

THE POLITICS OF GENDER, WATER AND MIGRATION IN GHANA: IMPLICATIONS FOR THE WASH SECTOR¹

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ABSTRACT

This paper explores the broad issues of Gender, Water and Migration among rural dwellers in Ghana. Particular emphasis is paid to women who seek to improve their life chances and reduce their level of poverty through out-migration from their indigenous homeland primarily to urban and small town enclaves. It updates research on migratory trends in Ghana and examines the socio-economic and health conditions of rural women as a consequence of poor access to water, sanitation, and hygiene (WASH). The politics of water access and impact of globalization and disasters, among other factors, are raised to highlight how such phenomena linked to issues of climatic change and migration, can lead to loss of indigenous knowledge (IK) in rural communities. The paper ends with an overview of how one organization, WaterAid Ghana (WAG), is attempting to alleviate rural women's poverty by providing sustainable WASH services delivery and advocating for WASH as a basic essential service and right. The use of culturally appropriate and endogenous development is proposed, with the right requisite levels of local and government leadership and financing, to reduce WASH related poverty, support rural development and reduce migration of men and women to overburdened cities where slums are developing without adequate WASH services and negative health outcomes.

KEY WORDS: *Gender, Ghana, internal migration, globalization, Water, Sanitation and Hygiene (WASH), poverty, climate change, endogenous development, culture, indigenous knowledge.*

INTRODUCTION

The historical migration routes of various indigenous peoples of West Africa were dominated by movements of nomadic peoples and traders for centuries. In the fourth century A.D., the kingdom called Ghana (also known as Wagadugu) arose in the Niger River Valley. The capital of the empire was also called Ghana. Ancient Ghana's location (not completely the same geo-political space as today's Ghana) allowed it to control trade between Northern and Southern Africa until the emergence of the Kingdom of Mali.² Early patterns of migration in Africa reflected movement of peoples across the continent seeking to not only trade and pursue livelihood interests, but also to escape wars, occupation, and slavery from the Arab invaders in the seventh century and later European colonialism in the nineteenth century. Due to its central location in the region, Ghana occupied a key crossroad for these routes. For the most part, continental migration and trade was 'normal' and peaceful, it became part of the cultural milieu and landscape. Today, in the twenty-first century, migration routes and patterns of African people, especially nomadic peoples have been changed by the historical partitioning of Africa by major European colonial powers granted by the 1885 General Act of Berlin. These borders, which have been maintained for over a century, regulate and restrict people's movement in ways contemporary structures like the Economic Community of West African States (ECOWAS)³ and Southern African Development Community (SADC)⁴ have done little to change. One can rarely travel from one African country within a region or the larger continent, without the extraction of fees for a 'visa' and/or goods carried.

This paper focuses on migration within the contemporary post colonial nation-state of Ghana and is most concerned with the gender dynamics of internal "rural-to-urban" migration. Modern cities in Ghana such as Accra and Kumasi have emerged as magnets for traders and migrants from rural areas seeking jobs and educational opportunities outside the rural landscape

and political economy. Following a brief review of the literature relating to the broad issues of gender, water and migration in Ghana, the paper explores emerging research on migratory trends in Ghana, highlighting the socio-economic conditions of rural women as a consequence of poor Water Sanitation and Hygiene (WASH)⁵ coverage. The impact of globalization and disasters, among other factors, is then raised to highlight the links to climate change and a disturbing loss of intergenerational transmission of indigenous knowledge in rural communities. Such knowledge I argue is necessary to support endogenous development efforts that can provide African solutions to contemporary development problems. Next, a case study is shared to provide an example of how WaterAid Ghana (WAG), an International Non-Governmental Organization (INGO), attempts to alleviate the poverty of rural women by providing sustainable WASH services delivery. Recommendations for future research on gender, migration and WASH are provided in the last section for future scholars and activists to consider.

LITERATURE REVIEW

As will be documented, several concepts- gender⁶, integrated WASH or I-WASH, globalization, structural adjustment programs (SAPs), rural-urban migration and urbanization – can all provide multiple lenses to analyze rural and urban poor migration often linked to deprivation of WASH services. Nearly one-third of the world's population experiences some kind of physical or economic water scarcity.⁷ There is growing competition for use and control of local waters and the waterways of coastal states among actors like private industry (e.g., oil companies), governments, small and large-scale agriculturalists, and of course, people who lead migratory lives and enter spaces of sedentary people faced with water scarcity. Indeed, it is predicted that the next world war will be over the control, access, and use of water.⁸ In Africa,

which has 9 percent of global water resources⁹, these and other contesting demands complicate and indeed limit the amount of water accessible to both the urban and rural poor for cooking, economic production, socio-cultural and spiritual activities, and household health care and hygiene needs. Tensions over water resources during the past 50 years are evident, with data showing that there have been at least 1,831 interactions on transboundary basins. Basins that are shared by more than one nation-state cover over 45 percent of the land surface of the world.¹⁰ Lives are being lost as a result of the global politics of water and its varied uses deemed as appropriate, which are embedded in the cultural ontology, cosmology and worldview of different peoples. It appears now that the ontological worldview of the power-holder(s) in the West toward water and other natural resources, wherein such resources are part of nature's biodiversity with utilitarian value, is more dominant. This dominant worldview is problematic as human lives are treated as expendable as long as competitive advantage can be gained over bodies of water.¹¹ While not examined here, studies in the field of political ecology are relevant to more concretely explore histories of conflict and violence over waterways.

Examining gender, migration, and water issues in Ghana presents a potential porthole on how development and demographic change may affect urbanization and migration in other parts of Africa. This is because Ghana is considered a frontrunner in the demographic and development transitions in Africa, particularly in relation to migration patterns that reinforce a strong urbanization trend.¹² For example, rural women and men in Ghana responded to the effects of the Structural Adjustment Programs of the IMF and World Bank adopted by the Government of Ghana (GoG) during the 1980s by migrating to urban areas looking for jobs as state support for rural development drastically declined, with the exception of cash crop farming

production.¹³ Consequently, they have been instrumental in shaping high urbanization rates and increased urban slums.

REASONS FOR MIGRATION IN GHANA: THE PUSH-PULL FACTORS

In Ghana, as in other parts of Africa, migration patterns are largely informal and undocumented, though increased literature has emerged in the past decade to supplement scanty earlier literature from the late 1960s and early 1970s. This does not discount the fact that there have been centuries and thus a long history of rural, and more recent urban, population movement, with migration playing a central role in peoples livelihood and advancement strategies. Migration in Ghana during the 1960s was internal among ethnic groups that moved for reasons of security during periods of internecine warfare, or in search of new land safe for settlement, and fertile for farming. As Addae-Mensah (1983) observed, farmers migrated in search of empty lands for the cultivation of both food and cash crops and the introduction of cocoa in the late nineteenth century resulted in unprecedented migration of farmers within Ghana and in countries around it (Hill, 1963).¹⁴ The literature on North-South migration in Ghana can be reviewed in the works of Oppong, (1967); Nabila, (1975), Zeng (1993); Pellow (2001); Mensah-Bonsu (2003); Sulemana (2003); Kubon, (2004); Hashim (2005a, 2005b, 2007); Meier (2005); and Kwankye et al (2007). Other works examine the migration trends of youth and females from the northern parts of Ghana to the southern cities, particularly Accra and Kumasi, to engage in menial jobs (Awumbila and Ardayfio-Schandorf, 2008).¹⁵ Research on salient issues related to the gender dimension of migration is highlighted for this discussion.

