INTERNATIONAL BUSINESS, EUROPEAN INTEGRATION, FOREIGN LANGUAGES AND BUSINESS ENVIRONMENT

AFRICA'S WATER INSECURITY AND ITS TRIGGERS

Ciprian Beniamin BENEA, Adrian NEGREA
University of Oradea (International Business Department, Faculty of Economic Sciences) Oradea, Romania
c_benea@yahoo.com
ngr_adrian@yahoo.com

Abstract: *Even Africa boasts some of the greatest water resources in the world with large rivers, they are unevenly distributed on the continent, some countries being well endowed with water resources, other being forced to make difficult choices in order to get sustainable access to water; in the same time, precipitations' regime has the same feature: too much during specific part of the year, lower (or missing altogether) precipitations doubled by high evaporation rate due to high temperatures. Overlapping these natural elements, there have been engineering actions and urban planning – both, during colonial period and after Africa's countries gained independence – influencing the access to this vital resources in a discriminatory manner. Climate changes doubled with the dynamic population trend on this continent are newcomers, influencing in a negatively way the possible evolution on the continent. Water commodification is another element hitting hard the poor in Africa; as wealthy parts of African cities are well connected to urban water pipes and facilities, poorer parts of the same city totally misses access to water facilities. The poorest people must buy bottled water to get through daily challenges, large part of their incomes being diverted to gaining access to water. The paper intends to bring to East-European audience the problems and challenges the most dynamic continent is going to face, and how can it influence the evolution there, and in other parts of the world, due to migration. Poor access to water, and when available its dubious quality, are other components of African water landscape with great medical consequences and costs at both personal and state level.*

Keywords: *Africa, cities, dams, colonialism, population, rivers, water*

JEL Classification: *F54, L95, Q25, Q56*

Background

Even Africa is somewhere quite far from East-Europe, being less studied in Romanian economic and social literature, worldwide interconnectivity due to modern transport and communications brings closer and closer the Earth's continents. But Africa is gaining momentum, both because it boasts a significant population dynamism – it is the youngest continent on Earth – attracting attention of large companies involved in producing house apparel and real estate investors, while Africa's resources are well known; it is a continent where great powers strive

gaining access to. While old colonial powers from Europe are decreasing, their place is taken by newcomers from Asia, especially China, India, Brazil, and Russian. Federation. But this continent has a unique feature related to water resources: African aquatic sources are unevenly and irregularly distributed within and between African states, water becoming a contested resource, *increasingly privatized*, and commoditized (Issacman & Musemwa, 2021: 7).

In the same time, the African continent produces less than 4% of world's greenhouse emissions, but it bears the greatest negative consequences of externally induced effects of global warming (UN Fact Sheet, 2006). Although the contintnt has great reserves of untapped water, they are distributed unevenly: the great part of this resource lies in few *large* basins such as Congo, Niger, Nile, Zambezi, while some 30% of African population live already in regions prone to droughts and semi-aridity. Climate changes intensification has added pressures on a larger population, people at risk on this very continent hoovering around 325 million (Fleshman, 2007).

Anyway, countries on the African continent shares some peculiarities related to water: unequal distribution and access due to natural factors (in some respect), but in greatest part due to colonial and post-colonial anthropogenic waterscape, these overlapping the geographically expanding cities and their rising population; damming of big rivers without any care given to the most affected communities, the poor, the peasant and the fisherman, respectively; irrigation schemes – most of them related to dams' construction – which affected and impounded millions of lives on the continent; and the presence and recurrence of waterborne and water-related diseases (cholera, typhoid, schistosomiasis, onchocerciasis, kidney failure, and related C Hepatitis contamination due to dialysis, and other diseases).

