

Annex 16

THE SAND DAMS OF KITUI – 30TH JUNE, 2004

The term sand dam refers to an impermeable masonry barrier across an ephemeral (non-perennial) river. The upper side may be hidden by sand but the lower side is usually exposed either due to excavation by water when the river is flowing or by design. A sand dam basically functions as a sub-surface dam, but its crest is usually raised above riverbed level. By the construction of a weir across the riverbed, the sand carried by flow during the rainy season, will settle in front of the dam and gradually the reservoir in front of the dam will fill up with sand. The sandy bed is used to store water during the rainy season for use during dry periods. A single flash flood may fully recharge a reservoir. Upon saturation of the reservoir, the remaining flash flood will pass over the dam. The stored volume of water in a sand dam ranges from 100m³ to 50,000m³. Typical height of a sand storage dam is between 1 and 4m above the surface.

Sand dams are not new in Kitui district. Since the earliest dams were constructed during the colonial period in the 1920s. Others were constructed in the 1950s and several are still in existence. This is a technology that has stood the most severe test of all time. To date, SASOL Foundation has helped construct more than 400 sand storage dams in various parts of Kitui district. Globally, this project has the highest number of sand dams. The community uses their knowledge and resources to work with SASOL. Local organizational structures, for example, along gender and age, are used in construction and dam management.

Construction of sand dams lends itself to participatory methodologies, where communities actively participate and contribute towards the construction. The decision to construct a sand dam in a particular site is in itself a process.

MANAGEMENT STRUCTURES

Before embarking on the actual construction, a sand dam committee is formed to oversee the construction process. Such a committee has 13 members drawn from each gender, different educational status, religious backgrounds, political parties and socio-economic statuses. Gender representation in the committee is influenced by the ratio of men and women participating in the construction. After dam construction, there is a new committee elected to oversee the use of the water. In some instances, the construction committee is given the new mandate. The committees enforce rules and regulations (by-laws) set by the community. These rules cover hygiene, sanitation, and conservation of the environment around the sand dam. Those who break the set rules are supposed to be “disciplined” as per the rules thereof. In some cases retired persons work with local elders to enforce discipline.

USE AND IMPACT OF SAND DAMS

Sand dam water is used for domestic, agricultural and small commercial activities. The availability of sand dam water has reduced the cost of water by 75%.

Some households owning land adjacent to the regenerated rivers are now earning their livelihood from bucket-irrigated vegetables. Income from horticultural produce is also on the rise, even though this phenomenon is yet to be assessed and documented. From a

health point of view, consumption of vegetables and horticultural produce has impacted positively on health, especially of women and children. This is the way to fight poverty.