Although Ghana has periodically expelled ‘aliens’ since the 1970s, Ghanaians, especially the affluent ones, are migrating in droves, to the West in search of better education and economic

opportunities. It should be noted that the first President of independent Ghana, Kwame Nkrumah, encouraged a number of African “freedom fighters and Pan-Africanists to come to Ghana describing it as ‘a haven’ Brydon (1985). This Pan-African belief in Ghana as a country embracing all other Africans, including those from the Diaspora, continues today with mixed advances in policy practices of resettlement.¹⁶ For example, promises of dual citizenship are yet to materialize for descendants of enslaved Africans born in America who responded to calls to return to Africa and settled in Ghana.

A review of demographic trends (internal migration, immigration, transit migration and emigration both within and outside Africa) in today’s Ghana provides a “classic” pattern of change where death rates fell dramatically along with significant decline in fertility and population growth rates.¹⁷ The annual population growth rate for urban areas has historically been about 3.5 percent, and that of the rural areas, 1.5 percent (overall national growth rate is 2.3 percent). Although it remains a relatively poor country in comparison to much of the world, Ghana, since independence in 1957, is regarded as a good “IMF and World Bank pupil” in terms of achieving many social indicators of western-modeled development. This relative affluence has primarily been centered in the urban areas to a greater extent in Ghana than her neighboring countries resulting in the net immigration status of Ghana (Antwi Bosiakoh 2008). While having achieved “middle-income” status in 2011 based on Ghana Statistical Service data,¹⁸ the country is only ranked 139 out of 178 countries on the UN Human Development index (UN Human Development Report 2011). According to the UNHD Report, nearly half of the 24 million people are split between urban and rural dwellers with about 28 percent of people living below the poverty line, 11.4 percent living in extreme poverty and 30 percent living on just US\$1.25 per day; and so many Ghanaians remain poor. Also, despite recent developments, the prospect

of earning a decent living in rural and northern communities in Ghana has dwindled. The removal of subsidies on agriculture and social services during the SAP decade of the 1970s and 1980s, has resulted in minimal local and external employment; prosperity is uneven, with variable geographical and gendered dimensions. For example, extreme and persistent poverty and lack of infrastructure (electricity, transportation) continues to exist in the Northern, Upper West, Upper East and Central regions of the country, where people have historically been most deprived of WASH services, despite the GoG pledges to address past exclusionary national development.

Ghana draws enormous attention in West Africa because it remains one of the few countries in the region and the continent that has avoided large-scale conflict and out-migration since independence in 1957. Relatively peaceful elections were held again, in Ghana during the 2012 Presidential elections in spite of some sporadic violence as political power and control of future oil revenues was at stake. Some scholars have argued that the earlier economic improvements through ‘austerity measures’ were only at the macro-level. These scholars further argue that the impact of SAP of the late 1970s-1980s on the poor and vulnerable groups in both rural and urban areas in Ghana was disturbing and indeed harmful.¹⁹ Despite relative peace and growing hope for lucrative oil driven economy, of the nearly 24 million people estimated in the country’s 2011 census, 53.61 percent lived on less than US\$2 day.²⁰

The proclaimed prosperous development in Ghana remains uneven and inequitable along class, regional and gendered dimensions. Women and men, particularly from the Northern regions in Ghana, continue to migrate to the southern part of the country only to end up without finding jobs and settling in urban “Zongo”²¹ slums. In Accra, women, children, and the youth are engaged in petty street trading, and live in extremely hazardous places without adequate

WASH services. As urbanization proceeds in Ghana and Africa, cities and the rural and peri-urban landscape are differentiated in many ways. Understanding the migration patterns in these areas, and the availability of WASH services becomes increasingly important.²²

Much of the existing research on migration in Africa and other so called “less developed countries” around the world has focused on rural-urban migration and urbanization; but internal migration includes more than movement from rural to urban areas. Recently, more attention has been paid to other types of migration: rural-rural, urban-urban, and urban-rural; the degree of “urbanness” of particular localities, as well as questioning the usefulness of the rural/urban conceptual dichotomy in understanding internal migration.²³ For example, one can argue, as have White and Lindstrom (2005), that step migration, the sequence of moves from smaller communities to larger communities instead of a single move from a rural community to a large urban area, may provide a more nuanced picture of internal mobility and migration than using a simple rural-urban model to study migration. Step migration then, suggests those towns and secondary or peri-urban cities, serve as intermediate destinations for urban-ward migrants, and best highlight urban-urban movement in less developed countries.²⁴

Several studies of sex differences in migration have emerged over the past two decades. Few of these studies have focused on migration within national boundaries as does this discussion, and fewer still have used a gendered lens to examine the variety of origin and the direction of migration by both men *and* women, *across their life span*. Additionally, female migrants, particularly those who are married and/or have children, are often assumed to migrate for different reasons, compared to their male counterparts.²⁵ Sudarkasa (1977) observes that, until the 1970s, there was little focus on the female experience of migration compared to men; and when mentioned, it was in reference to their role as wives and mothers, and mostly the ones

who remained in the villages to “tend the farms, care for the children and maintain village cohesion.”²⁶ Today, women in Ghana move independently within and outside the country, for economic as well as other reasons such as education and career development. Consequently, one finds more recent studies emphasizing the independent economic and social role of young women (Appiah 2000; Awumbila and Ardayfio-Schandorf, 2008).

Taken together, the above research is uncovering interesting aspects of migration in Ghana. However, absent in the past and more recent studies of gender and migration are reasons associated with the need for clean and potable safe water, an essential life-saving resource. Additionally, as shown in the 2008 Ghana country paper on Migration, it is increasingly evident that socio-cultural factors and other non-economic factors, are also very important for studies on emigration and migration of various types, and that a realistic explanation of Ghanaian (and indeed African) migration should be multi-disciplinary (Achanfuo-Yeboah, 1993).

COASTAL MIGRATION IN GHANA

Research articulated in Reed’s 2010 study on “Gender, Family, and Migration between Urban and Rural Areas in Coastal Ghana using Event History Analysis”²⁷ has led to interesting findings on gender and migration. Reed’s work confirmed earlier studies of how the Ghanaian coastal areas and inland regions have drawn migrant men, since colonialism, to work in the fishing and logging industries and on cocoa farms. The research further showed how, in most of Ghana, especially the coastal areas studied, women had a fair amount of autonomy,²⁸ and female migration for employment, marriage, or family reasons was common.²⁹

A reliable determinant of migration across almost all societies is age; the youth are generally highly mobile as are very young children (usually moving with their young adult

parents though they have lower mobility during later stages of childhood). On the other hand, there is increasing mobility in the later teen years that typically peak among youth in their twenties, declining steadily through to older adult ages. This pattern of migration, according to Rogers (1984), while also true across a variety of settings in Africa including Ghana,³⁰ may shift slightly upwards, or down depending on socio-economic changes³¹ and level of development shaped by national development priorities, globalization, and by an amalgamation of colonial and post-independent economic policies and environmental factors.

