

BASELINE INFORMATION ON WATER SOURCES AND USES IN MUS INTERVENTION VILLAGES IN NIGER

EXECUTIVE SUMMARY

The USAID West Africa Water Supply, Sanitation, and Hygiene (USAID WA-WASH) Program, through Winrock International, implemented the multiple use of water services (MUS) activity in four municipalities of Niger. The MUS activity aims to introduce technically and economically viable activities related to water uses to enable rural households to improve sustainable and equitable access to water, income, health, hygiene, food safety and security. A baseline study was conducted in the MUS intervention area to determine the communities' water sources and uses, sanitation facilities and environmental risks to water sources. The specific objectives of the study were to: (1) conduct an inventory of all the water sources and their capacities in the intervention area; (2) identify the various water uses from the existing sources, and (3) determine the gaps between water availability and water needed for domestic and productive uses.

The survey was conducted by a team of three data collectors in the 42 intervention villages in the Zinder region of Niger. Data collection tools were developed and pre-tested by the Winrock team in the village of Barago and the necessary adjustments were made. The study was conducted with participation of the beneficiaries in the villages via general assemblies and focus group discussions. Before the village general assemblies were held, the community members were informed of the objectives of the survey and the various sections in each village were identified and boundaries delimited, sub-dividing a village into blocks (spatial units) of ten to fifteen households. A community volunteer was identified to guide the visits in each block. During the survey, data were collected from the households in the blocks and the data collectors visited the water points to estimate the water flow rates. For productive uses such as market gardening, a representative sample of all the gardeners in each village was identified and subsequently surveyed.

For the water accounting baseline study, four parameters were considered in the calculation of existing water needs and sources. The four parameters are: (1) the quantity in liters or cubic meters; (2) the quality of potable water and non-potable water; (3) the reliability of the water point (a function of its productivity), and (4) the estimated distance in km or time (minutes) taken to collect water at the source. To quantify the daily water needs and productivity of sources, the values were estimated using the standards from one module of the MUS training document. The values of the productivity of water sources were determined following a discussion with the Directorate of Water Services in the Zinder region. The estimated value for a cemented/protected well was 40,000 liters per day, boreholes produced 11,000 liters per day, and traditional wells produced 25,000 liters per day. However, these estimates varied from one village to another. The water yield from swamps was not quantified.

The findings of the study showed that most of the communities had at least two sources of water, one for potable water and one for productive uses such as irrigation of gardens. The major sources of water in the villages include boreholes, traditional (hand dug) wells, cemented/protected wells, ponds, and swamps. The boreholes equipped with hand-pumps were primarily used as potable water sources. In the 42 villages, there were a total of 43 boreholes out of which 19 were non-functional. There were 38 traditional and protected wells in total within the villages.

The water from traditional and cemented wells is used for productive activities and also for drinking water when potable water sources are not available. The majority of the villages (61%) had adequate potable water sources, however, these sources were non-functional in six villages. Among the 42 villages, 11 villages did not have potable water sources at all. There were about 27 ponds and swamps in the study area. The ponds and swamps were primarily used for irrigation purposes and for livestock. The water for productive purposes was considered adequate if the sources were permanent and inadequate if the sources were seasonal.

The major water needs were divided into potable water needs (in households and public spaces) and productive water needs for market gardening and for livestock. The estimated water needs in a household were calculated based on the household size. It was estimated that a person uses 20 liters of water per day. Other estimates included 30 liters per day for large livestock, 10 liters per day for small ruminants, 35 liters per day for dairy cattle, 8 liters per day per square meter of land for irrigation purposes, and 2 liters per day per user of potable water in public spaces such as mosques and schools.

Most of the households did not have latrines and defecated in the open. The study revealed that in 18 villages there were a total of 202 latrines the other 24 villages did not have latrines. . There were no major environmental risks observed except possible contamination of water sources by human and animal waste and underground water contamination due to the closeness of latrines to water sources.

The full report is available (in French) upon request via our website. For more details about our program activities and other reports please visit <http://wawash.fiu.edu>

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