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Autore	Philip Ligy
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Sommario/riassunto

The book provides an overview of technical sustainable water management in the Global South, mainly in India. The book is structured in five sections: (1) current state and challenges, (2) new age materials in (waste) water treatment, (3) new technologies developed for (waste) water treatment, (4) sensors, (5) urban water infrastructure. Section-1 provides the latest information about the status and challenges for sustainable water management in India, from the perspective of water quality, industrial and domestic wastewater treatment, urban water infrastructure and policy and governance towards water security. Section 2 deals with new age materials for water and wastewater treatment. This part discusses new framework solids for water purification, new materials for arsenic and fluoride removal, nanocomposites for water and wastewater treatment and removal of hazardous materials, and toxicity of these materials. Section 3 of the book presents the new technologies developed for water and wastewater treatment; dealing with pulsed power technology, constructed wetlands, nutrient recovery, low-cost filters and pollution abatement using waste derived materials. Section 4 of the book focuses on sensors, presenting the development of low-cost colorimetric sensors for eutrophying ions, sensors for conductivity and flow parameters, and multi-analyte assessment for water quality. Finally, Section 5 addresses the issues related to urban water infrastructure, sustainable urban drainage and integrated flood and water scarcity management. This section also discusses virtual water. The unique feature of this edited volume is the special perspective on emerging economies in the Global South, such as India. It provides information about adaption of technologies, development of new technologies, and management practices which are context driven and region specific. It also deals with economical and easy to use sensors for large scale monitoring of water quality and water quantity parameters.