

## Contributing to reducing the effects of climate change hazards in rural Ghana

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The Human Development Office of the Navrongo-Bolgatanga Catholic Diocesan Development Office (NABOCADO) in collaboration with Association of Church-Based Development Projects implemented a Expanding Climate Change Resiliency in Northern Ghana. The project supported over 25,000 rural men and women farmers in climate change mitigation and adaptation.

Navrongo-Bolgatanga Catholic Diocesan Development Office already started in 2009 to systematically support, document and re-strategized its rural development approaches. This resulted in a long term Livelihood and Food Security strategy, which aims at promoting sustainable agricultural practices (SAP), emerging farmer groups support, ensuring access to natural resources through conflict reduction, energy saving measures through introducing energy efficient mudstoves and reducing the effects of climate change (CC) on farmers' livelihood through dialogue and advocacy.

Over 200 women constructed immovable mud stove in their household for food preparation reports of reduced trees felling for firewood to cook. This have led to environmental conservation because of drastic reduction in tree felling. Commercial users such as pito brewers who have adopted the technology reports that it has led to a reduction of more than half of the quantity of firewood they use to cook the same quantity before the adoption of the technology.



For instance, Akafari Atibila a 37 year old woman from Anafobisi community who has adopted the technology for brewing her pito on commercial basis said the technology has helped her to save money since the technology has led to reduction of the quantity of firewood she was using to almost half in preparing the same quantity of pito. For instance a truck of firewood which she use to buy for GHS 65 to prepare pito, she now uses half of the truck which is GHS 33 to prepare the same quantity of pito and this has increase her profit.

Aside that, the immovable mudstove produces charcoal which she sells for cash to take of her 2 children who are in school. In terms of health the technology has also reduced the heat that they previously faced when preparing the pito.



The picture on the left is a traditional stove which she previously used for her pito production. As seen in the picture they are only 3 stones put and air blow from all direction thereby reducing the concentration of the heat on the pot and that leads to burning of more firewood to cook one meal.

The picture on the right is a constructed immovable energy saving improved stove for producing pito in commercial quantities. As seen in the picture there is a hole at the back of the pots where firewood is placed and since it is closed you can be sure that there will be full concentration of the fire on the pot and this ultimately reduces the amount of time and firewood needed to cook a meal.

The project planned for 233 women to be trained for the construction and use of mudstoves and achieved 235 women. The objective is to help women use an alternative energy source that will help conserve the environment. Within the reporting period 80 households are using mudstove and have reduced women time of looking for fuel wood



Household Cooking Mudstove for Food Preparation-Uses little fuel wood

All the women who have constructed the immovable mudstove in their household for food preparation reported that they have realized that now they don't cut trees as before since they don't need so much firewood to cook. This they say have led to environmental conservation because of drastic reduction in tree cutting. Commercial users such as pito brewers who have adopted the technology report that it has led to a reduction of more than half of the quantity of firewood they use to use to cook the same quantity before the adoption of the technology.

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Construction of energy saving mud-stove to reduce quantity of fuel used for preparing house hold food

## CONCLUSION

It is worth mentioning that this technology helps to reduce the emission of GHG through the reduction in quantity of biomass used in cooking, it also helps to reduce the amount of CO<sub>2</sub> in the atmosphere as efficient use of energy leads to reduction in deforestation allowing more leaves for CO<sub>2</sub> absorption. Another great achievement of this technology is the economic importance as it reduces quantity and cost of fire wood or biomass for cooking and other domestic consumptions. With regards to its multiplicability, the technology is simple and easy to be adopted by local and their artisans as such creates jobs for local artisans who go round to build the mud-stoves for households.

However it's not easy to accurately measure the amount of GHG reduction due to differentials in compositing of biomass used by households.

## Reference

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