Education is also a particularly powerful factor of women's mobility in Ghana. Interestingly, Reed found that women also migrated regardless of having secured employment, unlike men who favored being employed. These findings suggest that interregional migration in Ghana was less about marriage, and more about economic opportunity, among other factors, contrary to earlier ideas that women migrated primarily for marriage. Childbearing was another deterrent on mobility, according to Reed, but oddly not as much for women's mobility as for men. Reed finally reported that having a prior "urban" experience increased mobility for both sexes.

It is apparent from the literature review that rural women have migrated in Ghana for a number of reasons over time; and that age, education, and economic factors more than marital status, are determinants of such movement.

WATER AND MIGRATION IN GHANA: EXPLORING THE NEXUS

WATER-RELATED FORCED MIGRATION: DISASTERS AND FLOODS

Globally between 1991 and 2000, 665,000 people died in 2,557 natural disasters, of which 90 percent were water-related. Of those who died, 97 percent were from developing countries.³² In Northern Ghana, floods are periodic occurrences causing death and destruction

and greatly impacting the environment. Floods increase people's desire to leave affected communities in search of safer land, potable water and a more hygienic environment.³³ Such floods cause great mourning and feelings of destitution and desperation. How to reconstruct one's life after such disasters becomes a stressful situation, with great sense of grief among people who have lost loved ones. Women and children in general inherently suffer great loss and instability in these cases. Migration after floods and other disasters is consequently considered, regardless of the knowledge of potential risks of living in a new area.

Decreased environmental quality and rising food insecurity also heighten the desire to out-migrate. Depleted agricultural production in rural areas increases chances of starvation, poor nutrition, and lower household income. As a result, rural exodus often occurs that paradoxically, over the long term, reduces the number of people available to farm and engage in local economies in ways that if they remained and solutions are found to the challenges, could engender food sovereignty. As previously noted, lack of sustainable rural development efforts exists throughout Africa. The right government support is needed so that migration for reasons related to food insecurity and livelihood are greatly decreased or avoided altogether.

The health of communities is at risk during floods. There could be outbreaks of water-borne diseases like cholera and intestinal or other infections that result in malnutrition, anemia and stunted growth. It must be emphasized that pre-existing poor sanitation practices within communities also feed into the outbreak of cholera and other water-borne diseases. Globally, 90 percent of cholera cases come from Africa every year. Poor national sanitation coverage, currently at 14 percent, results in Ghana regularly experiencing outbreaks of cholera.

Of grave concern in rural areas in the North of Ghana, out-migration has contributed to the erosion of local *Water* knowledge and to a loss of the skills required for coping with the aftermath of a flood. Some of the migrants, including women, are equipped with the knowledge of flood prediction, and herbal medicine as well as seed production and storage. Thus, while in the short term remittances from migrants to provide relief to kinfolk and communities in such situations can serve as a buffer for family members in time of need, in the long term this out-migration may deplete a community of its skilled workers, particularly the youth. In sum, the cultural integrity of a community and its potential for endogenous development are eroded when natural disasters occur.

Cultural integrity is based on local indigenous peoples' values, institutions and resources, which satisfy the material, social and spiritual well-being of the community.³⁴ In terms of water resources for example, while certain circumstances may not hold, indigenous practices of rainwater harvesting promotes flood and erosion control, groundwater recharge, and reduced silting at major rivers and streams.³⁵ Indigenous knowledge of community based water resources management and adaptation strategies to climate variability that mitigate impact of droughts can be lost. Countless other water and sanitation related practices may disappear when the knowledge holder, male or female, migrates without transferring their knowledge to those left behind.

ENVIRONMENT, MIGRATION PATTERNS AND CLIMATE CHANGE: WASH IMPLICATIONS

Somewhat debatable is the belief that the relationship between the environment and migration is rarely direct or causal, but indirect and contextual.³⁶ The indirect form of the relationship is reflected in current disputes over whether people who move as a result of

environmental degradation are “environmental migrants” or “environmental refugees” as denoted by Sanderson (2009), which provides a useful analytical framework of the linkages between globalization, the environment and migration relevant to this discourse.³⁷ Sanderson asserts that the relationship between the natural environment and human populations is characterized by uneven development across regions or zones within an exploitative international division of labor, perpetuated by the tenets of global capitalism, which are yet to be fully interrogated. Turning to Ghana, his work shows how the mining activities by foreign companies has led to deforestation, soil erosion, groundwater contamination, and siltation and sedimentation of waterways in large portions of the Western Region of the country. The result has been both in- and out- migration of women and men due to what he calls “globalized environmental degradation” from increased artisanal mining and poverty-driven rural to urban migration. At the same time, there is some urban to rural migration for mining activities, yet such labor markets cannot absorb those coming to search for work in mining areas where safe, clean and adequate WASH services are virtually absent for residents. Surveys of communities in southwestern Ghana found that approximately 50 percent of small-scale miners were women serving as cooks, petty merchants, and sex workers.³⁸ Thus, the gendered and environmental impact of mining in Ghana results in women (and men) being located in an unequal globalized market with low pay and major health risks. Mining company profits are siphoned out of the country, continuing colonial patterns of resource extraction, while these entities do very little to protect local water sources, rehabilitate the land, or provide local communities development support as part of their “corporate social responsibility” mandate. This situation reflects a dire failure of the neocolonial state government in Ghana to adequately regulate private mining interests and protect local communities. Simultaneously, one hears government outcry against

‘illegal’ mining or galamsey done by individuals while the international corporations do more to destroy the environment and clear land that contributes to the looming local and global water crisis.

In terms of climate, environment and migration, changes in climatic conditions are increasingly being linked to the onset of disasters like floods and earthquakes. Where and when these disasters occur, water sources at both surface and ground levels, are often tainted. We are now more aware of how migration is an adaptation strategy to climate change and has gendered dimensions. When land, forest, and agricultural resources and production become less available, predictable and constrained due to mining, logging and/or climatic factors such as drought or gradual desertification, women less often than men, may decide to migrate from rural to urban areas for alternative livelihood options. The impact on family structures, women’s health (increased risk of HIV/AIDs as sex-workers in urban and mining areas) is well known in such cases; a tremendous amount of time is spent by women, girls and children fetching water,³⁹ fuel, food and fodder which increase in times of disasters and as a result of desertification and deforestation. In Ghana, women spend more than twice as much time as men gathering water and firewood, especially in the dryer areas of the north. As precipitation levels change, women spend even longer hours going further distances to fetch water (it should be stressed that such water is not necessarily potable, safe, and clean) for cooking, cleaning, and other uses. The implications for food insecurity are apparent, the cultural and spiritual significance of water may be eroded, and such situations have negatively impacted on girls’ school enrolment as they are conventionally expected to accompany their mothers in search of water.

