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VIEWPOINT

Water crisis in Africa: myth or reality?*

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ABSTRACT

Water is an issue that relates to all aspects of human development in Africa, including health, agriculture, education, economics, and even peace and stability. But the perception that Africa has perpetual water scarcity and is heading towards water crisis is challenged by a significant number of water professionals. Although most agree that Africa suffers from economic water scarcity, physical water scarcity could possibly be controlled with better water management. The large amount of international aid granted annually to Africa is a subject of criticism. This article examines the water crisis in Africa, whether it is a myth or reality, and reasons thereof, and suggests remedial measures.

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Introduction

Africa is the oldest inhabited territory on Earth, with the human species originating from the continent (British Broadcasting Corporation [BBC] News, 2000). It is the world's second-largest continent, with 54 countries occupying an area of 30,221,532 km² (World Atlas [WA], 2016), which is about 20.4% of the Earth's land area (The Royal Commonwealth Society [RCS], 2016). With about 1.033 billion people (World Population Review [WPR], 2015), it is the second-most populous continent, accounting for 15% of the world's human population (Population Reference Bureau [PRB], 2013). The continent holds 90% of the world's cobalt, 90% of its platinum, 50% of its gold, 98% of its chromium, 45% of its vanadium, 70% of its tantalite (Rena, 2008), 64% of its manganese and one-third of its uranium (Times, 2008). Environmentally, it has the greatest capacity for maintaining equilibrium in the biosphere and avoiding further depletion of the ozone layer (Stetter, 2009). From an economic perspective, Africa offers easy market access and extends extraordinary investment opportunities with high rates of return (Stetter, 2009). Geopolitically, several developed nations are interested in its affairs. Africa, therefore, is an extremely important continent.

However, although full of abundant natural resources, Africa still remains the world's poorest and most underdeveloped continent (UN Development Programme [UNDP], 2003) due to a myriad of reasons that include lack of access to clean drinking water (World Health Organization [WHO], 2015), the spread of deadly diseases, notably HIV/AIDS and malaria (Fischer, 2003), corrupt governments (Fuchs & Horak, 2008) that have often committed

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serious human rights violations (Amnesty International [AI], 2002; Emmanuel, 2010), failed central planning (Lopes, 2013), high levels of illiteracy (UNESCO, 2016), lack of access to foreign capital (UNECA, 2006), and frequent tribal and military conflict, ranging from guerrilla warfare to genocide (Fagoyinko, 2013). In the United Nations Human Development Report of 2003, the 25 lowest-ranked nations (151st to 175th) were all African (UNDP, 2003), and the situation has not improved much even today (UNDP, 2015). The struggle for access to clean drinking water is indicative of how water scarcity retards human progress. The fact is, less than 50% of people in rural Africa have access to both improved drinking water and sanitation (WHO, 2015). It is an issue that concerns all aspects of human development, including health, agriculture, education, economic productivity, and even peace and stability. All issues are interlinked and overlap with each other. Any step towards improvement in access to clean drinking water in Africa has the potential to solve a myriad of developmental barriers. Water is, therefore, extremely important to Africa.

But Africa is the second-driest continent in the world, after Australia, and suffers from acute water scarcity problems that involve water stress, water deficit/shortage and water crisis. 'Water scarcity' is the lack of sufficient water, or not having access to safe water supplies (Paulson, 2015). 'Water stress', on the other hand, is a much broader term that refers to the 'ability', or lack thereof, to meet human and ecological demand for water (Schulte, 2004) during a certain period of time. In contrast, 'water deficit/shortage' involves an insufficient quantity of water for a specific biophysical process; whether such a deficit also represents water scarcity depends on the value placed by the society on that particular process (Jaeger et al., 2013). Water deficit/shortage may, therefore, occur without water scarcity. 'Crisis' is a situation, very difficult or dangerous, that needs serious attention (<http://www.merriam-webster.com/dictionary/crisis>). There are various definitions of it depending on conditions. Therefore, 'water crisis' is a situation of water scarcity that leads to, or is expected to lead to, a dangerous situation affecting a community or the society as a whole in a certain region or country. This article examines water crisis in Africa, whether it is a myth or reality, and the reasons thereof, and suggests remedial measures.

