



CHAD

RURAL WATER SUPPLY MAYO KEBBI WEST PHASE I (STUDY) AND PHASE II (IMPLEMENTATION)



Client Direction de l'Hydraulique, N'Djaména / Chad

Financing Kreditanstalt für Wiederaufbau, Frankfurt

Duration of Services Phase 1 : 11/2001 – 07/2002
 Phase 2 : 02/2004 – 06/2011

Cost of Implementation Phase I: 4,9 Mio Euro
 Phase II: 8,5 Mio EURO

Consulting Fee Phase I: 0.486 Mio Euro
 Phase II: 2.876 Mio Euro

Scope of Services

PHASE I: Preparation of Feasibility Study

- Collection and evaluation of basic data
- Hydrogeological and geophysical investigations ; drilling
- Technical studies
- Socio-economic studies
- Accompanying measurements
- Detailed project planning
- Financial and economic analysis

PHASE II: Implementation

- Final design, coordination, tendering, assistance, supervision of implementation, initial operation and operation assistance
- Construction of drilled wells and installation of hand pumps, establishment of VLOM (village level O+M) system through local artisans, establishment of water user committees
- Training of artisans for repair works
- Establishment of workshops for the distribution of tools
- Hygiene education campaigns in the villages
- Community mobilization

Brief Project Description

The major goal of the study was the identification of the actual situation in rural water supply after intervention of several former projects within the region and the search of areas not yet being considered by other projects.

To obtain the necessary information about the villages, a socio-economic field study was carried out. The results of the study afterwards allow the delimitation of the target area of the project.

Simultaneously, all drilling wells in Mayo Kebbi West, equipped with hand-pumps, have been visited and their condition has been recorded. The evaluation of the number of breakdowns, their frequency and the reasons lead not only to estimations about the local financial contribution but also to an estimated inventory for the stock of spare parts, sold by a local dealer.

The geological and hydrogeological conditions have been investigated by means of several field investigations; areas identified as particular problematic due to their hydrogeological context have been chosen for the drilling program. After the geophysical investigations, 13 exploration wells have been executed in the aim of getting additional information's about the ground, the hydrogeological conditions and in some cases, about the specific problems in the planified area (p. ex. access, supply etc.) who may occur during the project.

The actual state of the existing wells have been the base for all further planning's of the superstructure's layout with the goal to improve the hygienic conditions around the well.



Essential project data

• Surface of the region	20.000 km ²
• Number of sub-prefectures	7
• Number of habitants (2001)	722.605
• Former projects	GTZ, BELACD, UNICEF
• Drilling of boreholes	220
• Supply and installation of hand pumps	220

The project included a large accompanying measures programme aiming at the improvement of sustainable usage of the wells and prevention of pollution. Means of community mobilization were Support to communities in installation of on-site sanitation facilities (pit latrines) (650 latrines)

Detailed description of services

Collection and evaluation of basic data

- Present conditions and degree of general supply by water supply points
- Inventory of water-born diseases
- Inventory of existent wells; evaluation of their actual conditions
- Present maintenance of the wells
- Spare parts distribution
- Participatory approach
- Hydrogeological data
- Synthesis and interpretation of available data'

Hydrogeological et geophysical investigations ; drilling

- Evaluation of available information'
- Geoelectrical investigations
- Preparing of tenders for drilling works and pump tests
- Environmental analysis
- Assessment of results, recommendations

Accompanying measurements

- Composition of the project surveying crew
- Supply program for the villages
- Well'management development by the means of local structures
- Elaboration of maintenance programs
- Contracts between local craftsman and the villages
- Training of the sensibilisation team
- Planning of sensibilisation campaigns

Socio-economic studies

- Definition of major selection criteria
- Initial identification of the project area
- Determination of villages to investigate
- Socio-economic studies, analysis of local financial contributions
- Definition of secondary selection criteria
- Final specification of the project area
- Description of the chosen villages
- Evaluation of the number of necessary wells

Technical studies

- Comparison of existing wells and hand-pumps
- Choice and justification of the chosen variant
- Rehabilitation measures for existing wells
- Necessary equipment
- Analysis of local construction abilities

Detailed project planning

- Detailed planning of principal activities
- Detailed planning of accompanying measures

Financial and economic analysis

- Aspects of local contribution
- Cost of operation and maintenance
- Project cost
- Dynamic cost calculation