Igunga ecovillage

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Increasing Farmers Resilience to Climate Change

Dug Out Ponds

GCCA+ THE GLOBAL CLIMATE CHANGE ALLIANCE PLUS INITIATIVE | Funded by the European Union | TANZANIA

Water Component: Dug-Out Pond

Project Coverage

- Implemented in Igunga District,Tabora Region
- 10 villages in Igunga & Mbutu ward
- 6,000 households as Direct Beneficiaries (36,000 indiv.)
  6,000 households as Indirect Beneficiaries (36,000 indiv.)
  12,000 households (72,000 indiv.)

Project Objectives

- Capacitate communities to better adapt to climate change through improved Natural Resource Management, sustainable increase in agricultural production and strengthen their socio-economic situation

- Capacitate the local government (Igunga District Council) to access, plan and implement climate change adaptation strategies

- Share lessons learned from this Ecovillage with the outside world (among others, this webinar)

Dug Out Pond: Specifications and uses

- Pond Capacity : less than 1000 M^3
- Mainly for private households (1-5 households)
- To provide surplus water for small scale irrigation during dry season (dry spell)
- Pond Vegetable garden for household uses
- Domestic uses (exceptional)

Pond Structures

- **Catchment Area:** Source of running water
- **Inlet Canal:** To direct water from the catchment area to the POND storage
- **Silt trap -** To filter water before entering the pond
- **Outlet Canal:** To direct excess water from the pond to the farm or gully downstream
- **Pond Embarkment:** To provide stability to the pond storage structure

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- 4 Dug-out ponds constructed manually by individual farmers' households in the project area
- Capacities ranging from 50-300m^3
- Managed by individual households
- Between 10-15 committed people can dig one pond of 250m^3 in less than a month

Bukama Village: Household Pond (140 m^3)

Mbutu village: Household Pond (52 m^3)

Lessons Learned (1/2)

- A pond managed by one household is more manageable and will last longer than the community managed pond
- Integrating dug-out pond with other economic activities will motivate more farmers to dig private ponds.
- Ox-drawn scoop works better in combination with ox-drawn plough only for the first layer of the pond
- An organized group of diggers with hand tools is more efficient than using ox-drawn scoop
- First runoff should not be directed to enter the pond to reduce contamination to pond water

Lessons Learned (2/2)

- Crucial to sensitize communities on importance of:
  - Low cost pit latrine at home
  - Low cost water treatment options (slow sand filter, moringa seeds, boiling)
- Planting Vetiver grasses will help to stabilize pond structures
- Planting trees at least 3 meters away from pond embankment will help to reduce evaporation.
- If seepage of water occurs it is advised to put a thick layer (10-12 cm) of impermeable clay on the soil
- When a pond becomes older, it will be able to hol more water

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Asante sana!

Thank you!