

# SASOL FOUNDATION

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Most communities in the Arid and Semi-Arid (ASAL) or Sahelian parts of Africa have suffered development since many development activities are not planned to address key issues of technology appropriateness, affordability and sustainability. Often knowledge and expertise are borrowed from wetter parts of the continent. Development of these areas has to be within the context of sustainable ecological resource use. This demands that communities participate in the design and implementation of activities. Technologies and techniques have to increase production for the exploding populations.

Sahelian Solutions Foundation was created by founder seven members with more than one hundred and fifty years of experience in research, teaching, management and consultancy in ASAL development. Central in SASOL philosophy is commitment to participative development, which cannot be if resource conservation, within the framework of time tested technologies sustained by ASAL populations, are ignored. It was through dialogue with Kitui district communities that the need for production water was identified. Women and children were walking to fetch household water to sources between 5 and 40 kilometers depending on the season. Animals were also being taken to the same water sources. There was no labor left for production since energy was mainly expended on water procurement chores most of the year. Animals could not keep condition walking these vast distances.

The main technology selected for assuring production water is sand dam construction in cascades. Stand alone sand dam construction, some argue, is more than four thousand years old. The oldest in Kitui was constructed by a WW1 soldier Nzamba in Mathima location of Kitui district in 1928 and is still functioning. A few were constructed in Kenya during the colonial period. In the adjoining District of Machakos, the Utooni community has built about 120 since 1977. However, construction of sand dams in cascades, to harvest production water, is SASOL's innovation. Kitui communities and SASOL have built over 450 sand dams in dry riverbeds since 1995. This is the largest application of this technology globally. This technique leads to the rivers flowing all year round, thereby dispersing watering points, even though the rainfall is less than 400mm per year. Water Aid, Simavi, MCC, DFID and SIDA have funded these efforts

Typically communities contribute 60% of dam cost. TU Delft has done their technical evaluation, in terms of construction and recharge of ground water, in collaboration with Leuven University and the University of Nairobi in a project funded by the EU. These dams have major socio-economic impacts for they do not just provide water for humans and animals but they produce surplus water for production of subsistence and high-income crops thereby assuring food security in very marginal areas. They impact on health and sanitation by assuring communities of improved and reliable water sources even during droughts over

and above conserving the energies of women and children thereby making these available for other development efforts. They impact on the ecology of the region through ground water recharge. This leads to natural revegetation. Sand dams and associated wells are a technology, which is within the reach of the rural ASAL communities. O&M is feasible for there is little maintenance other than riverbank protection, and water pollution protection. The technology can be improved in stages depending on community abilities. For example water can be pumped from the rivers if communities so desire.

At the same time SASOL has constructed 250 school wells. This effort was geared to providing water in schools for drinking and cooking. Other efforts have been in provision of famine relief as well as nurseries for provision of trees for ecological rehabilitation.