

Water Self Sufficient: Creating a Sustainable Water System Based on Urban Harvest Approach in La Serena, Chile

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Abstract : Water scarcity become a major challenge in an arid area. One of the arid areas is La Serena city in the Northern Chile which become a case study of this paper. Based on that, this paper tries to identify a sustainable water system by using urban harvest approach as a method to achieve water self-sufficiency for a neighborhood area in the La Serena city. By using the method, it is possible to create sustainable water system in the neighborhood area by reducing up to 38% of water demand and 94% of wastewater production even though water self-sufficient cannot be fully achieved, because of its dependency to the drinking water supply from water treatment plant of La Serena city.

Keywords : arid area, sustainable water system, urban harvest approach, self-sufficiency

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