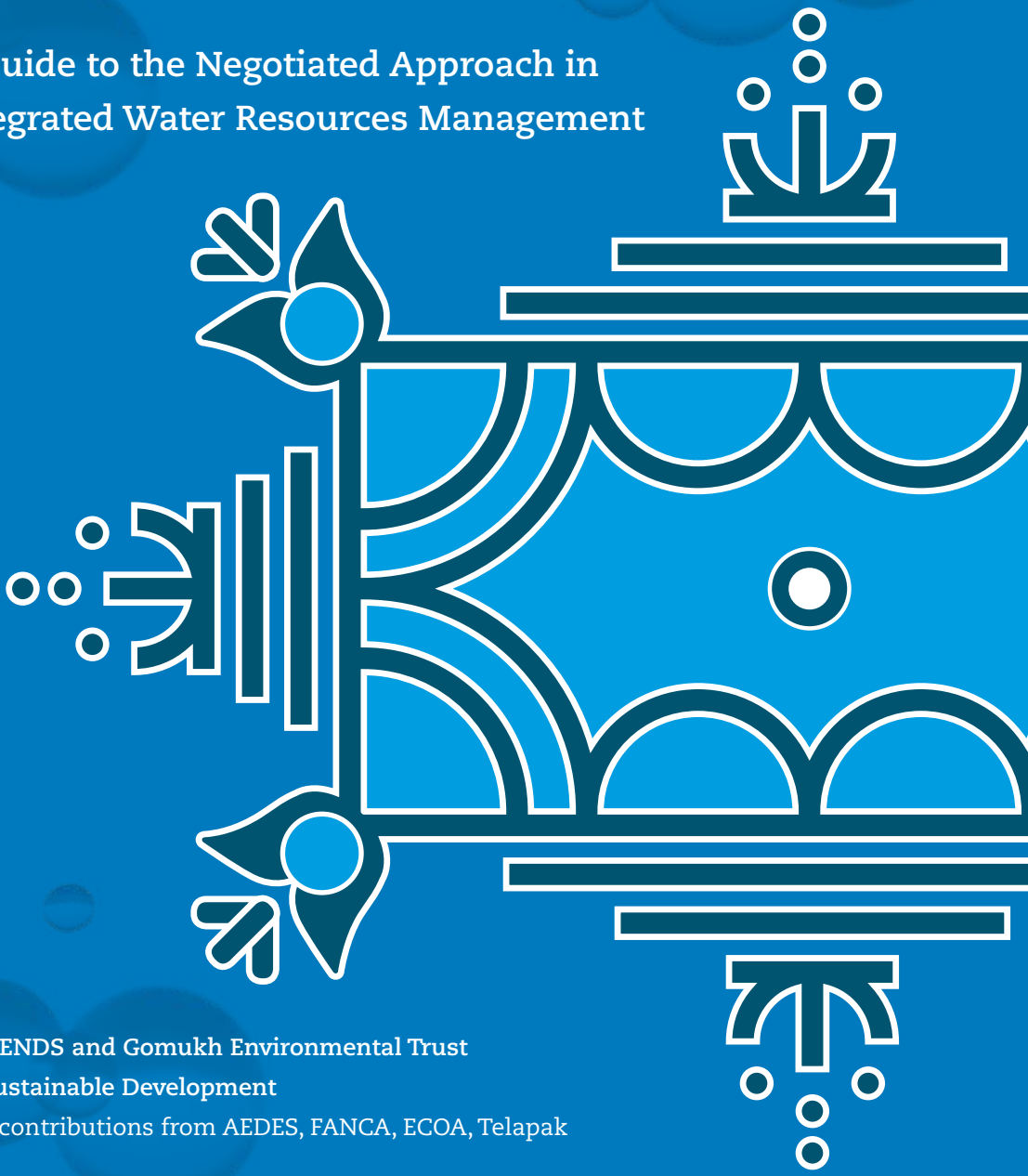
Involving Communities

A Guide to the Negotiated Approach in Integrated Water Resources Management



Both ENDS and Gomukh Environmental Trust for Sustainable Development
with contributions from AEDES, FANCA, ECOA, Telapak

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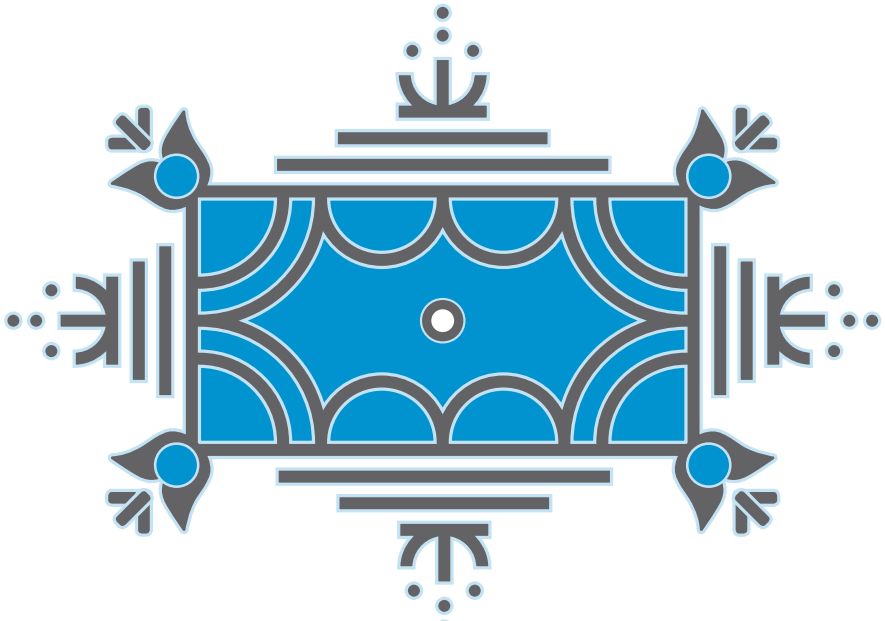

Lakes are eternal – a symbol of life

The Sita well has a main inlet and within the well are waves
Located in its centre is a nucleus, which represents life
Outside the well are steps leading to it
And at its four corners are flowers carved from stone …
But with the fragrance of life
How difficult it is to depict all these complexities in a simple elegant sketch!
Nevertheless a large section of our community has imbibed the symbol of the well
and its philosophy of conservation
Effortlessly, in its life and its culture

Courtesy of Anupam Mishra of the Ghandi Peace Foundation

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Both ENDS
Nieuwe Keizersgracht 45, 1018 VC Amsterdam, the Netherlands
Tel: +31 20 530 66 00
info@bothends.org
Fax: + 31 20 620 80 49
www.bothends.org

Gomukh Environmental Trust
'Durga' 92/2 Gangote Path, Opp. Kamala Nehru Park, Erandavane,
Pune 411 004, India
Tel: +91 20 25 65 14 34
Fax: +91 20 25 66 01 60
gomukh@vsnl.com
www.gomukh.org

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Editors: Rob Koudstaal, Christa Nooy and Vijay Paranjpye

Written by Rob Koudstaal and Vijay Paranjpye, with contributions from
Annelieke Douma (Both ENDS)
Heidy Murillo (FANCA, Costa Rica)
Rafaela Nicola (ECOA, Brazil)
Christa Nooy (Both ENDS)

The contributions of the following are also acknowledged:
Jose Guevara Cubas (AEDES, Peru); Parineeta Dandekar (Gomukh); Vanessa Dubois (FANCA, Costa Rica); Danielle Hirsch (Both ENDS); Martien Hoogland (Both ENDS); Remi Kempers (Both ENDS); Karen Kraft (AEDES, Peru); Cees Leeuwis (Wageningen University, the Netherlands); Jorge Mora Portuguez (FANCA, Costa Rica); Haydée Rodríguez (FANCA, Costa Rica); Rita Mustikasari (Telapak, Indonesia), and Huub Scheele (Both ENDS).

Editing, design and production: Contactivity bv, Leiden, the Netherlands
Editing: Valerie Jones
Design and layout: Anita Toebosch
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Contents

Acronyms and abbreviations

AEDES	Asociación Especializada para el Desarrollo Sostenible (Peru)
AHP	analytical hierarchy process (a multi-criteria analysis technique)
AMCOW	African Ministers' Conference on Water, Tunis, March 2008
ANA	National Water Authority (Peru)
ANDA	National Alliance for Water Protection (El Salvador)
BATNA	best alternative to a negotiated approach
BCA	benefit–cost analysis
Cap-Net	International Network for Capacity Building in IWRM (UNDP)
CPR	common property regime
DSI	decision support indicator
ECOA	Ecologia e Ação (Brazil)
(E)IRR	(economic) internal rate of return Management
FANCA	Freshwater Action Network Central America (Costa Rica)
FUDEU	Fundación para el Desarrollo Urbano (Costa Rica)
GWP	Global Water Partnership
ICES	International Council for the Exploration of the Sea
ICOLD	International Commission on Large Dams
ICT	information and communications technologies
ICWE	International Conference on Water and Environment, Dublin, Ireland, January 1992
IRBM	Integrated River Basin Management
IWRM	integrated water resources management
MDG	Millennium Development Goals
MII	management input indicators
NA	Negotiated Approach
OECD	Organisation for Economic Co-operation and Development
O&M	operations and maintenance
PAWN	Policy Analysis of Water Management for the Netherlands
PBS	Perkumpulan Bumi Sawerigading (South Sulawesi, Indonesia)
Ramsar	Convention on Wetlands of International Importance
RBI	resource base indicator
RBO	river basin organization
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Scientific and Cultural Organization
WRS	water resources system
WWC	World Water Council

Preface

In the late 1990s, a group of organizations around the world identified the Negotiated Approach as a way to strengthen integrated water resources management (IWRM). The approach encourages and supports communities to become involved in all aspects of managing water resources in a meaningful way and on a long-term basis. Experiences in many countries have demonstrated that local people are able to manage or co-manage their water resources, once they acquire the capacity to understand and the acumen to take decisions and discuss the challenges they face with policy makers and other stakeholders.

In areas where the Negotiated Approach has been applied, communities have become more confident and assertive in improving their own livelihoods. Today, after 10 years of working with and refining the approach, we feel it is time to report on our findings and to discuss them with a wider audience. We now wish to prepare the approach for wider application and to discover ways to improve it further.

This book provides the keys to the Negotiated Approach. It spells out the vision, principles and distinguishing features of the approach, and describes frameworks for negotiations and strategic management. But we also hope to show that the Negotiated Approach is not only a concept and set of principles, but a tangible way forward once participants are willing to become involved in its application and accept the challenging paradigm shift in thinking that it invites. With this book we also want to support those NGOs that are already involved in strengthening the capacity of local actors to manage their water resources.

It is our ambition to convince national and international water policy and lawmakers that without the Negotiated Approach, implementation of genuine participatory IWRM at ground level is unlikely to happen. We hope to persuade them that the approach should become part of national and international water management frameworks, and be replicated and upscaled in different countries.

We trust that our work over the last decade is adopted by many others, and implemented in a variety of ways and in diverse socio-economic contexts. In particular, we aspire that rivers will once again flow freely, for the benefit of the many communities that depend on them.

Vijay Paranjpye
Gomukh

Danielle Hirsch
Both ENDS

Summary

The Negotiated Approach: vision and focus

The Negotiated Approach aims to strengthen integrated water resources management (IWRM) by involving local communities and stimulating and enabling them to co-manage their immediate environment and improve their own livelihoods. The approach stands in particular for the meaningful and long-term participation of local stakeholders in all actions and practices of water resources management.

The Negotiated Approach has been developed in the field through the efforts of civil society organizations (CSOs) and non-governmental organizations (NGOs) in various parts of the world. They have applied the principles of IWRM in a bottom-up approach that is flexible, multi-dimensional and participatory, while maintaining a strong focus on location-specific issues. New paradigms for well-known approaches and techniques of *negotiation* and *strategic management* have evolved and have become the focus of the approach.

Experience has shown that communities living in upper watersheds, forests, on river banks, in rural or urban areas, estuaries or in floodplains, are aware that they themselves have to act and respond locally to the various impacts of the water crisis. They need to build up their own institutional structures and management practices, which can then be upscaled from micro-catchments to river basins, and which are socially, politically, economically and technically within their control. In the process, these communities will have acquired sufficient acumen and competence to be able to effectively negotiate, co-manage or self-manage water-related affairs within their respective catchments and at the level of river basins.

Through these developments and experiences, it is hoped that the approach will contribute to the much-needed reform of the water sector, reflecting the mounting concerns about the state of water resources as a global asset, and its proper management as an important condition for inclusive development.

One essential aspect of the approach is that negotiations are viewed as a process of involvement, in which participants increase their understanding and capacity to solve problems to serve a common interest, and not as a process of bargaining. Negotiations thus refer to participation through open, flexible and creative interactions in which all stakeholders enjoy equal rights and opportunities to play their part in finding solutions to the challenges they face. Most important, those solutions should reflect their different interests and ensure that the benefits are optimally shared. Such negotiations, which fully recognize the validity of local knowledge, consist of a dialogue in which participants identify shared problems and common interests in order to resolve disputes, and reach agreement on courses of action. They require an open, although carefully structured process and a paradigm shift in the thinking of all stakeholders.

