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THE FUTURE OF WATER, SANITATION AND HYGIENE:
INNOVATION, ADAPTION AND ENGAGEMENT IN A CHANGING WORLD

Supplying water to informal settlements through delegated management: Ouagadougou case study

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In Burkina Faso, the national water company, ONEA, faced a dilemma a few years ago: how to provide water to the people who need it most when they do not live in the formal city setting? Is it possible to find technical and contractual arrangements to provide a networked public service in irregular urban settlements, bound to be restructured? ONEA, supported by the AFD (French Development Agency), had to experiment an innovative approach in 5 areas on the outskirts of Ouagadougou: building a simplified network, bulk water supply and delegating day-to-day operations, customer management and network development (house connections) to private operators. And today, it works!

Au Burkina Faso, la compagnie nationale des eaux, l'ONEA, a été confrontée il y a quelques années à un dilemme : comment fournir de l'eau aux personnes qui en ont le plus besoin lorsqu'elles ne vivent pas dans le cadre formel de la ville ? Est-il possible de trouver des arrangements techniques et contractuels pour fournir un service public en réseau dans des agglomérations urbaines irrégulières, vouées à être restructurées ? L'ONEA, soutenue par l'AFD (Agence française de développement), a dû expérimenter une approche innovante dans 5 zones de la périphérie d'Ouagadougou : la construction d'un réseau simplifié, la fourniture d'eau en gros et la délégation de l'exploitation quotidienne, de la gestion des clients et du développement du réseau (branchements domestiques) à des opérateurs privés. Et aujourd'hui, ça marche !

Supplying informal neighbourhoods with drinking water: a project that works

The drinking water service has now arrived in these outlying neighbourhoods thanks to the AFD and ONEA (Office National de l'Eau et de l'Assainissement) who initiated the pilot project; it is not the latter, however, who distributes the water, as it does in other parts of the town: there are five small private operators managing these networks, buying water in bulk from ONEA through a bulk meter, then selling this water onto users based on the ONEA's usual price list. Inside his service area, the 'Delegatee' is therefore totally in command of the commercial operation of the water service:

- network operation (water supply, service improvements, maintenance),
- client management (customer services, revenue collection from the users),
- connection development (promotion, sales and construction of metered connection), with the ONEA ensuring that the specifications established in advance are respected (price level lower or equal to that on the price list, service quality, etc.).

Today, through the delegation of the public service which has thus been established, the Delegatees sell around 2,500m³ of water per day, which equates to a total of over 600 million cubic meters distributed to outlying neighbourhoods since November 2009: more water for more users without the ONEA needing to have opened new agencies.

In addition to the daily provision of water, the lease contract linking each Delegatee to the ONEA and to the neighbourhood commune sets out incentive measures for connections, given in the form of a subsidy

for each household connection realized by the Delegatee and then verified by the ONEA. As a result, the latter has been able to limit its role to the initial construction of the networks; their subsequent development being undertaken at lower cost thanks to the Delegates.

New intervention methods for the ONEA

Both the particularity of these neighbourhoods (notably in terms of land ownership and the demand from users, then at administrative level) and the high constraints of unstructured areas (irregular public roads and continuing development) drove ONEA to take on several challenges to be able to intervene in this context. It was necessary to develop innovative concepts for both the technologies (adapting usual construction standards) and client management (impossible to manage so many small consumers profitably using the standards applied in the rest of the town).



Figure 1. Formal & informal settlements in Bogodogo
(photo Hydroconseil)

Informal neighbourhoods: specific expertise for a particular problem

The success of this innovative means of providing access to water (totally new not only in Burkina Faso, but also in Sub-Saharan Africa) is the result of work that started in 2003. This goes back to the time when Ouagadougou suffered from severe water shortages, prior to the realization of the Ziga dam project. The volumes of water that were to become available as a result of this project not only overcame these shortages but also enabled ONEA to distribute water to new clients who had not previously been supplied. In anticipation of this prospect, ONEA and the AFD sought to define a project for increasing both the distribution network and the connection rate by household connection, which was particularly low in the Burkinabe capital compared to some of its neighbours.

