

SUSTAINABLE WATER RESOURCES PLANNING AND DEVELOPMENT: A REVIEW

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ABSTRACT

Sustainable water resource systems are those designed and managed to fully contribute to the objectives of society, now and in the future, while maintaining their ecological, environmental, and hydrological integrity. The main objective of this paper is to assess the current level of understanding, the major challenges in sustainable water resources planning and development, and identification of major issues that need to be considered therein, through review of different scholarly articles. In order to maximize benefits and minimize costs, it is essential that decision-making in this regard should incorporate different stakeholders, perspectives and should be based on informed assessments of the trade-offs associated with water allocation between competing needs. Besides, the complexities involved in water allocation and usage require a whole-of-system approach to achieve an allocation outcome which is sustainable, efficient and equitable. Hence, all institutions involving in water issues, formal organizations or informal ones, and their laws, customs and social practices that influence people's behavior in a society or economy should be considered. For handling and acquisition of multiple forms of spatial data, geographic information systems and remote sensing technologies have major roles to play. To insure sustainability of the water resources systems, conducting environmental impact assessment and implementing its recommendations are important.

KEYWORDS: Water Resources Planning, Sustainable Water Resources Development, Environmental Impact Assessment