



Depleting Water Resources: Challenges and Opportunities

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The Global Risks Report (2016) posted with the aid of using the World Economic Forum declared that the water disaster is the most important hazard to the arena for the approaching decade. It emphasizes that there is an urgent want to noticeably enhance water assets control for food, feed, energy, livelihoods, and ecosystems to preserve habitable situations on this planet for the prevailing and future generations. Indeed, the freshwater shortage is excessive trouble in India (Aiyar, 2003; Garg and Hassan, 2007). In some regions, the water table has been falling at an alarming rate. Overuse of groundwater is mentioned from different regions of India including Tamil Nadu, Gujarat, Rajasthan, Punjab, Haryana, Odisha, and West Bengal, amongst numerous different states. Also, the growing pollutants of freshwater from the factor and nonfactor assets and seawater intrusion into freshwater aquifers in coastal regions of the country are posing extreme trouble, which surely threatens the sustainability of our water delivery and environment. According to FAO (2010), approximately 70% of the world's freshwater withdrawals are for agricultural use. But, because the city populace grows, a transferring fashion of water use from agriculture to municipal and commercial makes use of is observed, making for tough choices among allocations for unique sectors (Serageldin, 2013). Ways and means, are consequently to be determined out for making water to be had in good enough amount and quality for meeting the diverse demands.

An evolving and adaptive approach for herbal source improvement and control is an important circumstance for making sure sustainable improvement because of the converting and unsure character of our herbal and socio-economic environments. 'Adaptive management' treats control techniques and actions as experiments, now no longer as constant guidelines as accompanied traditionally. It hyperlinks science, values, and the enjoyment of stakeholders and executives to the artwork of creating control decisions (Maimone, 2004). It calls for a green control software that must be resilient and adaptable so that it must be usually stepped forward as experience expands, new perception emerges, and priorities extrude over time. The adoption of the 'Adaptive management' technique in exercise is distinctly confined in the global in general and growing countries.

The looming risk of climate change provides a new dimension to the continuing dynamics of water delivery and demand. Climate alternate will substantially affect the water-cycle, with wide-ranging outcomes for human society and ecosystems (IPCC, 2007). To this end, the adoption of a contemporary-day and established water control technique regarded as 'Integrated Water Resources Management (IWRM)' in practice is an urgent want during the arena to make certain sustainable control of important water and land resources. IWRM method is anchored on three simple pillars, viz., permitting environment, institutional framework, and control instruments. It requires a change in water governance, i.e., the extrude of political, social, monetary, and administrative structures which might be liable for growing and handling water assets and turning in water offerings at exceptional ranges of society. It will assist now no longer simply the success of the 'Sustainable Development Goals' however additionally the long-time period monetary development, poverty reduction, and environmental sustainability. IWRM together with the idea of 'Adaptive Management' can play a critical position in attaining water safety, which in flip can assist gain meals safety, strength safety, and environmental safety. Moreover, a right combo of conventional and modern practices is vital to gain sustainable desires realistically. Rainwater harvesting (an old-age water conservation practice) and artificial recharge of groundwater (a well-set-up contemporary-day age



technique) are promising gear for making sure water safety and are vital and pragmatic measures for adaptation to climate change. Besides, watersaving, reuse, and recycling in addition to trade in meals conduct and 'virtual water' trade are a few different critical control techniques to lessen the stress on to be had freshwater resources, thereby contributing to water safety. Given focused efforts in any respect levels, it is miles viable to steadily gain the desires of sustainable traits and thereby make sure a higher destiny for the cutting-edge technology and a higher global for future generations.

