

# Securing Water to enhance local livelihood through decentralized water plants in Eagle Island, Port Harcourt Nigeria

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|-------------------------------|----------------------------------------------------------------------------------------|
| Region                        | Sub-Saharan Africa                                                                     |
| Award Scheme                  | Dubai International Award                                                              |
| Start Year                    | 2017                                                                                   |
| Sustainable Development Goals | Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable |

## Summary

Clean water and sanitation are fundamental to human health and quality of life, yet urbanization has outpaced the ability of many Nigerian cities to provide adequate water supplies or sanitation services. In 2011, 49.6% of the Nigerian population was urban; if trends continue, by 2050 an additional 212 million people would have been added to the urban population.

## Background and Objective

There has been general decline in water services provision by publicly-owned water boards in urban Nigeria. We aim to reverse it using innovative decentralized water kiosks. For example, the Port Harcourt Water Corporation can only meet 5% of its population. There was high incidence of water deprivation among low-income households.

## Actions and Implementation

The high cost of connecting constructing the water to serve households with a 100m radius had raised the initial start off budget at US\$70,000. Our decentralized water treatment models treat ground water locally, providing safe, healthy, and affordable drinking water to households who previously were without access. Our solution also requires the construction of a solar-powered treatment plant and the design of a low-cost sales and distribution systems. The cost was scary at the initial phases and had delayed project start off but we surmounted it by directly getting the communities involved in all parts of the project cycle, and nominating a male and a female youth members of participating neighborhoods for training as "Water caretakers". We also met with and partnered with the local water utilities in order to use some of their assets or facilities. Some of the activities that enabled us to engage people in each neighborhoods included; neighborhood selection/ selection of focal persons; Identification neighborhood leaders; Identification and selection of partners; Stakeholders meeting; Workshops ; Baseline surveys ; Neighborhood visits; Monitoring and Evaluation; Report writing and documentations etc. Through this strategy, neighborhood based focal persons who were directly trained by us remained at the local level, worked with the neighborhoods and floated viable networks that comprised of local households themselves. Meetings and decisions were accordingly made at these levels. Another problem we had to contend with was neighborhood strife over water infrastructure . This was also very frightening as brothers easily became livid on discussions that centered on these issues. However, these were amicably resolved through adroit manipulation of the sensitivities involved and prioritization of the objectives of the project which underscored opportunities for increased access to water and poverty alleviation. We were welcomed into these neighborhoods and even enemy communities had no problem working with us even when they know we have affiliations with their enemy. Other key challenges include the recruitment and training of key personnel in water quality, asset management, social marketing and financial management. These are key areas of investment as we expand this model in Nigeria.

## Outcomes and Impacts

Successful interventions against water scarcity often require the application community engagement activities to map stakeholders and understand needs and its drivers. With a good approach and an understanding of the benefits accruable households are already showing maximum commitment. Up-scaling and replication potential of the project exist anywhere. What is required beyond finance is the commitment of households in clustered neighborhoods. We have enormous goodwill in neighborhoods where we operate and the tools to enable sustainability of our projects. Beyond the financial support from some local corporate organizations, we further raise funds through sales of our water in reticulated systems and closed packs etc. For example, an estimated

\$700 million a year is spent on obtaining water from alternative water providers in Nigeria. The sustenance of such funds in addition to the leveraging of other donor funds as well as our cost cutting strategies in the facility operations will continue to see the water plants well into the future. Our decentralized water treatment models treat ground water locally, providing safe, healthy, and affordable drinking water to households who previously were without access. Our solution also requires the construction of a solar-powered treatment plant, which is a renewable energy; and the design of a low-cost sales and distribution systems. In addition to these we source water from deep boreholes with negligible turbidity and reduced water treatment costs.

## Gender and Social Inclusivity

Services in the urban areas are not just inadequate, but in decline. In 2015, 48 percent of the Nigerian population was urban. While the percentage of the urban population having access to improved water has increased, these numbers do not guarantee that all those with access are connected to a dedicated point on their premises through the public network. Water is provided only by shared service, mainly water kiosks etc. In effect, this already indicates transferability. It just requires entrepreneurship. However, our solution provides immediate access to clean drinking water using in-situ water treatment and distribution infrastructure to households at lower costs than alternatives. Our decentralized water treatment models treat ground water locally, providing safe, healthy, and affordable drinking water to households who previously were without access. Our solution also requires the construction of a solar-powered treatment plant and the design of a low-cost sales and distribution systems. We specifically involve local communities and entrepreneurs and use the effectively in creating distribution networks and sales forces, thus generating local employment and contributing to economic growth. Also, we sale water in attractive, clean, and reusable containers in order to compete with products sold by the bottled water industry.

## Innovative Initiative

1. We have learned that policy intervention is urgently required to address the inequality in access to safe water. While ultimately, comprehensive coverage by a responsive public provider is required, our partnership with the local utilities, we combine a public - private effort to reach areas that lack water infrastructure. This assures consumers of quality and revenues are shared between us and the utility. 2. Also we have learned that there is urgent need for support for the private sector. This could include providing finance to strengthen small-scale piped networks and treatment to improve borehole water quality. 3. The dynamics of water pricing is crucial and needs to be regulated. However we use the CAFES principle that ensures Conservations, Adequacy, Fairness, Enforceability and Simplicity while deciding on customer tariff. 4. We have also see the benefit of renewable energy in assisting us reducing operational cost.

## Conclusion

Yes, a State and a National Water Supply and Sanitation Policy is now in place. It represents a starting point for opening up the sector to private sector participation. A consensus has not yet been reached on the forms that such participation might take. In principle, these could range from short to medium term contracts with private operations for the delivery of specific services or for overall management of utilities, to more far-reaching, longer-term types of private sector involvement, such as leases and concessions or complete divestiture. The policy reaffirms the fundamental role of the government as facilitator, through its role in policy-making. The 2 Policies had also proposed four sub-sectors for water supply and sanitation: urban areas, small towns, rural areas, and water resources management and sanitation. In the urban water area, the government has adopted a fundamental reorientation in the concept of service provision. By separating infrastructure investment and ownership from service operation, the government expects to introduce competition with significant efficiency gains. The core urban water strategy is to improve service delivery through optimal public private partnerships (PPP) in investment, management and delivery of water services.