



### Sanitation provision in urban centres with 20,000–49,999 inhabitants

#### Bunda (Tanzania)

With 46,178 inhabitants in 2002, around half the population is served with a piped water system with water available for eight hours every two days. The distribution system was laid in 1971 and there has been no further development. Many new areas are unserved (including low-income areas) and their inhabitants get water from the lake or wells or from street vendors. In 2004, there were just 365 connections, 191 of which were metered. 73 per cent of the water entering the system is unaccounted for. There are no sewers in the town and only a few houses have septic tanks. There is no public provision for solid waste collection in residential areas and the drainage system is inadequate.

#### Chertala (India)

With around 43,000 inhabitants in 2000, there is an abundance of water and a high incidence of mosquito-related disease, especially malaria and filariasis. Water supply is operated by the state water authority. The main water supply comes from tube wells and is distributed untreated to 437 stand posts (around 1 per 100 people) and 238 house connections. The piped supply is both inadequate and commonly regarded as unfit to drink. There is strong dissatisfaction among the town dwellers with the state agency and there are plans to develop municipal water supplies in each ward. Estimates suggest that 70–80 per cent of households have latrines. There are three pay and use toilets – at the hospital, bus station and market place. Two further toilet complexes are planned. Officials regard these as facilities that are only suitable for busy public places, not for residential areas.

#### Homa Bay (Kenya)

A trading and fishing centre and district headquarters with around 32,600 inhabitants, the water supply system was constructed in 1958 and last rehabilitated in 2001. There is a full treatment plant but with electro-mechanical breakdowns and the wearing down of the filtration system, water quality is often poor and water volume is far below demand. It currently serves around 15,000 residents through 1672 legal connections. Water supply is not continuous and the system suffers

from low pressure, vandalism, illegal connections, leakages, old age and blockages (40 per cent of water is unaccounted for). The town has several unplanned informal settlements and most of their inhabitants get their water direct from the lake. Only 22 per cent of the population is connected to sewers; most people use pit latrines or toilets connected to septic tanks, or the bush. Overflowing toilets are common during rainy seasons; overflowing sewers are also common. There is no exhauster tanker to empty pit latrines and septic tanks. Storm drains are not available for most of the town and provision for the collection of solid wastes is very inadequate, so it is common for drainage networks to be blocked.

#### Iganga and other small urban centres (Uganda)

A project is underway to improve provision for water and sanitation in 60 small urban centres with a total population of 320,000 inhabitants. Only one of these is reported to have 'definite urban characteristics' – Iganga (which had 38,009 inhabitants in the 2002 census). The project appraisal report noted how access to clean water and adequate sanitation is also very poor, reflected in the low per capita water consumption of only 13 litres per person per day. With the exception of Iganga, which has a water network covering about 10 per cent of the population with water available for two or three hours per day, the urban centres rely mainly on untreated river or shallow well water from vendors (at high cost), and to a lesser extent on a few boreholes with hand or motorized pumps (some of which were provided by the government in response to a cholera outbreak). Adequate sanitation is generally lacking in almost all the towns, with most of the population using unimproved pit latrines. Iganga, however, has a partial sewerage network, but sewage is now discharged directly into the river due to the breakdown of the sewage treatment plant.

#### Itagua (Paraguay)

Itagua is a small town with 25,000 inhabitants located 25 kilometres east of the capital city, Asunción. In 1974, the village, as it was then, created a community-based water user association and constructed a small-scale water supply system designed for a population of just 2975 inhabitants. The water user association model is common in Paraguay, but is usually adopted in rural villages or small towns with up to 4000 people. With its improvement and expansion over the years, including two nearby rural districts and a





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community of summer residences, the association provides full coverage and an uninterrupted service to the town and shows that the association model can be scaled up from a rural village to a small town.

## **Kabale (Uganda)**

With 27,905 inhabitants in 1991, this is a market town in an extremely fertile and high density rural area. For water supply, there were just 217 connections to the piped water system and on average, water was supplied for four hours in the morning and two hours in the evening. Estimates suggest that less than 16 per cent of the population had access to water from this system.

Provision for sanitation is also very deficient. Refuse collection relies on one working tractor and trailer that collects wastes from 20 areas marked with signposts where refuse may be deposited by the public. It is estimated that around 10–20 per cent of the daily refuse is collected.