Strategic management refers to a structured, cyclical and iterative management approach that encompasses all steps in the management cycle, focusing on planning, implementation, and monitoring and evaluation of interventions. It is thus viewed as a *continuous, sustainable negotiation process* that should enable IWRM to move away from the one-off or *ad hoc* master and project planning approaches that are still common in donor-facilitated development efforts. Such an iterative approach, with well-structured feedback mechanisms of monitoring, evaluation and adaptation, entails a process of *continuous learning*. This is *the* arena for the Negotiated Approach, through which local stakeholders can become effectively involved in water management tasks that determine their livelihood conditions both now and in the future. The approach contributes to making planning processes sustainable and inclusive, while at the same time improving water resources management through a learning process in which all stakeholders participate.

The concepts of negotiation and strategic management are not new. Both are used by most stakeholders – and in particular by implementing government agencies – but are rarely understood or applied in the ways referred to above. This book provides guidelines on how to move beyond the rhetoric and to put these concepts into practice through procedures that are initiated by local communities. Although the proposed approach can be applied to time-bound and *ad hoc* decisions, such as on the construction of an infrastructure project or the formulation of a one-off master plan, the real aim is to use negotiations as a process that ensures the inclusion of local stakeholders in IWRM that focuses on managing water resources as a continuous, strategic and learning process for and with all stakeholders.

Why does IWRM need to be improved?

IWRM was conceptualized in the 1970s as a way to approach the growing complexity of water resources management, and to improve the participation of civil society in managing water resources. Unfortunately, there is growing evidence that IWRM is still being implemented within centralized, state-managed frameworks. Large sections of users and river systems continue to remain outside the ambit of government-managed water resources development programmes. Despite the widespread acceptance of the principles and concepts of participatory IWRM, the lack of political will to change existing power structures, the lack of technical competence, manpower

and trained personnel, and the inadequacies in institutional frameworks, laws and policies, have meant that IWRM has not been implemented at a practical, river basin level.

A brief inventory among NGOs around the world offers examples of the many obstacles they have encountered.

- Governments continue to work in over-specialized fragmented sectors, giving priority to their own production-driven sector objectives.
- There is a lack of constitutional clarity about who is responsible for what. Mandates and ownership are often unclear, while laws and regulations are insufficient to meet the needs of day-to-day water management.
- National plans are often not translated into local level plans, and insufficient attention is paid to implementation processes, adequate monitoring and follow-up procedures.
- International cooperation often focuses on financial arrangements and economic benefits, rather than on social and environmental issues.
- Information is often not easily available, out of date, incomplete and/or inconsistent.
- Local stakeholders lack the capacities they need to participate effectively in decision-making processes.
- Last, but not least, those who wish to complain or offer suggestions do not know who to address.

The implementation of IWRM has thus reached an impasse. Many writers and participants at international conferences have urged individual states to reform their water sectors. Many governments have indeed taken steps to introduce reforms, but unless they recognize the role of civil society, demonstrate the political will to involve them, and institutions enable their involvement, these roadblocks are likely to remain. The Global Water Partnership (GWP) supports this view: 'If there is a dominant political theme in the IWRM concept, it is about democracy and the importance of devising mechanisms that enable the participation of all interested parties in timely decisions about water and its management' (Lenton and Muller, 2009).

Conventional approaches have attached too much importance to public–private partnerships (PPPs), sometimes leading to situations where the corporate sector takes the initiative, but walks away with water ownership rights, prioritizing economic benefits above social equity considerations.

The GWP is carefully critical of the role of markets and performance-based institutions in IWRM: 'There are perhaps two dimensions in which IWRM as a concept remains justifiably contentious. The first is its linkages with concepts of New Public Management and the economic prescriptions of the Washington

consensus, which have emphasized the role of markets and performance-based institutions. This in many ways reflects the dominant ideology of the period in which IWRM emerged as the guiding concept for water management rather than being essential for IWRM itself' (Lenton and Muller, 2009: 213)

The Negotiated Approach has emerged as a response to the business-as-usual, top-down processes used by the mainstream establishment, and to the frustrations felt by local communities (and those who work closest with them) that these processes have not provided satisfactory or balanced results, rights or services in the context of long-term sustainable commitments.

Scope and principles

The following ten principles form the basis of the Negotiated Approach to IWRM:

I. Prioritizing self-motivated local action for initiating the Negotiated Approach
II. Empowering local communities to assert their basic rights to water
III. Maintaining flexibility to negotiate at different levels simultaneously
IV. Optimizing the use of water resources by integration
V. Taking decisions by consensus at the lowest appropriate level
VI. Upscaling water management initiatives through iterative negotiations
VII. Maintaining the integrity and resilience of ecosystems
VIII. Working to achieve and maintain a gender balance
IX. Using appropriate science and technology
X. Promoting transparency and accountability

The first three principles are specific to the Negotiated Approach and are described in detail below. The remaining seven are assumed to be well understood as they are also critical to the IWRM process in general.

The *principle of self-motivated local action* asserts that the community's role as an initiator, manager or co-manager of water systems is on a par with parts played by government agencies and other established institutions. The Negotiated Approach asserts that the community's role has to be in the form of a continuous and long-term management process.

The *principle of empowering local communities* recognizes water as a social good and the right of communities to access the resource as a human right (including quantity as well as quality aspects). This is incumbent on community empowerment, which means enhancing the community's ability to negotiate and make wise decisions based on both inherited knowledge and scientific data.

The *principle of maintaining flexibility* states that a flexible approach is imperative as IWRM functions in a dynamic environment where external

and internal conditions continuously change. This is in line with adaptive management, where changes in strategies and interventions are made according to the feedback received from monitoring and evaluation processes. According to this principle, simultaneous and iterative procedures are needed at various levels, based on the recognition that water management takes place at multiple levels and that external changes at one level may result from internal changes at another level.

Enabling a negotiated approach

Although negotiations and strategic management are considered crucial for improving IWRM, the obstacles listed above clearly indicate that the main challenge is to *create an institutional environment* that will enable all stakeholders to participate in the management of water resources as a continuous learning process. This guide offers an assessment of the enabling environment and institutions that are needed to make the practical implementation of a negotiated IWRM possible, especially in developing countries.

Creating such an environment will involve establishing strategic and coordinating platforms, and implementing the approach at the level of (sub)-river basins.

First, *establishing strategic and coordinating platforms* – councils, committees or advisory groups – will ensure that all stakeholders participate effectively in decision making and are involved in all tasks of IWRM. These platforms should be permanent and independent, but they would, of course, also be part of an existing political and administrative system in which decisions are taken and interventions are implemented. In other words, these platforms would not replace existing decision-making or implementing entities, but would have a mandate to prepare for decision making, and to coordinate, monitor and evaluate the progress and impacts of interventions.

These platforms would play a pivotal role in signalling and trying to overcome inconsistencies between different sectors and between local and regional or national levels. Important activities for such platforms include: formulating strategic water management plans and coordinating, monitoring and evaluating their implementation. In all these activities the Negotiated Approach would improve the participation of civil society.

In order for these platforms to be able to function as expected, four important conditions are essential:

- They should have access to knowledge and information on the availability, use and management of water resources, as well as the capacity and resources to analyze, evaluate and disseminate such knowledge and information.
- They should be involved in the (re)organization of institutional arrangements for water management.
- They should have open channels of communication with policy makers, stakeholders and the public, in two directions: to receive complaints and suggestions, in particular from local actors, and to ensure the transparent dissemination of information.
- They should ensure that communities have the capacity to improve their own livelihood conditions.

Such platforms are rare, and certainly do not function on a continuous basis. In various parts of the world, however, civil society and governments have taken initiatives to establish them. As their status and experience increase, they are starting to play a more permanent and formal role in conventional water resources management, reflecting the growing trust between the government and non-state sectors.

Second, the success of the Negotiated Approach confirms the findings of recent studies that *participatory IWRM should be implemented at the level of (sub)-river basins* or other hydrologically 'independent' units comprising well defined drainage systems or more or less closed ecosystems. It is at this level that supply and demand have to be matched and direct users should be allowed to be involved in management tasks that affect the availability of and access to the resource. It is also at this level that the interactions between land, water and forest can and should be considered, as they affect – and often dominate – both the availability of and the demand for water. As UNESCO's *IWRM Guidelines at River Basin Level* (2009) explained, 'a basin-level perspective enables integration of downstream and upstream issues, quantity and quality, surface water and groundwater, and land use and water resources in a practical manner'.

Again it is emphasized that these units function in existing political and administrative systems that set Environmental Trust for Sustainable Development the limits of and conditions for their management.

Participation as a negotiation process

Negotiations are viewed as an open and flexible dialogue in which all stakeholders are involved and find their different interests reflected in a multi-merit solution in which benefits are optimally shared among as many participants as possible. This requires a carefully structured process and a paradigm shift in the thinking of all stakeholders. The guide refers to 'principled negotiations', a method developed by Roger Fisher et al. (1991),

which focuses on four crucial points: people (separate people from problems); interests (reconcile interests and not positions); options (invent options for mutual gains); and criteria (use objective criteria). The guide further identifies and discusses eight tasks in facilitating the negotiation process, ranging from the preparations for the negotiation process (task 1) to strengthening the capacities and skills of the participants (task 8). In this last task, the focus must be on local actors to ensure they are regarded as equal partners in the negotiations.

Strategic water resources management

Strategic management refers to a structured, cyclic and iterative process of formulating strategies, using them to guide and coordinate interventions, and adapting them in the light of new findings and developments. Strategic water resources management combines the strategies of individual stakeholders into a coherent and consistent 'package of strategies', thus creating a unique corporate advantage and the synergy that is needed to make IWRM genuinely integrated. The Negotiated Approach is viewed as an approach *par excellence* that can help to convert this process – which includes all steps of management – into a continuous learning process for *all* stakeholders.

Strategic management is a process that includes three key stages of management: the formulation of strategies; the identification, development and implementation of interventions; and the monitoring and evaluation of developments. Such a process could be guided by a strategic and coordinating platform (see above) where policy makers, implementing agencies and other stakeholders meet and negotiate decisions related to each stage.

In any strategic management process it is important that negotiations are based on problems identified by the stakeholders themselves, and that their analysis and possible solutions reflect their own interests and perspectives. It is also crucial that all participants have a common understanding of (i) the physical, biological and chemical characteristics and processes of the water resources system; (ii) the different functions of the water resources system in relation to the demands from society; and (iii) the institutional arrangements (institutions, regulations and norms and traditions) for managing the system and its functions. Similarly, it is crucial that all participants acquire the capacities and abilities to negotiate, i.e. through formal rights and access to procedures and information, and through knowledge and skills building.

There are many different approaches and techniques for strategic and operational planning and for monitoring and evaluation. This guide discusses in more detail frameworks for the formulation of strategies, plans for action and indicators for monitoring and evaluation.

What next?

This guide is clear that the Negotiated Approach can only be successful if it is properly implemented through institutional arrangements put in place by international agencies and national governments. In other words, real improvements in IWRM, based on genuine community participation, can only be achieved through the synergy of top-down and bottom-up approaches that are considered appropriate to local circumstances.

This guide to the implementation of the Negotiated Approach is intended to be an intermediate step in its further development. It is essential that the approach continues to be firmly based on the experiences of NGOs, and that it continues to challenge the top-down approaches promoted by the international community.

Further activities to develop the Negotiated Approach must focus both on efforts to improve the method itself and its usefulness when applied under specific conditions, and to create the enabling conditions through communication and engagement with international and national organizations. The partners therefore envisage the following activities:

- producing national versions of the guide containing overviews of the national institutional arrangements for water resources management;
- strengthening the capacities of NGOs to promote, introduce and support the Negotiated Approach, and of the local actors involved in its implementation; and
- supporting NGOs that wish to apply the approach by facilitating the exchange and dissemination of experiences; and
- promoting the approach in various ways, in continuous dialogue with the many international and national agencies involved in integrated water resources management.

1 Introduction

The Negotiated Approach (NA) refers to the efforts of civil society organizations (CSOs) and non-governmental organizations (NGOs) to involve local groups in integrated water resources management (IWRM). These efforts promote negotiations as processes in which participants are able to reach an understanding of and resolve problems based on their shared common interests, rather than as bargaining processes in which individual participants defend their own positions and interests.

The approach recognizes the principles of IWRM as they have developed since the 1970s, and its aim is to strengthen the implementation of IWRM in practice. It involves encouraging and enabling local groups and communities to (co)-manage their immediate environment and to participate in all aspects of water management that affect their livelihoods. The Negotiated Approach is therefore in line with the thinking of international organizations that have concluded that IWRM processes have remained centralized and state-driven. Although civil society is hailed as having a crucial role to play in these processes, existing power structures have proved unable to involve civil society beyond the level of providing information and consultation.