Water crisis in Africa: a reality

Several indicators are conventionally in use historically for measuring the degree of water resources vulnerability (Water Strategy Man [WSM], 2004; Brown & Matlock, 2011). The Falkenmark Water Stress Indicator (Falkenmark & Lindh, 1976; Falkenmark & Widstrand, 1992), developed in the late twentieth century, is the most widely used indicator even today due to its simplicity (Jaeger et al., 2013; Perveen & James, 2011). It is essentially a social water stress indicator wherein the social side of water stress is seen as critical in understanding implications of the different types of social disputes that may occur when a large number of people have to share a limited amount of available water (Perveen & James, 2011). It is based on the average per capita water availability per year, and proposes 1700 m³ of renewable water per person per year as a threshold water requirement for household, agricultural, industrial, energy and environmental needs. Countries whose renewable water supplies fall below this threshold are said to experience 'water stress'. 'Water deficit/shortage' in periodic scale may occur at levels between 1700 and 1000 m³ per person per year. When water supplies drop below 1000 m³ per person per year, countries face 'water scarcity'. Water scarcity

limits economic development and human health and well-being (Larsen, 2009; WSM, 2004) and therefore takes the form of 'water crisis' in a real sense.

Only eight countries were suffering from water stress or scarcity in Africa in 1990 (Sharma et al., 1996), but the situation has worsened since then. Many countries have already shifted or will be shifting from water surplus to water scarcity between 1990 and 2025 (UNEP, 2002). According to findings presented at a 2012 conference, *Water Scarcity in Africa: Issues and Challenges*, it is estimated that by 2030 up to 250 million people in Africa will be living in areas of high water stress, which is likely to displace up to 700 million people as conditions become increasingly unliveable (Food and Agriculture Organization [FAO], 2013). Lack of access to freshwater is therefore a very serious problem that has inhibited and regressed much of human development in Africa. Only the humid tropical zones in Central and West Africa have adequate freshwater (UNEP, 2002); in North and East Africa and also in Southern Africa, the water situation is not very encouraging.

Reasons for water crisis

Water crisis/scarcity is both a natural and a human-made phenomenon (United Nations Department of Economic and Social Affairs [UNDESA], 2013). Natural phenomena such as global warming and climate change have given rise to physical scarcity, while economic scarcity is caused mainly by people's lack of monetary means to utilize adequate sources of water.

Physical scarcity. Africa, being mostly arid or hyper-arid (Digout, 2005), is highly vulnerable to global climate patterns, such as the El Niño Southern Oscillation (ENSO), and global climate change, resulting in rising temperatures, changing rainfall patterns, worsening water security and rising water stress, apart from a myriad of other problems. All these problems have direct impacts on agriculture and therefore food security. The IPCC (Inter-Governmental Panel for Climate Change [IPCC], 2007) has confirmed that in the twenty-first century, global warming will be more intense in Africa than in the rest of the world. The average rise in temperature between 1980–99 and 2080–99 will be 3–4 °C for the continent as a whole, 1.5 times the global level (Organization for Economic Cooperation and Development & The Sahel and West Africa Club [OECD & SWAC], 2009). The increase will be less marked in coastal and equatorial areas (+3 °C), and the highest increase will take place in the Western Sahara region (+4 °C). The rising temperatures will amplify water loss. Also, Africa's Mediterranean coast is likely to experience a decrease in precipitation (of 15–20%) over this century. The drying-out process will affect the northern bank of the Sahara and the West African coast up to 15° north latitude (IPCC, 2007). At the other end, in Southern Africa, less rainfall is expected during the winter and especially in spring. These predictions have serious implications for freshwater availability, which depends heavily on air temperature and rainfall patterns. Not only global climate change but also the indiscriminate use and overexploitation of water resources have given rise to Africa's physical water scarcity. In fact, overexploitation has contributed to the shrinking of many of Africa's great lakes, including Nakivale, Nakaru, and Chad, which has shrunk to 10% of its former volume (UNDP, 2006).

