

Sustainability Services through Quality Design & and Construction plus effective Operation & Maintenance

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Abstract/Summary

The challenges of the drinking water sector in the rural areas of Cameroon are increasingly how to ensure that the coverage already achieved can be maintained and their lifespan prolonged. Many water schemes (wells with hand pumps, gravity schemes, etc.) are functioning unreliably or break down after a short service life. Systematic analysis has shown that the reasons are found at two levels: a) in-appropriate design and poor construction quality and, b) lack of preventive maintenance and unprofessional repairs.

In responding to these challenges IEA(Integrated Engineering Associates) in cooperation with Skat Foundation and in consultation with government institutions, the private sector and community organizations have developed corrective measures in the following two areas: a) **development of a series of training modules** that cover design, practical implementation, operation & maintenance management including training of trainers and trainers guide and, b) **development and implementation of appropriate Operation & Maintenance models** that consider the principles of subsidiarity, accountability and efficient management, supportive rules & regulations that are in line with the legal framework and water policy of the country, clarity of roles, responsibilities and competences and sustainable financing system. The two interventions are interlinked in that any missing capacities in O&M management lead to additional training modules

Introduction

The government of Cameroon has shown a willingness to improve the water services in rural areas through legislation and partnerships that seek to regulate and focus the actions of all stakeholders involved in the sector. Under Cameroon’s Water Law (Law No. 98/005 of 14 April 1998) water is a natural resource to be enjoyed by all the citizens of the nation. The state is responsible for managing the country’s water resources and facilitating access for the entire population. However, the Water Law expresses the state’s intentions to transfer the responsibility to manage water resources to local authorities and other entities. The competences for rural water supply have been devolved to local councils as per the law on decentralisation. Unfortunately the corresponding financial resources have not yet followed. The lead role of the local Council, as the closest administrative body to the communities remains at the centre stage. With the ongoing process of decentralisation, as regulated by Law N° 2004/017 of 22nd July 2004 on the Orientation of Decentralization and Law N° 2004/018 of 22nd July 2004 to lay down rules applicable to Councils, competences for basic services have been devolved to the councils amongst which is the responsibility to provide reliable water services to villages.

In 2007, the government adopted a rural Drinking Water Supply and Sanitation Sector (DWSS) policy and a 2008–2015 action plan to achieve 80% rural coverage by 2015 through increased investment in infrastructure development and rehabilitation and institutional development. Today project implementation is still rounding up implying the ambitious 2015 target was not achieved. In addition the JMP(Joint Monitoring Programme) trend for rural water shows that the coverage of improved sources for rural water as updated in 2015 still stands at 53%(WHO/UNICEF,2015).

The Cameroon Water Partnership (also known as the Global Water Partnership–Cameroon) is a multi-

stakeholder body formed in 2005 to work with the government to develop policy and programs for the sustainable management of the country's water resources as a contribution to alleviating poverty, improving socioeconomic well-being and protecting natural resources. The Partnership is a regional branch of the Global Water Partnership, which was founded in 1996 with support from UNDP and the World Bank. The network is open to all organizations involved in water resources management, including governments, donors, agencies and the private sector. The Partnership provides a forum for dialogue and exchange of information for all stakeholders in the water sector and supports capacity building and training of stakeholders in the water sector on principles of integrated water resources management. This partnership is a tacit recognition by the government that all partners need to learn from any shortfalls in the past and find a common way forward so as to improve on the water services. This will lead to increased advocacy, new policy orientation, supportive legislation, alternative financing, capacity building etc.

Much is still to be desired as these efforts do not seem to have taken the rural communities out of the perpetual cycle of water crises, 53% coverage (WHO/UNICEF, 2015). System failure has not been arrested as design and implementation quality has not improved and the appropriate operation and maintenance model has not been developed and adopted.

The initiative by IEA and Skat Foundation is therefore a complementary contribution to government efforts that will bring in some corrective measures for the improvement of rural water services in the areas of a) **development of a series of training modules** that cover design, practical implementation, operation & maintenance management including training of trainers and trainers guide and, b) **development and implementation of appropriate Operation & Maintenance models**.