Following the introduction of the approach about a decade ago, a group of NGOs from around the world decided to share their experiences in participatory water resources management. Since then, they have continued to develop the approach and to demonstrate its value for other NGOs working to improve the livelihoods of local water users. The approach has attracted international organizations and national governments responsible for enabling and enhancing the conditions, utilization and equitable access to water resources systems in general. This book brings together the experiences of several NGOs that have worked with the approach over the years. In addition to describing the vision and principles of the Negotiated Approach, it introduces practical methods and tools that can be used to introduce and apply the approach in a variety of situations.

The methods and tools discussed here focus on the processes of negotiation and strategic management. They are not meant to be detailed recipes but are intended (i) to encourage and support local NGOs in applying the Negotiated Approach in their specific working conditions; and (ii) to convince national and international organizations that the approach is a powerful alternative to traditional IWRM, particularly in situations where management organizations share the paradigm shift in thinking that applying the approach requires.

Evolution of the Negotiated Approach

In the late 1990s, two NGOs – the Gomukh Environmental Trust for Sustainable Development, based in Pune, India, and Both ENDS in Amsterdam, the Netherlands – embarked on the development of an alternative approach to water resources development and management. Through their campaigns and lobbying, the two organizations had come to realize that it is not enough simply to oppose unsustainable, large-scale infrastructure projects, but that it is equally important to contribute to the development of alternative resource management options that are socially just, ecologically sustainable and economically viable.

Gomukh and Both ENDS brought together seven NGOs that had succeeded in linking local initiatives to higher levels of government and in different natural and socio-political environments around the world – in Bangladesh, Bolivia, India, Peru, Thailand, South Africa and Vietnam–Cambodia. Taking their projects as starting points, the organizations worked together to explain the basics of the Negotiated Approach, using their projects as examples. The outcome was *River Basin Management: A Negotiated Approach*, which was published by Both ENDS in 2005.

Since then, the partner organizations have made presentations highlighting the potential of the approach at several national and international events, and to representatives of the World Bank and the Asian Development Bank. Subsequently, NGOs in Brazil, Costa Rica and Indonesia recognized the relevance of the approach to their work, and requested support to implement it. In 2006, the NGOs launched pilot projects in Bolivia, Costa Rica, Indonesia and Peru to strengthen local organizations to apply the approach in their activities. These discussions and capacity development efforts confirmed that the approach assisted local organizations to upscale their efforts to promote participatory management and decision making, while integrating a broad variety of stakeholders and paying explicit attention to such issues as ecosystems and biodiversity conservation. The approach has attracted the interest of policy makers and donor agencies, in particular because it can also be applied in activities related to climate change, the 'right to water' and dryland management.

The positive reception, and the evident willingness to use the approach, are in line with the findings of international organizations such as the World Bank and UNESCO that new approaches to IWRM are needed to address the growing global water crisis (see Section 3.1). Such new approaches should facilitate more participatory management and decision making, focusing on empowering local actors to become full participants in all phases of water resources planning processes.

Who we are

As the demand grew for a practical framework that goes beyond individual cases and allows for broad implementation of the NA, a group of partner NGOs – AEDES (Peru), ECOA (Brazil), FANCA (Costa Rica) and Telapak (Indonesia), Gomukh Environmental Trust (India) and Both ENDS – decided to further develop the concepts and tools. At three workshops between March 2009 and June 2010, the partners outlined their vision and the principles of the approach, identified and developed a series of tools and compiled a set of recommendations on how to enable implementation.

This book presents the guidelines that resulted from this process. It is hoped that they will convince all partners involved in the processes of IWRM – from local communities to national implementing agencies and international financing organizations – that new approaches, based on genuine participation of local stakeholders, are feasible. However, this book is also intended to encourage the further development of the approach, so that it becomes the starting and reference point for continuous learning processes and improvements in the light of new experiences.

When defining the expectations of this publication, the NGOs involved realized that alliance building would be necessary to extend the outreach of the approach, and in March 2009 the NA Alliance was born. During the intensive 18-month writing process, which paralleled the capacity development activities in Bolivia, Costa Rica, Indonesia and Peru, the members of the Alliance visited each other's projects, attended training workshops and presented the approach at national and international forums in Costa Rica and Indonesia, and at the Fifth World Water Forum in Istanbul in 2009. All of these activities contributed to the process of writing this guide. We are therefore proud to present this publication as a product of the NA Alliance.

Structure of this guide

Chapters 2–5 describe the history and background of IWRM and its apparent failures in the light of the present water crisis, the vision and principles of the Negotiated Approach and its main characteristics. Chapters 7 and 8 focus on the techniques of participation as a process of negotiation, and on strategic water resources management as a platform for negotiations. Linking the historical perspective and the techniques of IWRM, Chapter 6 discusses how to create an enabling institutional environment. Chapter 9 considers the steps envisaged to further develop and promote the Negotiated Approach.

Appendix A presents background information on water management, while Appendix B presents five case studies of application of the Negotiated Approach by the partners who contributed to this guide.

2 Integrated water resources management

The Negotiated Approach represents the outcome of recent efforts to improve on the widely accepted, but poorly implemented principles of Integrated Water Resources Management (IWRM). IWRM emerged in the 1980s and 1990s in response to the failures of water management as it developed throughout the 20th century into a technological, supply-oriented approach to meet the demands of various specialized sectors of the economy.

This chapter describes the development of water resources management, leading to the logical response of IWRM to meet the challenges of the emerging global water crisis.

2.1 The evolution of approaches to water resources development and management

2.1.1 Water management prior to the early 18th century

Since ancient times, the use of water resources proved to be sustainable even up to the early 18th century. Perceptions of streams and rivers were holistic, and the levels of abstraction and of pollution were well within the internal capacity of streams, rivers and lakes. Although there were some pockets of pollution in the vicinity of towns and villages with industries like tanneries and metal works and municipal sewage disposal systems, the total pollution load was low.

Since human populations were relatively small and well dispersed, the demands on freshwater systems were relatively low, and competition and conflicts were rare. In keeping with the prevailing levels of technology, the utilization of water was efficient, and its access and distribution was largely equitable. Further, the availability of freshwater generally far exceeded the demand almost everywhere, as most human settlements were located on rivers and lakes. Nevertheless, as recorded by historians, the approaches to water resources development and management fell into two categories, the imperial ‘hydraulic civilization’ approach and local community-driven approaches. These were not mutually exclusive, but were often combined in mutually supportive systems.

The imperial hydraulic civilization approach

The hydraulic civilization approach, first described by Karl Wittfogel in his seminal work, *Oriental Despotism* (1957), reflects the responses of states

(emperors, kings and feudal lords) to disasters such as floods and droughts. In this approach to water management, technological innovations and developments were linked to the need of kings and emperors to control their own subjects or their desire to conquer other lands.

The state maintained its political power through an exclusive system of control of mainstream sources of water. The state constructed and maintained large-scale flood-control and irrigation systems, which required centralized coordination and a specialized bureaucracy for collecting water taxes. This system enabled the rulers to maintain vast armies and labour forces to achieve their imperial objectives, and to provide for the needs of communities. Further, all technical inventions and management techniques were geared to obtaining control over freshwater systems. This motivation was relevant even in the management of coastal waterfronts, where trade routes, communication routes and fishing zones were controlled by the navies of powerful states.

In China, for example, the imperial dynasties realized that systematic management of floods and droughts in the Yangtze River basin could provide the basis for their ambitions for political and military expansion. Similarly, the kingdoms that flourished in the Mesopotamian region had taken pains to harness and control the waters of the Euphrates and Tigris in order to gain political dominance. Even in ancient Egypt, the pharaohs depended on the control and regulation of the Nile for urban and agrarian development and flood protection within their kingdom (Pearce, 1992).

Interestingly, in centralized imperial systems, as long as the amounts of water used remained within the limits of the carrying capacities of the freshwater ecosystems, the negative environmental impacts of such systems were not yet evident. Although in retrospect historians have attributed the collapse of the Mesopotamian civilization to unsustainable water management practices, there were very few such 'command and control' hydraulic civilizations. Many other civilizations at that time did not use such systems to achieve political ends.

The community-driven approach

One major flaw in the historical accounts is that they have tended to treat the evolution of water management systems in the same fashion as political history. Thus the emphasis has been on kings, empires and wars, while ignoring the significant role of individual innovations and community-based practices that have evolved over centuries. In many parts of the world, communities have used and managed their water resources based on the prevailing geographic and environmental conditions, traditional wisdom, and individual and collective ingenuity (Agarwal and Narain, 1997).

Many agrarian, forest-dwelling, and fishing communities in deltas and estuaries developed their own ingenious and sustainable techniques for managing water in their immediate environment. These techniques were appropriate to the size and scale of their operations, amenable to community-level dissemination and replicable within the community through demonstrated successes. Under common property regimes, water management was done by delegation, and flood protection measures were treated as public goods. Thus, the perceptions of water in general and river systems in particular, were to a large extent holistic and integrated.

When conflicts over water emerged between villages or within a river basin, they were resolved either through discussion and negotiation, or with the use of force. Violent conflicts were rare, since most issues could be resolved through negotiations and discussions.

Over the millennia, ingenious water management systems evolved and flourished, and some of them have survived to the present day. Systems in Asia and the Middle East, and pre-colonial South America, are testimony to this legacy. They include stream-level diversions and barrages, *quanats* and surface canals, village or temple water tanks, wells with *shadufs* and Persian wheels (*sinias*), one-way sluices, cascades of bunds and excavated lakes, terraces carved out of hillsides, and rotation (sequential) irrigation systems managed by village communities, etc. Alongside these many techniques and structures, institutions for community management of water also evolved[1] and continue to function in some areas. Such decentralized and largely democratic approaches have been described as '… a parallel tradition in which rivers and their natural wealth are conserved and not confronted' (Pearce, 1992). Unfortunately, in modern times, the tendency to impose top-down, bureaucratic and inflexible mechanisms have led to the neglect and abandonment of many time-tested and locally adapted systems.

2.1.2 The technical approach (18th and 19th centuries)

In the late 18th and 19th centuries, advances in building and construction techniques meant that it became possible to construct stone masonry dams, rock-fill dams, canal systems, barrages and diversions on a fairly large scale. The state became the dominant player, and the 'imperial' hydraulic systems of ancient times were transformed into new, centralized and state-managed hydraulic systems. Nevertheless, community-managed systems continued to exist in parallel, especially in areas that centralized systems could not reach, or which were considered to be politically unimportant.

Gradually, however, water resources management became a state enterprise, as governments realized that control over the water system was necessary for

governance in general, and for the processes of agrarian, industrial and urban development. Several states commissioned large- and medium-scale dams, together with canal networks, in order to benefit from the early advances in agriculture. In the early stages, nation states were yet to experience crisis in terms of either the volume or quality of their water supplies.

2.1.3 Water management in the 20th century

During the 20th century, as the demand for water increased, so did the scale of freshwater abstraction. With advanced mechanical devices such as pumps, it was possible to go deeper into groundwater aquifers, and to gain substantial control over hydraulic systems in order to deal with natural calamities such as floods and droughts.

Following World War II, there were further changes in approaches to water management in most countries. Under the pretext of specialization, governments created separate departments to manage different water 'sectors', such as irrigation, groundwater, public water supplies, fisheries, hydropower, river transport, coasts and estuaries, etc. The number of line agencies multiplied, even within the same department, to such an extent that they became disconnected and functioned in isolation. Very often, these agencies started to view each other as rivals competing for the same resources. Bureaucratic departmentalization became extreme, and the formerly holistic approach became fractured and disintegrated.

All this led to an excessive supply-oriented approach and engineering innovations. This also led to the neglect of demand management, which in turn contributed to imbalances in both the qualitative and quantitative aspects of water management. Further, it also resulted in serious inequalities in terms of access to water as well as in its supply, and to the deterioration and eventual destruction of many surface water, groundwater and marine ecosystems. As populations grew, individual village systems were no longer self-sufficient, but became increasingly dependent on technical, financial and administrative support.

As populations grew, encroachments into rivers and other water bodies, and as a consequence, so did the levels of water pollution. It was realized that the policies and legal and administrative systems for regulating the abstraction and use of freshwater were inadequate, leading to deteriorating freshwater systems and shrinking groundwater aquifers. By the late 1980s, the growth in human population and the resultant exponential increase in water demand and abstraction rates, plus unsustainable practices of water use and effluent

discharge, led to the emergence of a serious water crisis. Water is becoming increasingly scarce in absolute terms, and its quality is declining. In India, for example, the annual availability of water per capita fell from more than 4000 m^3 in the 1980s to about 1869 m^3 today (UNEP, 2009).

By the 1980s, the number of sectors concerned with water-related activities had proliferated enormously. In most cases each sector pursued its own objectives, which often contradicted those of other sectors. This led to an absence of interconnectedness, lack of accountability and responsibility between sectors, and created a 'free for all' as competition for scarce water resources increased. Without adequate control and regulation, levels of pollution escalated, leading to the deterioration and destruction of many aquatic systems.