Rising population and unequal access to water

One of the peculiarities of Global South's cities is the presence of a large share of population living in *informal settlements*; for example Tanzania's capital, Dar es Salaam has 70% of its population living in such settlements (Bender, 2021: 48), a figure repeated overall African continent (Livingston, 2021: 89). Formal access to water puts this city among the world's worst positions: near 80% of its population doesn't have access to piped water in their homes. But access doesn't mean *safe access*: water quality is questionable, its reliability poor, and round the clock availability rare. The situation of this capital city is not unique, unfortunately; like most colonial cities it has developed a segregated urban space, based on economic assertiveness: the ruling class, un-free labor, and peasant. Post-colonial regimes have in great part kept the same direction: letting informal settlements to flourish means there is no compulsory need to develop water infrastructure and sewage systems related to specific standards connected to formal settlements, so there was low level of investments and scarce money could be used for other political ends. To put it bluntly, if Africans (the natives) use in Dar es Salaam only 3-4 liters of water per day, European colonizers had gotten access to 140-195 liters per day

(Bender, 2021: 51). But adaptation is a peculiarity of African people: an ingenuous method of fetching water has gradually risen in this city, and around the continent: private water vending. Of course it means money to be paid for water, but it works: 50% of Dar's its population relies, at least in part, on private vending. It is important to mention here that this trend follows the trend promoted by the free-market philosophy, rooted in neo-liberal thinking which sees even *water* a marketable good and a commodity to be traded and influenced by supply and demand. But it comes with great economic and social costs: the pattern that has emerged indicates the fact that users in the *poor*est neighbourhoods pay the highest rates for their water, and likewise spend the most time per day fetching it (Bender, 2021: 55). It is an important mark how neo-liberalism impacts the poorest; private vending of water represents the commodification of a basic human right, perpetuating social inequities that have long been a characteristic of Global South! And African continent registers great population dynamism. It has a young population and is marked by a significant population growth. Having these in mind, it becomes difficult to speak about human rights in the Global North and under the international institutions umbrella, when in the same historical moment millions fight for gaining access to a basic human right, directly connected to life... In the same time, neo-liberal institutions – such as The World Bank and IMF – pressed the need to treat water as an economic good to be sold at a profit, and not as a "social good" to be provided by the *state*. This trend has only maintained the precedent asymmetrical provision of water between colonizers and natives in African cities – especially in African capital cities – which has contributed to specific marks of deeply divided cities, emerging along *racial, spatial, and income lines* (Musemwa, 2021: 31).

Dams and Development for Whom?

After the 2-nd World War, a dam revolution manifested in the world; African continent, with its huge untapped water potential – didn't miss this trend. Even the motivations pushing for dams' constructions were dressed up in developmental discourses publicly heralded, the motivations had been more obscure, few gaining a lot, while the greatest part of population bearing the costs of "development", in terms of fertile land's disappearance, lost fisheries and other wild life species, strong or definitive ecosystems alterations, and cultural obliteration due to people relocation. Those who gained were those with strong interests in dams industry: constructors, financiers, ex-colonizers countries, and (some) representatives of local governments.

For example, Mozambique's Cahora Bassa Dam stands as a herald in this respect: its construction was masked as a development project, while its main motivations had to do with security (Isaacman, 2021: 104). Both South Africa and Portuguese identified the dam and the future lake it would create as a buffer blocking the anti-colonial guerillas' advances. Portugal agreed with Pretoria to export the energy produced by future dam to South Africa at a fraction of the world price, in exchange for Pretoria's rally against nationalistic fervor in Mozambique (Middlemans, 1975).

