Welcome to the Watershed Management Resource Kit!

This is the first edition of the Mekong River Commission’s Watershed Management Resource Kit. The Resource Kit is the most comprehensive source of information and knowledge about watershed management that is available in the Mekong Basin to date.

The Resource Kit has six modules:

1. Basics of Watershed Management
2. Policy and Legislation
3. Institutions and Organisations
4. Planning
5. Implementation
6. Monitoring

Information is organised in summaries, chapters, technical annexes, and case studies. Please proceed to the Preface for further details, or return to the main page for the table of contents.

The Watershed Management Resource Kit Drafting Team, June 2007
Preface

The Watershed Management Resource Kit – A Preface

This is the first edition of the Mekong River Commission’s Watershed Management Resource Kit. We would like to begin by providing an overview of its background, purpose and target groups, as well as its structure and content, and also say a few words about how it has evolved.

Background: Water Resources and Watershed Management

Water is of crucial importance to mankind. Water sustains all life on earth, drives ecological processes, and supports economic activities in agriculture and industry, without which human civilisation in its present form could not exist. This makes water one of the earth’s most precious natural resources – one which is also becoming scarcer at an alarming rate.

The natural spatial unit within which water resources can best be managed is the watershed – literally the area which sheds water into a river. Mountain ranges or ridges form the natural boundaries between watersheds, because usually the water from each of the two sides of a mountain range will flow into a different river.

It is against this background that the concept of watershed management has emerged. Watershed management is obviously concerned with the management of water resources, and in particular with their equitable distribution between upstream and downstream stakeholders in a given watershed. However, this does not mean that watershed management exclusively focuses on the management of water resources. Instead it recognises the fact that water resources are inseparably linked with other natural resources such as land and the atmosphere, and therefore cannot be managed in isolation.

Watershed management does not solely aim to maintain the ecological health of natural resources in a watershed, but it also acknowledges that this ecological health is the pre-condition for both social and economic development and needs to be balanced with them. Consequently, the overall objective of watershed management is to maintain the ecological, social and economic watershed functions in a balanced manner. This holistic understanding makes watershed management the ideal approach to practically apply the principle of sustainable development when managing natural resources.

In the past watershed management had a rather narrow focus. It often advocated exclusively top-down or bottom-up oriented approaches, with a strong emphasis on technical solutions. In recent years, a more modern understanding of watershed management has
begun to evolve, which has a much broader outlook. This modern understanding recognises the key importance of multi-stakeholder negotiation as a means of combining top-down policy implementation and bottom-up participatory processes. It entrusts more responsibility to "light" inter-sectoral institutions such as watershed committees or fora, as opposed to only relying on formal watershed authorities that dominated watershed management in the past. Finally, it advocates active conflict management, as it perceives conflict as an opportunity to negotiate for the better management of resources, and recognises that most conflicts over natural resources are rooted in society and politics rather than being the result of technical causes.

This modern understanding of watershed management is being put into practice all over the world – in Australia’s Murray Darling Basin, with its blend of formally established institutions and voluntary committees; in the European Union with its new union-wide water resources legislation calling for a watershed approach; and also in the Lower Mekong Basin, where the Mekong River Commission advocates it under its mandate to promote cooperation in the sustainable development of water and related resources.

Purpose and Target Groups of the Resource Kit

Watershed management, besides being a concept that holds much promise, is embedded in complex political, legislative, institutional, and, not least of all, biophysical realities. Consequently, the purpose of this Resource Kit is to introduce the modern concept of watershed management to government staff and civil society members involved in the management of water and other natural resources. At the same time it provides both the institutional and technical background knowledge that is required for the successful implementation of watershed management in the Lower Mekong Basin. It also gives an outlook on innovative developments that are likely to shape the future of watershed management, such as the establishment of markets for environmental services.