In a sense, the lack of communication between excessively compartmentalized and often defunct line agencies has made the emergence of 'integrative approaches' inevitable.

At the turn of the 21st century, well over 50% of global freshwater resources, and perhaps an even greater proportion of groundwater in aquifers remained outside the control of the state. In many countries, this situation was the result of the lack of communication and coordination created by excessively departmentalized and often defunct line agencies. In India, for example, 90% of groundwater is currently managed entirely by communities, without any regulation or state control. At the same time, over 60% of the river water resources are not under the direct control of state or corporate agencies (GoI, 2008).

This situation is both a curse and a blessing. It is a curse because so many poor and marginalized people are denied access to surface or groundwater resources. But it is also a blessing because many people still have the freedom to use their ingenuity, traditional knowledge and negotiating skills at the community level to ensure equitable access to water resources and to participate in their management.

This situation has also prompted centralized agencies to rush in to try to correct anomalies in the development, distribution and management of water resources. Euphemistically termed 'water sector reform' in most developing countries, the process also provides opportunities for civil society to introduce technological changes, and to use state-of-the-art electronic systems and science in order to make water resource development and management more practical, relevant and sustainable.

2.2 Integrated water resources management

2.2.1 The failure of 'business as usual'

Approaches to water resources management have undergone profound changes over the last 20 years. More often than not, these changes are rooted in the unsustainable, supply-oriented paradigm of water resources management practices that were dominant throughout the last century.

The world over, there are innumerable examples of the failures of centralized supply-oriented technological interventions, such as large dams that have not led to improvements in the socio-economic conditions of marginalized groups such as the poor or landless farmers. Such engineering projects were almost invariably accomplished at the cost of valuable natural and social systems – as they often caused large-scale displacement of people – and resulted in conflicts. Further, this led to skewed ownership of surface and groundwater, which in many countries is linked directly to land ownership. The fact that marginalized groups are losing access to water is also a matter of growing concern.

Other examples of supply-oriented and unsustainable engineering interventions include flood-protection works, such as embankments, levees or dykes along rivers. Sometimes these embankments protected the people from annual floods, but soon farmers in the floodplains also started to experience droughts and needed to buy fertilizers to compensate for the loss of fertile alluvial deposits. In many cases, the embankments have proved unable to withstand massive floods, for example the Yangtze and Yellow rivers in China; the Ganga, Kosi and Brahmaputra rivers in the Indus–Ganges plain and the River Rhine in Germany and the Netherlands. Such embankments also disturbed the sensitive and fragile dynamics between surface and groundwater and very often hampered the runoff of floodwater. As a result of all these adverse effects, many people living in delta areas who had experienced a sense of short-term security are now helpless.

Alongside these developments, growing populations and increased economic activities, there are serious problems with regard to the quality of water and its distribution. They have created conflicts among different water users – upstream versus downstream, urban versus rural, local people versus temporary immigrants – as well among farmers growing cash crops and food grains, etc.

2.2.2 The emergence of the IWRM concept

The early forms of integrated water resources management can be traced back to the Tennessee Valley Authority in the United States (1933), the Damodar Valley Corporation in Central India (1948), the Nile Agreements in Egypt in 1929 and 1959, and many others. Although these commissions aimed to improve allocation and integration, they usually ended up achieving only one or two objectives such as allocating shares between countries, signing navigation treaties, or constructing large dams and canal systems.

The Policy Analysis of Water Management for the Netherlands (PAWN), carried out in the late 1970s by the Rand Corporation (USA) and the Delft Hydraulics Laboratory (the Netherlands), was probably the most comprehensive study of water management, as it included all water users, quality and quantity problems, surface and groundwater, agriculture, navigation, etc. (Rand Corporation, 1981–1982; Veen and Baarse, 1982).

The first major global response to the growing water crisis was the Dublin Statement on Water and Sustainable Development (ICWE, 1992). The signatories called for a fundamentally new approach to the management of water resources, one that recognized the interdependence between population groups and between mankind and nature with regard to water resources.

Also in 1992, the UN Conference on Environment and Development in Rio de Janeiro brought together the outcomes of all previous discussions in Agenda 21 (UN, 1992), a consensus document that laid out a detailed agenda for action for the 21st century. One important element of Agenda 21 was Chapter XVIII, which called for the integrated management of water resources. This

Integrated water resources management

There are many different definitions of integrated water resources management. For example:

- 'A systematic process for the sustainable development, allocation and monitoring of water resources use in the context of social, economic and environmental objectives. It is different from the sectoral approach applied in many countries …' – Cap-Net (UNDP) online training manual.
- 'A process which promotes coordinated development and the management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems' – UN organizations and the Global Water Partnership (GWP, 2000).

signalled international acceptance of the need to introduce IWRM into national planning systems in order to resolve the world's growing water problems. Chapter XVIII emphasized the need for basic framework for integration and a holistic approach to water resources development and management. Interestingly, during the Rio negotiations, most developing countries resisted the inclusion of water as an 'economic good' or tradable commodity, and thus it did not figure prominently in Agenda 21.

IWRM is a holistic approach that seeks to integrate the management of the physical environment within the broader socio-economic and administrative frameworks. A central objective of IWRM is to secure water for all purposes, as well as to manage risks, while responding to and preventing disasters. Achieving these objectives requires the resolution of a number of trade-offs to maintain a proper balance between the needs of various sectors and establishing suitable mechanisms for governance and for coping with changing environmental, economic and social circumstances. Further, IWRM strives for effective and reliable delivery of water services by coordinating and balancing the needs of various water users.

More recently, organizations such as UNESCO have recommended that 'IWRM principles' are implemented within 'river basins'.[2] UNESCO's *IWRM Guidelines*, for example, note that 'Although an "enabling" institutional infrastructure is a desirable prerequisite for implementing IWRM, it is not enough for the practical execution of effective water management – that is, for the efficient and reliable delivery of water-dependent services such as hydropower, municipal and industrial water supply and irrigated agriculture, or even environmental flows and flood damage reduction. It is at the river basin scale that cooperation schemes, wide-ranging efforts such as coordination, collaboration and joint action are currently implemented' (UNESCO, 2009; see also Section 3.1).

Water security

Water security can be defined as the 'availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies' (Grey and Sadoff, 2007).

During the First African Water Week, held in Tunis in March 2008, the African Ministers' Council on Water (AMCOW) and the African Development Bank offered similar definitions, but rather than 'water-related risks', they referred to 'water-related disasters' (AMCOW, 2008).

River basins and water systems

River basins are hydrologically well defined. It is at this physical scale that water supply and use have to be matched, contaminants that are discharged into the water spread affecting ecosystems and human use, and disasters such as floods and droughts can be dealt with and prevented. In this sense, the concept of a river basin as an adequate unit for IWRM should be broadened to *water systems*, referring to areal units where for the purpose of management, well-defined, although not always 'watertight' boundaries can be drawn, delineating specific and sometimes unique hydrological and/or ecological processes. Examples include drainage units in delta areas, lake drainage basins that form part of river basins, and aquifer extraction and recharge areas (see also Sections 7.2.1 and 8.3).

2.3 Summary

This chapter has described the evolution of approaches to water management over the centuries and how technological developments and population growth resulted in the emergence of widely acclaimed integrated water resources management (IWRM) in the 1970s.

Until the mid-18th century, the availability of water was generally more than adequate to meet the demand, and the level of use of water resources was well within the carrying capacity of freshwater ecosystems. Low population densities meant that conflicts over water were rare, and that the waste discharged into rivers and lakes could be absorbed without affecting humans or ecosystems.

People held a holistic view of water and considered water not merely as an economic input for consumption and production. Two management regimes, not mutually exclusive, could be distinguished: (i) the imperial hydraulic civilization approach, in which rulers provided and administered water systems (such as large-scale flood control and irrigation systems) for their own benefit and for political control; and (ii) the community-driven approach, where local communities managed their access to water as a common-pool resource.

This idyllic picture started to change in the 18th and 19th centuries, when growing populations and technological advances led to the emergence of nation states. National governments became the predominant managers of water resources, and their almost exclusive objective to facilitate the growth of agrarian, industrial and urbanization processes. By the late 20th century, this had led to an excessive supply-oriented approach, which resulted in serious inequities in access to water, shortages of water and the deterioration or destruction of many surface water, groundwater and marine ecosystems.

Individual village systems were no longer self-sufficient, but dependent on technical, financial and administrative support from higher government echelons. However, the lack of communication and interconnectivity between the excessively departmentalized and often defunct line agencies failed to address the growing water resources management problems that asked for an integrated approach.

Such a concept of IWRM emerged in the 1970s. The approach received wide international acclaim, starting with the Conference on Water and Environment in Dublin, Ireland (January, 1992) and the UN Conference on Environment and Development in Rio de Janeiro, Brazil (June, 1992). IWRM is a holistic approach that seeks to integrate the management of the physical environment within that of the broader socio-economic and administrative frameworks. The approach requires making trade-offs between the needs of various sectors and establishing suitable mechanisms for governance and for coping with evolving environmental, economic and social circumstances. More recently, the international community has recommended that the principles of IWRM are best applied within water systems with clearly delineated hydrological and/or ecological boundaries, such as river basins.

Notes

1 See Kautilya's Arthashastra, an Indian treatise on statecraft, economic policy and military strategy that dates from 350–280 BC.

2 Throughout this guide, the term 'river basin' refers to the broad concept of a hydrologically well-defined area suitable for IWRM, which includes drainage units and aquifers, for example (see also the box 'River basins and water systems' on page 13).

3 The scope of the Negotiated Approach

The Negotiated Approach responds to the frustrations felt by many communities, small landholders, social organizations and other actors that traditional approaches have not provided satisfactory or balanced results, rights or services in the context of long-term commitments. The approach addresses the unjust and unsustainable management of natural resources and, in particular, the decision-making processes that continue to be the exclusive preserve of government officials, and which often do not serve the interests of local water users and disregard impacts on the environment.

The IWRM concept has remained an abstraction and has reached an impasse. The solution is to involve civil society equitably and operationally in water management, and thus to move away from centralized state-managed frameworks.

3.1 IWRM, a strong concept but weak in implementation

Although the concept of IWRM is fairly well ingrained and accepted globally, the approaches and methods for its implementation are still evolving. UNESCO's *IWRM Guidelines* at River Basin Level, for example, state that: '… however, well-developed, well-tested, scientifically robust, socially acceptable and economically viable approaches to implement IWRM at the river basin level are still not widely available'. Further, the guidelines note that '… institutional arrangements to facilitate a fully implemented IWRM approach at the basin level have not emerged, primarily because the concept is complex and requires a very high level of commitment and follow-through' (UNESCO, 2009).

In other words, despite the rhetoric surrounding the integrated and participatory approach that is embodied in IWRM, in practice, water resources management continues to be a top-down process. Even when state water resource planning systems attempt to be both participatory and integrated, the plans that emerge tend to be centralized and top-down in character. Only rarely are the interests and capacities of those actually living in the river basin or micro-catchment area taken fully into account.

IWRM tends to take a macro-level master plan as the starting point for management interventions. In doing so, the methods used tend to become reductionist and based on a series of assumptions about local needs, water availability and flow characteristics, economic development projections, and so on. Because such master plans are conceptualized and implemented through

a sectoral approach, they tend to be at variance with local realities. It is precisely the lack of attention to local needs and local environmental realities that has led to the absence of a truly 'integrated' approach to water resources management.

IWRM: Findings of international organizations

A number of organizations, including UNESCO and the World Bank (Lenton and Muller, 2009), have independently conducted studies to assess experiences in implementing IWRM. The conclusions of these studies clearly indicate that an alternative approach is needed. The most important findings and lessons learned from these studies are summarized in the following paragraphs.

In many developing countries, national ministries, departments and agencies are not yet prepared to accept the essential elements of IWRM, including the need to involve communities in decision making, planning and implementation of water resources development and management plans, and/or eventually enabling them to co-manage or independently manage the water resources themselves (UNEP, 2005).

Public–private partnerships (PPPs), or direct investments in water utilities by the corporate or the public sectors, have so far not been and are unlikely to be able to achieve the broader objectives of IWRM, especially if they are to achieve the Millennium Development Goals (MDGs) related to water by the target date of 2015. Occasionally, PPPs have had an impact in urban areas, and some privatized services, such as urban water supplies, effluent treatment, hydropower generation, etc., have proved successful. But they have largely failed to address many broader problems such as how to manage groundwater aquifers, or how to provide access to potable water, sanitation and irrigation water for rural communities, especially in remote areas where such interventions are most needed, but where profitability or the returns on investment are likely to be low or even negative.