Economic scarcity. It is an undeniable fact that Africa remains the world's poorest and most underdeveloped continent. Rapid rise in population accompanied by widespread poverty and weak capacity have given rise to its economic water scarcity. The economic situation in Sub-Saharan Africa has been the worst. The average poor person in Sub-Saharan Africa is

estimated to live on only 70 cents per day, and was poorer in 2003 than he or she was in 1973 (UN Economic and Social Council [UNESCO], 2004), indicating increasing poverty in some areas. The situation is similar in many parts of Africa. Some of it is attributed to the unsuccessful economic liberalization programs spearheaded by foreign companies and governments, but other studies and reports have cited bad domestic government policies more than the external factors (Che, 2005). These problems seem to be intrinsic to African society and are not likely to be eradicated fully in the next several years.

Impact on development

Water scarcity has severe impacts on African society, such as in human health, agriculture, education, productivity and development, and even on conflict resolution. In many tribal groups in Africa, unsafe drinking water and unhygienic handling of food is contributing to high levels of diarrheal diseases in infants and children (WHO, 2015). Agriculture accounts for more than 80% of water consumption in Africa (UNDP, 2006). Therefore, freshwater scarcity is reflected in the loss of food security. Women, including girls, are forced to spend around 60% of their time each day collecting water, limiting the time available to them for education (FAO, 2007). Sub-Saharan Africa alone loses about 40 billion potential work hours per year just collecting water (The Water Project Inc. [TWP], 2013). These are very serious issues and need immediate attention.

Water crisis in Africa: a myth

Africa, seen as a continent, does have abundant water resources, which include large rivers such as the Congo, Nile, Zambezi and Niger and the second-largest lake in the world, Lake Victoria. Internal renewable freshwater resources average about 3950 km³ per year, which is about 10% of the freshwater resources available globally (UNEP, 2008). Also, it is sitting on a vast reservoir of groundwater (McGrath, 2012). While in Northern Africa the annual groundwater recharge is on the order of 144–350 m³ per capita, in other subregions it ranges from 2400 to 9900 m³ per capita (UNEP, 2008), far above the 'water stress' indicator suggested by Falkenmark and Lindh (1976). Despite this, it is considered the second-driest continent in the world, possibly because of uneven distribution of water compared to population density. One example of the disparity in water availability lies in the Congo basin, where 30% of the continent's water drains land inhabited by only 10% its population (World Wildlife Fund [WWF], 2002). The continent geographically has vast desert and densely forested regions, which are thinly populated or even uninhabited, while population density is very high in places like Nigeria, the Nile River valley, and the Great Lakes region. Two of the largest cities in the world, Cairo and Lagos, are in Africa.

Some of the common myths concerning water crisis in Africa are listed below. There could be many more not listed here. These myths are addressed in this article in the discussion that follows.

1. Africa lacks access to water.
2. Africa suffers from physical water scarcity.
3. African agriculture is the key battlefield to tackle hunger and poverty.
4. Creating water supply infrastructure is the key to solving water crisis.

5. Water security ought to be created by large-scale engineering projects.
6. Freshwater habitats are being conserved at the expense of people.
7. Larger farms are more efficient than smaller ones for water saving.
8. Africa is dry and poor, without much potential for anything more than subsistence farming, and, because of this, it will always be poor.
9. The best way to utilize water supply public funds is to heavily subsidize hardware.
10. What rural dwellers need is 20 litres per person per day of clean water.
11. Large international aid would eradicate water scarcity in Africa.

Discussion: water crisis in Africa – myth vs. reality

The perception that Africa has perpetual water scarcity is challenged by a significant number of water professionals actively working for the alleviation of poverty around the world. Some of the viewpoints from both these groups are summarized below. While analyzing the age-old perceptions, it seems they are, in fact, far from reality. A wrong picture of Africa is always projected around the world as if it is crippled and cannot rise on its own.