Research on climate and livelihood changes in North East Ghana by Dietz (2004) revealed that lower rainfall patterns over time have resulted in lesser water reliability and

predictability of the rains, causing a shift in the planting season.⁴⁰ In the past, many female (and male) farmers started planting as early as April, or late March, but now have changed to May or even June. Additionally, many running streams become stagnant water pools much earlier on in the season, leading not only to poor water quality, but also serving as breeding grounds for mosquitos. Migration has been a steady response to this growing climate variability and food insecurity, with farmers drifting to riverine and ex-marshy areas. Consequently people may actually migrate to areas where risks of floods, poor sanitation and other human health risks (water borne diseases) increase or they may altogether abandon rural life for peri-urban or urban locations.

Interestingly, Dietz's study also indicates that improvements in modern drinking supplies and the average quality of drinking water has improved in Ghana, especially in urban areas in the north, due to the efforts of local and International NGOs, and that this water supply is being rapidly commercialized and sold.⁴¹ While seemingly positive, the rural and urban poor, especially women, struggle to pay for water supply, and spend more of their overall earnings than households that have greater ability to pay. This situation, however, is not unique to Ghana, but is the case in many parts of Africa. Over time, this commercialization of water, as has been the case with land, erodes traditional communal practices of ownership and sharing of resources.

GLOBAL AND LOCAL STATISTICS ON WASH COVERAGE

Currently, 884 million people worldwide are without access to clean water and 2.6 billion are without proper sanitation.⁴² This sanitation crisis is the primary cause of diarrhea, which is the biggest killer of children in Africa. The impact of unsafe water and poor sanitation on health, education and productivity falls disproportionately on women, and in particular, on girls. As a UNICEF survey of 18 African countries shows, over 80 percent of the time spent fetching water,

is done by women and girls. These chores keep girls out of school. Women and girls also have the additional responsibility of spending more time caring for the sick.⁴³ The necessity of having adequate WASH services contributes to meeting the UN Millennium Development Goal (MDG) 7, which seeks to ensure environmental sustainability. In addition, MDG target 7c is specific to WASH, and is designed to galvanize global efforts to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. However, due to existing cross sector linkages, meeting the WASH related MDG 7c allows for other MDGs to become more achievable as a result of having equitable, inclusive and sustainable WASH services as indicated in Table 1 below:

Table 1		Linkages of WASH MDG 7 to other MDG's
Health HIV/AIDS Nutrition MDG 6, 5, 4	<ul style="list-style-type: none">● 88% of diarrheal deaths from poor WASH● fewer diarrhea episodes & worm infestation can impact nutritional status● new evidence linking hand-washing to Acute Respiratory Infection	
Education MDG 2	<ul style="list-style-type: none">● improving WASH in schools has an impact on enrolment levels, particularly for girls	
Poverty –MDG 1	<ul style="list-style-type: none">● 5.5 billion productive days per year lost due to diarrhea and burden of fetching water● household water required for small-scale productive activities	
Gender-MDG 3	<ul style="list-style-type: none">● Women & girls bear the brunt of fetching water & benefit most when distances are reduced	
Source: Adapted from Government of Ghana, Sanitation and Water (SWA) Compact Launch Presentation, August 2010		

Despite the benefits of WASH as shown above, in Ghana, the national coverage for improved sanitation facilities only stands at 14 percent in 2013. Ghana is off-track for meeting the sanitation MDG and has to raise coverage from 18 percent to 61.5 percent for urban areas and from 7 percent to 55 percent in rural areas by 2015 (Ghana Compact, 2010). Based on the average cost of a latrine and water supply, it is estimated that a total of GHC 2.4 billion (US\$1.6 billion) is required to meet the sanitation and water MDGs, of which GHC 2.25 billion (US\$1.5 billion) is needed for sanitation. The GoG Compact of 2010 also indicates that Ghana needs to

serve about 1,283,000 people annually between 2006 and 2015 to reach the MDG target of 53 percent national coverage for sanitation.

Though banned in urban areas, a recent study conducted by the Environmental Health and Sanitation Directorate (EHSD 2012) of the Ministry of Local Government and Rural Development, has revealed that there are still 20,000 pan latrines emptied into open places, while 4.63 million Ghanaians with no latrines defecate in the open. Approximately 13,900 Ghanaian adults and 5,100 children under five years, die each year from diarrhea. Nearly 90 percent of these deaths are directly attributed to poor and inadequate sanitation and water problems. Poor sanitation costs Ghana GH 290 million each year, representing 1.6 per cent of National Gross Domestic Product (GDP). Open disposal of fecal matter called “open defecation” is said to cost Ghana US\$79 million per year, while US\$215 million is lost each year due to premature deaths from poor water, sanitation and hygiene conditions throughout the country.⁴⁴

Current provision of water services in Ghana is better than that of sanitation, though still fraught with inequities. Approximately 51 percent of Ghana’s population has access to improved water supplies from various technologies. Coverage in urban areas is about 61 percent. In Accra, it is estimated that only 25 percent of the residents have regular water supply while the remaining 75 percent get supplies only through rationing and purchasing of water. Rural water supply is even worse; only 44 percent of rural⁴⁵ dwellers having access to improved water supplies mainly through boreholes and hand-dug wells with hand pumps and small piped systems being the technology choice for small towns. Over the last six years, development partners and donors, through joint financial agreements with the GoG, contributed approximately 95 percent of the total WASH sector capital budget. Yet GoG budget allocation for safe water is less than 0.5 percent of GDP. In 2004, the sector received GHC18.04 million being 1.36 percent

of the total national budget (GHC1331.36 million). This allocation however, increased in 2009 to GHC212.76, million reaching 3.29 percent of the total budget (GHC6462.77 million).⁴⁶ GoG allocations for rural and small town water supply have shown an upward trend from GH¢2,179,419 in 2006 to GH¢35,026,106 in 2009. However, the gap between allocations and actual releases is rather widening; from about 25 percent in 2006 to about 90 percent in 2009.⁴⁷ In April 2012, the Government of Ghana joined other WASH sector actors at a Sanitation and Water High Level Meeting (SWA-HLM) in Washington, D.C. to discuss the country's progress on WASH. At the meeting, WASH also had to account for progress, particularly on the Ghana SWA Compact launched in 2010, which promised US\$350 million annually to tackle WASH issues. Expectations that the forthcoming oil revenues would fund WASH are yet to materialize. In fact the promises made at such meetings are rarely kept and poor communities in Africa do not really have the power to hold government accountable at any level. Neither national, district or local GoG actors have done much to change the politics of who benefits from WASH services. Consequently, the GoG and her partners still have a long way to go to achieve the nationwide goal of access to sanitation services by 53 percent of all Ghanaians. Neither donor dependency by the GoG, nor external funding to address these inequities, has yielded the required or expected returns. Lack of political prioritization and inability of the GoG to effectively and efficiently spend the funds acquired (absorptive capacity challenges) are key primary reasons contributing to Ghanaians' inadequate access, or total lack of access, to sanitation services.