It became the largest dam in the world constructed for the specific purpose of exporting electricity (Isaacman and Isaacman, 2013).
All in all, this dam deserves the label of being the least studied, and (possibly) the least environmentally acceptable dam in Africa (Bleifuss and Davies, 1995: 145-154).
Another case, Akosombo Dam was aimed to produce energy and to create an irrigation scheme (through the creation of Volta Lake) in Ghana. It was imagined as a mean sustaining Ghana on its road to modernization and it was not connected to a security imperative as the Kahora Bassa. But it negatively impacted the environment and local population, bringing over time little positive effects overall; the anticipated modernization didn't happen (Miescher, 2021: 136).
Of course, there are a lot of dams in Africa, most of them sharing the negative characteristics mentioned in these two shortly presented cases. Water resources development in Africa after the 2-nd World War were designed based only on engineering and economic criteria. Only recently, most governments, developers, financiers have become attentive to ecosystems that provided water. But in the past the costs were calculated only related to construction and operation and the benefits were related to food, job creation, economic development, missing altogether to identify the ecological, social, and physiochemical costs of degrading landscapes, loosing gene pools, flora and fauna, soil erosion, shoreline and coast erosion, and forced relocation of millions across Africa. Put shortly, the decision on dams and other major water development schemes were taken by "far too few for far too many" (Asmal, 2000).
During the second part of the last century, African governments constructed over a thousand dams, some of them belonging to mega-projects category, such as: Akosombo Dam (Ghana), Lagdo Dam (Cameroon), Kanji and Bakolori (Nigeria), Kossou Dam (Cote d'Ivoire), Masinga Dam (Mozambique).
It is important to underscore that during the 20-th century the political discourse packed dams and irrigation schemes in developmental framework, the new millennium discourse press for dams' construction as climate change brings unpredictable pattern of precipitations, and extreme weather events. Developmental speech gives the stage to climatic motivated discourse, with a new attraction for building dams: but we must learn from past experiences and when new dams are decided upon to be built, ecological, social, and cultural factors *must* be introduced in the calculus preceding their construction.
As a matter of fact, there is under construction in Africa the largest power-station in the world (40 GW) – called the Grand Inga Dam project, with an estimated cost of US 80.billions. it is a series of 6 dams, two already completed, one in the design phase, the remaining three depending on markets and founding, but its development occurred without any risk evaluation being made public, or without any special environmental or social studies. These are obscured by *political announcements* (King & Brown, 2021: 243) and boasts, as in the past….
As water security is directly connected to food security, and to infrastructure which "manipulate" water, dams and irrigations schemes come to the forefront. In the

context of climate changing patterns, population's dynamism in Africa, and the continent great untapped water-related energy capacity, there is place for future development of such infrastructure projects. But much more attention must be given to environment and social factors than in past cases. As a matter of fact, only 5% of Africa's cultivated land is *irrigated*, while less than 10% of hydropower potential on the continent is used (Foster and Briceno-Garmendia, 2010).

Water development projects and health

Water is the cornerstone of public health; Covid 19 with the slogan "wash your hands" being the last reminder of the centrality of water in healthcare area. But Africans urbanites face serious challenges when it comes to water availability; this problem has the nefarious potential of becoming more pressing as rapid urbanization and climate change intersect, further constraining the provision of water. It is important to underscore that in Africa water scarcity is both an environmental and a technical phenomena, but a political determined one, too. Missing water means that infectious diseases like cholera, typhoid, amoebiasis, giardiasis, rotavirus, E coli, schistosomiasis and kidney diseases, hovers over the continent.

Water development projects, as that existing for example in Egypt related to Aswan High Dam and its irrigation connected scheme, favouring the harvesting of cotton fields, generated favourable environment, sustaining good conditions for schistosomiasis' spread. In the past, one approach related to this disease was connected to the endeavour of eradicating it, using chemicals; it had even got the WHO support, and of governments from developed countries seeking to promote their *national* chemical companies and pharmaceuticals (Derr, 2021: 151). But in the past schistosomiasis was regarded as a countryside specific disease, while fast and disordered urbanization has brought it to urban areas, with debilitating effects.

Furthermore, chemicals used in agriculture (fertilizers, pesticides, and other chemicals) have brought a heavy burden on African people: epidemiologists note both rising incidence of bladder cancer, and a continuously shift from the prevalence of subtypes caused by chronic schistosomiasis to those generated by exposure to industrial chemicals (Adeloye, 2019: 110).

Illness caused by poor quality of water consumed and the unhygienic disposal of used water are a major source for kidney disease; dialysis, as a final stage where kidney diseases is heading to, is in the same time iatrogenic: between 70-80% of patients has contracted Hepatitis C via dialysis machines; this happens in an area situated in the Nile's Delta. Patients blamed toxic drinking water and contaminated food for their ailments, as a consequence of dumping pesticides and chemical runoff into the Nile. Worst to be blamed are government-owned companies (Livingston, 2021: 86)!

Other diseases as malaria, trypanosomiasis, onchocerciasis have fully manifested as environment-changes brought by techno-political decisions implying water infrastructures as dams, artificially lakes and irrigations schemes, were put in place. Ghana's Akosombo Dam and its reservoir – Volta Lake – is a case to be mentioned

here: while the government promises that the future dam would create the premises for a mechanized agriculture and a society which would modernize, the benefits for the backward nation, these announced benefits have never materialized. The promised scheme of a modernized agriculture failed, while after resettlement, people felt inside their bodies the hard hand of reversed modernization.