Myth: Africa lacks access to water

Reality: Nobody on the earth can live without water. Even the small shanty towns with teeming population have access to water. The issue here is whether the water supplied is clean, adequate and conveniently provided or whether the supply is erratic and uneconomical. The question thus arises whether Africa is capable of meeting these basic requirements at an affordable price and without sacrificing public convenience. Nobody in Africa would deny that it is not capable.

Myth: Africa suffers from physical water scarcity

Reality: Physical water scarcity is apparently nonexistent in most African countries. It has got enough surface as well as groundwater resources, as already stated. The 15% of the world's population living in Africa share about 10% of its water resources, which is not at all an unhealthy scenario as portrayed by many workers. Africa does have economic water scarcity. But the concern is about its rapid population growth, which is likely to double by 2050 (Toulmin, 2013). With global warming and other large-scale climate patterns, such as ENSO, looming over the continent, it may face water shortage in the future unless measures are taken well in advance. The problem with Africa is the uneven distribution of its existing water resources; per capita water availability is higher in areas where population distribution is minimal. However, with these geographical constraints too, Africa could possibly do much better if water utilities and supplies were managed well at municipal levels (Biswas, 2009). While criticizing the international agencies, such as the World Bank and the United Nations, for not considering wastewater as a resource in their assessments, Biswas (2009) believes that the water scarcity problems in most countries could be solved if water resources were managed well at local levels and unnecessary wastages prevented.

Myth: African agriculture is the key battleground to tackle hunger and poverty

Reality: Given that the livelihoods of most Africans are linked to the agricultural sector, there is widespread agreement that African agriculture is the key battleground to tackle hunger and poverty (Verhoeven & Woertz, 2012). Much of the water diverted for human use in Africa is used for irrigated agriculture. Agricultural growth in Africa is generally achieved by cultivating more land and by mobilizing a larger agricultural labour force. However, there has been very little improvement in production factors (labour and land) or yields, while the urban population has tripled during the past three decades (New Partnership for Africa's Development [NEPAD], 2013). Many agricultural schemes meant for promotion of agriculture (Africa Progress Panel [APP], 2010) have even caused reduction of food supplies from traditional sources such as river fisheries and supplies harvested through traditional practices such as planting crops when floodwaters have receded from floodplains (WWF, 2002). Over 2600 freshwater fish species are known from Africa, the Niger alone containing 243 fish species in 36 families, of which 20 species are found nowhere in the world. Lake Malawi, called Lake Niassa in Mozambique and Nyasa in Tanzania, hosts the richest freshwater fish fauna in the world, accommodating about 14% of world's freshwater fish species (WWF, 2002). The argument here is: Africa has many more options for its sustenance, rather than relying solely or mostly on agriculture.

Myth: Creating water supply infrastructure is the key to solving water crisis

Reality: The whole of Africa is dotted with tens of thousands of borewells and tubewells installed for rural water supply, and the number is still on the rise to achieve the United Nations Millennium Development Goal (no. 7, environmental sustainability). Most of these drilled wells are fitted with submersible pumps for motorized water supply and, where this is technically not feasible or not required, with hand pumps for manually drawing water. But after a few initial years of operation, many of these drilled wells, although considered robust and simple to maintain, cease to function due to poor maintenance (Furey, 2013); sometimes maintenance is even nonexistent (PRACTICA, 2014). According to a report by the IIED (International Institute for Environment and Development [IIED], 2009), in Burkina Faso, Ghana, Mali and a number of other countries across the continent, significant numbers of boreholes, wells and hand pumps in rural villages have fallen into disrepair, often only a few years after construction. In Nigeria, Sierra Leone, the Ivory Coast and the Democratic Republic of the Congo (DRC), fewer than half of these drilled wells were working. That was 125,000 pumps in all (Pearce, 2012). An independent survey by the United Nations in the Menaca region of Mali found that 80% of wells were dysfunctional, and in northern Ghana, 58% (IIED, 2009). Likewise, many rural piped water supply schemes are partly or fully out of service on a regular basis due to inadequate maintenance. The problem here is, in giving contract to a private agency for water well drilling, no provision is made for their post-construction maintenance. This is true even if the wells are drilled by government agencies. Poor people complain of their problems, but who cares? Drinking water supply problems cannot be eradicated from rural Africa unless this malady is addressed with due attention.