It is important to scrutinize the theories and approaches used to explain the relationship between women, water and migration, as the WASH sector globally and locally follow the general western-led development approaches and trends. Moving from a subsidy or "basic

needs” approach to WASH to one of “sustainable” development and “rights based” approaches, call for communities to make investments of human and financial resources to attain WASH services. Unfortunately, since not all people or communities can afford WASH facilities or services, the government can, and must, do more. Strong community-level socio-political agency, and more coalitions formed of dispossessed urban poor citizens with an activist stance against the injustice of WASH exclusion and poverty, are needed to counter the government’s poor response to their plight. Furthermore, the real test of lasting changes in WASH related development is realizing that one cannot fully comprehend African people’s psychology of behavior towards WASH, without situating such understanding in their culture, spirituality, belief system and worldview. The concept of sanitation adopted here mirrors that of Black and Talbot (2005) as articulated in Akpabio and Subramanian’s (2012) groundbreaking work in Nigeria. In the article “Water Supply and Sanitation Practices in Nigeria: Applying Local Ecological Knowledge to Understand Complexity on sanitation issues in Nigeria,” sanitation is defined as “all aspects of personal hygiene, waste disposal, and environmental cleanliness which could have impact on health.”⁴⁸ Akpabio and Subramanian’s work shows a lineal connection between dirt, water, and disease - covering personal and domestic hygiene, vector control, food cleanliness, and drinking water storage - among local peoples, as well as socio-cultural factors that shape WASH related behaviors and decisions. This is compared with most intervention efforts today that narrowly conceive of sanitation as “toilet construction, rather than a package of environmental and household cleanliness, with water assuming a central position.”⁴⁹ Akpabio and Subramanian’s research brings a much needed cultural dimension to understanding gender, sanitation and hygiene practice and should be widely consulted.

CASE STUDY: WATERAID GHANA AND THE FIGHT AGAINST URBAN & RURAL POVERTY: IMPLICATIONS FOR MIGRATION PATTERNS

Water, sanitation and hygiene (WASH) coverage in Ghana is clearly uneven, and is a function of geopolitics, donor priorities, weak Government of Ghana (GoG) institutions and wealth as well as privilege. The work of the British based International Non-governmental charity organization (INGO), WaterAid (WA), has as its mission, the task to bring safe water and improved sanitation and hygiene (WASH) services to the most marginalized and poorest communities in 26 countries in South East Asia, Central America and Africa.⁵⁰ The institution is a relatively conservative development organization going through interesting changes since a new 2009/10-2015 global strategy was launched, but it has basically been working within government parameters while advocating for changes in policies to mitigate WASH deprivation and simultaneously providing direct WASH services at no or low costs to poor communities. The WaterAid Ghana (WAG) country program is part of this global institution. I have worked in Ghana since 1985. In April 2011 WAG launched a new Country Strategy (2011-2015), with change theories predicated on improving WASH outcomes and impact through working with selected local NGO Implementing Partners using Rights⁵¹ and Strength Based/Endogenous (cultural) development approaches to achieve sustainable WASH service delivery outcomes. WAG advocacy efforts are primarily targeted at the national level with increasing focus at the community level and need to strengthen policy-practice linkages and agitate more strongly for duty-bearer accountability.

WaterAid's Global Report on Equity and Inclusion published in 2010 identified the need to promote increased focus on equity and inclusion issues to ensure for example, that poor and marginalized communities and people with disabilities benefit from WASH interventions.

Sustainability, equity and inclusion, pro-poor targeting of services and WASH as a right, are cross-cutting themes and core tenets of WA's global work. The attention to culture in development using the strength based approach of endogenous development (ED)⁵² is unique to the Ghana country program of WaterAid. ED involves efforts to deliberately search for and incorporate the strengths of a people's indigenous knowledge and traditional cultural values and worldview, along with their community assets and resources, to drive development projects. Indigenous leaders, structures and institutions support participatory and sensitive ways for community led development and engagement with externally offered development solutions, technology, and resources as and when appropriate. Figure 1 below is symbolic of the areas of knowledge encompassed within the ED process, including the spiritual, social and material aspects of a community.



Figure 1: ED Conceptual Framework (Source: www.compasnet.org)

The aim of Endogenous Development is to empower local communities to take control of their own development process by:

- Revitalising ancestral and local knowledge and appreciating the worldview therein to guide a community's development;
- Selecting external resources where needed, that best fit the local conditions; and,

- Increasing bio- and cultural diversity, reducing environmental degradation, and creating self-sustaining local and regional exchanges.⁵³

Since disease, illness and well-being are culturally constructed, there are valid reasons to bring the ED approach to address sanitation challenges. Endogenous development, which is embedded in the culture of a people, can help the WASH sector better address behavior changes needed amongst Ghanaian people to get improved sanitation and hygiene practices. Likewise, ED methodology for engaging communities and building relationships can improve WAG and chosen local Implementing Partners' data gathering to generate the relevant socio-cultural profiles of targeted communities and indicators of project success, grounded in community visions and not just donors. This information can help determine what WASH interventions are appropriate for a communities' vision of their development that may over time halt migration due to poor WASH services.

WaterAid Ghana (WAG) also uses a more integrated approach to WASH service delivery (I-WASH) and advocacy to fight WASH poverty. Wherever poor Ghanaian people are, and for whatever the plethora of reasons that induce migration (disaster, climate adaptation, employment, etc.) from rural to peri-urban or urban enclaves, small towns or across borders, WAG advocates that the government provide the relevant WASH service needs. Because such assistance is fraught with challenges, WAG leverages funds raised from a variety of donors to provide more assistance as government efforts are deficient. Indeed, sometimes, WAG is the only provider of WASH facilities in a community. Equitable and inclusive (E&I) WASH is targeted not only from the user end, but from service providers, both public and private. WAG's engagement with water utilities emphasizes pro-poor targeting to get affordable prices and

expanded services to all regardless of location and socio-economic status. Water and sanitation management must be democratic, transparent and represent the needs of all communities.

AFRICAN WOMEN IN LEADERSHIP IN WASH INITIATIVE (AWILWASH)

WaterAid Ghana's fight to end rural and urban women's poverty depends greatly on the ability to mobilize strong leadership of women in their communities, and there are times when rural to urban migration can yield varying levels of improved access to WASH services through women's concerted efforts. Of particular note has been women's role in the WASH progress of an urban Accra slum area—Sabon Zongo. Sabon Zongo was created from years of migration from northern Ghana by a steady stream of women, children, and men from various ethnic groups. Progress to overcome the poor WASH situation in Sabon Zongo has been facilitated by local residents, led by former assemblywoman Honorable Jane Oku, dubbed a “Female WASH Champion.” Hon. Oku and other women have been featured in WAG's flagship quarterly publication *Dawuro*. WAG also launched the African Women in Leadership in WASH Initiative (AWiLWASH) to create a cadre of women to advocate for increased women's participation and decision-making in the WASH sector. The overall goal of the initiative is to inspire women across different socio-economic backgrounds, including women already occupying national government and local leadership positions, to support more equitable and inclusive WASH service provision for improved health and holistic human development.

