

SASOL FUTURE ECONOMIC RESEARCH -

1. Objectives

The main objective of this study is to systematically evaluate the economic impacts of the sand dam project and its potential to increase household incomes and to reduce poverty in ASALs. The specific objectives are:

1. To ascertain magnitude of time saved from water fetching activities.
2. To estimate the incomes accruing from enhanced old economic activities.
3. To estimate the incomes resulting from increased new economic activities.
4. To establish the implication of these incomes on household poverty levels status.

2. Research Questions

- What is the magnitude of time and energy saved from water collections chores after the construction of the dams?
- How is this saving in time and energy used? Old or new production activities?
- Have incomes from old production activities improved?
- Are there new economic activities driven by the availability of production water?
- What are the incomes generated by these new economic activities?
- What is the impact of the dams on nutrition, health and food security of the households and communities with production water?

3. Rationale

According to the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007 and Poverty Reduction Strategy Paper (2001), the immediate objective of the Government is to increase income and food security of smallholders ASALs households. The inadequate and inefficient rural infrastructure, including limited accessibility to water for production, poor access roads and environmental degradation have been cited as some of the problems bedevilling the survival ASALs households.

While many resources are invested in water projects in developing countries, rarely are these investments subjected to rigorous social and economic analysis (Whittington, 1992). A review of the existing literature on economic and social benefits of improved water supply systems surprisingly shows that little empirical work has been done. Shrinking economic

resources call for more attention to be paid to empirical analysis of water supply technologies. This will ensure that the limited available resources are devoted to worth projects.

This study would be of crucial benefit to various government ministries (especially in the envisaged decentralised system¹), NGOs crusading for food security and improved ASAL households' livelihoods as well as other policy makers. The end product of this study will be a report and policy briefs to be shared widely with stakeholders in this sub sector.

4. Conceptual Framework

Figure 1 below conceptualizes the impact of sand dams project and the interactions of various variables in understanding food security² and standards of living of households in the project area. A generally accepted definition of food security is a situation in which households at all times have access to adequate quantities of safe and nutritious food to lead a healthy and active life (Lynton-Evans, 1997; FAO, 1997; Ayalew, M., 1996; Kigutha 1995; Ayelew 1988), and when households are not at undue risk of losing such access (Von Braun et al, 1998, Bahiigwa 1999).

Sand dam project potential to reduce poverty rests in its ability to increase rural households incomes and improved food security status as a result of saved time and energy from water fetching activities. Households in the project area have several options on how to utilize this increased time and energy at their disposal. They could choose to engage in agricultural production activities as a result of increased productive water or to get involved in other economic non-agricultural activities³.

Households improved food security is directly as an outcome of increased agricultural productivity, introduction of new and more nutritious crops such as spinach, kales, onions, tomatoes, sugarcane, arrowroots and as well as a variety of fruits. Household ability to feed itself is associated with increased incomes accruing from engagement in other economic activities such as brick making; bee-keeping; proceeds from surplus tree seedlings, vegetables and fruits sales. Enhanced incomes afford households better shelter, clothing,

¹ The government is expected to decentralize decision processes with an intention of ensuring that the needs of the population living in an area are addressed in a democratic and transparent manner

² Food security definition has evolved over the years from simply preoccupation with supplies of food to national self-sufficiency to include household ability to feed itself.

³ Some households devote their extra time to certain non-economic activities, which the current study is not keen to pursue.

access to social services, access to other types of foods not grown in the area but available in the near markets. These relations are summarized in figure 1 below.

5. Methodology

This is will be a qualitative and quantitative social survey and adopts cross-sectional⁴ design. The study will focus on the specific conditions in these areas using a range of tools including in-depth household surveys. Although the unit of analysis to answer most of the economic questions will be households, it will be necessary to carry out field observation and focused group discussions in the areas to get a complete picture of sand dam impacts.

The first stage will be literature review and secondary data collection to refine the survey design and instruments. The second stage will involve reconnaissance visits and formal survey with use of questionnaires by a team of eight (8) enumerators supervised by two (2) a researcher for four weeks (20 days).

The study will focus the old Central Division since the construction started there. Four river catchment areas will be involved in this study, namely: Ithumula, Wii, Kyangunga and Tungutu. These communities in these catchments have been most active in utilizing production water. A total of 400 structured questionnaires (100 per catchment) will administered to sampled households in the study area. Based on population density of each catchment, stratified random sampling will be used to identify households for interview. The probability of a household to be interviewed will be proportional to the catchment's population size. Data collected in 2001 will serve has basis for comparisons.

Both univariate and bivariate statistical techniques will be applied in data analysis. Frequency tables and graphs, cross tabulations, correlation and analysis of variance (ANOVA) will be used. The main output of this study will be a BOOK DETAILING THE IMPACTS OF SAND DAMS.

⁴ Entails the collection of data on more than one case and at least at a single point in time in order to collect a body of qualitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of association.

Figure 1: Conceptual Framework



