

# **Impact Evaluation of FDW Project in Ethiopia providing Sustainable Water Services in Harari Region (SWSH) to urban, peri-urban, and rural households**

**A Report to the Netherlands Ministry of Foreign Affairs for public circulation**

**Dr John Cameron<sup>1</sup>**

**April 2020**

## **EXECUTIVE SUMMARY**

---

<sup>1</sup> I am delighted to record my thanks for the invaluable contribution of Dr Getnet Alemu in leading the household surveys and supporting the institutional data collection. Also, my thanks go to the data collection and data processing staff for their hard work under challenging circumstances. Valuable comments were received for Ministry and RoV officials, but the responsibility for this Report lies solely with Dr John Cameron.

## EXECUTIVE SUMMARY

This report is one of a set of reports produced by the Evaluating Impact of the Netherlands Sustainable Water Programme (FDW). The focus is on one of the FDW Projects selected by the Evaluation team. The Project has the title Sustainable Water Supply for Harari Region of Ethiopia (SWSH). The evaluation followed the life of the SWSH Project from final signing of the Project Proposal in 2015 to the final decisions on implementation in 2019.

After this Executive Summary, the rest of this Report is divided into three self-contained sections:

Section One: Background to the SWSH Project and reflections on institutional sustainability

Section Two: Design and results of surveys of a sample of urban and peri-urban households

Section Three: Design and results of surveys of a sample of rural households

The findings and conclusions in Section One can be summarised as follows:

The Project was complex in terms of institutional Partnership relationships with eight Partners and a variety of histories of pre-FDW cooperation. The FDW Project activities were also varied as the Project aimed to reflect the skills of all eight Partners. The Project had a 'flexible' governance structure with no formal processes for collective decision-making. In terms of sustainability, the Project was de facto governed by the Netherlands Lead Partner and the Ethiopian Regional Water Authority. This central relationship had continuing tensions over power-sharing, and control of resources throughout Project implementation. This tension plus the self-marginalisation of two of the Partners meant that the original Partnership was non-sustainable after the formal end of the Project. However, positive pre-existing relationships between pairs of Partners were sustained, while there was no institutional value added from the FDW project, there was no loss of previous value.

Unfortunately, the planned activities of the Project also proved unsustainable, though there were some unplanned positive outcomes:

a. the flagship activity of building a decalcification plant was abandoned due to a combination of disagreements over design, financing, and inter-regional political tensions. But a design was completed that could be used elsewhere, and the resources not used for the design and tendering were diverted to connecting an intra-regional new water source to urban Harar thus assisting maintaining the urban water supply which had been the purpose of the decalcification plant;

b. the attempt to measure and attribute Non-Revenue Water (NRW) was also abandoned as the technical challenges of measuring water flows in a highly calcinated environment proved insuperable, However, persistently bringing up the issue of the Regional Water Authority did encourage the Authority to increase its activities in increasing revenue by increasing efforts to tackle faulty metering.

c. Improving the administrative/managerial capability of the Regional Water Authority did have positive results that have sustainability potential despite the tensions between the Water Authority and Lead Partner. In addition, the continuing presence of the Lead Partner for this purpose on site over the four years of Project implementation may have acted as a stimulant/irritant to the Water Authority in terms of innovative activities and providing funds to initiate those activities.

d. Direct improvements in some urban, peri-urban, and rural households' access to better quality water is the subject of Sections Two and Three of this Report and results will be summarised below. In summary, despite challenges in identifying beneficiaries, there is potential for sustained positive value added for directly affected households with relatively low cost maintenance by the Water Authority, though this is in a context of continuing overall chronic water shortage which the FDW Project has done little directly to improve.

Overall, it is difficult to justify the SWSH Project in terms of sustainable, substantial value added. A more thorough, contextualised risk analysis in the Project Proposal process could have identified most of the challenges summarised here. Clearly the prospect of a substantial subsidy from the Netherlands government was a real attraction for most of the Partners. To their credit, six of the eight Partners did act in good faith with the motive of improving lives in Harari Region, though their visions of what would constitute improvements varied.

Sections Two and Three are devoted to the household surveys conducted for this evaluation. The Project had specific targets for the total numbers of households to receive improved water supplies amounting to about twenty percent of the total Regional population. There was no clear rationale for the numbers of households targeted, but given the chronic overall water situation, this target might be seen as very conservative in terms of water needs.

The surveys proved difficult to design as Project implementation was rather chaotic in terms of both targeting and timing. The targeted urban households were intended to be selected on a poverty criterion and implementation to be phased. In practice, households were selected by local government officers from those households which did not have in-house piped water and the planned phasing was not rigorously followed.

It is reasonable to assume that urban households without in-house piped water were relatively poor, but the evaluation team discovered in early direct observation that urban households without their own piped water were obtaining piped water from neighbours. Thus, the physical impact of piped water connections in terms of time and health was likely to be muted. Failures in improving the overall water supply by constructing the decalcification plant and implementing Non-Revenue Water activities also muted the likely impact of the overall FDW Project. There should be some gains in overall water supply from the Project connecting the new water source to the urban piped water system, but these connections were only due to be completed in 2021.

Arbitrary changes in phasing undermined the evaluation sample design as the plan was to follow a 'pipeline' sampling approach with later phase households acting as

controls for first phase households as treatment. However, in-survey adjustments to the sampling frame did allow some comparisons to be made.

The peri-urban household sampling frame was similarly based on phasing to identify treatment and control intervention locations for random start, fixed interval sampling of households. The haphazard layout of the settlements and the absence of households due to substantial numbers of people travelling daily into the urban centre (which also affected access to both quantity and quality of water) introduced non-measurable biases. As with the urban survey, the follow-up peri-urban household survey aimed to visit the same households as interviewed in the baseline survey which was largely successful.

The rural household baseline survey had to be continuously postponed as interventions were delayed by disagreements on amounts and locations of deprivation and appropriate activities. In order to allow minimum sufficient time between baseline and outcome, the baseline survey had to be conducted without a clear specification of locations and forms of activities. A purposive stratified sample of locations was selected to cover the whole range of rural ecological conditions and villages within those locations randomly chosen with households interviewed using the same sampling approach as in the peri-urban household survey.

The same households were interviewed in the follow-up survey. The households were ex post allocated to treatment and control groups by self-reported receipt and non-receipt of drinking water improvements. This allowed comparisons to be made, though with the risk of upward bias as not all improvements could be attributed to the FDW project.

Analysis of the results for all three surveys showed some positive impact in the health and livelihood experiences of the treatment households over time and probable double difference well-being gains compared to the control households. Unfortunately implementation failures in the other FDW Project activities, mean that the results from the three surveys add nothing to the primary direct observation finding that the failures of the decalcification plant and NRW reduction as FDW activities meant little of the planned Project overall value-added was achieved.

It is possible that some additional value added may be generated by the Water Authorities' increased attention to reducing NRW by better metering management, and, using some of the funding freed by not constructing the decalcification plant for connecting a new water source to the urban piped water system. But the household surveys cannot capture these effects.

In defence of the impact evaluation household surveys, it is legitimate to claim that they have substantially increased information on households in the Harari Region of Ethiopia, that is available for monitoring future changes in livelihoods. But there is a wider more negative lesson for evaluation of complex developmental projects, that insisting on large statistical household surveys irrespective of local context is not always efficient and cost-effective.