While it is acceptable from the point of view of efficient water use to consider water as a tradeable commodity, the privatization of water resources appears to be a major obstacle to IWRM, since it entails direct economic conflicts of interest between the private sector and communities. For example, to rationalize and minimize costs, the purification and distribution of water in supply systems or the maintenance of canals and irrigation systems are amenable to cost recovery and privatization. On the other hand, the long-term leasing of a river or stream waterfront, or the private ownership of groundwater aquifers would contradict the objectives of IWRM since communities would lose their rights to access water. Such forms of privatization would also be unacceptable because they would contradict MDG 7, to ensure environmental sustainability (GWP, 2007).[1]

Projects that start out with an abstract definition and concept of IWRM, or use IWRM as a blueprint for action, are rarely successful. On the other hand, projects that set out to address specific water-related problems or development challenges are able to effectively translate IWRM principles into practice. It is thus accepted that IWRM is not a one-size-fits-all solution, but a pragmatic approach to water management that is responsive to local realities, and can accommodate emerging challenges, constraints and social priorities.

IWRM: Findings of NGOs

Confirming the findings of these formal studies, the partner NGOs involved in writing this guide have identified the following obstacles to IWRM. Governments work in over-specialized, fragmented sectors (sometimes with overlapping authority) that give priority to their own sectoral objectives and stick to short term (political) horizons. Government agencies have failed to delegate responsibilities, while individual and institutional capacities are limited. None of the NGOs reported adequate committees or organizations at the river basin or sub-basin level.

- Water agencies are often under pressure from other, more powerful departments and employ mostly technicians with little or no management training.
- There is little communication between NGOs, civil society and researchers.
- In many developing countries, there is lack of constitutional clarity about who is responsible for what. Mandates and ownership are often unclear, while laws and regulations are insufficient to meet the needs of day-to-day water management. Often, governments simply copy the laws used in other countries without adapting them to local contexts; they do not address complex environmental issues, they are often outdated and may even contradict other legislation. Implementing legal frameworks seems to be a major problem everywhere. Some international conventions create commitments that require changes in the legal framework, and these receive more attention than addressing local needs.
- National and regional plans are frequently not translated into local level plans. Too little attention is paid to implementation processes and the need for adequate monitoring and follow-up procedures. There is general lack of capacity for planning, while decisions in such planning processes are often based on inadequate information, to which, moreover, not all partners have equal access.
- International cooperation focuses on financial arrangements and economic benefits rather than on social and environmental issues.
- The lack of information and limitations on access are widely experienced as major bottlenecks. There are many data collectors and providers, but information is not easily available, not updated and often incomplete and inconsistent.

- Local stakeholders lack the knowledge and the capacities to participate effectively in decision-making and management processes. Such knowledge relates to the institutional arrangements and corresponding decision-making processes and the functioning of natural resource systems. Capacities that are needed include, for example, the ability to collect and interpret information; to formulate strategies and action plans; monitoring and evaluation; and effective communication and negotiation techniques.
- Last, but not least, those who wish to complain or make suggestions do not know who to address.

In their recent guidelines, organizations such as UNESCO and Cap-Net (UNDP) have promoted the formation of river basin organizations (RBOs) as a solution to the failures in the implementation of IWRM (see also Section 2.2.2). It is important to note that there are clear differences in the way the UN organizations are promoting the IRBM approach, and how the World Bank and other agencies advocated IWRM in the past. RBOs are in fact delegated government organizations responsible for coordinating different departments at the – indeed more adequate – river basin level. However, the approach is no different from conventional IWRM. RBOs do not result in changes in attitudes to water sector policies and adaptations to the institutional frameworks that are necessary for genuinely applying the principles of IWRM.

Indeed, if IWRM as it was originally conceived at the Rio Earth Summit – as a means of ensuring the sustainable use of water – had provided the appropriate political and institutional frameworks, then by now we should have seen the establishment of a large number of RBOs developing and managing river basins. But this has not happened in most countries.

There is growing evidence that conventional IWRM is still implemented within centralized, state-managed frameworks, and has therefore failed to resolve serious problems related to access and the equitable distribution of water. These conventional implementation frameworks have ignored the fact that in many areas, a large proportion of water users and ecosystems remain outside the ambit of state-managed water resources development. The conventional approach has also failed to provide for adequate institutional environments through administrative systems and/or state agencies, and has attached more importance to PPPs. Sometimes this has led to situations where the corporate sector takes the initiative, but walks away with the water ownership rights, through the confidentiality clauses inserted in the agreements.

Thus, years after its initial global recognition, the IWRM framework has remained largely in the realm of abstract academic and theoretical discourse, or on the drawing boards of government agencies. The global establishment

has tended to ignore and wish away this reality. The lack of political will to change the power structures, the lack of technical competence and trained personnel for IWRM, and the lack of adequate institutional, legal and policy frameworks, have meant that IWRM has not been implemented at the river basin level. The process has reached an impasse. Unless the more enlightened water professionals and political leaders show strong, affirmative leadership and take action – to introduce the enabling institutional reforms, demonstrate strong political will and recognize the role that civil society can play – these obstacles are likely to remain firmly in place.

3.2 Scope of the Negotiated Approach

In the absence of clearly defined guidelines or frameworks, NGOs and CSOs in various parts of the world have worked on and applied the principles of IWRM with varying degrees of success. Unlike the top-down approach of the mainstream establishment, these organizations began by using bottom-up approaches that were flexible, multi-dimensional and participatory, to addressing local issues. It is from the experiences and experiments of these practitioners that the concept of the Negotiated Approach to IWRM has emerged.

The Negotiated Approach represents an effective and democratic way to solve problems in the complex reality in which we live. Further, the approach encourages stakeholders to reach agreement through negotiation and to commit to decisions that are taken. In other words, actors not only identify themselves with the decisions but they ‘own’ the decision-making process, its results and follow up. The Negotiated Approach is not only a bottom-up process: in real-life situations, the application of the approach is complex, requiring participants to address difficult issues in several dimensions and at different levels simultaneously.

Water management is not only about best practices and efficient technology. In most developing countries in Africa, Asia and Latin America, it is also about social change and community empowerment. The focus of the Negotiated Approachis not limited to technical water management ‘processes’, but on creating a culture of open communication, strengthening capacities, accountability and transparency, which in itself is an intensive and long drawn-out process. Basically, by giving decision-making powers to communities, the approach returns to them the trusteeship of natural resources. This fundamental philosophy of community trusteeship (rather than legal or economic ownership) of natural resources is crucial in developing countries where the private sector has for too long usurped the resource rights of many communities and promoted their further marginalization.

The Negotiated Approach is a multi-level approach that can be initiated in one or even multiple dimensions simultaneously. It starts by assuming that the reality faced by a community is complex and therefore not amenable to a simplistic and linear process, either top down or bottom up. In order to be effective, the approach has to be multi-dimensional, multi-layered and, most important, simultaneous in its concepts, functions and solutions.

3.3 Summary

This chapter has built on the key observation that IWRM has proved to be a strong concept but has suffered from weak implementation. In practice, IWRM continues to be a top-down process that pays little attention to local needs and local environmental realities. Recent studies by UNESCO and the World Bank have confirmed the findings of NGOs around the world that many national administrative power structures are not yet prepared and/or are unable to accept or implement the essential elements of IWRM. These include involving communities in decision making, planning and implementation of water resources management and eventually in co-managing or independently managing their water resources.

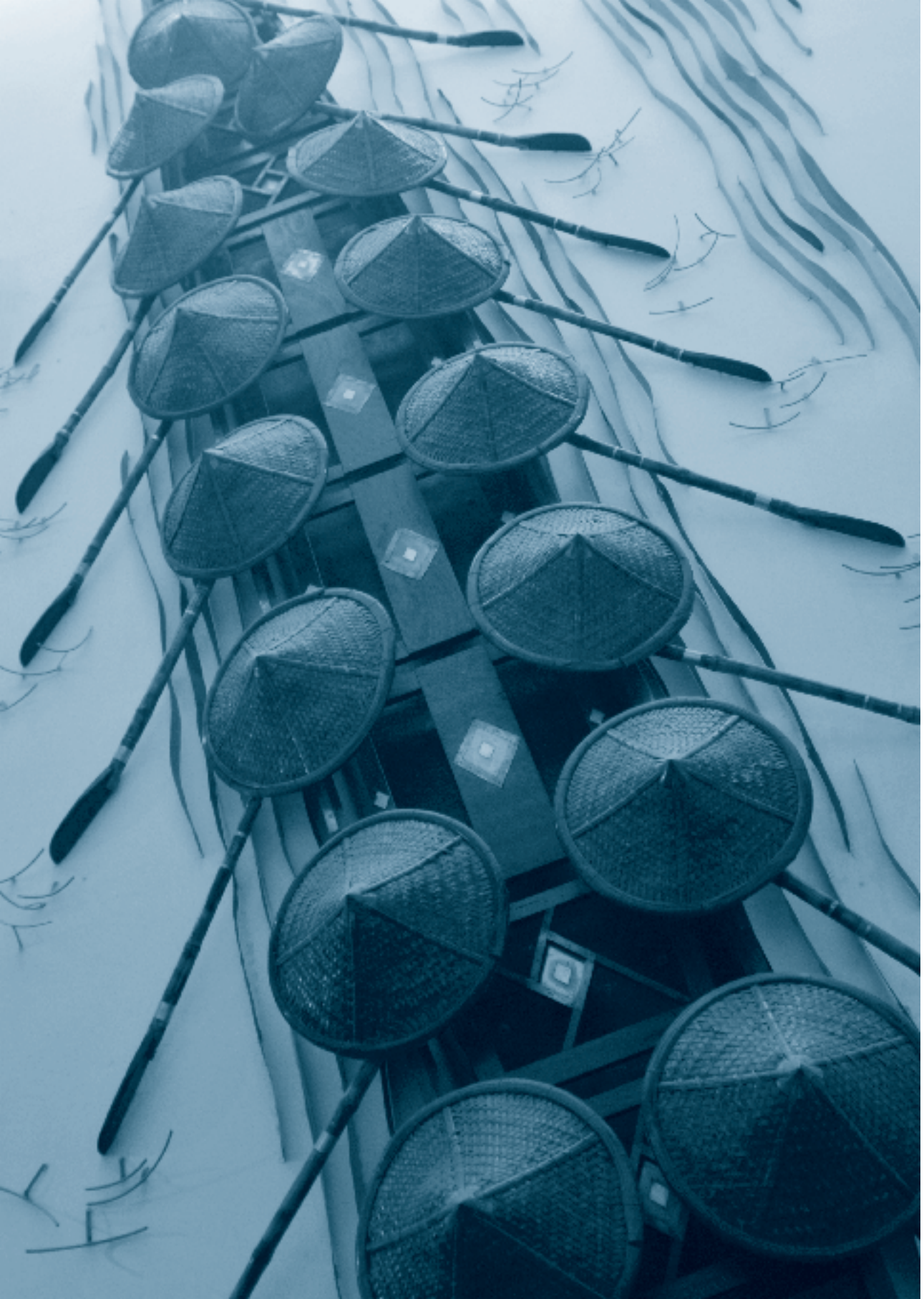
International organizations are now promoting the formation of RBOs as a solution to the failing implementation of IWRM. In many cases, however, these RBOs are in fact delegated government organizations, coordinating the work of different departments at an – indeed more adequate – river basin level. Such RBOs will not result in the necessary adaptations to the institutional framework and the changes in attitude within the water sector that are necessary to ensure the genuine involvement of civil society in water management.

In contrast with the RBO approach, NGOs and CSOs in various parts of the world, have worked to develop a bottom-up approach that is flexible, multi-dimensional and participatory, and is able to address location-specific issues. It is through the experiences and experiments of these practitioners that the concept of the Negotiated Approach to IWRM has emerged.

The approach represents an effective and democratic way to solve problems. Water management is not only about best practices and efficient technology, but in most developing countries in Africa, Asia and Latin America, it is also about social change and community empowerment.

Notes

1 MDG target 7a: ‘Integrate the principles of sustainable development into country policies and programmes; reverse [the] loss of environmental resources’.



4 Vision and principles

The Negotiated Approach is intended to enable people to formulate a vision that will inspire them to overcome obstacles and achieve fundamental change in the management of natural resources. It challenges water professionals and political leaders who have the means and the expertise to help people to convert this vision into reality. The people then take charge of their own resources, develop and manage them in a sustainable and equitable manner, in order to obtain access to adequate water not only for their survival and livelihoods, but also for attaining a growth path that will satisfy their current and future aspirations. Communities that have so far remained outside the mainstream development paradigm, either by design or by accident, will take on the responsibility to protect their resources from being usurped or transferred to the rich and powerful forces of the 'establishment' in order to restore the imbalance.

The approach takes inspiration from ancient visions that, in their practical implementation, clearly represent the idea of trusteeship rather than ownership of resources. But it can also be applied to meet the present-day challenges of integrated management.

4.1 Ancient visions

Water has played a central role in the beliefs and religions of many ancient societies and in the development of attitudes and practices that value water in ways more related to sustainability than the utility and efficiency visions that prevail today.

Hinduism, Buddhism and Islam, for example, embrace perceptions of water and rivers as holistic and integrated, as they include water in the sky, on land and in the sea, in its solid, liquid and gaseous forms. Hinduism – sometimes called 'a holy water religion' – regards water as one of the five elements of nature and a building block of life and all living beings. In Buddhism, water is seen as a symbol of purity and serenity. Islam regards water as the primary element that existed even before the heavens and Earth, and from which God created humans.

