The Global grant administered by Garstang RC provides Sand Dams in Africa engineered by Excellent Development

SAND DAMS

What are sand dams?

Sand dams are the most cost-effective form of rainwater harvesting and provide communities with a clean, local and reliable source of water – even during periods of drought.

Sand dams store up to 40 million litres of water and provide a year-round supply for up to 1,200 people – with virtually zero operation and maintenance costs. Sand dams store water under sand, protecting it from contamination, evaporation and parasites – cleaner water that lasts longer.

Sand dams save people up to 12 hours a day because they provide water to families an average of only 30 minutes from home. Communities are then able to invest this time in protecting their land from erosion and investing in climate-smart agriculture.

Conservation of the environment is critical to the economic development of people living in drylands.

Sand dams are a key tool for addressing environmental degradation in drylands. By harvesting water close to people's homes they save people time that can now be invested in sustainable land management: terracing land and planting trees to prevent erosion and keep water in the soil.

By placing a dam across a seasonally flowing river in sandy terrain sand will fill the space behind the dam after a seasonal flow. Most beneficially the sand stores water which can be harvested during the dry season. Water also penetrates surrounding land promoting tree growth. Even ore beneficially such a river can be dammed at several sites along its length providing benefit to many communities.

Life depends on trees. They absorb carbon dioxide, release oxygen, fertilise soil, reduce erosion and prevent land degradation. At the same time they provide fuel, food for people and animals, compost, building materials and even medicines.

In Africa, 80% of total energy use is fulfilled by trees - with electricity only contributing 6%. But, unsustainable harvesting has contributed to severe deforestation, which causes environmental degradation and desertification; destroying wildlife and habitats.

For the people living in drylands, deforestation means hunger, thirst and fuel shortages. If managed in a sustainable fashion, trees can provide long-term environmental and economic benefits.

2.

1-3% of water flowing downstream is retained behind the wall