

Exploring the Political Ecology of Sino-Nigerian Uneven Water Conservation Partnership

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Policy Assumptions

- That skill/technology transfer could present an absolute mechanism for engendering sustainable human development in parts of Africa as being opinionated by the political class (seems improbable)
- That sustainable human development/self-reliance could be entrenched in the productive sector of the African economy via specific exogenous interventions (is out of place)
- Political ecology framework

Background to the study

- The crises of climate change, increasing desertification and drop in water level have made China's intervention with the Gansu-modeled water conservation scheme within the Guinea and Sahel regions of Kano, Nigeria desirable
- Conflicting accounts of Chinese presence in the water/agric. sector of the Nigerian economy have been prevalent
- The shared ecological interface between China and Nigeria has facilitated transfer of relevant technology to the study locations in Northern Nigeria

Background to the study

- The experimental component of the intervention (which occupies 10-hectare research base) is underwritten by the Government of China through the Gansu Desert Control Research Institute (GDCRI) and the Xinjiang Institute of Ecology and Geography of the Chinese Academy of Sciences in partnership with the United Nations (UN)
- It focuses on sharing best practices in water management by means of inferring from feats of a similar anti-desertification project already executed in Gansu, North-West China

Background to the study

- It seeks to nurture shelterbelts and foster sand-related industries in order to restore local ecology and boost economic growth via enhanced agric. output
- Water conservation in this regard implies usage of less water for agric. purposes
- Aside from assessing ingrained, short-term poverty reduction and related economic benefits of the project; and indeed, its specific environmental shortcomings, this study equally takes a holistic look at the long-term implications of such donor-recipient partnership, especially in the light of the strategic positions of both China and Nigeria as the most populous and the biggest economies in their respective regions

Overview of the Paper

- The paper begins with an explanation of its theoretical framework, in which the study's specificities are situated, and its methodology, which explains the study's research design. Thereafter, the gap that necessitated Chinese intervention in the Nigerian water/agricultural sector will be contextualized, presenting a justification for China's presence in Nigeria and elsewhere in Africa. Then, the processes and outcomes of the case study will be explored, utilizing relevant empirical evidence to demonstrate the role of China in the expansion of the productive sector of the Nigerian economy and the African economy as a whole. Finally, I end with concluding comments, which encompasses a synopsis of the research as a whole

Theoretical framework

- The study's specificities adhere to the dictates of the political-ecology approach, which seeks to analyze the interplay of political, social, and economic forces in relation to associated environmental changes
- As a matter of routine, the human component is projected as being pivotal to the construction, management, and contestation of imbedded processes
- In both Gansu, China and Kano, Nigeria, similar determinants have been implicated in their respective deforestation challenges
- That is, increasing human population in both cases has led to expanding human activities on land and water, such as unbridled grazing and farming

Theoretical framework

- It is on this basis that the approach that has been successfully employed in the desertification project in Gansu presents a workable remedy to the problem of desert encroachment within the Guinea and Sahel zones of Kano, Nigeria
- With both Nigeria and China exhibiting a pre-existing ecological interface between an encroaching desert zone (in the Guinea/Sahel and Gansu/Kubuqi zones, respectively) and wetter zones that are more prone to sedentary agriculture (in the countries' southern and southeastern regions, respectively), the practicality of a shared transnational ecological interface has been worthwhile, actually facilitating a form of technology transfer based on a similar pattern of ecology
- In this respect, easing a translatability in the politics of a particular kind of ecological management across borders

Study's methodology

- The study employs an exploratory evaluative design, which combines case profiles, in-depth interviews (IDIs), and focus group discussions (FGDs) to collect primary data
- Secondary data that probed into existing policy-focused evidence were derived from archival and governmental sources
- The study design has derived impetus from similar procedures that were employed in desertification-control investigations led by Liu (2011) in Kano, Nigeria, and in the Hexi Corridor, Gansu, China (2017)

Study's methodology

- In the case of Liu-led project, both Chinese and Nigerian researchers at their research base in Kano have carried out forestation experiments and desertification-control operations to cultivate shelterbelts, enable restoration of the local ecology, and boost economic growth
- However, the focus in the case of Hexi's investigation was an analysis of the distribution and stability mechanisms of sand dunes in the Hexi desert area of Gansu Province

Contextualizing the Gap

- Climate-change outcomes have forced us to rethink and reconstruct the way sustainable human development is projected in Africa
- More significantly, issues that affect agricultural productivity and incomes of rural farmers – which would, of course, have implications for the quality of their livelihoods – have made the subject of climate change central to human development discourse in Africa
- Within resource-dependent contexts, redefining the approach to food security involves embracing change and transformation, including adopting “climate-smart” practices and applying emerging tools and technologies to reclaim drought-stricken agricultural land, which is the specific focus of the Gansu-modelled experimental project in Kano, Nigeria

Contextualizing the Gap

- Engaging modern technologies for improved agricultural outputs requires funding and technical knowhow. China has come to be relevant in these capacities in Nigeria and, by extension, in other sub-Saharan African countries
- While Africa presently lacks both funding and know-how, China has them in abundance. African countries want to innovate to spur growth, while China seeks to innovate in Africa basically to support its own enhanced and sustainable growth back home and, of course, to boost its own global relevance
- Hence, the seeming aptness of the intervention

