality. It is this, I posit, that we might consider as our moral imperative. That is, if African scientists are committed to the flowering of African life and African life forms, then we must practice an ethic of solidarity embedded within ubuntu and struggle for climate justice.

Let us return to the epigraph above. For Virilio, the danger of “BIG SCIENCE” is its “incredible ethical and philosophical deficit.” This is a cautionary call to African scientists. It is critical that African scientists and society reject techno-scientific elitism and managerialism that seek solution only in technical fixes. If climate change, for the multinational agribusiness, is a Trojan horse by which to spread their hegemony over seeds and therefore agriculture in Africa, we need African scientists to promote the public good. Consider that the health implications of genetically modified foods on humans are still largely unknown. This raises the ethical question about their promotion. Ethical questions further attenuated by the determined behaviour of their promoters to deny the consumers right to know what they are consuming. Therefore, African scientists may want to regular ask themselves if they are willingly being complicit in the ethical and philosophical deficits of BIG SCIENCE? They may also ask themselves how can African scientists practice an “African Science”? That is, how might African scientists bring their intellect to the service of African masses in a way that proceeds from the understanding that they are thinking beings and that there is much to be learnt from the science and cosmo-visions of our multiplicity of African communities? Critically, African scientists may ask: how can their daily practices, their scientific endeavours, contribute to greater social inclusion and the minimization of structural violence. And, of course, whether they ask these questions of themselves and the answers they provide cannot be divorced from the rest of us, the masses. It is we, the masses, who must insist, who must demand an ethical injunction. It is we, the masses, organizing ourselves for social justice and inclusion, for economic democracy, and for climate justice who must continuously vitalize an ethic of mutuality and solidarity. This is the vision of a radical WASH agenda.

## References

- Ecologist, The. 1996. CGIAR Agricultural Research for Whom? *The Ecologist* Nov/Dec, 259-270.
- Fourth Assessment Report of the International Panel on Climate Change approved at IPCC XXVII, Valencia, Spain, November 12-17, 2007. Accessible at: [http://www.ipcc.ch/publications\\_and\\_data/ar4/syr/en/contents.html](http://www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html)
- Ghana Commercial Agriculture Plan. 2013. Ministry of Food and Agriculture. Accessible at [http://mofa.gov.gh/site/?page\\_id=7036](http://mofa.gov.gh/site/?page_id=7036).
- Narayanan, R, H Van Norden, A Patkar and L Gos-ling (2011): Equity and Inclusion in Sanitation and Hygiene in South Asia, A Regional Synthesis Paper (UNICEF, WSSCC and WaterAid).
- Pretty, Jules, Rachel Hine and Sophia Twarog. 2008. *Organic Agriculture and Food Security in Africa*, UNEP-UNCTAD Capacity-building Task Force on Trade. New York and Geneva: United Nations Conference on Trade and Development/United Nations Environment Program.
- United Nations Development Program, 2008. *Fighting Climate Change: Human Development Report 2007*. New York: UNDP.
- Virilio, Paul. 2010. *The University of Disaster*. Tran. Julie Rose. Polity.
- Water and Sanitation Program. 2012. The Economic Cost of Poor Sanitation in Africa. Accessible at [www.wsp.org](http://www.wsp.org).
- World Health Organization, *Bridging the Gaps* (Geneva: World Health Organization, 1995), 5.



Youtube. 2013. From Waste to Cash: Fortified Excreta Pellets for Agriculture. *Institute for Water Resource Management*. Accessible at <http://www.youtube.com/watch?v=ljiAxCYQpfl>

## **Bibliography**

Ewens, L. 2000. "Seed wars: Biotechnology, Intellectual Property and the Quest for High Yield Seeds," *Boston College International Comparative Law Review* 23: 285-310.

Carbon Trade Watch. 2004. *Climate Justice Now! The Durban Declaration on Carbon Trading*. Durban: CTW.

Climate Justice Coalition. 2007. *Climate Justice Now! Principles*. Denpasar: CJC.

Climate Justice Now!. 2008. *Radical New Agenda Needed To Achieve Climate Justice*. Poznan: CJN.

Patel, Rajeev. 2006. "International Agrarian Restructuring and the Practical Ethics of Peasant Movement Solidarity." In *Journal of Asian and African Studies* 41: 71

Patel, Rajeev. 2007. *Stuffed and Starved: The Hidden Battle for the World Food System*. Brooklyn, NY: Melville House Publishing.

Shiva, Vandana. 1991. *The Violence of the Green Revolution*. London: Zed Books.

Shiva, Vandana. 2000. "Biodiversity: A third World Perspective," in *Monocultures of the Mind: Biodiversity, Biotechnology and the Environment, and the Third World*. Penang, Malaysia: Third World Network.

Shiva, Vandana. 2000. *Stolen Harvest: the Hijacking of the Global Food Supply*. Cambridge, MA: South End Press.

Timmons J. Roberts and Bradley Parks. 2006. *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy*. Cambridge: MIT Press.

WaterAid. 2010. *Equity and inclusion – A rights based approach*. Wateraid, UK.