

2. PROJECT COMPONENTS

Component 1; Evaluation of the Kitui dams

The functioning of the current sand dams and its positive impacts are confirmed by SASOL through their internal evaluation and monitoring system. The different papers produced by SASOL clearly illustrate the positive impacts on poverty alleviation, income generation and health. But with completion of over 350 dams and the planned upscaling with another 500 dams, there is a need for a comprehensive hydrological, environmental and socio-economic evaluation. This evaluation will focus on the Kiindu basin in which 35 dams have been constructed, all of which are mature.

- The hydrological evaluation (component 1a) will include a geophysical survey and a monitoring campaign of at least one year and verify how much water is stored behind the dams (and its seasonal fluctuation) and how far the groundwater has migrated in the river banks. The hydrological evaluation will also quantify the effectiveness of the cascade approach and shine light on the question how much run-off water is intercepted and what the changes are in the down stream river flows. The quality component of the evaluation will focus on the natural water quality and its changes during storage.
- The environmental evaluation (component 1b) will make use of data already collected by Sasol over the years. The use of satellite images would be useful be conducted according to international EIA guidelines and include an evaluation of the water quality, its pollution hazards and possible pollution protection measures. This evaluation will also include a assessment of the functioning of the dams under different climate change scenarios
- The socio-economic evaluation (component 1c) will collect complementary field data to quantify the socio-economic impacts on household/village level as well as the impacts on the District level. This will involve detailed sampling of the dams in Central Division of Kitui on a catchment-by-catchment basis to establish economic impacts at the individual, household and community levels. The mission will be led by Prof. Rempel of Manitoba University and is co financed by MCC and CFGF. Please add the mission in June