Conducting a marketing study, for new connection potential and users' willingness to pay, it was Hydroconseil that marked a turning point in this project under definition. The aerial photo and household survey campaigns carried out in Ouagadougou all led to the same conclusion: it was in the outlying neighbourhoods, 'informal' for the most part, that solvent demand for new household connections was

to be found; it was therefore necessary for the project to target these neighbourhoods and not the town as was initially planned.

The outlying neighbourhoods contain around one-third of Ouagadougou's 1.5 million inhabitants, not supplied with water and for some of whom their land occupancy status, supposed to be temporary or in the process of being developed, has lasted for 30 years.

Hydroconseil also made use of its expert knowledge of outlying neighbourhoods in large, developing towns to conduct a complete technical feasibility study, on behalf of ONEA in 2005, for what would become the 'outlying neighbourhood drinking water supply' project (describing the neighbourhoods' characteristics, putting forward the 5 pilot neighbourhoods to be selected, conducting a technical study of the network, adapting standards to the constraints of informal neighbourhoods, assessing the specific demand, proposing network management methods).

The systems have been built during the 2007-2009 period of time. Hydroconseil carried out a detailed technical study of the planned networks in the 5 pilot neighbourhoods, then monitored and controlled the works as well as supported ONEA in the search for, selection of and contract agreement with those private operators who would become the 5 delegatee managers of these networks (drafting of contracts, developing the RFP, identifying candidates, training, support in reviewing proposals). Meanwhile, Hydroconseil was also lending its expertise to a very similar issue in Maputo, in Mozambique (the construction of secondary networks in disadvantaged neighbourhoods, setting up a delegated management system).

Lastly, on behalf of the ONEA with funding from the Water and Sanitation Program (WSP, the World Bank), Hydroconseil has provided support during Delegatee implementation throughout 2010: helping them understand the contracts, monitoring the operating indicators, setting up client management tools adapted to the delegates, training and identifying lessons learnt.

Simplified water networks

In order to implement water networks inside informal settlements, with narrow streets, it was necessary to modify the conventional engineering design. The five pilot systems consist in:

- a single interconnection with the core network, equipped with a bulk meter,
- a main loop surrounding the neighbourhood, build in large-size PVC pipes and deeply buried,
- a shallow secondary network, inside the neighbourhood, build in medium-size PEHD pipes,
- water kiosks, build by ONEA according to the national standard
- tertiary network and house connection, to be implemented by private delegates