The first AWiLWASH meeting was held, in June 2011, with the theme “Building Alliances to Further Equity and Inclusion.” Twenty men and women, including government officials, technocrats, civil society and community leaders attended the meeting to deliberate on how to improve WASH services delivery so that women's and other marginalized groups' voices are

heard and responded to in policies and actions taken in the WASH sector. Key among the participants were women leaders in the WASH and wider development sectors including the Honorable Sherry Ayittey, Minister of Environment, Science and Technology, Hon. Gifty Kusi, MP, Tarkwa Nsuaem, Honorable Juliana Azumah-Mensah, Minister, Ministry of Women and Children; Deputy Minister of the Ministry of Water Resources, Works and Housing – Honorable Dr Hanna L. Bisiw; and former Assemblywoman of Sabon Zongo, Jane Oku. An integral part of the initiative agreed upon will be to conduct equity and inclusion (E&I) Learning Visits by these women and others to WAG supported communities in order to map local power dynamics, access and control of WASH and other natural resources, and to better understand barriers to women's participation in WASH policy decisions that impact livelihood and health outcomes *and can induce internal or external migration*. Future directions in this area of work will include efforts to:

- Engage in active and continuous tracking of the level of women's involvement and gender dynamics in WASH programs and projects at the national, district and community levels.
- Deepen interaction with key parties involved in WASH at the district level who can monitor and provide sex-disaggregated data, facilitate E&I programs and rural women's empowerment.
- Deepen involvement of Traditional Women Leaders to advance WASH advocacy messages, improve sanitation outcomes, and promote equitable and inclusive WASH service delivery at the community level as a measure to stem migration.

- Support research, documentation, and sharing of women's indigenous and local knowledge especially on climate variability, water, sanitation, and hygiene issues.

It is unfortunate that women and girls in Ghana and throughout Africa spend long hours daily in searching for water. Girls are sometimes unable to attend school⁵⁴ due to lack of separate toilet facilities for their hygiene needs. Yet, it is relevant to stress that migration to cities does not automatically alleviate these issues, despite small successes evolving in Sabon Zongo in Accra. There are growing numbers of urban slums in other major cities like Kumasi and Tamale that need urgent attention to meet migrant and local WASH and health challenges.

CHESHIE SCHOOL WASH PROGRAM⁵⁵



Until 2010, 1,127 inhabitants of Cheshie, a rural community in Northern Ghana near the city of Tamale, depended on a dugout close to the community for their domestic and commercial water supply. This water source however, was

Figure 2: Rainwater Harvesting Tank, Cheshie

sometimes completely dried up and abandoned. Oftentimes, the dugout's poor water quality led to high incidence of water related diseases in the community, especially with low water levels experienced during the dry season. Community members attribute part of their hardships to climate variability that over time caused declining levels of traditional water sources. These issues caused temporary and/or permanent migration of residents to nearby areas. In 2010, with Conrad N. Hilton Foundation funding, WAG and New Energy, which is one of its local NGO Implementing Partners, aligned with the Ghana Water Company Limited (GWCL) to extend pipelines to Cheshie from the city of Tamale's GWCL main water system. Stand pipes were constructed on the new water extension pipelines and now serve community members who enjoy

safe water within a short walking distance. The facility is managed on behalf of the community by a committee trained to ensure sustainability. The committee charges an agreed user fee (tariff) that goes towards payment of monthly water bills from GWCL. A bank account is kept by the committee where tariff profits are kept for any needed minor repairs and possible future pipeline expansion needs. However, the primary school in Cheshie, which serves 210 children including some from surrounding communities, received support from WAG to construct a 30,000 litre (7925.16 gallon) Rain Water Harvesting tank. The tank provides water for sanitation, hygiene, and cooking meals. It is disinfected at the end of each rainy season. According to school officials, the water facility has improved school attendance, especially of girls. The children also have more contact hours with teachers instead of searching for water that may not necessarily be safe. This example of WAG's work in Cheshie represents what ought to be done in far too many cases of government built schools that lack adequate WASH facilities, despite existing laws to the contrary.

SUMMARY AND CONCLUSION

The WASH crisis in Africa has become an issue of global concern. It is a problem that contributes to women's burden and migration decisions and must be solved by Africans, with African derived resources and ideas, that reflect endogenous, culturally led development approaches. Efforts in African nation-states to meet national and local development aspirations, and those needed to address economic and other factors of exclusion and marginalization that cause migration, must include provision of WASH for plans and policies to be successful. A caution here, however, is that it is essential to recognize the cultural meanings of water, sanitation and hygiene. These meanings and understandings must be researched and appreciated,

to form the basis of, and best approach to, sustainable WASH solutions and broader development.

This paper explored factors leading to various forms of internal migration. In particular, natural disasters such as floods, and the push-pull of global economic exploitation that cause rural women migrate to urban areas to work as petty traders, or especially to rural areas near mines are problematic trends that need urgent attention. These challenges force women and their families to live in environments without regular water supply, or, in the case of mining camps, to live in contaminated water sites with pitiable sanitation facilities. Increased instances of water-borne diseases and climate variability (principally, though not exclusively, in the Northern regions of Ghana) linked to food insecurity, are also unfortunate reasons for migration.

The impact of migration (within Africa or externally) on the erosion of traditional and indigenous knowledge for endogenous development is a matter of major concern. Migrants are equipped with common and gendered indigenous knowledge of spiritual practices, plants and herbal medicines, seeds production and even water conservation, storage, and preservation methods. Furthermore, local knowledge in rural communities on how to cope with floods and other disasters are at risk of erosion. More research is needed to document indigenous knowledge for posterity and it may be best to do so within the parameters of intellectual property rights.

Ghanaians who internally migrate often find themselves in urban slums without adequate WASH services and facilities. Contemporary urban spaces clearly cannot accommodate the rising population shifts and demands for jobs, housing and WASH services. While the GoG has made some progress in the provision of water to citizens, it is failing miserably in providing

sanitation services. This brief discussion highlighted the need for African peoples to have clean, safe water, and improved sanitation and hygiene (WASH) services as a precondition to alleviating poverty and reducing rural to urban migration. When rural women, men and communities are empowered to hold government accountable and challenge them to be more responsive to their needs, they can participate in a process to bring equitable and inclusive WASH services that can improve their lives and holistic development. A power shift is needed. Across Africa, it is necessary for poor communities to be able to challenge unequal access to water and sanitation services disproportionately benefitting private companies, the wealthy, and middle class. WAG's work as depicted in the case studies show that once WASH rights and access are secured, equitably and inclusively, the life chances for rural women, children and men are improved.

Finally, this discussion recognized the complex interaction between the natural environment, migration, and globalization—all variables that profoundly affect economic production, including mining activities. The paper made a brief reference to the politics of water; and made a call for scholars to further explore how the global geopolitical and economic context influences life choices of rural women, men, and restricts their access to WASH in Ghana and Africa. A focus on urban development by African governments, donors and INGOs at the expense of rural areas was also challenged. These entities rarely challenge the global inequalities and effects of neo-liberal economic reforms or the consequent power imbalances that constrain African nations and leave the poor most vulnerable to floods, climate change, food insecurity, and the health challenges these environmental and human induced problems can cause. As a result, rural migration will continue and overwhelm major cities in Africa already struggling with waste management problems. In the end, development decisions made today are

meaningless if they cannot ensure the equitable availability of Africa's resources for future generations of African men, women, and children to live in dignity.

