

# Evaluation Summary

## *Niroth Water Production Facilities (phase 1)*

Country: **Cambodia**

Sector: **Water supply – large systems**

Evaluator: **T. Dalimier, L. Mogenet (Blue Square Development)**

Date of the evaluation: **October-November 2016**

### Key data on AFD's support

**Projet numbers:** CKH 1075

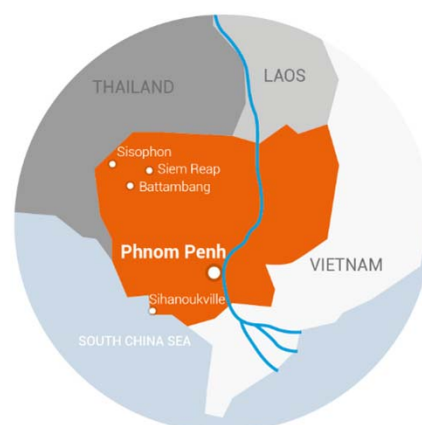
**Amount:** €16 million in non-sovereign loan

**Disbursement rate:** 100%

**Signature of financing agreement:** May 2009

**Completion date:** June 2013

**Total duration:** 4 years and 2 months



### Context

Phnom Penh Water Supply Authority (PPWSA) is responsible for the production and distribution of water in Phnom Penh and its suburbs.

Given the demand forecast available and the existing distribution gap, PPWSA had to **increase its production capacity to sustain water supply extension in the periphery and to allow the densification of connections in covered areas.**

### Actors and operating method

The contracting authority is PPWSA.

The project management unit is PPWSA.

The project manager is SAFEGE (French Auxiliary Corporation Electricity, Gas and Water).

### Objectives

1. **To increase PPWSA's production and distribution capacity** in order to extend water services to Phnom Penh inhabitants.
2. **To strengthen PPWSA's financial base.**
3. **To support PPWSA's autonomy** from the model of a sustainable public utility **to borrow without guarantee** backed by government of Cambodia.

### Expected outputs

- **60,000 connections** made
- **130,000 m<sup>3</sup>/day** of installed water treatment capacity financed

## Performance assessment

### Relevance

A project providing more treated water resources and transmission/distribution equipment, operated by an efficient and financially sound water supply agency, is clearly **fully consistent with its main goal to improve water access in suburban districts of Phnom Penh**.

### Effectiveness

The evaluation shows that, among several factors, **the delay in having the Niroth 1 water production facility (WPF) in full capacity was more related with difficulties in solving transmission/distribution problems, than in solving production ones**. Once all transmission problems were solved (May 2014), the Niroth 1 WPF full production level could ensure an increased overall treated water production/distribution for Phnom Penh Water Supply Authority (PPWSA) without overcharging the already existing WPFs.

### Efficiency

Because of the increases in amount for the civil work and supervision service components, the AFD resources could not be allocated as initially expected. As a result, there was a significant drop (of more than 50%) in the resources allocated to the Distribution Network extension (mainly the supply of piping and fittings). Even after considering so many differences between Niroth-1 and the project previously financed by the AFD, it appears that the Niroth-1 civil works, electrical and mechanical cost ratio is definitively much higher.

### Impact

Several completion reports and this evaluation show that **the funded water treatment facility (Niroth-1) was a very much needed production capacity** (by volume and by calendar) to bring enough treated water to the PPWSA network in order to complete the targeted 60,000 households connections during the 2010-2015 period.

Without the Niroth-1 input, not only the PPWSA connections program would have been downscaled, all other WPFs would have kept their critical overdesign production rate. The reports also show that more production capacity must be mobilized by 2016.

### Sustainability

The fulfillment of the major project objective (increase the PPWSA production and distribution capacity) is of a sustainable nature since **more treated water and more piping equipment will be made available to the PPWSA distribution program on a permanent basis**. This capacity is likely to be amplified in the future with the second phase of this program (Niroth-2) to be financed by the AFD.

### Added value of AFD's contribution

Well beyond the financing aspect, the major advantage of the non-sovereign loan offered by the AFD (and only by the AFD) is the **very close interaction between the AFD and the implementing agency**. In particular, during the construction phase, some decisions are to be taken very quickly as a response to some unexpected events. **Direct contact with the funding agencies was a key factor of success** during the implementation of all three projects financed under non-sovereign loans.

## Conclusions and lessons learnt

As listed in the logical framework of the project, one of the objectives of the project was to increase the number of domestic connections by 60,000 units over the period 2010-2016. **This objective was clearly fulfilled, with 69,453 new domestic connections made over that time period.**

It has however to be highlighted that there is no direct link between the Niroth-1 production and the PPWSA water connection program since water distributed by PPWSA can come from other existing WPF, some of them working above design capacity. In other words, the impact of Niroth-1 project cannot be a specific number of connections, but **the capacity given to PPWSA to conduct such a connection program, without overcharging the existing equipment and production units.**

Economic and social benefits to the population should therefore be evaluated through a **comprehensive evaluation study of the PPWSA water connection program** and not through the construction of one WPF, even with some piping material financed under the same loan.

In the same way, the efficiency of the program should be assessed by comparing the amount invested for the civil works and electrical and mechanical component to the treated water output, instead of comparing the total amount of investments to the number of beneficiaries.