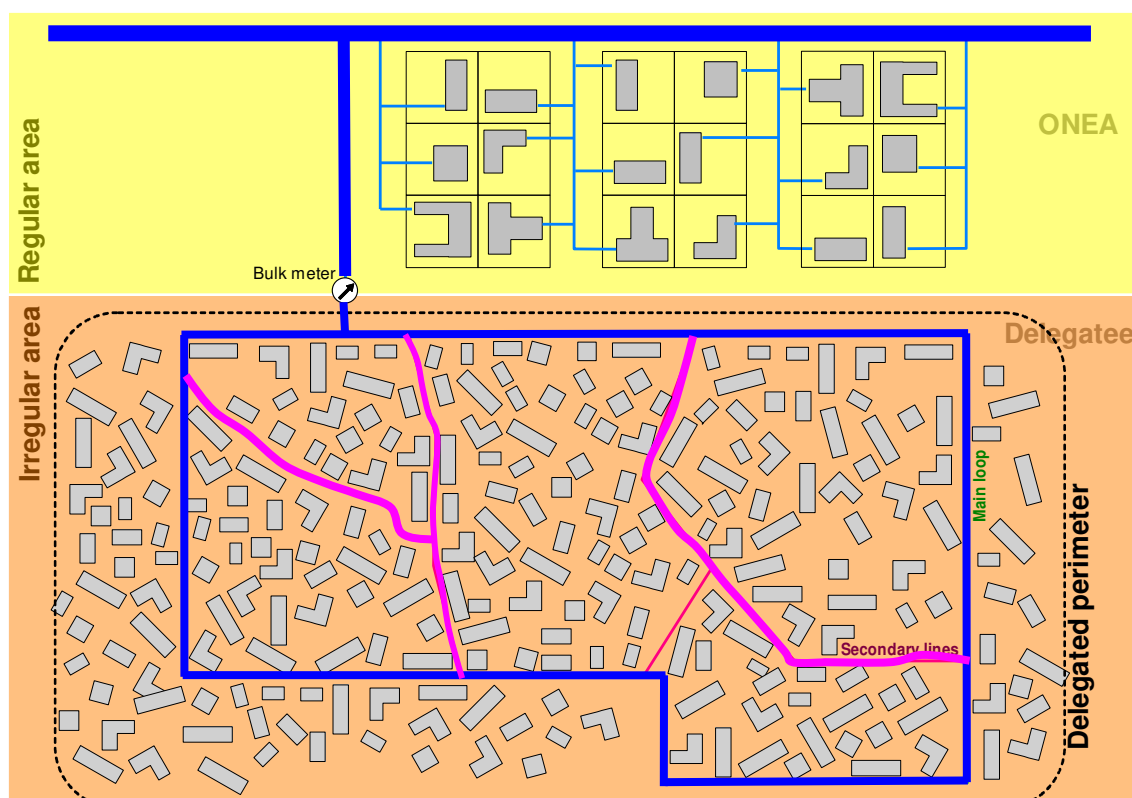


Figure 2. Network design, in formal and informal settlements

Investments in the water systems

ONEA (the public asset owning company) invested 1,600,000 € only for 60 km of reticulated network and 60 standposts. This network has been sized to supply water 100,000 inhabitants with a high standard level of service (24/7, water kiosks and house connection). The systems are actually providing water to 110,000 and the investment ratio is only 15 €/capita.

The private operators invested 200,000 € by their own, to expand the secondary and tertiary network and to install > 1,000 house connections, serving 10,000 inhabitants (among the 100,000 living in the service area). Potential market for house connection has been estimated to 3,000 after the customer survey and operators are pursuing the connection activity. They benefit from an OBA-subsidy, paid by ONEA, for any additional connection.

Service providers with no prior experience of water distribution

The five service providers selected were all small local private companies (with 5 to 30 employees each). None of them (excepting BERA) had a previous experience of managing a water system, but all of them were involved, in a way or another, in business with ONEA:

- import-export of goods and equipment's (including pipes)
- water engineering consulting firm (with experience in technical design of water networks)
- iron works, with experience in water tanks.

Core business	Service provision	Works			
	Consultancy	Industrial (small-scale)		Commercial	
Relevant expertise	Technical studies	Supply (parts, procurement)			
	Control	Works			Management
Delegatee's name	BÉRA	ACMG	ERT	SOZHAKOF	ACD
Awarded area	Bogodogo 50,000 inhab	Bissighin 10,000 inhab	Toukhin 15,000 inhab	Nioko 2 10,000 inhab	Zongho 15,000 inhab
Bid (criteria 1 = price / m3)	240 FCFA / m³	210 FCFA / m³	200 FCFA / m³	198 FCFA / m³	198 FCFA / m³
Bid (criteria 2 = OBA per connection)	0 FCFA	Not a criteria	30 000 F CFA	Not a criteria	Not a criteria
Contract type	Long	Short	Long	Short	Short

Table 1. The five private service providers.

ONEA itself was also starting from scratch as far as the delegation pilot was concerned, which led the WSP to support the first year of operation through the allocation of support funds to both the delegates and ONEA. This support aimed not only to maximize the chance of success of these delegations (monitoring indicators, assistance, training), but also to identify the key elements necessary to ensure that this type of management model was successful; there were many national and international observers eagerly anticipating the results of this pilot project.

The initial results, presented during the mid-term status report workshop, were very encouraging: all the service providers had really invested in their new profession, which they considered to have good prospects for the future and, following their tentative first steps, the majority had managed to achieve financial stability and had exceeded the annual performance objectives set out in their contracts. ONEA was evidently satisfied with the operation as they extended the 3 contracts due to expire in October 2010 for an additional 2 years, thereby reaffirming their confidence in the delegates.

