

An Example of Water Quality Enhancement Using Kaohsiung's Heart of Love
River

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Abstract

The location of the Heart of Love River was selected to prevent sewage from the upper-middle stream of the Kaohsiung Love River and other jurisdictional areas from being directly discharged into the Love River. The municipal government examined the river on December 17, 2008 and rated the degree of pollution for the river region as moderate. This study uses nano-bubble water purification dialysis technology to enhance water quality in this region. The proposed method easily removes biochemical oxygen demands (BOD), suspended solids (SS), algae, and chemical oxygen demands (COD); rapidly creates an environment that is suitable for microorganisms to copiously reproduce; and stimulates interactions between nano-bubbles and microorganisms to induce microorganisms to further purify the water. Because the dialysis decontamination volume of this method is substantially greater than the pollution inflow volume, this method can eliminate the Love River's odor, increase its transparency, and enhance its water quality.

Keyword : Heart of Love River; tides; water gate; river pollution; nano-bubbles; anaerobic bacteria