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ScienceDirect
Desalination 248 (2009) 673–677
DESALINATION
www.elsevier.com/locate/desal

Water and sanitation policies limits in Senegal cities: The case of Rufisque

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Received 31 January 2008; revised accepted 15 May 2008

Abstract

Potable water and sanitation facilities access constitutes one of the major problems faced by developing countries. In Senegal, more than 70% of urban centres lack drinking water distribution networks and satisfactory sewage systems. For this reason, public authorities have initiated series of institutional plans to strengthen the implementation of water and sanitation policies in various urban contexts as in the town of Rufisque. Geographical and epidemiological investigations were carried out from 2003 to 2005 to evaluate these policies impact in Rufisque. The goal was to assess health impact of various water supply and sewage management systems. Results show that operating different water supply and sewage management systems induces considerable variations on community's sanitary, environmental, social, economic and political development. Despite of some progress made, many areas in the town still have difficulties to access to safe drinking water and to satisfactory sanitation services. The behaviours of the communities are still lacking the right changes. Spontaneous and growing urbanisation has increased the financial and other capacity shortfalls mainly at municipal levels. This paper makes an inventory of areas where these policies were implemented, and emphasizes the important role that scientific research would better have to play to reinforce their achievements.

Keywords: Water; Sanitation; Policies; Impacts; Behaviours; Livelihoods; Rufisque

1. Introduction

Rufisque is an old town located at 25 km from Dakar, the capital of Senegal. It was established as a "commune" during the colonial period [1]. Under influence of Dakar, this town experienced uncontrolled urban growth ranging from 2.7% to 4.3% per year with a population rising from 109,615 in 1988 to more than 200,000 in 2006 [2]. In a first time, colonial planning was well controlled and adapted for a small population.

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Presented at the Water and Sanitation in International Development and Disaster Relief (WSIDDR) International Workshop Edinburgh, Scotland, UK, 28–30 May 2008.

doi:10.1016/j.desal.2008.05.118

But in a second time the town grew gradually. The result of such an evolution was the development of heterogeneous urban landscapes (old colonial period wards and densely populated new wards), promoted and developed without adequate town planning facilities [SICAP, SNHLM]. Obviously, the existing infrastructures were planned for a small size colonial town [1]. Now, and since 3 or 4 decades, these districts are experiencing worsening lack of basic services especially in water and sanitation sector [3–8]. Polluted with unhealthy, stagnant waste water these areas are exposing the inhabitants to multiple health risks [5]. It was therefore imperative to quickly initiate, formulate and implement new water and sanitation policies to promote hygiene among the most disadvantaged communities.

2. Various policies initiated in water and sanitation sector

The need for important institutional reforms led to the elaboration of new policies in water and sanitation sector. Programs are focusing on various communities according to their socio-economic status [9,10]. Various reforms introduced favourable conditions for the implementation of policies in the drinking water sub-sector [11]. The urban water distribution service was successively entrusted to the General Water Company of Senegal (1960–1971), the National Water Exploitation Company of Senegal (1971–1996) and the Senegalese Water company (1996 to date) [5]. From 1960 to 1980, two modes of drinking water supplies where implemented: the household connection to the water supply network by subscription, and public tap water fountains. During the 1980s, parallel water distribution policies, named "Social Connection", were introduced within the framework of the Water Solidarity Programme (WSP) in the poor areas. These programs benefited from a support of the World Bank and World Health Organisation (WHO). In these new water access policies, the access to water followed three lines: individual household subscriptions for solvent population, social connections, and public tap water fountains.

Similarly, the sanitation sub-sector has known series of changes in the town [12]. The first basic sanitation activity in Rufisque is dating from 1915, during the colonial period, when spatial segregation between "colonial areas" and "indigenous areas" based on racial categories, was established [7]. During the post colonial period, up from 1960, sewage systems were built at the same time as the townships were planned and built by the SICAP (Cap-Vert Property Compagny) and the SNHLM (National Compagny of the Housing Public Sector). At the beginning of the 1990s, in some underprivileged areas of the town, ENDA NGO (Environment and Development in the Third World) financed the constructions of low-cost small diameter sewage systems. However, the creation of the National Office of the Senegal Sanitation (NOSS) in 1996, reforming the urban water sector, was a crucial event in the management of liquid waste. This step was then followed in 2003 by the implementation of the 1973 elaborated Rufisque Sanitation Plan, after nearly three decades of latent and successive adjustments. The implementation of this plan affecting 50,000–70,000 inhabitants was divided in three long term phases. Around 4000–6000 households should be connected to the built sewage systems [12]. In some particular problematic districts (showing difficulties integrating collective systems of sanitation [13]), it was also envisaged to promote semi-collective sanitation devices. These political decisions taken in Rufisque were made possible due to a rich scientific production that reflects works of some research organisations like GRET (Group of Research and technological Exchanges), ENDA, IRD (Research Institute for the Development) and Senegalese Universities (Universities of Dakar and Saint-Louis) [3,10,14].

3. Research approaches and methods

This study on water and sanitation required several data sources and used various research methods and appropriate analysis tools. Representative communities of various city districts were selected on the basis of four water supply and sanitation services systems. A typology was established and a model of spatial stratification, ranging from the best served to the least served communities across the city districts was therefore elaborated. Both quantitative and qualitative data were collected in following fields: modes of drinking water access, sanitation system, socio-economic status,