Gansu-modelled Case Study in Kano, Nigeria: Processes and Outcomes

- The Gansu model (as applied in Kano, Nigeria) involved the use of underground tanks to harvest water. The tanks are usually bottle-shaped with an average diameter of about three to four meters and a depth of five to six meters; the tanks usually have a capacity of 30 to 50 cubic meters. A concrete, dome-shaped top 10 to 12 centimeters thick helps to sustain the soil weight and the load on the surface. A hole in the center acts as both a water outlet and a manhole. The bottom of the tank is made of concrete 10 centimeters thick. The underground tank has the advantages of preventing evaporation loss and maintaining a low temperature, which both help to maintain water quality

Gansu-modelled Case Study in Kano, Nigeria: Processes and Outcomes

- The limited amount of rainwater available for irrigation is applied sparingly to crops, using the principle of limited irrigation. This means that water is applied in limited amounts during a few critical periods of crop growth
- Besides desertification control capacity, the Gansu-modelled intervention has also provided training on harnessing solar and wind power, and saving and utilizing rainwater for selected beneficiaries within the study locations
- The Gansu-modelled intervention in Kano has raised the profile of family farming and smallholder farming, since it focuses on indigenous farmers. Alleviation of poverty and hunger, provision of food security and nutrition, adequate management of natural resources, and sustainable human development have all been enabled by the enhancement of the participating farmers' incomes

Gansu-modelled Case Study in Kano, Nigeria: Processes and Outcomes

- The project has recorded a milestone success through its application of innovative techniques and its training of indigenous farmers in diverse skills in the management of land resources for improved agricultural yields
- Small-scale farmers are now benefitting from the application of improved farming techniques as offered by the experimental project
The project's innovations in the areas of agricultural and water conservation have served the indigenous farmers right
- The success of the intervention in Nigeria have spurred the design and execution of similar interventions in several other desert-prone countries across Africa – for instance, Kenya, Egypt, Algeria, and Niger

Gansu-modelled Case Study in Kano, Nigeria: Processes and Outcomes

- Just as the case in Gansu, cattle and farming activities are now returning to the locations in Kano with visible improvements in the socio-economic standing of the communities courtesy of the intervention
- However, most participants in this study in Kano have continued to depend on small-scale farming procedures, which requires labor and time due to huge capital required to adopt the techniques of the Chinese experimental project at an individual level

Gansu-modelled Case Study in Kano, Nigeria: Processes and Outcomes

- Nevertheless, this study has observed that, courtesy of the Chinese experimental project in Kano, the participating indigenes are now able to erect pillars, construct nylon nets, and then combine both to serve as a wall against sliding sand
- As such, a direct correlating link exists not only between the project and improved agricultural outputs but also between the project and poverty alleviation
- Significantly, this project has been all-encompassing in terms of skill building, employment stimulation, poverty alleviation and, of course, peacebuilding

The Political Ecology of the Intervention

- The political-ecology submission on the propensity of an (external) actor wielding influence over the environment of other actors by means of ancillary expansive methods seems apt in the case of China's presence in the Nigeria's water/agricultural sector, despite its obvious benefits
- As noted in this approach, power mainly offers an intrinsic platform for “winning the battle of ideas” in relation to human utilization of the environmental space, wherein a superior existential idea obliterates the place of weaker or inferior ideas

The Political Ecology of the Intervention

- Across the board, the presence of China in the agricultural sector of the Guinea and Sahel regions of Kano has been embraced by the indigenous farming populace, to the extent that the role of the Nigerian government (the supposed partner in the project) seems largely unrecognized by the local actors
- Such transnational presence is generally viewed as mutually beneficial by the host community. It is worth noting that the host community has been unperturbed about any environmental effects the project could eventually stimulate, for instance land degradation, which seems common within the experimental zone of the intervention

The Political Ecology of the Intervention

- Aside from the immediate recognition and appreciation of the role of China by the host community relative to what governments at various levels in Nigeria have been able to do, related projects are also capable of enabling Nigeria's drive towards self-reliance in the agricultural sector
- To the people, their immediate needs are being met; to the Nigerian policy managers, a critical component of essential policy interventions is being actualized through the project
- Potential for stimulating a “win-win” South-South partnership (but, with a caveat)

Concluding Comments

- To guide policy projection stemming from the case study, it is imperative to infer lessons regarding the transmutation of Nigeria (and other African countries) from a “repository” (for Chinese aid, products, and ideas) to a state of self-reliance and sustainable growth and development
Domestication of acquired skills by indigenous project beneficiaries should be facilitated so as to cut undue reliance on Chinese capacity
- Meanwhile, if the outcomes of Chinese participation in the Nigerian, nay African, agricultural sector are to be benchmarked against the immediate impact that they could have on the indigenous farmers’ skills, and their yields, incomes, and happiness, then it is all but assured that China will be relevant in this part of the world for a long time to come – conspicuously, to the detriment of the host governments (the supposed partners)

Concluding Comments

- Barring the emergence of a “visionary political leadership,” which is presently being inhibited by the increasing local and international demand for immediate economic growth that may not necessarily translate to sustainable human development, Nigeria, and perhaps Africa as a whole, will unavoidably persist in serving as the repository for discarding Chinese aid, products, and ideas, with or without its consent
- As such, it is procedurally affirmed that the only role that the African continent would be able to play in the ensuing “Chinese century” will be that of subservient partner despite the prospects of synergy and self-reliance that the budding China–Africa relationship offers

Concluding Comments

- This inference is in tandem with the standpoint of the political-ecology approach, which signifies the propriety of power in global environmental interaction and, of course, the supposition of a hybrid of “self-reliance” theory and “economic determinism” theory on the seeming unsustainability of any kind of trans-border dependence in the process of driving societal transformation

Thank you