



'Where does water go'? A critical analysis of nature of water crisis in Darjeeling city, India

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Abstract

Water crisis is such a phenomenon that almost every city experiences to some extent these days. Nature, dimensions, and impact of the crisis vary based on spatial diversity. This article attempts to critically analyse the nature of water crisis and to find out the reasons behind such crisis in Darjeeling city. The city's public water supply is mainly controlled by the municipal authority, and water is supplied from the *Senchal* lakes. The centralised system, developed by the British in the early nineteenth century, is not sufficient for the entire city at present, and not affordable for all classes as well. Primarily the scarcity emerged due to the city's population growth, and the city's changing commercial nature, especially the booming tourism sector. And the age-old water infrastructure cannot cope with the fast-growing demand for water. Moreover, still now municipal authority does not consider a large number of transitory population, while calculating the water demand. Massive gap exists between the actual water scarcity observed in the field and the scarcity shown in the official data. Therefore, a reconsideration of municipal water budget is required to manage water resources and services sustainably. Using both the quantitative and qualitative methods, this empirical study critically assesses the existing gap between demand and supply, and also explores the process of illegal flow of water thus making the scarcity even more intense. It argues for fair and active water governance to minimise the demand–supply gap, and active community participation to ensure water justice to the commons.

Keywords Population growth · Transitory population · Tourism · Water scarcity · Illegal flow

Introduction

Challenges in managing urban water and its non-discriminatory supply to the users are a common phenomenon in the cities all over the world. Urbanisation is the chief demographic trend of the twenty-first century, particularly in lower income countries (Parkinson and Tayler 2003). Urban growth primarily indicates growth in population size. Every land has a limited carrying capacity to serve the inhabitants residing there (Kumar 2014). By 2050, the expected global urban population will be 6.4 billion, and 90 per cent of the total growth will be in the low-income countries (Shah and Kulkarni 2015, p. 57), and thus urban centres will become ever-growing demand centres. WHO (2019) reported 'by

2025, half of the world's population will be living in water-stressed areas'. Following Delgado-Ramos (2015) it can be said that the urbanisation in developing countries tends to be more problematic and complex because they have limited or overburdened capacity to take measures and actions for improvement. The urban population is increasing at a fast rate in India too, and it is exerting severe pressure on the existing overstretched infrastructure (Chaplin 2011; Kumar 2014; Shaban and Sharma 2007; Thompson et al. 2000). Kundu (1993) observed that it is a big challenge for the developing world to provide housing and basic amenities to the increasing population in towns and cities, especially to the poor, and the problem is quite serious in countries like India.

By 2050, India's urban population is expected to grow around 800 million, and it will create unprecedented challenges in the system of urban water management (Shah and Kulkarni 2015, p. 57). According to WHO and UNICEF (2015), in India 66 per cent of the total population uses improved sources of drinking water; five per cent uses unimproved sources; and one per cent uses surface water as the

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