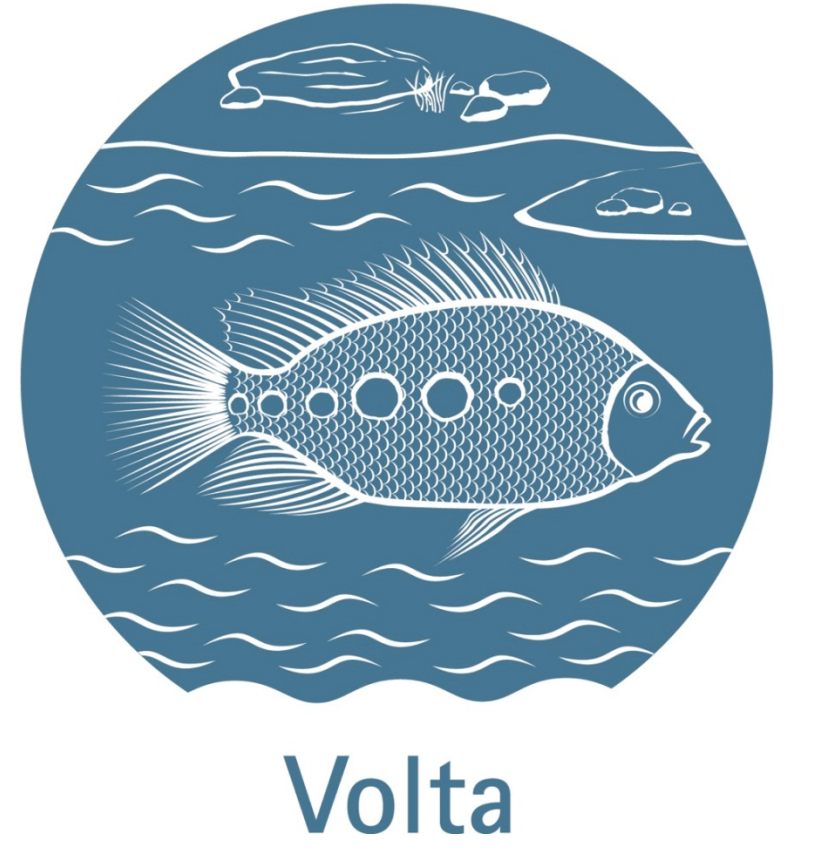


# Farmer-led Innovation towards rainwater management in crop-livestock production systems in the Volta Basin: Lessons from Orbile community, northern Ghana



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**Dominant gardening activities along the Black Volta river banks in the Lawra district marginalised livestock keepers and their animals with limited access to water. Innovative investment in rainwater harvesting facility at home by a positive deviant crop-livestock farmer (Mr. Gban) integrating farm level nutrient management and livestock keeping paid off with food security outcomes. The dedicated practice of crop-livestock-rainwater management at farm level enhanced healthy maize crop yields from manure fertilization and improved sheep production from adequate feeding and watering.**