In addition to these perspectives, which have been codified in pictures and philosophical writings, there are other ancient visions that still survive. Indigenous communities in Central America see rivers as connections between the gods and the human world that should never be blocked or even damaged. The Maori in New Zealand regard rivers as sacred and dammed rivers as being

'ill', perceptions that have not changed even though dammed rivers give the Maori more water during the dry months. In South America, the descendants of the Inca believe that water is sacred and a symbol of purity of the soul. Water worship was a celebrated Inca ritual that formed a nucleus for all their cultural practices. These visions cover the past, present and the future, and have a clear understanding about the sustainability of natural resources. They are simple, original, elegant and profound.

4.2 The World Water Vision

The idea that water is a global asset is a rather recent one. It emerged from an initiative of the World Water Council that led to the report *World Water Vision: Making Water Everybody's Business* (WWC, 2000). The title itself is an admission of the fact that water is too important a natural resource for its development to be entrusted to water experts, hydraulic engineers and global agencies like the International Commission on Large Dams (ICOLD), or to individual national governments which often have jurisdiction only over small segments of major river basins. In other words, the water crisis cannot be tackled at the national, regional or local levels alone, but has to be seen as part of 'our common future', where the destinies of all countries are interlinked through the global hydrological cycle.

Based on a global assessment of the water crisis, the World Water Council report formulated a vision statement to which many water experts, legislators and research institutions contributed: 'Our vision is a world in which all people have access to safe and sufficient water resources to meet their needs, including their food needs, in ways that maintain the integrity of freshwater ecosystems.'

Yet this vision still represents a 'top-down' view that does not give sufficient importance, responsibilities or space to local communities, their knowledge, and their intrinsic abilities or their competence to manage their own water resources. Local communities are not treated as equal partners, but merely as recipients of services provided by the global and national establishment, or the private sector at best. The Negotiated Approach does not contradict this vision of the establishment, but provides an entirely new viewpoint that gives communities a far greater degree of responsibility as well as rights.

4.3 The vision of the Negotiated Approach

The vision of the Negotiated Approach reflects elements from the ancient visions of communities in Asia and Latin America, in which water trusteeship

was held to be a sacred duty. At the same time, recognizing that present-day challenges also require a contemporary approach and methodology to achieve the desired results, the concept of trusteeship is taken to mean the responsive and inclusive management of water resources.

Keeping in mind the wisdom of the ancient visions, as well as the immediate needs of the current generation, it is the vision of the approach:
'to create a future where communities (whether living in upper watersheds, forests, on river banks, in rural or urban areas, estuaries or in flood plains) are aware that they themselves have to act and respond locally to the diverse impacts of the water crisis, and have built their own institutional structures and management practices that are upscaled from micro-catchments to river basins, and which are socially, politically, economically and technically within their control.'

Application of the Negotiated Approach aims at 'supporting communities to acquire sufficient acumen and competence to be able to negotiate effectively, co-manage or self-manage water-related affairs within their respective catchments or at the level of river basins.'

Applying the approach does not aim at taking over or replacing democratically appointed agencies, but to take proactive initiatives in collaboration with the establishment. Finally, the Negotiated Approach is based on the concept that water is meant for all species, and that human communities are its trustees and not owners. Water as a human right is therefore limited to the right to use, enjoy or benefit from water resources, as long as they are not damaged.

Holistic approaches have been an important part of many ancient knowledge systems, which treated all the so-called specialized disciplines as parts of the larger knowledge system or philosophy. The next section looks at some of the documented concepts and principles that underlie the relationship between humans and nature.

4.4 Principles of the Negotiated Approach

The vision given above is a statement of intent. Here, this vision is broken down into a set of principles that form the basis of the Negotiated Approach. Although it is recognized that some of these principles are critical of the IWRM process in general, the first three are specific and new to the approach. Some conventional IWRM principles have been reinterpreted, partly because they have specific connotations for the Negotiated Approach, and partly because there has been a tendency for some financial institutions and governments

to conveniently interpret them in a manner that supports 'business as usual'. The key features of the approach are discussed further in Chapter 5.

These principles are specifically meant for any community-based or national civil society organization involved in the process advocating the Negotiated Approach as an essential element within the framework of IWRM. Similarly, the principles support and project the agenda of indigenous or local communities, trying to assert their water rights and regain their control over the management of their water resources. In addition, they are also relevant to government and international agencies and financial institutions which are struggling to implement the IWRM principles because of their difficulties in reaching out to local and indigenous communities and other stakeholders.

The following ten principles are key to the approach:

I. Prioritizing self-motivated local action for initiating the Negotiated Approach
II. Empowering local communities to assert their basic rights to water
III. Maintaining flexibility to negotiate at different levels simultaneously
IV. Optimizing the use of water resources by integration
V. Taking decisions by consensus at the lowest appropriate level
VI. Upscaling water management initiatives through iterative negotiations
VII. Maintaining the integrity and resilience of ecosystems
VIII. Working to achieve and maintain a gender balance
IX. Using appropriate science and technology
X. Promoting transparency and accountability

I Principle of prioritizing self-motivated local action for initiating the Negotiated Approach

Experiences in applying the Negotiated Approach suggest that it works best when it is initiated by a nucleus of self-motivated people, and when it responds to a strongly felt need or a conflict, as perceived by a community. Scarcity of water, the absence of water infrastructure, natural calamities, or an external intervention such as a large dam or a navigation corridor, are circumstances in which self-motivated local action may emerge. Such local action may also be triggered by events at the trans-basin or regional level. As explained in sections 2.2.2 and 3.1, it is at the level of river basins that the Negotiated Approach is best applied.

It is not ruled out that the approach may be initiated by national or international NGOs, academic institutions etc., but its success depends largely on its eventual adoption and ownership by the local leadership of a community or an action group.

Finally, it is through this principle that it is possible to demonstrate that IWRM does not limit the community's role to nominal participation in government

projects. The principle asserts the right of communities to act as initiators, managers or co-managers of water systems, roles that are at par with those of government agencies or other established institutions. It also asserts that communities must be involved in the continuous and long-term management of managing water resources.

II Principle of empowering local communities to assert their basic rights to water

It is normally observed that governments and international funding agencies give priority to large-scale projects such as hydropower plants or irrigation systems. While these may be important from national or international points of view, they may completely bypass the more urgent and emergent needs of local communities. The success of IWRM depends greatly on recognizing the fundamental rights of communities to safeguard their access to water resources, including quantitative as well as qualitative aspects. Most important, this principle recognizes water as a social good and a common-pool resource. It must therefore be held in trust, protected, conserved and utilized sustainably and equitably by communities, but not owned privately.

This principle includes the concept of equitable (but not equal) distribution of water within a river basin, requiring efforts to bring about equity based on:

- the natural availability of water due to precipitation;
- the current and projected human population living in the river basin; and
- the variability in water available at different locations within the river basin, i.e. between sub-basins or micro-basins.

While the right to water for drinking and domestic use is seen as an absolute priority, the Negotiated Approach allows communities the flexibility to determine the volumes of water they need for other activities, such as agriculture, forestry, fisheries, etc., on which they depend for their livelihoods.

It is further recognized that ensuring such rights is incumbent on community empowerment. This involves enhancing the capabilities of communities to negotiate and to make informed and wise decisions using a combination of inherited knowledge and scientific data. This requires bringing traditional knowledge up to date and presenting relevant scientific data in such a way that it can be easily understood. Such a process will help to build confidence and strengthen village-level organizations so that they are able to upscale themselves to form affiliations and federations.

Another important aspect of community empowerment is about maintaining financial independence by obtaining funds from a variety of sources and managing them in a transparent and democratic manner. For example, civil

Community empowerment

In the Kolwan valley, Bhima River basin, Maharashtra state, India, the Gomukh Environmental Trust set up platforms for negotiation and established water user groups and women's self-help groups in each village. These groups were trained to calculate the availability of water in the valley per capita, per household and per hectare, using a simple water balance model. The annual precipitation was divided among the villagers based on the area of land under cultivation and the number of households. This enabled the villages to negotiate the volume of water to be allocated to each village in the valley (see table in Appendix B, page 122).

With this information about the annual availability of water, the participants became more confident about negotiating with government officials about the volumes of water to be released from the reservoir, and the schedules for such releases. Eventually, they were also able to negotiate the volumes of water to be released per hectare and per cropping season.

society organizations that are successful in increasing the share of local contributions, balancing that share with grants from the local/national government, supplementing it with contributions from stakeholders, private-sector enterprises and foreign donors, etc., will be better able to reject unacceptable conditions or pressure from a single source.

III Principle of maintaining flexibility to negotiate at different levels simultaneously

Flexibility is understood as the ability to make strategic adjustments within a given power structure that increases the room for manoeuvre towards an adequate and justifiable share in decision making and implementation. Flexibility further includes the ability to anticipate and respond to events at the local as well as global level. A flexible approach is therefore imperative, bearing in mind that IWRM works in a dynamic environment where external conditions may change and leaders come from different groups with different competencies. In order to include the often divergent views and the interests of all categories of stakeholders working at various levels of negotiations, a flexible approach is essential.

As a principle, the flexibility of the negotiators is also important in discussions with government agencies, urban/industrial stakeholders, investors and private service providers. Flexibility means recognizing that institutional growth is organic, and is not predetermined or part of a rigid framework imposed from above (i.e. the national or river basin level). At the same time, flexibility does not mean compromising on the basic principles of the Negotiated Approach.

Another important component of flexibility is ability to function simultaneously in various fields of interest: IWRM involves working on community empowerment, policy amendments, lobbying, environmental conservation, etc.

IV Principle of optimizing the use of water resources by integration

In some situations there may be diverse stakeholders with legitimate objectives that need to be reconciled. In such cases it is prudent not to try to maximize just one or two objectives, but to optimize all of them through the negotiated process of discussions and 'trade-offs'.

However, such a process of optimizing the use of resources is possible only if there is systemic integration of efforts at various levels. Since there is a natural tendency for sectors and interest groups to defend their own positions, it may be necessary for them to lobby and advocate for the creation of forums that can work towards integration at each of these levels:

- *Sectoral integration.* Conventionally accepted water sectors, such as irrigation (agriculture), hydropower, navigation, fisheries, forestry, etc., are functional in nature but hierarchical in form. All of these sectors are mutually linked and so all may benefit if they work together in an integrated manner.
- *Ecosystem integration*. Natural (sub-) ecosystems can be integrated in the planning and implementation process by establishing the interdependencies and linkages among them. This can lead to synergies that will be beneficial to ecosystems as well as to human welfare.

Working at different levels

The Negotiated Approach can be applied in a variety of settings, and at any scale, where a multitude of factors interact to create complex and dynamic situations. For this reason, the NGOs that facilitate the negotiating process must be ready to make use of opportunities as they arise at different levels.

Ecologia e Ação (ECOA) is an NGO working to protect the Paraguay–Paraná wetland system, a vast region that straddles the borders of Argentina, Bolivia, Brazil, Paraguay and Uruguay. As part of its work in the Plate River basin, ECOA has led a number of local initiatives to mobilize grassroots groups and empower civil society organizations. At the same time, as a member of the Allianza Sistema (Wetland System Alliance), ECOA was involved in dialogue with national and international decision makers. These discussions culminated in macro-level agreements and helped to create an enabling environment for the negotiations.

For NGOs such as ECOA, adopting the Negotiated Approach means maintaining the flexibility to tackle issues at the grassroots, national and international levels, while gradually reducing the gap between them.

- *Institutional integration*. Governments, ministries, judiciaries, implementing agencies, RBOs, local authorities, banks and financial agencies have to cooperate and coordinate their policies, strategies and actions to optimize the use of the resources now and in the future.
- *Social integration*. A variety of social, cultural and religious institutions, CSOs, NGOs, academics, mass media, research institutions, etc. are also involved in water management. Their full and integrated participation is essential to find socially needed and acceptable solutions to water resources problems.

V Principle of taking decisions by consensus at the lowest appropriate level

Decisions made through the Negotiated Approach are the result of a process of consensus building and do not merely reflect the views of the majority. This principle underlines the importance of iterative negotiations, strengthening capacity, raising awareness and working through a river basin perspective. In order to achieve this, the approach embraces all sections of society by ensuring that no stakeholder or segment of the community, especially those who were historically deprived or discriminated against, is excluded from the process of empowerment and negotiation. Negotiations and consensus building are essential not only in conflict situations, but are effective tools in other circumstances and can be initiated at different points of the IWRM process.

In normal, peaceful situations, decisions regarding the allocation/sharing of water, coordination of service delivery systems, water distribution, pollution prevention, etc., could help to prevent the emergence of conflicts and polarization, rather than having to resolve them once they occur. Such decisions could also concern:

- the resolution of divergent views through the full and transparent sharing of knowledge in order to avoid unnecessary misunderstanding;
- vertical and horizontal upscaling by collaboration with groups with different interests and broadening to other areas/locations (from sub-basin to basin level); and
- policies that need to be amended or new policy or legal instruments that may be required by water managers to improve the availability and distribution of water, for example, or to avoid the misuse of water resources.

