

PI-ABY-699
TA 5520

Project Completion Report (PCR)

Timor Malaria Control
Project 497-0326

Project Objectives and Inputs

The Timor Malaria Control Project grew from the recognition that endemic malaria contributed to high morbidity and mortality on the island and significantly reduced the inhabitants' economic and social productivity. It began in September 1980, and was designed to develop a self-sustaining malaria control program on Timor Island. Specifically, project objectives sought to reduce malaria prevalence to 2% among the target population, consisting of "40% of the population of East Timor and 30% of the population of West Timor by 1985-86." This required initiating anti-malaria activities in East Timor, expanding existing programs in West Timor and overcoming significant infrastructure and geographic constraints in the project site. Additionally, the project hoped to serve as catalyst for the development of malaria control efforts on other outer island provinces.

Project officials anticipated that at the project's completion, health personnel would have the capacity to conduct continuous surveillance and limited local spraying. They would also have a management system in place enabling them to plan, implement and maintain an effective malaria control program with communities involved.

Project inputs totalled \$5,546,000, including \$3,600,000 from USAID/Indonesia loan funds and \$1,946,000 from the GOI. AID contributed funds for long and short term technical assistance (including an expatriate and an Indonesian LTC); procurement of insecticide (DDT) and spray equipment for house-to-house spraying in intervention areas; and local costs for spraying, supervision and conducting malariometric and entomologic surveys.

A joint GOI/WHO/USAID team evaluated project implementation status in October-November 1984. The team noted that early delays in release of loan funds and in procuring technical assistance had adversely affected timely implementation of project-supported spraying and training activities. In particular, they cited a critical need for training in entomological studies required to monitor effectiveness of spraying and vector resistance. The GOI took corrective measures to improve spraying and training schedules and project financial monitoring, and identified suitable technical assistance. On the basis of these actions, USAID and the GOI extended the Project Assistance Completion Date for two years until December 31, 1987.

Final Status/Outputs

Under the program, health personnel sprayed DDT indoors in two cycles per year at an applied dosage of 2g/m². They began entomologic surveys in 1985 to monitor vector behavior and carried out continuous malariometric surveys. The project also introduced some complementary mosquito control measures, including use of larvivorous fish, drainage improvements and application of larvicides to standing water.

In September 1987, the final evaluation team reviewed project outputs. Evaluators noted that the phased expansion of spray activities to villages within administrative areas and very high error rates in reading slides by field microscopists made it difficult to measure precisely impact of the project on malaria control. The discovery of chloroquine resistant falciparum malaria in East Timor, which has not yet been noted in West Timor, is also a disturbing feature of the malaria situation on the island. The results of spot checks of survey data from villages which received six or more cycles of spraying, however, as well as the higher frequency with which microscopists erred on the positive side, did indicate considerable reduction in malaria prevalence.

Accomplishments

Overall then, the final project evaluation indicated the project had a positive impact on control of this disease:

- The population protected in East Timor increased from 11.8% in 1982 to 42.1% in 1986, slightly exceeding the target of 40%.
- In West Timor, the percentage of protected population rose from 14.2 to 31.9%, again slightly exceeding the target of 30%.
- In 1982, malaria ranked first among reasons why persons sought treatment at health centers in both provinces. By 1986, it ranked second or third in intervention areas in East Timor and second to fourth in West Timor.
- In 1982, clinical malaria accounted for 18.2% of outpatient attendance in East Timor and 18.9% in West Timor. At the completion of the project, the percentages were 12.01 and 14.2, respectively.
- In four of ten districts visited, evaluators found prevalence reduction from 1982 to 1986 ranged from a high of 28.1-69% to a low of 1.4-7.3% in East Timor and from a high of 17.2-41.7% to a low of 0.6-4.9% in West Timor.

Recommendations for Follow-up

Evaluators concluded that despite progress made, Timor Island would continue to have focal epidemic outbreaks and a resurgence of endemic cycles of malaria if it remained unprotected. Moreover, they noted provincial health personnel still had inadequate skills in reading microscope slides and monitoring malaria prevalence. Given the severe resource constraints, they accordingly recommended several future strategies to minimize the risk of future outbreaks and resurgence, including the specific recommendations below:

- Reduce spraying, but continue to apply single spray cycles in areas currently covered and confirmed to have low prevalence, with a second cycle only in problem and unprotected areas;
- Send supervision teams from the MOH Malaria Control Subdirectorato in Jakarta to Timor regularly to conduct malarialometric surveys and determine malaria prevalence more precisely;

- Increase use of drug control measures, including radical treatment of positive cases;

- Conduct field operations trials on ways of promoting greater community involvement in anti-malaria activities, thereby reducing dependence on costly insecticides and increasing program sustainability.

Lessons Learned

As a follow-up to the Timor Malaria Control Project and the above recommendations, USAID/Indonesia is now testing several innovative methods of malaria control in West Timor through the CHIPPS project (No. 497-0325). These include efforts to promote community participation in malaria case detection and treatment and the use of insecticide-impregnated bed nets as alternative methods of control to maintain gains achieved from primary spraying and environmental improvements.

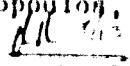
It is apparent that despite the project's success in reducing malaria in protected areas, gains made are still dependent upon on-going effective control measures. Thus, although malaria control measures used in the project were effective in reducing prevalence of this disease in intervention sites, the development of a self-sustaining program will evidently require more inputs and more time.

In particular, continued reliance on expensive insecticide spray programs to control malaria, while effective in the short run, can only succeed where sufficiently developed resources exist to sustain them, both economically and technically. For this reason, malaria control efforts worldwide now emphasize increasing community involvement in alternative control measures, including case finding, treatment and source reduction through improved sanitation and drainage.

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