BIOGRAPHY

Dr. Afia S. Zakiya is currently the Country Representative of WaterAid Ghana. Afia holds a Ph.D. in Political Science from Clark Atlanta University, Atlanta, Georgia, and has over 20 years of experience in International affairs and development practice and leadership, primarily in Africa. Her areas of focus, research and published writings examine African Politics, Gender Relations, Globalization & Migration, Political Ecology, Higher Education, Climate Change, WASH, and Africana culture and indigenous knowledge. As an Organizational Development expert, Afia also works to strengthen African institutions and leadership, and facilitate organizational change using African centered methods.

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ENDNOTES

¹ A version of this paper was first presented at the 56th UN Conference on the Status of Women, New York, USA March 3, 2012.

² http://www.pearsonhighered.com/assets/hip/us/hip_us_pearsonhighered/samplechapter/0205835473.pdf, 340-350.

³ Economic Community of West African States.

⁴ Southern Africa Development Community.

⁵ WASH is defined here as all works related to water, sanitation, and hygiene, including the provision of safe and affordable access to a clean water supply and methods of disposing of waste; this involves the provision of services and training on how to manage them.

⁶ The challenges of using the concept of gender as a primary analytical category in Africa have been well espoused by Oyeronke Oyewumi (ed.), “Conceptualizing Gender: The Eurocentric Foundations of Feminist Concepts and the Challenge of African Epistemologies” In *Jenda: A Journal of Culture And African Women Studies*, 2002, Issue 2, and her edited book, *African Gender Studies: A Reader*, New York, Palgrave Macmillan, 2005.

⁷ Robina Wahaj, “Gender and Water: Securing Water For Improved Rural Livelihoods: The Multiple-Uses System Approach.” The International Fund for Agricultural Development (IFAD), 2, December 2007.

⁸ P.H. Gleick. 1993a. “Water and conflict: Fresh water resources and international security.” *International Security*, 18 (1): 99-104. See also S. Yoffe and K. Larson, Basins at Risk: Water Event Database Methodology. Department of Geography, Oregon State University, Corvallis, USA., 2001; and M. Zeitoun, “Hydro-hegemony theory – a framework for analysis of water-related conflicts.” First International Workshop on Hydro-hegemony, King’s College, London, 21-22 May 2005.

⁹ UNEP Africa Water Atlas found here:

http://na.unep.net/atlas/africaWater/downloads/Africa_Water_Atlas_Executive_Summary.pdf; last accessed 1.8.13.

¹⁰ The U.N. has declared 2013 as the International Year of Water Cooperation to highlight global cooperation of nations around water resources and to advocate against growing concerns of conflict. See:

http://www.unwater.org/statistics_trans.html and

http://webworld.unesco.org/water/wwap/facts_figures/sharing_waters.shtml; last accessed on February 13, 2013.

¹¹ This view is most clearly articulated in the work of Carolyn Merchant who states that “for the past three hundred years, western mechanistic science and capitalism have viewed the earth as dead and inert, manipulable from

outside, and exploitable for profits. The death of nature legitimated its domination. Colonial extractions of resources combined with industrial pollution and depletion have today pushed the whole earth to the brink of ecological destruction." See Carolyn Merchant, "Science and Worldviews," in *Radical Ecology: The Search for a Livable World*, New York: Routledge, 1992:41-60.

¹² See A. Adepoju, "Migration in West Africa" *Development* 46(3), 2003: 37-41, and J. Anarfi, S. Kwankye, et.al, Migration from and to Ghana: A background paper. Brighton, UK: Development Research Centre on Migration, Globalisation, and Poverty, University of Sussex (Working Paper C4), 2003, 3.

¹³ Ibid. Also see K. Konadu-Agyemang, "The Best of Times and the Worst of Times: Structural Adjustment Programs and Uneven Development in Africa: The Case of Ghana." *The Professional Geographer*, 52, 2000: 469-483.

¹⁴ "Mariama Awumbila, Takyiwa Manuh, et. al. Ghana Migration Country Paper. Legon: Centre For Migration Studies, University of Ghana, Legon. Pp. 5-6. Reference is made to the works of Wyllie 1977, Boahen 1975, Addae-Mensah 1983,1985; and Hill 1963.

¹⁵ Ibid., 6.

¹⁶ See for example, O. Lake, "Toward a Pan-African Identity: Diaspora African Repatriates in Ghana." *Anthropological Quarterly* 68(1), 1995: 21-36; Kevin Gaines, *American Africans in Ghana: Black Expatriates And the Civil Rights Era*, NC: UNC Press, 2006, among other resources.

¹⁷ Holly Reed et. al., makes this point in "Gender, Family, and Migration between Urban and Rural Areas in Coastal Ghana: An Event History Analysis." *Demographic Research*, 22(25), 30 April, 2010:771-812. The trends are still the same in 2010 census data, but it is always seen as a plus for neo-Mathusian proponents when African countries on the path of 'western development' have declining population growth. See also the work of Ibid., Awumbila.

¹⁸ See: <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=196857> ; accessed on Feb 7, 2012.

¹⁹ K. Konadu-Agyemang, "The Best of Times and the Worst of Times: Structural Adjustment Programs and Uneven Development in Africa: The Case of Ghana" *The Professional Geographer*, 53 (3), 2000:469-483, cited in Muriel A. Yeboah, *Gender and Livelihoods: Mapping the Economic Strategies of Porters in Accra, Ghana*. Dissertation for Department of Geology and Geography Morgantown, West Virginia, 2008: 82-84, 192. In general, many women porters live in slum areas with poor sewage and sanitary conditions and struggle to access clean, safe water. See pp. 181 -194 for pictures of the stark realities and deplorable conditions.

²⁰ <http://www.gfmag.com/sources-for-country-economic-reports-and-gdp-data.html#47> ; there are an estimated 7 million citizens in dire poverty, and distribution of income and wealth is extremely unequal between nor northern and southern Ghana.

²¹ Zongo is a word which originates from the Sahel region of the north and means 'caravan' and was once used to describe the areas where trans-Saharan traders would rest their loaded camels as they stopped on the fringes of towns and settlements in the south to barter cattle and cloth for salt and Ashanti gold. In Ghana, it is used broadly to refer to a stranger community specifically created and inhabited by northern migrants. The Zongo is characterized by overcrowding, inadequate sanitation and dilapidated buildings.

²² Ibid., Reed, 10.

²³ B. Cohen, "Urbanization in developing countries: Current trends, future projections, and key challenges for sustainability" *Technology in Society* 28, 2006: 63-80.

²⁴ M.J. White, and D.P. Lindstrom, "Internal migration" In: D.L. Poston, and M. Micklin (eds.), *Handbook of population*. New York: Kluwer Press, 2005. Cited in Ibid., Reed, 8.

²⁵ Ibid, Reed, Tables 1-5.