Strengthening the capacity of both communities and the authorities within the establishment to reach consensus decisions is an essential prerequisite for applying the principle of subsidiarity, i.e. ensuring that responsible decisions are taken at the lowest appropriate level. Without a process of continuous discussions and negotiations, neither will be able to translate this principle into practice.

Learning from the grassroots

NGOs working throughout the Paraguay–Paraná wetland system in South America have realized that they need to provide government authorities with evidence of successful local initiatives. By demonstrating the feasibility of innovative approaches to maintaining natural ecosystems and improving social equity, the NGOs could help to guide future policies and programmes for the region.

Throughout the wetland system, NGOs are responding to (or anticipating) threats to vulnerable traditional communities and are working to empower civil society organizations. They are therefore keen to ensure that successful initiatives are replicated and upscaled to the regional level.

Local projects, known as 'positive evolution initiatives', have demonstrated that they can trigger an upward spiral of social and economic empowerment. One example is the 'live bait' (*Iscas vivas*) project for riverine communities in the Pantanal, Brazil, led by the NGO Ecologia e Ação (ECOA). The project has recently been adopted as an official programme of the Ministry of Fisheries of Brazil, and has now attracted the interest of relevant authorities in Paraguay and Argentina.

VI Principle of upscaling water management initiatives through iterative negotiations

Iterations are an integral component of negotiations. In order to reach just decisions, several rounds of discussions may be required. The decisions made in one round of a negotiation may be rejected in the next if new data or information comes to light, requiring new trade-offs to be made.

In applying the Negotiated Approach, it is essential that the process of upscaling plans, techniques or procedures is always gradual, as the discussions, trade-offs and decisions move upwards from one level to the next. Such upscaling can be horizontal or vertical.

Horizontal upscaling refers to the repetition or expansion of an experiment, model, technique, planning procedure, physical structure, etc., for increasing the outreach and delivery of 'software' and/or 'hardware' options, and especially for replicating successful models elsewhere. Examples of horizontal upscaling include a village-level natural resource mapping technique, a participatory resource assessment, an innovative domestic water supply system, or a procedure for collecting annual water charges, replicated over a large number of villages.

Vertical upscaling refers to cases where, for example, a single-village 'water development plan' is upgraded to an integrated plan for 15 villages, then for 50 villages in a sub-catchment, and eventually to the level of an integrated

Upscaling

In the Ocoña River basin in southern Peru, two NGOs – the Asociación Especializada para el Desarrollo Sostenible (AEDES) and El Centro de Estudios y Promoción del Desarrollo (DESCO) – have formed a partnership to strengthen the capacity of federations of local organizations and to institutionalize platforms for negotiation, known as consensus roundtables, in four sub-basins. This horizontal upscaling of AEDES's experiences with the roundtables and federations in two of the sub-basins provided the organizational foundation for the creation of a basin-wide water platform in 2008.

Under Peru's new water resources law (2009) the structure of watershed management has changed, and is the responsibility of river basin councils. The federations in the four sub-basins will participate in a cross-regional initiative to create the Ocoña River Basin Council (vertical upscaling). This is expected to be the first river basin council established, without national government funding, under the new legislation.

The new law provides opportunities for AEDES to use its experiences with participatory planning in the sub-basins to support new river basin management structures at the national level. They could become pilots for the creation of a river basin council and management plan using participatory methods and, with little external funding, for application in Peru's other river basins.

plan for a large sub-basin or a complete basin. At each of these levels, vertical upscaling involves the integration of more complex sets of natural and physical variables, and more strategic levels of negotiation, bargaining and trade-offs. It often concerns the inclusion of legal instruments, administrative procedures, academic research institutions, etc., and hence requires a more structured and formal approach.

In a nutshell, horizontal upscaling involves the validation and fine-tuning of a 'success story', while vertical upscaling requires organic growth in terms of the complexity of integration.

VII Principle of maintaining the integrity and resilience of ecosystems

Maintaining the integrity and resilience of ecosystems is crucial for conserving their intrinsic values and for maintaining the goods and services available from them. Freshwater ecosystems are the most threatened global ecosystems, according the Millennium Ecosystem Assessment (2005), with more than 20% of fish species facing extinction. The major challenges to be faced are:

- increasing water pollution;
- increasing numbers of endangered species;
- declining wetlands; and
- reduced environmental flows in many water systems.

The Negotiated Approach is based on the assumption that there is a strong link between the survival of communities and that of ecosystems, and that trade-offs between them can be best addressed only through well-informed negotiations. For attaining this, an ecosystem approach is promoted in the approach, which is a strategy for the integrated management of land, water and living resources, promoting conservation and sustainable use in an equitable way.

VIII Principle of working to achieve and maintain a gender balance

The Negotiated Approach encourages the participation of both women and men in decision making. Achieving a gender balance involves recognizing the specific requirements of women with regard to water, and ensuring that they are consciously addressed in negotiations. It means not only that women and men are equally represented, but recognizes that it may be necessary to strengthen women's capacities to negotiate, especially in communities where women are not usually consulted when critical decisions need to be made.

Representation has to be followed by assigning specific roles and responsibilities to women, as well as providing equal financial compensation for the time and effort they contribute. This is especially true of certain roles where

Gender and science

In 2002, the residents of 16 villages of the Kolwan Valley, India, experienced an outbreak of gastroenteritis, malaria and cholera. At the request of the women's groups in the valley, the Gomukh Trust conducted a study of water quality by taking samples from 40 wells and boreholes that were used as sources of drinking water. The women were concerned about the elderly and the children, and so were helping collect the samples. On the basis of analyses of these samples, Gomukh recommended that wells in 12 of the 16 villages be treated with 'medi-chlor' disinfectant. The women then launched a campaign to improve water quality in the valley.

As a result of the study, and the women's campaign, practically all sources of drinking water in the valley were declared safe in 2004, and the number of cases of gastroenteritis and cholera diminished. By taking the initiative to solve what they perceived as a serious problem, combined with the scientific analysis, the women helped to raise awareness about poor water quality, which until then had been neglected.

This example illustrates how recognition of women's specific concerns – in this case for the health of the elderly and children – can lead to improvements in the lives of entire communities, and increased self-esteem among the women themselves. These are modest but crucial steps in achieving a gender balance.

women have a comparative advantage in terms of acumen and performance, such as financial accounting, maintaining records, mediation, etc.[1]

IX Principle of using appropriate science and technology

Adopting appropriate technology involves the judicious selection of techniques, structures and instruments that are ecologically sustainable. Appropriate technologies are affordable, not too complex, easy to maintain and repair locally, suitable for their intended purpose (objective), and most important, 'optimal' in their design and application, i.e. neither 'over-designed' nor too rudimentary.

This last point is critical in the context of the tendency of multinational or national companies and contractors to impose or 'palm off' technologies that are expensive, difficult to maintain and repair, or irrelevant to local contexts and needs. Adopting appropriate technology includes the use of traditional knowledge that is familiar to community members, and rejecting obsolete or inferior techniques. At the same time, it involves adopting local innovations and adapting technology options that are affordable (cost-effective) and simple to apply. Often, local ingenuity can produce innovations and adaptations at minimal cost, leading to the immediate delivery of services or products.

Although unbiased scientific information may be difficult and/or costly to obtain, its availability has often proved to be an important contribution to achieving

Using science to support negotiated solutions

In 1994–95, 16 villages in the Kolwan Valley, India, with a total population of about 15,000, had problems of water allocation. The upstream villages were drawing a relatively large share of water, while the villages downstream faced shortages during the summer, from early March to late May. Despite many rounds of discussions, the villagers' efforts to resolve the issue proved futile. So in 2001, the NGO Gomukh Environmental Trust carried out a scientific study of the water balance taking into account the average annual rainfall over the period 1960–2000 to determine the annual availability of water. The village elders requested Gomukh to organize a meeting for the entire valley to discuss the results of the study.

Surprisingly, when Gomukh presented the actual figures to the meeting, it became easy for the upstream and downstream villages to reach an agreement on the annual share of water that would be allocated to each family in each village (see Appendix B). They also decided to construct several small-scale reservoirs in the upper catchment where water could be stored for use in the summer months. As a result, since 2001 sufficient water has been available in the river up to the end of May, and there have been no conflicts between upstream and downstream villages.

Unbiased information and decision making

For decision making on issues concerning the management of natural resources, unbiased information is essential. The International Council for the Exploration of the Sea (ICES) is a scientific institute that was established in 1902 but was 'confirmed' by an inter-governmental agreement only in 1964. ICES was to be the 'prime source of scientific advice on the marine ecosystem to governments and international regulatory bodies that manage the North Atlantic Ocean and adjacent seas'.[2] The agreement explicitly mentioned that advice should be 'unbiased and non-political'.

With headquarters in Copenhagen, the ICES network of more than 1600 scientists, from 200 institutes, make important contributions to the decisions on the annual fish catch quotas for all coastal states bordering the North Atlantic and the Baltic Sea. The information provided by ICES is not challenged, so that decision makers can concentrate on political issues rather than quarrelling about the reliability of information from different sources.

consensus in negotiations and thus better decisions. Reliable and unbiased quantitative data can enable partners in the negotiations to stop haggling about basic data and to concentrate on the problems they intend to solve.

X Principle of promoting transparency and accountability

Transparency and accountability in functioning and operation of water resources management and planning is an essential principle of the NA. Transparency relates to the availability of information and knowledge, while accountability refers to the responsibility of partners, stakeholders and government agencies to be answerable to each other in terms of commitments and objectives, as well as the use of public funds, etc.

Many countries have formalized this principle through legislation and procedures covering the right to information, freedom of information, corporate social responsibility, etc., in order to ensure more accountable and transparent systems of governance, public administration and social behaviour. The application of this principle is considered an important prerequisite for the success of the approach.

4.5 Summary

Visions of water as reflected in the beliefs and religions of ancient societies around the world used to be holistic, integrated and rooted in the origins and intrinsic value of the resource. In stark contrast, the visions of modern

approaches focus on the economic and social aspects of the use of water by society, and thus value even impacts on the environment in terms of benefits to the human race.

The vision of the Negotiated Approach focuses on communities. It is at this level that the ancient visions are still alive, while at the same time practical solutions to the failures of top-down water resources management are most needed. The approach aims to inspire communities to overcome obstacles and to achieve fundamental change, but it also challenges water professionals and political leaders who have the means and the expertise to help people to convert this vision into reality.

Notes

1 This is based on the experiences of over 60 women's self-help groups in India which nominated members – both men and women – for water user groups. Since most women perform household functions, they found it appropriate to allocate the financial accounting to them, while the men performed physical tasks such as delivering water, etc. In rural communities, such traditional divisions of tasks are a way of life. For urban areas, where men and women have paid jobs, such a division may appear sexist, but is based on Indian reality.

2 The ICES Convention, www.ices.dk

5 Characteristics of the Negotiated Approach

The Negotiated Approach has evolved as an alternative response to the problems associated with past and present approaches to water resources development and management. The approach is unique in the sense that it was not developed as a step-by-step methodology by one organization. It has evolved organically based on the simultaneous, real-time experiences of organizations around the world, and only subsequently has it crystallized into the approach described in these guidelines.

As explained in the previous chapter, the Negotiated Approach essentially reaffirms the basic principles that underlie conventional integrated water resources management (IWRM), but there is a difference at the level of implementation. Section 5.2 highlights some of the distinguishing features of the approach that are intended to result in changes in water management practices. But the most important difference is how the approach views participation. This is the subject of Section 5.1.

5.1 Participation, as conceived through the Negotiated Approach

Perhaps surprisingly, the World Bank has defined participation as: ‘a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them’ (World Bank, 1996). By defining participation in terms of decision-making authority, this suggests that decision making is indeed the central element in a participatory process, and that participation should lead to the ‘empowerment’ of the participants. Rephrasing it in civil society terminology, the World Bank has in principle accepted the delegation and devolution of power to stakeholders at the lowest appropriate level as a key enabling change in the process of implementing IWRM.

As noted in Chapter 3, however, water resources management processes that claim to be integrative and participatory have continued to use top-down approaches and have failed to properly account for the interests and knowledge of local users. There are several reasons why the ‘participation’ rhetoric has not worked in practice.

CSOs and NGOs

Civil society organizations (CSOs) include a broad range of voluntary civic and social organizations, which are distinct from state and market-oriented commercial companies. Examples of CSOs include academic institutions, activist groups, cooperatives, federations of farmers, women's groups and organizations of indigenous peoples.

Non-governmental organizations (NGOs) may also be regarded as civil society organizations, but they are legally constituted and, obviously, operate independently of government.

First, stakeholder participation in IWRM has been limited to participatory planning (i.e. going through planning stages with the participants). This has fallen into the same trap as the top-down approach, by assuming that change is something that can be 'planned' and decisions can be made in advance.