Myth: Water security ought to be created by large-scale engineering projects

Reality: There are over 48,000 large dams in operation worldwide. Over 60% of the world's 227 largest rivers have been fragmented by these dams, leading to the destruction of wetlands, a decline in freshwater species – including river dolphins, fish and birds – and the forced displacement of millions of people (Pittock, 2006). Larger dams are certainly important for multiple uses, such as irrigation and electricity, but they are often economically not viable. In recent years, there has been a paradigm shift in water resources management and development (Gleick, 2000). The destruction of ecosystems, loss of fish species, dislocation of human population, inundation of cultural sites, disruption of sedimentation processes and contamination of water resources were among the hidden costs of twentieth-century water development. The new paradigm aims at reintegration of water use while maintaining ecological health and environmental well-being. On the water use side, efficiency in its use and allocation is given primary importance. In South Africa, for example, better practices such as cooperative farming for smallholders, farm planning and drip irrigation schemes have seen water productivity rise significantly, with decreases in downstream erosion and pollution (WWF, 2002). High priority should be given, therefore, to using water more wisely and supporting farmers and irrigation managers with farm practices that enable them to produce more food with less water. Where new supplies are still needed, major new projects must now compete with innovative small-scale approaches, including locally managed solutions. If larger dams must be built, they must follow the stringent guidelines prescribed by the World Commission on Dams (2000). More than 80% of Africa's river and lake basins are shared by two or more countries, and many countries depend on water flowing from outside their national boundaries (WWF, 2002). The smallness of these countries discourages investments in large-scale projects unless the burden and benefits are shared by the neighbouring countries. What Africa needs is transboundary water sharing, a concept not yet realized in full in the continent. This is true not only for surface water but also for groundwater resources, since several aquifers are shared by a group of countries. For example, the Nubian Sandstone aquifer is shared between Egypt, Libya, Chad and Sudan.

Myth: Freshwater habitats are being conserved at the expense of people

Reality: More than a third of the world's 100 biggest cities – including New York, Jakarta, Tokyo, Mumbai, Rio de Janeiro, Los Angeles, Barcelona, Nairobi and Melbourne – rely on fully or partly protected forests in catchment areas for much of their drinking water needs (Pittock, 2006). The Fourth World Water Forum, held in Mexico in 2006, heavily emphasized better management of rivers, wetlands and other freshwater bodies (National Water Commission of Mexico [NWCM], 2006). The fact is, well-managed natural forests minimize the risk of landslides, erosion and sedimentation, and also substantially improve water quality by naturally filtering pollutants. Therefore, their conservation can result in clean drinking water and more effective agriculture and fisheries for the poor. Countries ought to adopt a forest watershed conservation strategy, as this can save water supply costs as well as improve the health of the local inhabitants. World Wildlife Fund case studies in South Africa and several other countries, such as Colombia, Brazil and China, have shown increased income, employment and fish yield in conjunction with nature conservation projects by the local

communities (Pittock, 2006). Conserving wetlands and rivers must therefore be a priority for the African governments targeting water security and poverty reduction.