Description of the Case Study – Approach or technology

The aim of this project is to provide a tangible contribution to improve on water services within the municipalities through the **development of a series of training modules** that cover design, practical implementation, operation & maintenance management including training of trainers and trainers guide as well as the **development and implementation of an appropriate Operations and Maintenance (O&M) model** for the council that is effective and sustainable by involving, in a participatory manner, the right stakeholders who are trained and empowered to fulfill their responsibilities with the support of a legal framework that can be readily enforced.

The project process involves the need identification, the selection of pilot councils, the development of suitable management model, the implementation of the management model and the up-scaling of the process.

The project fits in line with the efforts made by the international community, the government, local councils, the legislature of the state of Cameroon as well as the beneficiary communities. Accordingly the efforts of Skat Foundation and Integrated Engineering Associates in this project are all aiming at reaching reliable and sustainable rural water supply services. We have sort to understand and make use of the lessons learnt from the past, avoid patch work, analyse the challenges and develop the responses together with all stakeholders concerned (consumers, village and municipal organizations, NGOs and private sector, regional and national level). Our role as facilitators ensured that all key players actively contributed to the debate while remaining focused on the policy orientation of the government and the legal framework. Furthermore we have remained realistic by starting on a small scale in a region with highly motivated municipalities and villages and follow a bottom up approach with involvement of higher levels of government from the beginning.

Both interventions are documented in form of guidelines and tools to facilitate scaling up and to ease replication probably with required adaption to prevailing contextual situations.

Prior to the development and implementation of an appropriate Operations and Maintenance (O&M)

model for the council, several training modules had been developed for the training of technicians involved in the supervision and implementation of rural water supply projects as a contribution to upholding quality standards in the design and construction of water schemes. So far the following modules have been developed and tested:

- Raw materials
- Concrete mix (mix design)
- Stone masonry
- Reinforce concrete
- Plastering/topping
- Design and construction of a spring catchment
- Caretaker Training

Each module has been developed with a trainers guide and a handbook for the trainees, thus facilitating replication. The missing capacities in O&M will lead to the development of more modules.

The pilot phase for the development and implementation of an appropriate Operations and Maintenance (O&M) model for the council, involves two selected councils of the North West Region of Cameroon. Fundong Council and Jakiri Council were selected based on the selection criteria developed at a need assessment forum, Workshop No. 1.

A cross section of Mayors, development actors of the water sector of the region came together to diagnose and chart a way forward for the declining water services(the increasing number of complaints from the various communities to the council) at Workshop No. 1. The recommendations of Workshop No. 1 highlighted the need for an appropriate operation and maintenance model to halt and even reverse the declining functionality of existing systems.

The workshop further established a selection criteria for two pilot Councils for the development and implementation of an effective and sustainable operation and maintenance model at Council level. A steering committee that oversees the process was established in each of the Councils selected. The Mayor together with the steering committee and assistance of the facilitator (Integrated Engineering Associates) organised Workshop No. 2 that brought together all the stakeholders involved in rural water supply of each of the Council areas. The workshop deliberated in workgroups on the key factors affecting operation and maintenance:

- a. O&M management system/institutional set up and legal aspects(statutes) including their enforcement
- b. Finances: O&M cost (routine O&M, repairs, rehabilitation) water fees and tariffs
- c. Role and responsibilities in O&M at village level(consumers, WMC(Water Management Committee), caretakers)
- d. Role and responsibilities at Council and Regional level as well as the private sector and CBOs(Community based Organisations)
- e. Catchment protection issues and enforcement.

The recommendations of the workgroups were then assigned to a taskgroup for the development of an appropriate operation and maintenance model for the Council. The report of the taskgroup was the subject of validation by Workshop No. 3. Workshop No. 3 once again grouped all the stakeholders of the water sector of the selected Councils. The outcome is the validation of three tools for the support of an efficient and sustainable O&M model at Council level:

Tool 1: O&M Conceptual Framework

It provides comprehensive information about the development and implementation of a sustainable O&M model for rural water supply at Council level.