The immediate target audience for this Resource Kit is government staff and civil society members from the Lower Mekong Basin countries. These can be further divided into the following three distinct groups:

- Government staff, representatives of civil society and researchers who contribute their expertise and advice to the formulation of policies, and to the development of institutions that are concerned with the management of water and related resources.
- Government staff and representatives of civil society who are charged with or actively involved in the practical management of water and other natural resources, for instance through the drafting of socio-economic development plans or through facilitating negotiations on resources management.
- Educators, trainers and students in the fields of water and natural resources management.

The last group mentioned – students – is of particular importance. As watershed management is a long term endeavour, we hope that this Resource Kit will contribute to shaping curricula and thus to educating and training tomorrow’s watershed management promoters and practitioners.

This Resource Kit is part of the Mekong River Commission’s ongoing effort to collect and disseminate experiences and lessons learnt in watershed management. It is meant to be an open information and knowledge management tool for multiple uses: it may serve as a comprehensive overview of information and knowledge about watershed management; it may be used as a guideline for more specific sub-processes such as planning and monitoring; and it is a rich source of case studies, references, awareness raising and training materials.
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Structure and Content of the Resource Kit

Watershed management is a complex and multi-faceted subject, and many of its aspects are still evolving. In recognition of this, the Resource Kit is meant to be updated regularly, as the body of knowledge about watershed management continues to grow. We have therefore opted for a modular structure in the organisation of this Resource Kit as it is the easiest to extend and update.

Module Structure

As the figure below shows, the Resource Kit consists of six modules. Each module is further divided into a summary and individual chapters. The chapters are accompanied with related technical annexes and case studies.

- **Basics**
- **Policy and Legislation**
- **Institutions and Organisations**
- **Planning**
- **Implementation**
- **Monitoring**

The information has been presented in a drill down structure, which means that the level of detail increases progressively, beginning with the summaries, followed by the individual chapters, and finally through to the technical annexes and case studies:

- **Summaries** present an outline of a module’s main topic at a low level of detail. They serve as both an overview of a module’s content and as a navigation aid that directs the reader to more detailed information which is presented in its individual chapters.

- **Chapters** present the various aspects of the module’s main topic at a moderate level of detail. Links to the related technical annexes and case studies are provided in the chapters.

- **Technical annexes** present information at the highest level of detail. They explain particular aspects of watershed management, or describe how particular tasks can be performed. For instance, they may present detailed legal regulations, instruct on how to apply particular tools and techniques, elaborate on the results of scientific research on a particular issue, or provide maps, data tables and visual aides.

- **Case studies** describe real life experiences that have been made with different aspects of watershed management. This includes both institutional experiences such as decentralising natural resources management or establishing watershed committees, and scientific or technical experiences such as measuring the influence of forests on water availability. Preference has been given to case studies that originate from the Lower Mekong Basin countries. Wherever possible, we have categorised case studies according to their scale (local or regional) and impact (speculative or confirmed).
The Glossary lists the definitions and explanations of the technical terms that are used throughout the Resource Kit.

This drill down structure is meant to match the needs of the different groups of the target audience. Those who merely seek an introduction to watershed management may find it sufficient to read the summaries, while those involved in the practical aspects of watershed management such as planning and monitoring may wish to proceed further and read individual chapters or technical annexes.

Module Content

The Resource Kit consists of the following six modules:

- **Basics of Watershed Management**: This module covers the fundamental aspects of watersheds and watershed management. As it addresses a wide range of different issues, we have further divided it into three parts: a **general part** that introduces watersheds and the concept of watershed management; a **bio-physical part** which is mostly about the ecology and hydrology of watersheds in tropical regions; and a **socio-economic part** with a focus on the Lower Mekong Basin. Please refer to the module’s summary for further details:
  
  **Summary Module 1: Basics of Watershed Management**

- **Policy and Legislation**: This module introduces those policies, laws and regulations of the Lower Mekong Basin countries that are relevant for watershed management, as well as the international conventions that influence their design. Please refer to the module’s summary for further details:
  