Myth: Larger farms are more efficient than smaller ones for water saving

Reality: Africa has never been a land of landlords or tenants, unlike the southern parts of Asia, but land poverty affects the lives of millions of people in the continent (Jayne et al., 2003). Based on the present trends, the current African food production system will be able to meet only 13% of the continent's needs by 2050, when its population is expected to reach about 2 billion, twice the present figure (Toulmin, 2013). Despite this urgent need, African crop yields have been largely stagnant over the past many decades. When only the yields of one or two crops are considered, larger farms are more productive than smaller ones, but when the sum of everything a farm produces is considered, such as grains, fruits, animal products, forage, etc., smaller farms are far more profitable. Intercropping, use of livestock wastes, and personal commitment in terms of labour make the smaller farmers more profitable in the long run. Therefore, lands in Africa have the potential to produce more if farmers have access to better knowledge, technology and credit. International agencies should therefore try to focus on these aspects, rather than just pumping in money in the name of foreign investment. Any kind of foreign investment is generally associated with land acquisition and is largely market-oriented. Therefore, it does not necessarily contribute to national food security objectives (Castel & Kamara, 2009). Apprehensions do arise that such investments may dilute African initiatives towards alleviation of poverty and food security. Therefore, assistance to Africa should rather be given in the form of knowledge transfer, technology transfer or repayable financial credit.

Myth: Africa is dry and poor, without much potential for anything more than subsistence farming, and, because of this, it will always be poor

Reality: It is true that Africa is the second-driest continent on the Earth (after Australia), because water resources in the continent are not evenly distributed. It is also true that it suffers from economic water scarcity because of its economic poverty. But the good news is, it has 25% of the world's arable land (Jayaram, Riese, & Sanghvi, 2010) and is capable of feeding the world by focusing primarily on agriculture (Tran, 2011). On average, about 65% of Africa's labour force is employed in agriculture, yet this sector accounts for only about 32% of the GDP, reflecting relatively low productivity (Alliance for a Green Revolution in Africa [AGRA], 2013). Small farms that are dependent on family labour with very little machinery reflect the dominant type of agriculture in Africa (NEPAD, 2013). Subsistence farming, therefore, is important in rural Africa. At present, it generates only 10% of the global agricultural output (Jayaram et al., 2010), but the future of Africa's agriculture is bound to be different, influenced by a host of new drivers, including changing demographics and perceptions of agriculture, climate change, growing fear of global food insecurity, and technology innovations (Kariuki, 2011). Smart investments in small farmers and in getting food to retail markets have the potential to change the current trend. Supposing agriculture cannot perform as expected to feed 100% of its growing population, then still the door is not closed. The continent has vast mineral resources (Rena, 2008; Times, 2008), as already mentioned. The DRC has 70% of the world's coltan, and most mobile phones in the world are made with

elements refined from this mineral. The DRC also has more than 30% of the world's diamond reserves (BBC News, 2006). Guinea is the world's largest exporter of bauxite (Times, 2009). In recent years, Africa's commodities have attracted huge foreign investments, particularly from Brazil, Russia, India and China. China is mainly interested in commodities, such as oil, while India has invested in the telecommunications sector. Therefore, Africa's economic prospects are very bright. What is possibly hurting Africa's progress is large foreign aid. Money from rich countries has trapped many African nations in a cycle of corruption, slower economic growth and poverty (Moyo, 2009). Cutting off these flows would possibly make this continent self-reliant and innovative.

Myth: The best way to utilize water supply public funds is to heavily subsidize hardware

Reality: Rural Water Supply Network, a Swiss-based global network, finds that much of the public-sector funding in Africa is spent on hardware subsidies. It estimates that in government and NGO-supported rural water supply schemes across Sub-Saharan Africa, 90–100% of the hardware costs are externally financed, i.e. not paid for by the community (Rural Water Supply Network [RWSN], 2010). Such initiatives do not really involve people at the root level, and the community loses its sense of ownership. For the success of any water-related project, 100% public participation is a must, but with abundance of external funds, governments and NGOs, if involved, tend to ignore this very fact and execute a project without full community involvement. The public does appreciate any freely given commodity, but does not own responsibility for the lacuna(s) discovered later in the system. There are ample examples of alternatives to heavy hardware subsidies in Africa. Analysis from Niger and Nigeria confirms that there is significant investment in water supply from households (Adekile & Olabode, 2009; Danert, 2006). These examples show how rural dwellers, if given an opportunity, could involve themselves by investing some of their money in improving access to their own water supplies. Therefore, training of local artisans, application of locally available technologies and provision of incentives for household investments, however small they are, are often far more productive than what water professionals could do themselves without public participation. What is important for the success of any water project is the sense of ownership of the public for such an initiative.

