

A-12: Health hazards of pesticide use in Mahaweli H, Sri Lanka

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In 1994 the International Irrigation Management Institute (IIMI) initiated a new programme, 'Irrigation and Health'. During field visits to the Mahaweli H system, pesticide poisoning was identified by farmers and health workers as one of the main health problems in the area.

This study was undertaken to estimate incidence of acute pesticide poisoning among the population of Mahaweli H and to collect information on the knowledge, attitudes and practices concerning pesticides.

A review of in-patients' records in the Galnewa and Tambuttegama Peripheral Units was done. A Research Assistant lived in the Kalankuttiya area in System H of the Mahaweli Project for a period of 6 months to conduct the survey. Information was collected through regular interviews of 30 families and observations in the area concerning use, storage and disposal of pesticides. In-depth interviews were focused to obtain additional information



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regarding within-household decision making processes related to pesticides as well as information channels available for the households with regard to pesticide use. To supplement the household based information, 20 key informants from the area were also interviewed.

In 1994 there were 110 and 156 admissions of pesticide poisoning in the Galnewa and Tambuttegama Peripheral Units respectively. The incidence of acute pesticide poisoning for the population living in the Tambuttegama Divisional Secretariat were estimated at 327 per 100,000. Most patients were in the age group between 20-29 years and of these 71% were males. In more than 80% of the cases poisoning was due to intentional ingestion (suicide). Case-fatality was 9.3% and 44.9% of the patients had to be transferred to the Anuradhapura General Hospital. Most of the pesticides imbibed were from the group of organophosphates.

Family interviews and participant observations in a village in the study area showed that:

- \* There is an universal awareness of dangers of pesticides and the safety precautions that need be taken to avoid occupational exposure.
- \* None of the farmers use protective clothing since it is too hot and humid to wear gloves and masks and these protective measures are seen as hampering to work output.
- \* Washing with water and soap after spraying is widely practised. Other preventive measures taken: washing clothes, non - consumption of food, spraying in the direction of the wind.
- \* Most farmers have experienced certain signs and symptoms attributed to pesticide exposure.
- \* Some claim to have become "resistant" against ill-effects of spraying and have come to accept the negative effects of pesticide as a necessary evil of life as a farmer.
- \* There are no field visits by agricultural extension workers. There is a demand for more information on farming practices and pesticide use and the farmers were very satisfied with the agricultural instructions provided to them in the early 1980s.

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- \* Most farmers obtain information from fellow farmers, friends and sales agents of the agro-chemicals.
- \* Changes in types of pesticides used over the years are determined by companies, not by farmer preference.
- \* Common storage procedures: after purchase: in house leftovers: in field empty bottles: most often collected and sold
- \* Pesticide use for paddy is limited (mainly herbicides), but there is excessive spraying for chillies.

The incidence of pesticide poisoning in the Mahaweli H settlement area is very high even in the Sri Lanka context. Despite the importance of pesticide poisoning as a public health problem, there have been very few analytical studies done to identify the risk factors and there have been no properly designed intervention studies.

Most poisoning cases are intentional and awareness of the health hazards related to pesticides is relatively high. Health education activities are likely to have only a limited impact on reducing the number of cases of pesticide poisoning. The best short term strategy to prevent both intentional and occupational poisoning would be to restrict the use of the most hazardous pesticides by enforcing legislation, promoting alternative, non-chemical methods of pest control and improving the general agricultural extension services.