

عنوان مقاله:

Integrated Urban Water Management (IUWM) Framework Codification in Architectural and Urban Design: The Case of Hashtgerd Young City Project

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خلاصه مقاله:

Water scarcity is seen as a growing crisis that threatens societies, especially in arid climate regions. The climate change phenomenon and global warming have made policymakers reconsider their approaches towards water management issues in different sectors. Investigating sustainable management practices in the urban context, as one of the most important water-consuming sections is of great importance. In this study, after inquiring different features, principles, and means of sustainable urban water management, a framework of integrated urban water cycle management is codified to help architects and urban designers achieve or assess water efficiency in their design and planning. To reach this framework, principles of integrated urban water management and water sensitive urban design are asserted and practices are categorized into five sections: rainwater management, stormwater management, greywater management, blackwater management, and potable water management. Using this framework and based on the context of each project, a set of best practices are employed to form the integrated water management plan, although in some cases there is more than one correct answer. As a case study, the water management plan of the "Hashtgerd ۳۵ ha. Young Cities project"-as an example of sustainable urban quarter pilot project in the Tehran-Karaj region- is assessed regarding the codified framework. Evidence from this research on water uses and systems' functions, shows that a significant reduction in potable water consumption per capita from ۲۱۰ liters to ۷۵ liters per day could be achieved in this project; after implementing best management practices within an integrated water management plan.

کلمات کلیدی:

Water Scarcity, Climate Change, Integrated Urban Water Management(IUWM), Water Sensitive Urban Design(WSUD), Hashtgerd Young Cities Project

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