



Operational fog collection and its role in environmental education and social reintegration: A case study in Colombia

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Experimental efforts with fog collection in Colombia began eight years ago, and in recent papers we have suggested the implementation of operational fog collection as an alternative to meet water requirements in rural areas of the Andes Mountain Range. Since then, an increasing number of individuals from academia and environmental organizations in the country have shown a remarkable interest on this appropriate technology, and some started its exploration in a larger scale. In this work we describe the implementation process of the first operational fog collection project in Colombia and discuss its role in rural water supply, in environmental education issues and in the process of “social reintegration” of people who have been victims of forced displacement. Both the fog collection evaluation stage and construction and administration of the operational system involved the participation of the community of a rural village. The study zone, located in the Andes Mountains of the Valle del Cauca Department and with altitudes ranging from 2600 to 2800 meters a.s.l., has serious limitations in water availability. Eight standard fog collectors (SFC) were implemented and used during the period May/2008 - Feb/2009 in order to assess the water yield from fog. The best average monthly collection rate in the period of study was around $2.0 \text{ l.m}^{-2}.\text{day}^{-1}$. The constructed large fog collector (LFC), with a vertical collection surface of 25 m^2 , and the associated hydraulic system are currently managed and administered by the village inhabitants. The fog collection system benefits a rural school, and the water is mainly used in small-scale irrigation activities for horticultural crops and livestock development. The project has also brought positive impacts in the community organization, mainly comprising people who have been forced out of their rural homes by the country’s nearly half-century old armed conflict. The system also allows agriculture- and environment-related issues to be incorporated in children’s current education. We highly recommend exploring this technology in the search for solutions of water and food security for victims of forced displacement in Colombia. Additional efforts to increase the number of LFCs in the study zone are underway.