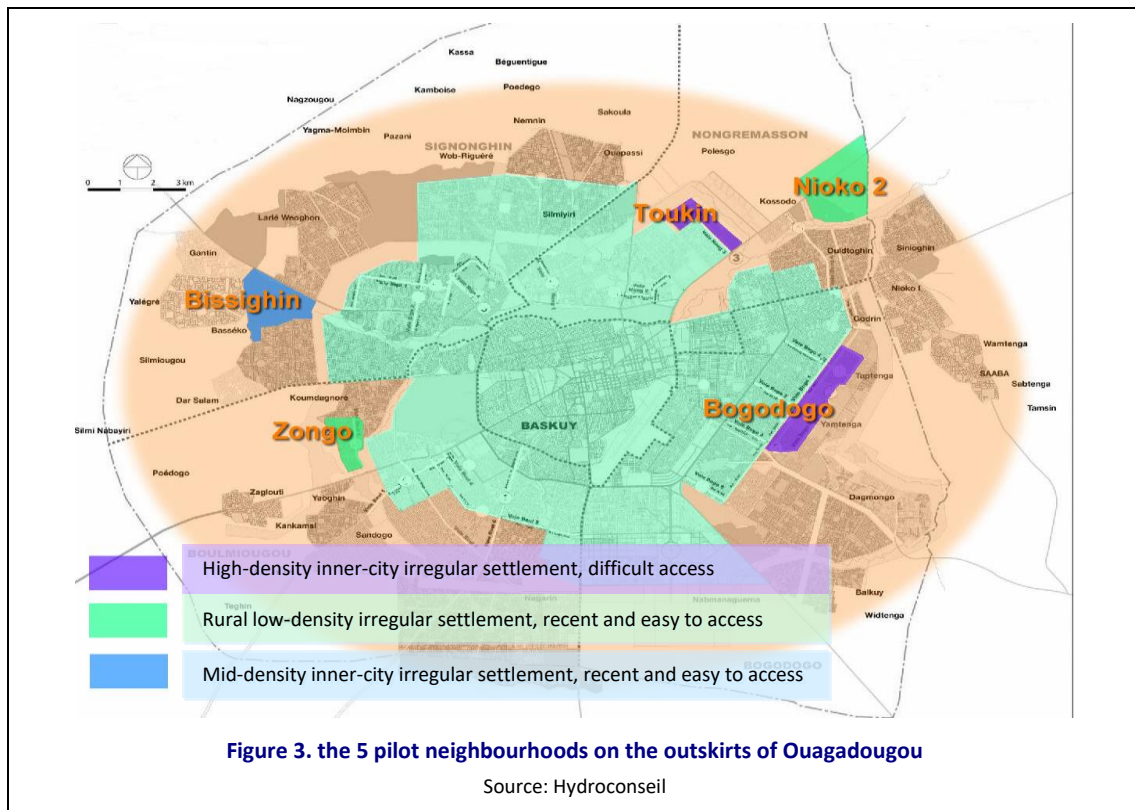
This successful experience has been the subject of many fine adjustments and lesson learning. Now that Hydroconseil's support is over, ONEA is ready to take this to the next steps: identifying other irregular neighbourhoods in Ouagadougou and other towns to implement the same arrangement. It will probably require some funding to lay the secondary network extensions, but no public money would be needed for the operation and the connections: delegates would take care of that.

Timeline

definition of the Ziga project (a large dam aiming to supply water to Ouagadougou).
 marketing study to assess the demand for 50,000 additional household connections and 400 standpipes.
 the first tranche of the Ziga project is put into service.
 feasibility study for the 'outlying neighbourhoods' project.
 Ouagadougou's distribution capacity progressively increased threefold due to completion of the Ziga project.
 detailed design and works control for 5 water systems in low-income settlements
 selection of the operators, 60 standpipes brought into service.
 monitoring of the first year of operation, identifying lessons learnt.
 nearly 100,000 new users in informal neighbourhoods, of which 800 are households connected to the network, 4 out of 5 delegates have commercially viable operations.

The 5 neighbourhoods

100,000 inhabitants in total (estimation at end of 2009)
 100 km of reticulated network (of which 40 is PEHD at shallow depth)
 100 standpipes
 100 connections at the start, over 800 at the end of 2010
 ONEA conventions – Delegate – Commune (3 of 1 year, 2 of 5 years)
 price paid by delegates to purchase water from ONEA: between 198 and 240 FCFA/m³ (209 on average).
 2 l/inhabit. /d. purchased by delegates (actual volumes sold are unavailable yet).
 from 20 to 120 FCFA/m³/user spent by the delegates.
 the price identical to the price list in force in the rest of the town.



Photograph 1. all service providers have computers and manage spreadsheets for billing and customer management



Photograph 2. ACD (one of the 5 service providers) employs 2 book keepers, 1 meter reader and 1 head of agency

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