

# Environmental Management for Vector Control

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## **TRAINING AND INFORMATIONAL MATERIALS SLIDES SET SERIES**

World Health Organization

1988

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## PREFACE

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The last ten years have seen a renewed interest in the use of environmental management as part of an integrated approach toward disease vector control. This interest has originated in part from a growing concern about the possible adverse health impacts of the continued development of water resources. However, problems such as insecticide resistance and waning public acceptance of house-spraying campaigns have increasingly impaired chemical control, thus also contributing to the revival of environmental management.

Visual training aids on environmental management for vector control have been badly needed for several years now as a tool in conducting seminars on prevention and control of water-associated vector-borne diseases in water resource development projects and in training courses on vector-borne disease control.

Since 1981 a Panel of Experts on Environmental Management for Vector Control (PEEM), which was jointly established by WHO, FAO and UNEP, has been promoting environmental management methods. The Institute of Land Improvement and Water Management, part of the Swiss Federal Institute of Technology (ETH-Zurich), which has been designated a WHO/FAO/UNEP Collaborating Centre on Environmental Management for Vector Control, has used material collected for a vector control seminar in Zurich in preparing this set of training aids.

### SCOPE AND TARGET AUDIENCE

This set of training aids provides an introduction to the role of water resource management schemes in spreading a number of important communicable diseases of man. It limits itself to those diseases which are transmitted by invertebrate organisms whose lifecycle, either partly or wholly, is associated with the aquatic environment. These organisms can be flying insects, in which case they are called *disease vectors*, or certain species of aquatic snails, known as *intermediate hosts*. For practical purposes, in the accompanying text reference will be made to "**vectors**" on the understanding that this term includes the snail intermediate hosts of schistosomiasis. It presents a number of adverse conditions as they frequently occur in water resource development projects, followed by examples of environmental engineering measures which can be applied for their correction.

These training aids are first of all aimed at *engineers*, who are, or will be, responsible for the design and construction of irrigation and other hydraulic projects. However, they are also designed to serve as part of a package of educational material for the training of *vector control specialists*. They will hopefully contribute to a better, mutual understanding and collaboration between these two groups.

### HOW TO USE THESE TRAINING AIDS

The accompanying text of the training aids contains three parts. Part A is an introduction to water-related diseases and their importance. Part B focuses on water-based and water-related vector-borne diseases with emphasis on the vector. In part C the negative health

effects of water resource projects and environmental management measures for their control are presented. Four annexes complete the accompanying text.

The visual training aids consist of overhead transparencies and slides.

The lecture material will take approximately **four hours** to cover (two hours for part A and B, and two hours for part C). **However it may be extended by the lecturer emphasizing different aspects of the course, depending on the audience and the objectives of the course.** Subject to the circumstances, the lecturer may use the blackboard instead of the overhead transparencies. Overhead transparencies have been copied on slides as well, in case an overhead projector is not available.

## ACKNOWLEDGEMENTS

The World Health Organization is grateful to Mr Andrea R. Pozzi, who first as a staffmember of the Institute for Land Improvement and Water Management, ETH, Zurich (a WHO/FAO/UNEP Collaborating Centre for Environmental Management) and later as a partner in the environmental consultancy bureau NIEDERER & POZZI, Zurich, took responsibility for the collection of slides and the preparation of the accompanying text.

Several reviewers, either staffmembers of WHO, FAO and UNEP, Panel members or other external experts have greatly contributed to the improvement of the original text and this is gratefully acknowledged.

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Professor Dr. H. Grubinger, Director, Institute for Land Improvement and Water Management, ETH, Zurich: slide numbers C6, C9, C14, C17, C18, C19, C23, C24, C27, C28 and C40

Mr A.R. Pozzi, Niederer & Pozzi, environmental management consultants, P.O.B. 4555 CH-8022 Zurich: slide numbers C7, C8, C10, C13, C26, C27, C30, C32, C35-38, C45-50 and C53-57

Tennessee Valley Authority, Drs R.H. Brooks and J Cooney: slide number C12

Dr L. Vogel, former epidemiologist Royal Tropical Institute, Amsterdam, Netherlands: slide numbers C22 and C41

The slide library of the Food and Agriculture Organization of the United Nations, Rome, Italy: slide numbers C19, C20, C31, C34 and C44

Dr L.S. Self, Regional Adviser VBC, WHO Regional Office for the Western Pacific, Manila, Philippines: slide numbers C42 and C43

Dr F. Zollinger, Department of Soil Conservation, Canton Zurich, Zurich, Switzerland: slide number C51

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