

Hydrosocial metabolism of Bangalore city: a comprehensive study of urban water consumption

RIMI GOSWAMI

Abstracts

Seeing urbanization as a set of social and environmental interactions has opened the possibilities of signifying resource flow, in particular the flow of water, as socially produced, shaped by, and shaping the social relations of urbanization. The primary focus throughout this study was to analyze the water crisis in Bangalore city in terms of its embeddedness in a socio-ecological system. As Bangalore grows its administrative boundary to accommodate its ever-increasing population, it becomes increasingly vulnerable to a total breakdown of the water service delivery mechanism. The principal mandate of Karnataka Drinking Water Policy (2002) was to provide water to all, while sustainably utilizing the water resources. However, the current method of water supply is neither sufficient nor sustainable. The lopsided focus of the current administration to augment the volume of water supplied has met with limited success. The Bangalore Water Supply and Sewerage Board (BWSSB), rely on a simplistic prediction method for city-wide water demand, which neglects the socio-spatial and environmental diversity of Bangalore. The pathological reliance on surface water sources pumped 100 kilometers away has kept half of the city water starved. The lacuna in public water supply is supplemented by ground water, and by private water suppliers. Though mostly unregulated, they form an integral part of Bangalore's urban waterscape. This study is one of the first of its kind to attempt a micro level analysis of the water supply and quality situation in Bangalore city. It primarily emphasizes the need for policies which bring all stakeholders under a systematically collaborative platform and one that views the city as a dynamic socio-ecological system. We analyzed the disparity in supply and distribution of BWSSB water across Bangalore emphasizing on the need for a socio-ecological metabolism approach to water management. We explored how the unchecked growth of Bangalore has strained its metabolic flow of both surface and ground water. This study also brings forth the significance of the informal water supply networks and private borewells in meeting the water demand in Bangalore. This study provides one of the most comprehensive snapshot of drinking water quality at household level in Bangalore city. The study brings forth the linkages between water quality and its diverse drivers like location, drinking water source, water infrastructure, quality perception, and socio-economic status etc. It also analyzes how these drivers determine the decision to adopt a drinking water source or water purification measure. Drawing from spatial disparity in availability and quality of water, the study further highlights the vulnerability of Bangalore to a water crisis. It was observed that due to differential rate of urbanization and population growth, the spatial vulnerability differs over time and becomes more intensified in Bangalore's periphery. Based on the findings of the above-mentioned exercises, the study emphasizes on need for water management policies that recognizes the city as a spatial unit embedded in a larger socio-ecological system. It explores the avenues for re-organizing the water governance structure of the city to a multi-tier collective decision making body that recognizes not only the spatial disparity of water crisis in Bangalore but also the multiple stakeholders who impact or, are influenced by this disparity.