

The Water Footprint Assessment Manual

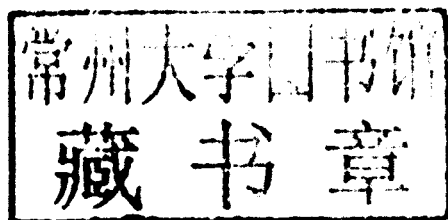
Setting the Global Standard

Arjen Y. Hoekstra,
Ashok K. Chapagain,
Maite M. Aldaya and
Mesfin M. Mekonnen

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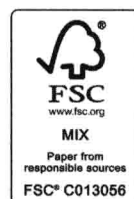
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Preface

This book contains the global standard for 'water footprint assessment' as developed and maintained by the Water Footprint Network (WFN). It covers a comprehensive set of definitions and methods for water footprint accounting. It shows how water footprints are calculated for individual processes and products, as well as for consumers, nations and businesses. It also includes methods for water footprint sustainability assessment and a library of water footprint response options.

A shared standard on definitions and calculation methods is crucial given the rapidly growing interest in companies and governments to use water footprint accounts as a basis for formulating sustainable water strategies and policies.

This manual has been prepared by the authors as requested by the WFN. The current manual is an updated, revised and expanded version of *Water Footprint Manual: State of the Art 2009*, published by the WFN in November 2009 (Hoekstra et al, 2009a). This new edition has been produced after intensive consultations with partners and researchers worldwide. Directly following the publication of the *Water Footprint Manual*, all partners of the WFN were invited to provide feedback on the manual. In addition, two working groups were formed, consisting of individuals from partners of the WFN and invited experts. One working group addressed questions around the grey water footprint (Zarate, 2010a); the other one studied issues pertaining to water footprint sustainability assessment (Zarate, 2010b). In addition, a number of partners initiated pilot projects in collaboration with the WFN that aimed at exploring the practical implications of using the water footprint in formulating a corporate water strategy or water policy in a specific geographical setting. On the basis of feedbacks received – new scientific publications, experiences from practical water footprint pilots and working group reports – the WFN prepared a draft of this edition. The Scientific Peer Review Committee of the Water Footprint Network reviewed the draft version of this edition and made specific recommendations with respect to revisions of the draft. The manual as it lies here is the result of incorporating the recommendations.

Also this edition will require revision in due time. All over the world research in this area is rapidly developing and more and more pilot studies on water

footprint assessment are initiated, across all sectors of economy and covering all continents. In order to learn from the various ongoing practical water footprint pilot projects and from expected new scientific publications, the WFN invites both partners and non-partners to provide feedback on this edition of the manual. In this way we hope to make best use of the diverse experiences that individuals and organizations have when evaluating water footprints within different contexts and for different purposes. We aim to further refine the water footprint methodology so that it best serves the various purposes that different sectors in society see for it, at the same time striving for coherence, consistency and scientific scrutiny.

Joop de Schutter
Chair of the Supervisory Council of
the Water Footprint Network

Acronyms

CBD	Convention on Biological Diversity
CWR	crop water requirements
EPA	Environmental Protection Agency
FAO	Food and Agriculture Organization (UN)
GHG	greenhouse gas
GIEWS	Global Information and Early Warning System
GIS	geographic information system
GMIA	Global Map of Irrigation Areas
IPCC	Intergovernmental Panel on Climate Change
IRBM	integrated river basin management
IWRM	integrated water resource management
LCA	life cycle assessment
MFA	material flow analysis
MPA	maximum permissible addition
MPC	maximum permissible concentration
TMDL	total maximum daily load
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WCED	World Commission on Environment and Development
WFN	Water Footprint Network

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