Non-conventional sewerage services in the City of Dakar

Rethinking sewers, session at World Water Week 2018

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A city is not an homogeneous area

It includes a diversity of areas regarding:

- **Urban constraints** (planned/unplanned, population density, space available inside plots, layout and width of roads, narrowness of the streets)
- **Physical characteristics of the soil** (infiltration capacity, hardness of the ground, level of the groundwater table, gradient, etc.)
- **Type of water supply & per capita water consumption**
- **Socio-economic aspects & user demand**
- Etc.
Given these characteristics, the appropriate sanitation system should be chosen:

Non sewered sanitation:
- On-site sanitation with on-site treatment
- On-site sanitation + emptying + faecal sludge treatment
- CBS, including faecal sludge treatment

Sewered sanitation
- Conventional sewers
- Non conventional: small bore sewers, simplified sewerage, condominial sewerage...
The situation in Dakar
A set of criteria was used to characterize the various areas.

One example:
Soil’s infiltration capacity

Source: ONAS
The zoning was a basis to choose the appropriate sanitation system for each area.

Source: ONAS
The non-conventional sewerage systems

Les réseaux de mini-égouts à Dakar

Cambrène (ONAS)

Thiaroye (ONAS)

Mbao village (ONAS)

Mbao Cité Ndeye Maire (ONAS)

Petit Mbao (ONAS-Fondation Ville)

Bargny (ONAS)

Rufisque Est (ONAS)

Rufisque (ENDA)

Ngor 1 (ONAS)

Ngor 2 (ONAS-Un Habitat)

Ouakam (ONAS)

Yoff-Touggar (ENDA)

Cité Ousmane Fall (ONAS)

Hann Bel Air 2 (ONAS-Fondation Droit à la Ville)

Hann Bel Air (ONAS)

Baraka (ENDA)
Historically, two stages of development of the non-conventional sewerage in Dakar

• **In the 90’s:** development of 3 non-conventional sewerage networks managed by the community in poor areas = a pioneering initiative from the NGO ENDA. These networks are still working today.

• **In the 2000s:** 13 non-conventional sewerage networks developed as part as a World Bank funded project (PAQPPUD).

⇒ These networks are all connected to decentralised treatment plants or to the conventional sewerage network
Settling tank
Shared settling tank
→ **non-conventional sewerage is a mature technology** (be attentive to the design, in particular dimensions)
→ It can be **very appropriate in certain contexts**, particularly in old settlements with narrow streets
→ It can be developed in **complementarity with other types of sanitation systems.**

*Choosing a sanitation system should be decided following an analysis, based on a series of criteria, to assess if a technology is appropriate*
But "small sewer systems" do not mean “small management”!

In practice, some question are often not considered enough, and can undermine the service’s viability:

- **Institutional arrangement** (need for a clarification of roles and responsibilities, contractual framework, monitoring)
- **Operation and maintenance, financial arrangement** (professional capacities of the service provider, knowing who pays for what?)
- **User relation** (listening to the users’ expectations and complaints regarding the service, marketing and promotion)
For more information on non-conventional sewers

Non-conventional sewerage services. *When to choose this option, how to implement this solution.*

- A *guidebook*, but also:
- 5 *country case studies* (Brazil, Ghana, India, Mali and Senegal)
- A *synthesis report* of the studies

Open access, in French or in English


Thank you for your attention