Tool 2: O&M By-laws

It provides the framework to support the implementation and enforcement of the officially legalized regulations(statutes).

Tool 3: O&M Task list, Job description, Guidelines and Checklists

This tool is composed of the task list, job description, guidelines and checklists that instruct about all required O&M activities.

As a follow up to the development of the O&M model, training and capacity building was organised for the WMCs and Caretakers of the selected pilot Councils.

In the same light three pilot schemes were selected from each of the two pilot Councils for the implementation of Hotspot rehabilitation. This will go a long way to foster the spirit of participation and ownership of the scheme by the consumers.

Replication

The interventions are documented in form of guidelines and tools to facilitate scaling up and to ease replication probably with required adaption to prevailing contextual situations Skat Foundation is ensuring the publication of the project documents and tools in line with the strategic field of initiation and implementation of innovative projects in support of knowledge and experience sharing and capitalization .

Main results and lessons learnt

The expected outputs are:

Though the development processes are still on-going first effects can already be observed.

- Skilled mason and technicians are available to and are in high demand for contractors and council services. The Council technician for Tubah Council successfully, with the support of the council and contributions from the communities rehabilitated three catchments within the municipality which were already considered as hopeless cases. The Caretaker for Weh Water Supply Scheme together with the community, supported by the Water Management Committee successfully brought back their catchment into full function after removing roots that had chucked and damaged the filter material and causing water to escape. Three storage tanks have been successfully rehabilitated by local builders in Ndzeschaa, Kitchoo and Ngomrin supervised by the Jakiri Council technician.
- The management model has been clearly defined with clear roles and responsibilities assigned to the different stakeholders. Facilitated by the community mobilisation and action centre and supported by the Council, several water management committees in the Jakiri Municipality have been reorganised following the application of the limits for mandates as provided for in the statutes.
- Drinking water supply services are improving (less interruptions, shortened response time, etc.) accordingly willingness to pay water rates is improving. Less complaints are registered by the two Councils on potable water issues.
- Improvement in the collection of water fees. In Sop village water fees collection has moved from 40% to 95% following the reorganisation of the Water Management Committee.

Key lessons learnt include:

- Training becomes most effective if theory is combined with practical application.
- Operation and maintenance has a good chance to become effective if the stakeholders concerned are directly involved in the development of effective O&M models while the supporting agencies act as process facilitators and resource persons
- Enough momentum can be built up at regional level to enable the lobby for effective O&M for village water supply projects that will safeguard the investments that have been pumped into this sector over the years. In this light more pilot Councils will act as examples and build up the

critical mass that will promote up-scaling.

Conclusions and Recommendations

The process turned out to be a kind of renaissance for village water supplies of the selected Councils. It brought together all the actors of the sector that matter. This interaction break a lot of barriers and created a synergy for the improvement of the sector. An atmosphere of antagonism and apportioning of blame was quickly turned into one of collaboration and responsibility.

As the platform of collaboration has been set, regular consultations should be organised to maintain the momentum and consolidate an effective lobby at Council level that will serve as the breeding ground for a lobby at the regional and national level.

The training modules and the development and implementation of O&M model at Council level has rekindled the culture of quality in design and construction work as is reflected in the quality of construction work carried out by BTC-technicians (Building Training Centre), some of which are over 45 years old today and still intact. A new era for quality standards has therefore been opened.

- The Council should make budgetary allocations that would permit the organisation of regular water platforms at council level.
- The Council should engage a documentation process of all water supply schemes within the Council area.
- All potential spring sources should be identified and protected for future use.
- The Councils should assist communities in the ownership rights over water catchment areas.

Next steps and plans for the future:

- Monitoring performance and impact.
- Development of additional training modules e.g. 2017 “Design of simple maintenance friendly rural water supplies”
- Completion of documentation O&M model development (process and tools);
- Scaling up of O&M model at council and regional level (following demand)
- Experience and knowledge sharing at local and international level through local networks and in particular through RWSN

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