In conclusion

Even this paper presents is only a short description of problems being encountered in Africa due to technologies related to water manipulation and management, it can be a useful guide to understand future decisions which *sure* will be taken on this continent in relation with water management. While climate change and the population's dynamism concentrating in African large cities are heading-on each other, water provision, quality of water, and its disposal will receive important positions on states' agenda. In the past, discourses related to modernization, industrialization, development, nationalistic fervor, national independence, have been directly connected to large project construction. In the previous three decades the run for such large projects faded away, but recently, the resurgence regarding even larger projects is back. Climate change, water and food security are new discourses, motivating the need to develop such schemes, and new financiers – especially from Asia – are more and more involved in them.

For us, as Europeans such a debate can be quite strange because of geography, but is a truncated view; Africa – in case of destabilization – can disturb the economy and society of the Old continent which is not very far from Africa.

Climate change, water and food security, the diseases they can maintain, and the droughts and famines which could hit the continent with a very high increase of population, could trigger mass migration towards Europe, which already faces quite difficult times...

Dams and other water infrastructure which would change African landscape could become part of future solutions, to create a more stable, and even a more prosperous continent; but all deleterious effects of decisions based on narrow techno-financial interests which generated water schemes in the past should be replaced with a more social and environment-friendly decisions, in order to get the best solutions.

References

1. Adeloye, D. (2019) "Estimate of the Incidence of Bladder Cancer in Africa: A Systematic Review and Bayesian Meta-Analysis", *International Journal of Urology*, 26, pp. 102-112.
2. Asmal, K. (2000) *Dams and Development: A New Framework for Decision-Making*, Cape Town: World Commission on Dams.
3. Bender, M. V. (2021) "Water for Bongo: Creative Adaptation, Resilience & Dar es Salaam's Water Supply", *Daedalus*, Fall (4), pp. 48-63.
4. Derr, J. L. (2021) "The Dammed Body: Thinking Historically about Water Security & Public Health", *Daedalus*, Fall 2021 (4), pp. 143-158.

5. Fleshman, M. (2007) "Climate Change: Africa Gets Ready", *Africa Renewal*, July, https://www.un.org/africarenewal/magazine/july-2007/climate-change-africa-gets-ready.
6. Foster, V. and Briceno- Garmendia, C. (2010) *Africa's Infrastructure: A Time for Transformation*, Washington D.C.: The World Bank.
7. Isaacman, A. and Isaacman, B. (2013) *Dams, Displacement, and the Delusion of Development: Cahora Bassa and Its Legacies in Mozambique, 1965-2007*, Athens: Ohio University Press.
8. Issacman, A. & Musemwa, M, (2021) "Water Security in Africa in the Age of Global Climate Change", *Daedalus*, Fall (4), pp. 7-26.
9. Issacman, A. (2021) "Cahora Bassa Dam & the Delusion of Development", *Daedalus*, Fall (4), pp. 103-123.
10. Jackie King, J. & Brown, C. (2021) "Africa's Living Rivers: Managing for Susteinability", *Daedalus*, Fall (4), pp. 240-259.
11. Livingston, J. (2021) "Water Scarcity & Heatlh in Urban Africa", *Daedalus*, Fall (4), pp. 85-102.
12. Miescher, S. F. (2021) " Ghana's Akosombo Dam, Volta Lake, Fisheries & Climate Change", *Daedalus*, Fall (4), pp. 24-142.
13. Middlemans, K. (1975) *Cahora Bassa: Engineering and Politics in Southern Africa*, London: Weidenfeld and Nicolson.
14. Musemwa, M. (2021) "Urban Struggles pver Water Scarcity in Harare", *Daedalus*, Fall (4), pp. 27-47.
15. Stever, W. (ed.) (1995) *An International Perspective on Wetland Rehabilitation*, Dordrecht, The Netherlands: Kluwers Academic Publishers, pp. 143-158.
16. *** UN Fact Sheet, 2006, https://unfccc.int/files/press/backgrounders/application/pdf/factsheet_africa.pdf.