  **Summary Module 2: Policy and Legislation**

- **Institutions and Organisations**: This module introduces the institutions and organisations of the Lower Mekong Basin countries that are in charge of watershed management or may influence it otherwise. It also introduces the concept of good governance, and a process model for institutional and organisational development. Please refer to the module’s summary for further details:
  
  **Summary Module 3: Institutions and Organisations**

- **Planning**: This module provides comprehensive information about planning in a watershed context. As it addresses a wide range of different issues, we have further divided it into three parts: a **general part** which provides an introduction to planning and the existing planning approaches in the Lower Mekong Region; a **river basin part** which is mostly about the Mekong River Commission’s basin development planning approach; and a **watershed part** that provides detailed guidance for planning at the watershed level. Please refer to the module’s summary for further details:
  
  **Summary Module 4: Planning**

- **Implementation**: This module outlines the key practical aspects of implementing watershed management interventions, including sections on lessons learnt and best practices, scaling up and on financing mechanisms. Please refer to the module’s summary for further details:
  
  **Summary Module 5: Implementation**

- **Monitoring**: This module introduces the general concept of monitoring and its practical application in the context of watershed management. It introduces indicators for watershed management along with the methods and instruments to measure them, and also presents some case studies. Please refer to the module’s summary for further details:
  
  **Summary Module 6: Monitoring**
We have also included a complete Table of Contents, where you will find further details about all modules and the chapters, technical annexes and case studies they contain. For explanations of technical terms, please refer to the Glossary and the List of Abbreviations.

How the Resource Kit Evolved

In 1999, the predecessor of the German capacity building organisation InWEnt published the first Watershed Management Planning Manual to be used in the Lower Mekong Basin countries of Cambodia, the Lao PDR and Viet Nam. In late 2005, the Mekong River Commission’s Watershed Management Project, supported by the German Federal Ministry for Economic Cooperation and Development through both GTZ and DED, began to compile a second edition of this manual, which was meant initially as a basis for the project’s own capacity building activities. This second edition grew into the current version of the Watershed Management Resource Kit.

When we started to compile the Resource Kit by revising and restructuring the Watershed Management Planning Manual, it quickly became apparent that the body of knowledge about watershed management had grown immensely since the manual’s publication. This made it necessary to incorporate a broad range of new materials. We applied two priorities in sourcing these materials: firstly, to use experiences from the Lower Mekong Basin whenever possible; and secondly, to endeavour to use source materials that are publicly accessible on the Internet.

We prioritised using experiences from the Lower Mekong Basin in order to make the Resource Kit as relevant as possible for people involved in watershed management in the Lower Mekong Basin. However, it proved to be a challenge to source experiences and lessons learnt from the Lower Mekong Region, as watershed management has only recently been introduced in this area. We are confident though that the volume of experiences from the Mekong Region will increase in future editions of the Resource Kit, and not least of all through the contributions from Resource Kit users.

We prioritised using publicly accessible source materials so that anyone who wishes to explore watershed management issues beyond what is presented in this Resource Kit has free access to them. We largely succeeded in this effort, as witnessed by the large number of Internet addresses listed. Nonetheless, not all of the documents could be sourced on the Internet. We also referred to classical watershed management textbooks, as well as materials available from within the Mekong River Commission, which incidentally have not all been published yet. If you wish to access source materials that are not available on the Internet, please contact us at the email address over page.

Regarding the format and layout of the Resource Kit, we decided to keep it as flexible as possible, so that the same edition can be published electronically as a CD and on the Internet, and is also suitable to be printed by commercial printing houses as well as on standard office or home computers.

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Updating the Resource Kit

This is the first edition of the Resource Kit. We hope that it will become a “living” document, which is updated regularly through the contributions of both its users and its authors.

Your feedback, comments and suggestions for future updates are most welcome. We are also extremely grateful for any additional materials and case studies that you may be able to provide, so that we can incorporate them into future editions of the Resource Kit.

Please email your feedback and materials to wsmp@mrcmekong.org

Disclaimer

The opinions and interpretations expressed within are those of the authors and do not necessarily reflect the views of the Mekong River Commission.