

Cost analysis of application of *Poecilia reticulata* (guppy) and Temephos in anopheline mosquito control in river bed pools below the major dams in Sri Lanka

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A cost analysis of application of *P. reticulata* (guppy) and Temephos for anopheline mosquito control in the river bed pools below the major dams in Kandy and Nuwara Eliya districts was carried out from September 2001- August 2002. Four river beds below the dams, namely, Laxapana, Kotmale, Victoria and Rantembe, were selected for the study. *P. reticulata* was applied at 5 fish (2 males and 3 females) per m² surface area of water in river bed pools at Laxapana and Kotmale. The river bed pools at Victoria and Rantembe were treated with Temephos at 1 ppm, only during periods of impending malaria outbreaks/ epidemics.

The total costs of application of *P. reticulata* and Temephos were determined by collecting the costs of each activity involved in each treatment. The activities involved in the application of *P. reticulata* were (1) fortnightly larval surveys, (2) maintenance of fish stock tanks, (3) field application of fish and (4) supervision. Activities involved in application of Temephos were (1) fortnightly larval surveys, (2) maintenance of insecticide stores, (3) transport of insecticides from Anti Malaria Campaign Head Quarters, (4) field application of Temephos and (5) supervision. The cost data of each activity involved in each treatment were recorded.

The total costs of application of *P. reticulata* and Temephos per year were Rs 207,584 and Rs 258,285 respectively. The cost of application of Temephos was Rs 50,701 higher than that of *P. reticulata*, per year. Furthermore, the cost of application of *P. reticulata* and Temephos per one application was Rs 8649 and Rs 43,047 respectively. Thus, use of *P. reticulata* is 4.9 times less costly than the application of Temephos in anopheline larval control in the river bed pools below the major dams. In addition to low cost, use of *P. reticulata* is environmentally friendly and able to be handled by less skilled people, even by the community.

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