# Operation and Maintenance of rural water supply and sanitation systems

### A TRAINING PACKAGE FOR MANAGERS AND PLANNERS

Prepared by

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## Preface

The aim of Operation and Maintenance (O&M) programmes, as described in this training package, is to improve the efficiency, effectiveness and sustainability of water supply and sanitation services. Operation and Maintenance activities, which encompass not only technical issues, but also managerial, social, financial and institutional issues, must be directed towards the elimination or reduction of the major constraints which prevent the achievement of sustainability.

This document and the training activities described in it are intended for managers and planners who are concerned with the challenging problem of how to implement effective operation and maintenance of rural water supply and sanitation services in developing countries. In addition to the traditional management aspects of operation and maintenance, this training package highlights the importance of community participation, with a right gender balance, in order to make more efficient use of local human resources for sustainability.

The courses in this training package are based on participatory training methodologies, an important feature of which is to draw on the experiences of all the participants, under the guidance of an experienced facilitator and resource persons. The courses should be adapted to the local situation, and the modules can be modified with additions or deletions according to local needs.

The package is based on material and documentation of global experiences provided by various agencies and institutions in the water supply and sanitation sector. This work was initiated in 1991 at a meeting in Oslo, Norway, which called for an overall effort and the establishment of the Operation and Maintenance Working Group (currently the Operation and Maintenance Network) of the Water Supply and Sanitation Collaborative Council.

We are confident that this document will make an effective and useful contribution to progress in the rural water supply and sanitation sector.

*José A. Hueb* Coordinator Operation and Maintenance Network

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Professor Harry MacPherson and the staff of the National Directorate of Water of Namibia carried out the first testing of this package in 1993. The staff of ETSHER (Ecole Inter Etats des Techniciens Supérieurs de l'Hydraulique et de l'Equipement Rural) subsequently developed the French version of this course in Burkina Faso, while staff from the Direcção Nacional de Águas of Mozambique, together with the Centro de Formação Profisional de Águas y Saneamiento in Maputo, the Swiss Development Cooperation agency, UNICEF, and the Netherlands Embassy in Maputo, helped to develop the Portuguese version. Some elements of the latest version of this package have been tested in Vietnam by the staff of the Centre for Rural Water and Environmental Sanitation in Hanoi and UNICEF.

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Finally, the World Health Organization supported and promoted the development and use of this training package through the WHO Regional and Country Offices in the world. This has helped to make earlier versions of this document known to the potential beneficiaries through national workshops and training courses.

# PART 1 Trainer's guide

<b>1. Welcome!</b> How was this training package prepared? Why "management" of operation and maintenance? What is the structure of the package?	3
2. About the training package What are the objectives?—What is the target group and its size?—What is the duration of the course?—What are the expected outputs?—What is the course methodology? What is in the training package?—Proposed time-table What are the course contents?	5
<b>3. How to be an effective facilitator</b> Profile—Role of the facilitator—Communication Facilitating discussions—The use of exercises—Overview of the training tools which can be used by a facilitator Role-playing—Brainstorming—Visualization Trouble-shooting—Conflict resolution	9
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