## **Marinilla (Colombia)**

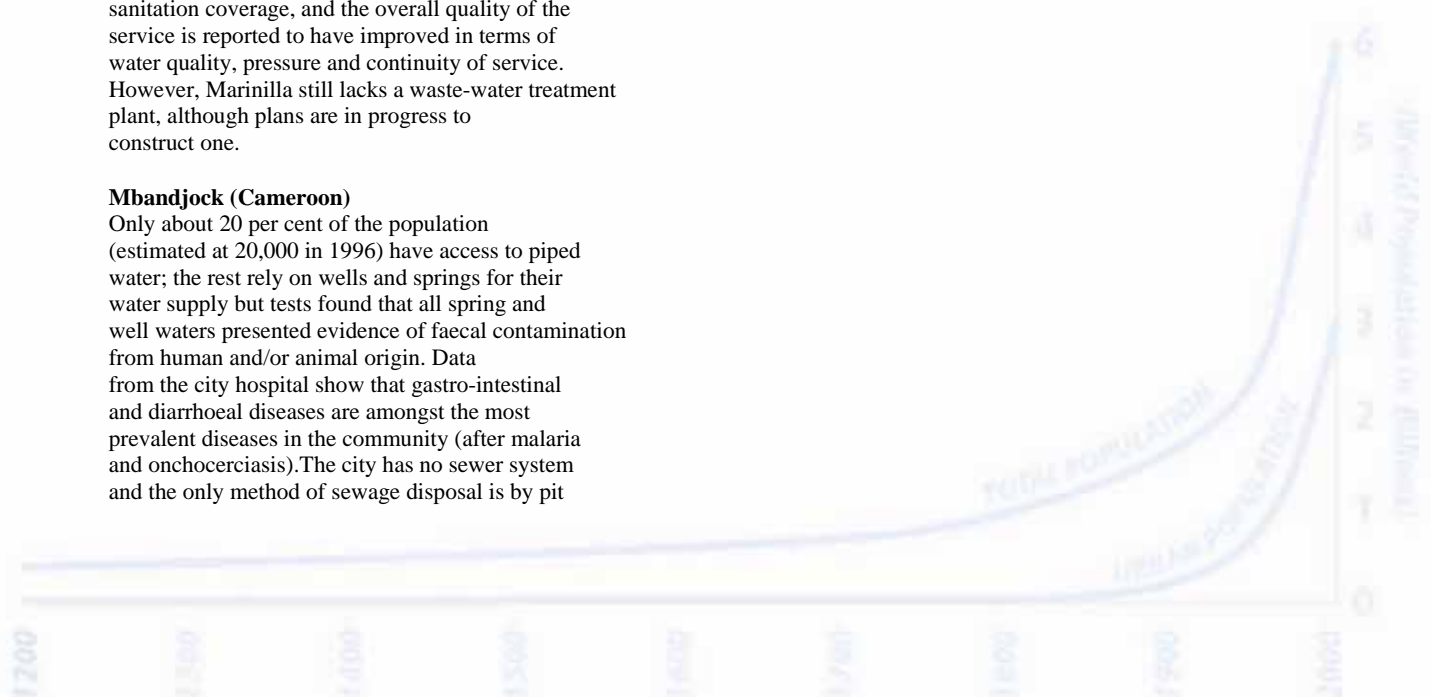
Marinilla has 26,000 inhabitants and is located in a prosperous agricultural area in Antioquia Department. In 1997, Marinilla and six other municipalities transferred responsibility for their water and sewerage services from the regional water agency, Acuantioquia, to a local private sector operator, Conhydra, under a management contract. In 1997, 21,600 people were connected to the piped water supply and 19,500 to the sewerage network. By 2000, an additional 3,500 people had been connected to the water supply and 3,500 to the sewage service. The town now has 99 per cent water coverage and 90 per cent sanitation coverage, and the overall quality of the service is reported to have improved in terms of water quality, pressure and continuity of service. However, Marinilla still lacks a waste-water treatment plant, although plans are in progress to construct one.

## **Mbandjock (Cameroon)**

Only about 20 per cent of the population (estimated at 20,000 in 1996) have access to piped water; the rest rely on wells and springs for their water supply but tests found that all spring and well waters presented evidence of faecal contamination from human and/or animal origin. Data from the city hospital show that gastro-intestinal and diarrhoeal diseases are amongst the most prevalent diseases in the community (after malaria and onchocerciasis). The city has no sewer system and the only method of sewage disposal is by pit

latrines or septic tanks.

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