

Footprints in the Coastal Communities of the Niger Delta

Our human capacity investment will not be inclusive if it only involves readily accessible people. The riverine and coastal areas of the Niger Delta are often described as steep terrain to work in because unlike in the upland, they are harder to traverse as they could not be accessed by road and travelling can be hours of a bumpy and sometimes scary ride in a boat on rough waters, with enormous logistics challenges. And hence they experience limited access to development opportunities. There are hundreds of local communities located along the coastline of Niger Delta.



Photo: Dr. Dara Akala, PIND's Executive Director (waving) at a field visit to Gbagira, a coastal community in Ondo State.

Demonstrations of Chorkor oven Get to Coastal Communities in Bayelsa and Ondo States

Smoked fish has fully developed as an alternative market to fresh fish, and fish smoking is a primary occupation for 80% of women across the coastline of the riverine communities of the Niger Delta. Women

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In 2018, we deliberately scaled our reach to ensure underserved communities in the region benefit more from economic growth interventions, particularly in promoting the use of appropriate technologies to spur development innovations.

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spend hours and sometimes days smoking fish with drums which consume firewood, time and exposes them to burns, smoke inhalation and carcinogenic material. Improved fish smoking ovens are appropriate technologies that can raise income, living standards and quality of life as they reduce fuel cost by 40%, saves time by 37% and reduce health hazards. In 2018, and led by its trained service providers, the Foundation expanded the demonstration of two improved fish smoking technologies, the chorkor oven and smoking kilns, into the riverine communities in Bayelsa and Ondo States that reached over 1,500 women.

The Chorkor oven, constructed with local materials, is a relatively low cost, effective and safe equipment used for drying fish. It is fuel efficient, healthier to use, and produces a

high volume of better quality smoked fish. Starting in 2014, we have been pioneering the use of the Chorkor oven in upland fish farming clusters in the region.

And this year, as part of effort to spread its benefits to the hard to reach communities, we trained 153 fish smokers and processors (76 women) from the remote coastal communities in Bayelsa and Ondo States on how to construct and use the Chorkor oven which spurred interest in its use for business by the processors. Using their newly gained skill, women fish processors in the two States have begun using Chorkor ovens by the end of 2018. Their adoption of Chorkor ovens has helped these women to process large quantities of fish with less cost compared to the traditional drum method, thereby increasing sales and incomes of these women within a shorter timeframe. This was also an added opportunity for the local masons and red clay brick makers, to sell the Chorkor oven at different sizes and height to fish smokers.

CHRISTIANA OMOYELE A FISH SMOKER IN AWOYE, A HARD TO REACH RIVERINE COMMUNITY IN ONDO STATE SHARED HER EXPERIENCE OF ADOPTING THE CHORKOR OVEN



Photo: L-R: Omoyele Christiana and one of her daughters holding baskets of quality smoked fish smoked with Chorkor oven

"I have 12 daughters working with me, and I've been in this fish smoking business for about 40 years. I prefer the Chorkor Oven. It is good for us. The old dryer (traditional dish smoking drum) uses plenty of firewood, but the Chorkor oven doesn't use much. You know it is the one that doesn't use much wood that we would like. If you just use small firewood with the Chorkor oven, the fish is ready. Because we spend a lot of money buying firewood and firewood is expensive here. The Chorkor oven is also stronger as you can mount several levels of fish, and nothing will go wrong because the block is strong. But for the old one, if you load too much fish, it will collapse".

Exploring Appropriate Transportation for Difficult Terrains of Niger Delta

While the Chorkor oven demonstrates excellent value as a pro-poor technology for fish smoking, there is a high cost of boat haulage transport and extended supply chain involved in moving bricks for building Chorkor oven in riverine communities. To be cost-competitive, bricks for the Chorkor oven have to be procured close to the location where they will be utilized. In the reporting year, we began exploring more cost-effective transport options for not just the bricks for the Chorkor oven but also for other farm products from smallholder farmers in this hard to reach coastal communities.

Through field trials and assessments, we discovered a last-mile transport solution (AgRover) that could transport farm products more efficiently over



Mrs Gloria of Amatu 1, adjusting the firewood in the chorkor

challenging terrain and bad road networks at lower costs to both smallholder farmers and transport service providers using a 'rental' or 'lease-to-own' model. The assessment was done in collaboration with cocoa farmers in Ondo State, Conservation Alliance Nigeria (CA-NIG) – a local organization, and Mobile Agricultural Power Solutions Limited (MAPS) – the equipment manufacturer. If successfully piloted, brick makers within close proximity

to the riverine communities can be trained to produce and transport bricks to the fish processors within affordable margins.



Powering Coastal Communities with Energy Efficient Technologies

It is close to impossible to overstate the role of reliable and affordable power; it improves lives and supports people in their quest to live better or even escape poverty in the first place. But energy access remains elusive to many other hard to reach coastal communities in the region. Our Energy Efficiency and Renewable (EER) initiative assessed the potential and readiness of four coastal communities Ilaje local government area of Ondo State that are unserved with electricity – Awoye, Molutehin, Gbagira and Mese- to partner on a one-year private sector-led pilot of a commercial mini-grid.

Guided by the outcome of the assessment, PIND facilitated the leadership and people of Gbagira community to sign a power purchase agreement with A4&T Power Solutions, a private enterprise based in Lagos State, to pilot one-year commercial mini-grid using Energy Cabins. The Energy Cabins will ensure the availability of the productive energy essential for unlocking the full potential of businesses in the community. This pilot is to be launched in 2019 with an aggregate electricity supply of 15kWh.

With the implementation, large swathes of agrarian and fishing communities will benefit from reliable and affordable energy for development as they could adopt electricity-dependent technologies for processing, refrigeration and preservation of their products. Newer service industries will also likely emerge – economic activities like sewing, e-money services, and communal

TV viewing centers will become alternative venture areas to support community living and quality of life.

We will do more in hard to reach areas in 2019, taking lessons from our work in 2018 and leveraging existing opportunities identified.

Besides our work in the hard to reach communities, as part of our Appropriate Technology Development (ATED) Centre's program on energy efficiency, PIND trained lecturers from five universities (University of Benin; Federal University of Technology, Akure; Ambrose Alli University, Ekpoma; Rivers State University of Science and Technology; and Abia State University) in the Niger Delta on energy efficiency in buildings and renewable energy alternatives in September, 2018. The Centre also hosted numerous stakeholder groups of over 300 persons in different demonstration events and workshops on appropriate technologies. Overall, the ATED Demonstration Centre recorded 456 visitors in 2018 who learned about new appropriate technologies adapted to suit local needs.



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PIND received the 2018 Nigerian Energy Award in recognition of our achievements in the area of clean energy, energy efficiency and sustainability in energy efficiency. PIND was also featured prominently as a key national delegate at the 8th Nigeria Alternative Energy Expo (NAEE) themed 'Liberating Economic Drive with Clean Energy' and hosted an exhibition stand showcasing our supported appropriate technology (AT) products.

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