



Wastewater Treatment in India

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Abstract: Water, food and energy securities are emerging as increasingly important and vital issues for India and the world. Most of the river basins in India and elsewhere are closing or closed and experiencing moderate to severe water shortages, brought on by the simultaneous effects of agricultural growth, industrialization and urbanization. Current and future fresh water demand could be met by enhancing water use efficiency and demand management. Thus, wastewater/low quality water is emerging as potential source for demand management after essential treatment. An estimated 38354 million litres per day (MLD) sewage is generated in major cities of India, but the sewage treatment capacity is only of 11786 MLD. Similarly, only 60% of industrial waste water, mostly large scale industries, is treated. Performance of state owned sewage treatment plants, for treating municipal waste water, and common effluent treatment plants, for treating effluent from small scale industries, is also not complying with prescribed standards. Thus, effluent from the treatment plants, often, not suitable for household purpose and reuse of the waste water is mostly restricted to agricultural and industrial purposes. Wastewater- irrigated fields generate great employment opportunity for female and male agricultural labourers to cultivate crops, vegetables, flowers, fodders that can be sold in nearby markets or for use by their livestock. However, there are higher risk associated to human health and the environment on use of wastewater especially in developing countries, where rarely the wastewater is treated and large volumes of untreated wastewater are being used in agriculture.

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Introduction: The seriousness of the challenges associated with urban water supply and sanitation in India have been recognized in recent times. After decades of neglect, the first national effort to invest in the urban water and sanitation sector commenced in the 1970s, but was accorded considerable priority in the subsequent two decades as a part of different national- and state level schemes, culminating most recently in the 'Swachh Bharat Mission'. As most of the recent reports and commentaries, (M. Shah (2013) have highlighted, the problems of the urban water and sanitation sector in India are complex and shall need concerted efforts to sustain the policy momentum. This paper attempts to highlight the multidimensional nature of the challenge, and sets out recommendations for strengthening existing policies and their implementation. While the concerns of urban water and sanitation are faced in many countries in the global South, the scale of gaps in access and services in India poses a dilemma. According to the 2011 census, India has a total population of 1.21 billion, which is an addition of 181 million people during the decade of 2001–2011 (Census of India, 2011b). Although only 31.16 per cent of India is urban according to the Census of India, at 377 million, India's current urban population is larger than the entire population of United States which is the third most populous country in the world. As recent commentators have highlighted, if India fails to meet its MDG or the emerging SDG targets, the global targets would not be met. Unlike many other countries, India has the unenviable situation of needing to simultaneously improve access to water and sanitation, and responding to increasingly urgent environmental challenges. The policy responses need to provide for improved public health outcomes via universal access and improved service quality, while facing the challenge of increasingly severe water and resource constraints on one hand, and limited institutional and financial capacities on the other. This paper acknowledges that there has been considerable movement in the policy space: it takes the existing framework and initiatives as its starting point, critically examines them, and builds upon them.