Myth: What rural dwellers need is 20 litres per person per day of clean water

Reality: Rural water supply programmes emphasize the need to provide 20 litres per person per day of clean water in most of Africa (RWSN, 2010). Other needs of the individuals and the society, such as for other household uses, livestock, irrigation, etc., are generally neglected. In practice, protection of the source or construction of a new source is regarded as much more important than the distance to it (RWSN, 2010). This leads to long collection trips and queuing times. Data from a joint monitoring programme show that 18% of the people in Sub-Saharan Africa supposedly using an 'improved' source (and therefore considered served) spend more than 30 minutes per round trip to collect water (UNICEF/WHO, 2008). Therefore, solving domestic water supply problems in isolation from other water needs is inappropriate. Efforts must be made to explore several sources of water for different types of water use,

with due consideration given to the time to procure these waters. Africa is capable of doing all these on its own, and does not really need any external support.

Myth: Large international aid would eradicate water scarcity in Africa

Reality: More than \$50 billion of foreign aid is given to African countries every year to address poverty in the continent (Anonymous, 2009). Yet, real per capita income today is lower than in the 1970s, and more than 50% of the population – over 350 million people – live on less than a dollar a day, a figure that has nearly doubled in two decades (Moyo, 2009). Even after the very aggressive debt-relief campaigns in the 1990s, African countries still pay close to \$20 billion in debt repayments every year (Moyo, 2009), a stark reminder that aid is not free and is repaid at the expense of vital developmental sectors, such as education and health. Figures from the World Bank (2010) show that in several African countries, more than 70% of the government spending (gross capital formation) comes from foreign aid: 111% in the Central African Republic, 76.2% in Comoros, 74.5% in Democratic Republic of the Congo, 90.4% in Côte d'Ivoire, 67.3% in the Gambia, 98.1% in Mozambique, 82.3% in Rwanda and 148% in Sierra Leone. Such insidious aid culture has possibly made the African Nations less innovative and more externally dependent and has possibly driven them more towards poverty. The International Monetary Fund, in its report *Aid Will Not Lift Growth in Africa*, cautioned that governments, donors and campaigners should be more modest in their claims that increased aid will solve Africa's problems (Balls, 2005). Despite such remarks, no serious efforts have really been made to prevent African nations from the borrowing culture. Instead of external aid, what Africa possibly needs is bilateral trade, foreign investments and microfinance opportunities for a better future. Chiles (2015) discusses nine ways Africa would be better without foreign aid.

Conclusions

Africa does have water problems, but much of these problems are economic, not natural, although water crisis due to global climate change and ENSO phenomena is an issue of concern for the future. But such problems are universal, and do not impact Africa alone. The myths of water crisis in Africa shall remain as long as people believe in them. It is a fact that most countries in Africa are ranked amongst the 50 least developed economies in the world. These countries suffer severe problems with respect to both human capital and infrastructure, and are extremely vulnerable to natural disasters, war and other disruptive forces. Therefore, every sector remains a priority area. Although the governments realize that access to clean water is a natural human right of its citizens, it is still not a primary issue of concern. In a study conducted by the African Development Bank, researchers concluded that bad governance is the primary reason Africa's water infrastructure has been ineffective (Salami, Stampini, & Kamara, 2011). In fact, the vast majority of African governments scored below satisfactory in terms of government effectiveness in this study. Also, quality of drinking water is never a priority in rural Africa. People tend to consume unsafe water, inviting the spread of infectious diseases and outbreaks of diarrhoea, which affects children the most. Agriculture still remains a mainstay for African people, but it needs a complete overhaul, with access to better knowledge, technology and credit. Alternate avenues for growth must be explored, and there are many such avenues. What is required is a cultural change and awakening of

Africans to their actual potential. Several countries around the world have supported Africa for decades, not only for its economic growth but also for better democracy and governance. But the continent is still unable to stand on its own. It is time that it gets up from its hibernation and takes its fair place in the world.

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