

Evaluation of infrastructure related to urban flooding

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Abstract

Urban development accelerated in the second half of the 20th century with high concentrations of population in small spaces, and impacts on the terrestrial and aquatic ecosystems and on the population itself through flooding, disease and reduced quality of life. This process occurs owing to poor control of the urban area leading to direct effects on the water infrastructure: supply, sanitation, urban drainage and river flooding, and solid waste. This paper describes the main processes involved in urban water sustainability as a whole and the interrelations of the management of this combined infrastructure. We also present a general overview of urban development and land use, and describe the main elements of urban water infrastructure: water supply, sanitation, solid waste and storm water, and health aspects.

Key words: Urban flooding, population, Urbanization process, Urban water sustainability

1. Introduction

1.1. The urbanization process

Urban growth in developing countries has been significant since the 70s. In developed countries, the population has stopped growing and is tending to decrease as the birth-rate is less than 2.1 children per marriage, so keeping the population stable. The present population is recovering or being maintained only through controlled migration. In developing countries growth is even higher and the United Nations projection is that the population will not stabilize until 2150. Urbanization is a worldwide process, with differences between continents.