²⁶ Niara Sudarkasa, "Migrants and Women Who Wait: Women and Migration in Contemporary West Africa " *Signs* 3(1). Issue Title: Women and National Development: The Complexities of Change). 1977: 178-189.

²⁷ Ibid, Reed, "Gender, Family and Migration Between Urban and Rural Areas in Coastal Ghana: An Event History Analysis" Paper presented at the Annual Meeting of the Population Association of America, Dallas.

²⁸ The term autonomy was not defined, but I would infer from the research that autonomy is not entirely based on economic factors.

²⁹ Ibid., Reed, 27-47.

³⁰ C. Z. Guilmoto, "Institutions and migrations: Short-term versus long-term moves in rural West Africa" *Population Studies* 52(1), 1998: 85-103.

³¹ A. Rogers, *Migration, urbanization, and spatial population dynamics*. Boulder, CO: Westview Press, 1984, pp 20-35.

³² See the report here on the internet: [SIWI 2005, p.25](#) . Last accessed Jan 18, 2013.

³³ Frederick A. Armah, et.al., “Impact of Floods on Livelihoods and Vulnerability of Natural Resource Dependent Communities in Northern Ghana” *Water* 2, 2010:130-133.

³⁴ For a comprehensive expose on endogenous development see David Millar, Agnes A. Apusigah, and Claire Boonzaaijer (eds) *Endogenous Development in Africa: Towards a Systematization of Experiences*, Tamale: University for Development Studies (UDS), Ghana & COMPAS, 2008.

³⁵ Femi Olokesusi, *Survey of Indigenous Water Management and Coping Mechanisms in Africa: Implications for Knowledge and Technology Policy*. ATPS SPECIAL PAPER SERIES No. 25, African Technology Policy Studies Network: Nairobi, Kenya, 2006, p 22.

³⁶ S. Lonergan and M.J. Parnwell. “Environmental degradation and population movement” *Environment and Security* 3, 1998:63-83, cited in Matthew Sanderson, “Globalization and the Environment: Implications for Human Migration.” *Human Ecology Review* 16(1), 2009: 93-94. Lonergan and Parnwell tend to support an indirect and causal relationship between environment, population and out migration.

³⁷ Matthew Sanderson, “Globalization and the Environment: Implications for Human Migration.” *Human Ecology Review* 16(1), 2009. The points raised in this article bring the stark and harsh realities of the poor in Ghana who are pulled into the global capitalist control of the mining industries in Africa and participate in practices that destroy the environment, especially ground water. The economic benefits are little to these workers, but profitable to the mining company who until recently, paid little to no remittances to the government of Ghana.

³⁸ G.M. Hilson, N. Yakovleva, and S.M. Banchirigah “To move or not to move: Reflections on the resettlement of artisanal miners in the western region of Ghana.” *African Affairs* 104, . 2007:413-436. The authors argue convincingly that economic growth in the mining industries in Ghana as a process of globalization has had negative impact on environment and population, and especially women.

³⁹ According to the Water Resources Commission (2013) in South Africa, the average time women in developing countries spend collecting water every week is 15 hours.

⁴⁰ A.J. Dietz, et al. (eds.). “The Impact of Climate Change on Drylands: With a Focus on West-Africa”, *Ch. 12 in Climate And Livelihood Change In North East Ghana*, Netherlands: Kluwer Academic Publisher, 2004:149–172.

⁴¹ *Ibid*, 167.

⁴² UN MDG Fact Sheet No. 7, September 2010.

⁴³ World Health Organization and UNICEF Joint Monitoring Report, March 2010, “Progress on Sanitation and Drinking-water: 2010 Update”, Pg. 29, www.unicef.org/wash/files/JMP_report_2010.pdf.

⁴⁴ For more analysis of the challenges to addressing WASH crisis, see the WaterAid 2011 report ““Off-Track, off-Target: why investment in water and sanitation is not reaching those who need it most” published by WaterAid, London: UK.

⁴⁵ WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, Progress on Drinking Water and Sanitation: 2012 Update and Government of Ghana, Ministry of Water Resources Works and Housing, Water and Sanitation Sector Performance Report, 2009.

⁴⁶ Government of Ghana. Budget Statements and Economic Policy, 2009.

⁴⁷ Government of Ghana, Ministry of Water Resources Works and Housing, Water and Sanitation Sector Performance Report, 2009, 15.

⁴⁸ Emmanuel Akpabio and V.S. Saravanan, “Water Supply and Sanitation Practices in Nigeria: Applying Local Ecological Knowledge to Understand Complexity,” ZEF Working Paper Series, May 2012:1.

⁴⁹ *Ibid.*, 5. Other relevant work cited in this article include Jewitt, 2011; Banda et al, 2007; McFarlane, 2008; Black and Fawcett, 2008; Odumosu, 2010 who have argued for approaches in WASH, particularly sanitation behavior change efforts, that take account various socio-economic, cultural, political and physical/ecological environments rather than a focus on pure physical infrastructures and “assumptions of ignorance” of intended beneficiaries.

⁵⁰ By 2015 WaterAid plans to be in 30 countries in Africa. I have intentionally focused on the positive aspect of the INGOs work, though am quite cognizant of the challenges of INGOs and the negative role they can play in Africa’s development.

⁵¹ I have argued elsewhere that Africans have their own concepts of rights, rooted in each locality’s culture and corresponding socio-political evolution and structures. For cultural-relativist of notions of human rights see the work of Appiagyei-Atua and Afia S. Zakiya, “Culture, Rites and Rights in African Indigenous Societies: Unraveling Symbolic Meaning, Myths and Gendered Practices in Transition Rituals of Death and Reincorporation” in Tunde Babawale, Akin Alao and Tony Onwumah (eds), *New Frontiers in the Teaching of African And Diaspora History and Culture*, CBAAC: Lagos, Nigeria, 2010:46-119, especially p. 53-55.

⁵² Most significant is the work of CIKOD for fuller understanding of endogenous development's cultural approach: www.CIKOD.org ; and also that of COMPAS network: www.compasnet.org Personal conversation with D. Millar and B. Guri, September 2011.

⁵³ Ibid.

⁵⁴ While not addressed in this paper, the quality and content of schooling in Africa is of major concern. For a discussion of the relevant issues on education and socialization for nationbuilding and the need for African centered indigenous knowledge at each level of schooling from primary to higher education, see Tunde Babawale, Akin Alao and Tony Onwumah (eds), *New Frontiers in the Teaching of African and Diaspora History and Culture*, Lagos, Nigeria: CBAAC, 2010; George J. Sefa Dei. "Education and Socialization in Ghana" in **Creative Education** 2, 2 2011:96-105; L. M. Semali and J. L. Kincheloe , (Eds.) *What is indigenous knowledge? Voices from the academy*. New York, NY: Falmer Press, 1999; Kwame Akoto, *Nationbuilding: Theory and Practice in African Centered Education*. Washington, DC: Pan- Afrikan World Institute, 1992 and the classic work of Joseph Ki-Zerbo, *Educate or Perish: Africa's Impasse and Prospects*. Paris: UNESCO, 1990.

⁵⁵ For more see WaterAid Ghana's full case study of this successful WASH change story in *Dawuro*, September 2011.