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## A study on the extent and ecological status of the Crow Island Canal and its impact on the residents of Crow Island

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### Abstract

The Crow Island Canal is a manmade wetland in Colombo, important in mitigating floods and protecting lowland areas against erosion. This study gathered primary data on the extent and ecological status of the Canal and its impacts on the surrounding community. The temperature, pH, dissolved oxygen, nitrate and phosphate concentrations of canal water were assessed at 5 stations, once a month, from December 2007 to May 2008, using standard laboratory procedures. Mosquito larval densities were estimated in five selected drains using the standard dipping technique. Maps of the canal and the unauthorised construction zone were generated using Geographic Information System (GIS). A questionnaire survey was conducted among residents to obtain their views on the impacts and management of the canal. The water temperature ranged between 26 – 32.5<sup>o</sup>C and pH was 7. DO levels ranged between 1.46 – 4.77 mg/l. The NO<sub>3</sub><sup>-</sup> N and PO<sub>4</sub><sup>3-</sup> concentrations ranged between 4.13 – 11.67 ppm and 0.67 – 4.21 ppm respectively. Since these levels exceeded accepted standards, the water in the canal can be considered as polluted. It was observed that the canal receives domestic and industrial effluent, solid waste and human excreta.

The polluted drains were productive breeding sites of two species of mosquitoes, viz., *Culex quinquefasciatus* and *Culex (Lutzia) fuscans*. However, the guppy, (*Poecilia reticulata*), observed in some drains appears to be functioning as a natural biological control agent since the mosquito densities in these drains were negligible. The mosquito biting nuisance was most intense after 6.00 pm. Burning mosquito coils was the preferred method to repel mosquitoes. Although larvae of *Cx. quinquefasciatus* was recorded in some months in large numbers (147 – 352 per dip), no respondent had suffered Lymphatic Filariasis during the past 5 years.

The present length of the canal was approximately 500 m less than its length recorded in 2005, due to land reclamation and spread of *Eichornia crassipes*. Unauthorised constructions were observed only on one canal bank. The responses to the questionnaire survey indicated that the present state of the Crow Island Canal was due to the negligence of all stakeholders including residents, squatters and authorities and that it was imperative for all stakeholders to work in collaboration to abate pollution and better manage, restore and rehabilitate the canal.