Water Safety Plans: Book 4
IRA-WDS Software and Manual for Risk Assessment of Contaminant Intrusion into Water Distribution Systems

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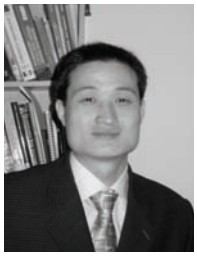

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Who should read this book

This book has been written specifically for practitioners involved in the operation, maintenance and management of piped water distribution systems in urban areas of developing countries. These practitioners include engineers, planners, managers, and water professionals involved in the monitoring, control and rehabilitation of water distribution networks.

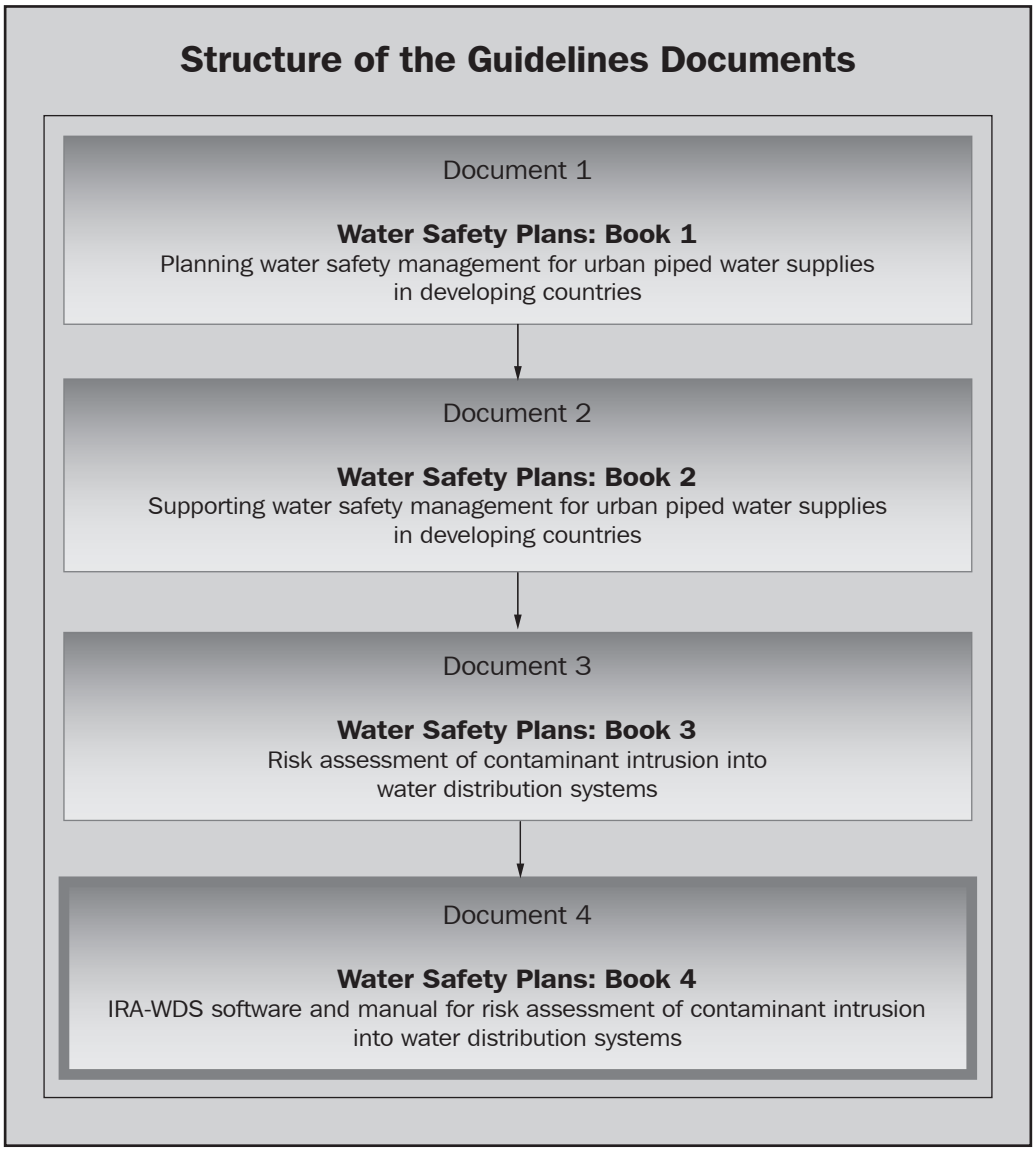
This book is a manual for using the developed software, IRA-WDS (Improved Risk Assessment for Water Distribution System), a Geographical Information System (GIS) that aids in evaluating the risk of deterioration of the water distribution network of a water supply system. The manual is a structured document and explains a step-by-step procedure for using the IRA-WDS, with examples.

How to use this book

The software IRA-WDS has been developed to evaluate risks to piped water distribution systems of urban areas in developing countries. This manual enables the use of this software. The software consists of three models, namely the Contaminant Ingress Model, Pipe Condition Assessment Model and Risk Assessment Model. The IRA-WDS is designed to use these models together or individually. This manual provides a step-by-step procedure for using these models and obtaining results. Book 3, also developed in this series, should be used along with the software and this manual. This will enable readers to understand and analyse their results.

How does this book fit into the overall guidelines?

This book is Book 4 in the guidelines series developed for Project KaR R8029, Improved Risk Assessment and Management for Piped Urban Water Supplies. It provides details of how to use IRA-WDS, a Geographical Information System (GIS) based software that estimates the risk of contaminant intrusion into water distribution systems from sewers and foul surface water bodies. The technical background to IRA-WDS is presented in Book 3, and readers are encouraged to read Book 3 prior to reading this one. It is also important to recognize that to use IRA-WDS, institutions and authorities responsible for water management need to be committed to the collection and maintenance of data and to developing technical expertise. Therefore, it is recommended that users should also read Book 2 and consider the implementation of IRA-WDS in light of that document's content.



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