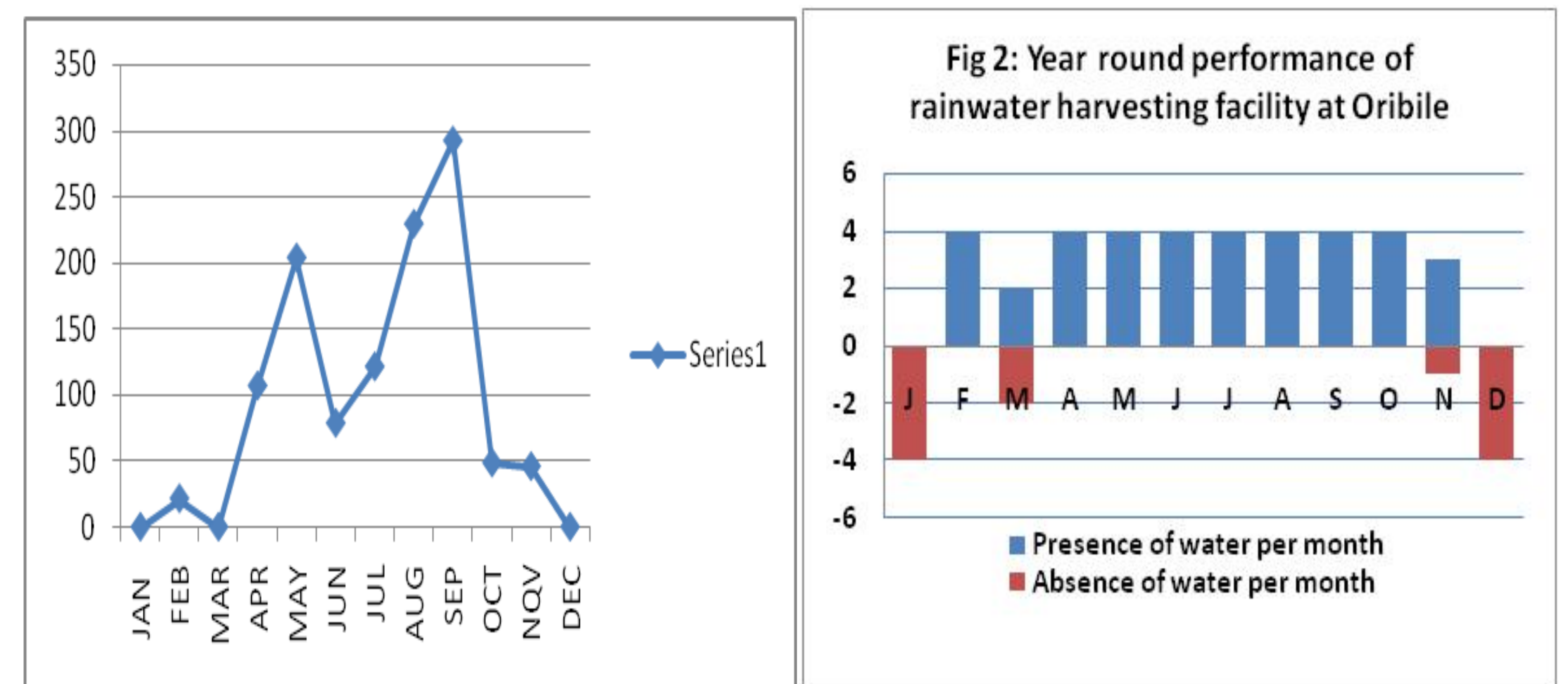
## Purpose

Under the CPWF in the Volta basin, V2 investigated rainwater management strategies in crop-livestock agro-ecology for increased food productivity to enhance food security and livelihoods. This piece seeks to document a practical farmer-led innovation in crop-livestock-water system answering the project outputs in the study location for joint-learning, sharing and possible influence of local policy.



## Method

Observational research involving multiple-visits and interviews of Gban's household. Rainfall data was collected from measurements using a rain gauge mounted in the community. The constructed pond was assessed on a -4, 0 to 4 score scale based on the presence or absence of water throughout the months. Livestock (sheep) data, manure management practices and maize crop yields were estimated.



## Findings

### Maize Grain Yield

Estimated maize yield of 2.0 t/ha was recorded from plots on the compound farm. Average maize yield from neighbouring farms of the check group was 0.2t/ha.

### Some Benefits of the Pond

- “I no longer walk the 8km to and fro to water my animals at the river.”
- “The pond has saved me from frequent conflicts with neighbours farming along the path leading to the river where the animals follow, as sometimes some of them stray into the farms causing damage to crops.”
- “Loss of my animals is minimal since feed and water are available at their night base.”

### Conclusion

It is concluded for policy advocacy at all levels to integrate water harvesting facilities when contracting out road construction works to provide water for communities to enhance efficient rainwater capture and use for improved crop-livestock systems livelihood and food security.

#### About CPWF

The CGIAR Challenge Program on Water and Food was launched in 2002. CPWF aims to increase the resilience of social and ecological systems through better water management for food production (crops, fisheries and livestock). CPWF currently works in six river basins globally: Andes, Ganges, Limpopo, Mekong, Nile and Volta.

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