

# 1.

## Introduction

### 1.1 Background

Each time there is a natural or man-made disaster the affected population tends to take flight into the surrounding areas. This rapid change of environment: loss of homes, livestock, family and friends, causes great stress to individuals and the weakening of health throughout the population (PAHO, 1982). In addition to this, people are often forced into crowded and insanitary conditions. Overpopulation in confined areas, without adequate water supply, health services, food, shelter and sanitation favours an increase in arthropods and domestic rodents, and the spread of the associated communicable diseases (PAHO, 1982).

Aid workers faced with problems of vector control in an emergency do not always have the experience and knowledge necessary for assessing the medical and entomological situation, designing, and implementing an appropriate project for their control.

### 1.2 Purpose

This handbook has been written with the specific objective of providing practical guidance and an overview of vector control in emergency situations for relief workers and local personnel. It will enable them to develop the skills required to plan and implement a vector control project in an emergency situation, where there is a vector-borne disease epidemic, or where the risk of an epidemic is high.

**WARNING!**

The reader must be aware that vector control is a specialist subject requiring detailed knowledge of the transmission dynamics of individual vectors. Untrained workers may be able to deal with ectoparasites such as lice, scabies, or universal filth insects such as, filth flies and cockroaches based on the context of this book but projects to control major disease vectors such as mosquitoes, tsetse flies, black flies and others should always be designed and managed by skilled specialists (Thomson, 1999).

### **1.3 The Handbook**

This handbook does not provide solutions to specific problems, rather it guides the user through a process by which the reader can develop an appropriate strategy for controlling the problems being faced.

Chapter two gives an overview of the principal vectors of medical importance. It is most concerned with the biology and the behaviour of arthropods, rodents, and water snails found in refugee and displaced person camps.

Chapter three deals with the vector control strategy and profiles several types of specific control methods applicable to an emergency situation; these include environmental measures, chemical measures, biological measures, and individual and family protection.

Chapter four assumes that the decision to carry out a vector control programme is based on a specific health problem in the camp. It helps to identify the causes and suggests solutions for reducing the health risks.

Chapter five guides the reader through the practical implementation of a vector control strategy. A logical framework used for project design provides a synopsis of the main features of the vector control programme. Details for purchasing pesticides, equipment, and an overview about the personnel organisation and infrastructure needed are described.

Technical appendices and a glossary with scientific terms are provided at the back of the handbook.

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### **1.4 Methodology**

This handbook is based on extensive literature review and analysis, personal communications with leading experts and the authors' experience of vector control in refugee camps.

Chapter 2 is written from research, citing current authors on entomology. Salient biological and ecological information is also included.

Personal communication through interviews, a questionnaire survey and the use of an e-mail discussion provided data and practices currently being used in emergency situations.