Second, the concept of participatory decision making often denies the existence of a political dimension, and the fact that stakeholders may need to be excluded when controversial decisions have to be made. NGOs applying the Negotiated Approach recognize this reality and consider participation as a process of negotiation in which conflicts are not avoided but are regarded as 'engines of change'. Negotiations entail learning, network building and conflict management. In this alternative form of management, all stakeholders can express their views and defend their interests, and changes are negotiated in an open-ended, dynamic and iterative process. It is part of political reality that ultimate decisions might involve trade-offs against issues of general interest outside the context of the negotiations. (Negotiations are further defined in Section 7.2.)

5.2 Distinguishing features of the approach

Community participation in long-term learning

NGOs applying the Negotiated Approach aim to involve local communities in all aspects of management: in the preparation of plans, in taking and implementing decisions, and in monitoring and evaluating implementation. All of these processes require long-term commitments and continuous learning processes in which all stakeholders are involved. In this way, the Negotiated Approach creates opportunities for communities to conceptualize their development objectives and priorities in terms of water resources, as well as in relation to land, biodiversity and manpower. It is then possible for communities to use their newly acquired knowledge and time-tested traditional technologies as the building blocks for the development of water resource management strategies and plans.

Participatory, negotiated processes need not necessarily start at the very bottom of the social hierarchy. Such processes could be initiated simultaneously at several levels in this hierarchy, as well as in the smallest village or micro-catchment. This flexibility regarding the point(s) of initiation is a key feature of the approach (principle III, Section 4.4).

The Negotiated Approach is based on the premise that at the outset, opportunities for decision making through negotiations and strategic management are limited. Thus continuous efforts are needed to enlarge the space available for bargaining, trade-offs and agreements in order to create a level playing field for all stakeholders.

Ensuring the effective participation of communities in these long-term learning processes requires efforts in two areas, in particular by NGOs. The first involves *strengthening the capacity of communities* to engage in negotiations, and to understand issues such as IWRM, institutional arrangements and the workings of the natural system. Participation can only be genuine when all participants in the negotiations share the same knowledge and have the capacity to understand, interpret and use it.

The second involves *assessing the needs of these communities*, based on their own perspectives and their own interpretations of problems and possible solutions. For too long, communities have had to rely on government agencies

Strengthening the capacities of communities

NGO support in community participation focuses on strengthening capacities in two areas. The first is to enable communities to negotiate. For this, communities need to acquire a shared knowledge and understanding of (i) the physical, biological and chemical characteristics of the water resources system; (ii) the different functions of the water resources system in relation to the demands from society; and (iii) the institutional arrangements (institutions, regulations and norms and traditions) to manage the system and its functions.

Strengthening their capacity to negotiate also requires that communities are aware of their formal rights, have access to unbiased information and develop effective communication skills.

The second is to enable communities to undertake activities that improve their livelihood conditions, in particular activities that foster their economic development, reduce their vulnerability and protect the environment.

Such activities include producing and marketing organic crops and non-timber forest products, conserving sacred forests or wetlands, and building small-scale irrigation systems.

who, based on second-hand, limited and oversimplified information, tell them what problems they should have and what solution would be best suited for them.

Master plans

As a general response to the bureaucratic top-down approach, civil society organizations have long focused on 'bottom-up' approaches, mainly as ways to reverse the decision-making process. In the case of river basins, for example, the established IWRM framework treats the preparation of a master plan as a deterministic starting point of the IWRM process, whereas the bottom-up approach looks at a master plan as the result of a long, detailed process where the participants make trade-offs in order to make decisions, and arrive at consensus positions through informed discussions, negotiations and participation. Unlike master plans that are driven by national (or even international) objectives, the Negotiated Approach thus gives priority to local needs.

In this sense, the frameworks of the Global Water Partnership (GWP, 2000) and the Negotiated Approach are almost diametrically opposed. While the conventional master plan approach relies on the 'trickle down' effect for the delivery of services to the community, for example, the approach assumes the reverse – that achieving local objectives is the primary goal, and that in aggregate they can be translated into the fulfilment of national goals. Yet this reversal, contrary to belief, is the key to the widespread implementation of the principles of IWRM. Thus although both processes end up with an integrated water resources development and management 'plan', the Negotiated Approach presumes a large number of activities, sub-plans, and even structural interventions, which may be consistent with and complementary to arriving at the final master plan.

Thus the Negotiated Approachemphasizes that community participation is necessary not only in responding to a central master plan, but also in its creation, evolution and implementation. Wherever the situation demands, civil society organizations can and should take over the tasks of decision making and management of water resources that so far have been assumed to be the prerogative of state agencies.

Negotiation and strategic planning

The Negotiated Approach involves a series of structured, iterative discussions (see Chapter 7) in which negotiations are regarded as a dialogue for resolving disputes and for reaching agreement on the courses of action that a community needs to take to satisfy its basic needs.

Although the approach can be applied to one-off decisions, such as whether to implement an infrastructure project or a master plan, an important aim is

Processes of negotiation as confidence-building mechanisms

In the case of the Fresh Water Action Network Central America (FANCA), a Negotiated Approach proved effective for building ongoing advocacy campaigns with CSOs in several countries who were attempting to reformulate the legal and institutional frameworks of IWRM. CSOs developed the ability to identify shared values and aims, and to reach agreement on campaign strategies and alliances. As a result, these organizations became more confident and successful in promoting dialogue and negotiations among those involved in water management – including local groups, national organizations, the private sector, civil society and universities. (See Appendix B, FANCA.)

to contribute to and structure long-term, continuous processes of strategic management (see Chapter 8). Such processes can foster learning through an iterative process of strategy formulation based on feedback on results and experiences during the implementation of interventions. It is essential that the processes are fully transparent, inclusive and sensitive to all the differing and complementary views expressed by community members, in order to reach consensus.

The process of negotiation itself – including capacity strengthening through participatory planning, and empowerment through iterative decision making – builds the confidence of community representatives, and the trust between them and government officials. In other words, the process of integrated planning (at any scale within a river basin) itself serves as a confidence-building mechanism.

The spatial dimension

The Negotiated Approach can be applied to address problems, whether geographical or political, at various spatial scales – river basins or sub-basins, ecosystems, regions, countries, municipalities, and so on.

Problems in different areas may be tackled at the same time, although it is important that the boundaries of each area are clearly specified in the early stages of the negotiation and/or strategic planning process (see Section 7.2.1 and Table 8.2, stage 1). Sometimes it may be difficult to define an area precisely if physical, ecosystem or political/administrative boundaries do not coincide. For example, a river basin may include forests and other ecosystems, estuaries and deltas, as well as administrative units that extend beyond the river basin boundary. As mentioned elsewhere, it is preferable to apply the approach for IWRM in the context of hydrologically well-defined areas, such as river basins.

Many people, particularly members of rural communities, find it difficult to appreciate or understand IWRM because it has evolved as an abstract concept. Throughout history, communities have understood water in terms of river basins and lakes, and feel comfortable with real problems such as upstream and downstream impacts, changes in water quality due to pollution, the effects of floods and droughts, etc. They are also familiar with the strengths and weaknesses of social institutions and the interplay between multi-stakeholder interests. Consequently, since the principles of IWRM can most realistically be applied at the river basin level, it is also the level at which the Negotiated Approach is best applied (see also sections 2.2.2 and 3.1).

Opinions about the extent of the area of where the Negotiated Approach should be applied may differ, however, depending on local perceptions of what needs to be managed by the community, and on the time available.

In several recent reports, international organizations have promoted the river basin approach. But as explained in Section 3.1, it is not expected that this shift in itself will result in improvements in the implementation of IWRM.

The time dimension

The Negotiated Approach to IWRM should be considered within different timescales. It has to have the key elements of flexibility and spontaneity to respond both to short-term emergencies and to pursue long-term goals based on a predetermined vision. This approach enables changes in management approaches and can be applied in different planning and management cycles. This means that the implementation of the approach gradually generates new conditions for management and decision-making processes through a cumulative positive feedback mechanism. In the case of the NA, such mechanism implies that once socio-environmental, institutional and political changes reach threshold levels, they will continue to create positive spin-offs and synergies without there being a need to consciously pursue the initial

Cumulative positive feedback mechanism

The 73rd and 74th amendments made to the Indian Constitution in 1993 are a good example of how civil society organizations, through people's movements and demands, succeed over time in improving community participation in water resources management. These amendments led to the creation of *panchayat raj* (village assemblies) and legislation related to participatory irrigation management (GoM, 2005). This legislation provided for the direct transfer of responsibility for managing water resources to registered water users' societies and organizations.

changes. The approach should therefore be considered within a short-term time scale that demonstrates the intermediate results of its application, as well as a longer-term time scale that will allow it to expand in scope and become stronger.

5.3 Summary

The Negotiated Approach encourages the genuine participation of communities in all steps of water resources management – in the preparation of plans, in taking and implementing decisions, and in monitoring and evaluating progress and impacts. Since the process includes various feedback mechanisms, participation means *taking part in long-term learning processes*.

The approach emphasizes that community participation is not only a reaction to top-down processes of formulating (often one-off) master plans. The approach involves a structured series of discussions that are part of a strategic management process through which master plans evolve periodically as part of an iterative process.

In addition to this long-term dimension, the Negotiated Approach can be applied at various spatial scales, whether geographical or political, from sub-basins, basins, ecosystems, regions, countries, municipalities, and so on. The approach is particularly relevant to address local realities in the context of water system units such as (sub-)river basins where problems can be tackled coherently and consistently.

6 Creating an enabling environment for the Negotiated Approach

The aim of the Negotiated Approach is to contribute to the practical implementation of participatory IWRM. In particular, it can help to break through the rhetoric and help to resolve stalemate situations (Chapter 3) in which governments continue to follow technocratic, top-down approaches. Applying the approach thus requires an understanding of conventional institutional arrangements, the actors involved and the processes of decision making within existing political and administrative contexts. Such knowledge is not generic, but is specific to each situation. It should be regarded as crucial for the successful introduction of the Negotiated Approach, leading to different strategies and roles for NGOs.

This chapter links the earlier chapters outlining the background and need for reform, and later chapters detailing techniques (negotiations and strategic management). This chapter is intended help NGOs to play a more proactive role in reforming the water sector, and in particular in structuring local institutions.

6.1 The importance of enabling institutions

Although the concept of IWRM has evolved since the mid-1980s, its implementation has been very slow and sporadic. A recent assessment of the worldwide progress in implementing IWRM (GWP, 2007) indicates that in 50% of countries there has been very limited progress or none at all, in another 25%, there has been some progress, and only in 25% has progress been 'good'.

Institutional arrangements

'Institutional arrangements' refers to:

- institutions and organizations, including their mandates, capacities and linking mechanisms;
- laws regulations and other instruments that determine the availability and the uses of resources; and
- local norms and traditions.

Within these arrangements, a wide range of actors function at different levels of society, from the global to community level. For pragmatic reasons, this chapter focuses on institutions and organizations only.

In most countries in Asia, Africa and Latin America, the most important reasons for the lack of progress have been the near absence of an enabling (socio-political and legal) environment and weak, disjointed and/or overlapping institutional frameworks, in combination with low levels of awareness among the public of the hierarchy of political/administrative jurisdictions related to water. In addition, there are different interpretations of IWRM planning and management processes and their frameworks. This section therefore considers the enabling environment and institutions that will be necessary to make the practical implementation of IWRM possible on a wider scale, especially in developing countries.

There is a vast range of institutions at the global, regional, national and local levels that directly or indirectly determine the quality and degree of implementation of IWRM. Some of the enabling factors are exogenous to the water sector, but most are related to or within the sector as a whole. Further, a large proportion of institutional factors fall under the broad category of governance, while others are located in the 'civil society' domain. So another objective of this chapter is to map the institutional framework and to identify the gaps and weaknesses that have hampered IWRM implementation and the distortions that have crept in. But more important, it attempts to identify how the Negotiated Alliance could correct those distortions, or fill in the gaps, by promoting institutional reforms in various circumstances.

6.2 Understanding water governance and management

The concepts of governance and management are essential for the application of the Negotiated Approach and for understanding of its possibilities and limitations. Broadly speaking, governance refers to institutional arrangements (see box on page 49), but also to policies and actions, and how 'it embraces the relationship between a society and its government' (GWP, 2003). *Management* refers to a set of practices and actions with a particular and preferably well specified goal. *Water management* can be defined as the tasks involved in the production of desired water-related goods and services for the benefit of the society as a whole, now and in the future.

For further information on water governance and management, especially common property regimes for the management of natural resources, see Appendix A.

6.3 Conventional institutional arrangements and actors

Core arrangements in water management

Elinor Ostrom (1991) classified the actors involved in water management as appropriators, providers and producers. *Appropriators* [1] can be individuals or economic activities, such as households, industries or shipping activities that use or consume the water from or in a water resources system. Providers are those who organize the provision of water resources, while producers are those who construct, repair or take action to ensure the sustainability of the resource system itself.

Obviously, these categories overlap. Producers can also be appropriators (public water supply companies both produce and appropriate), while providers and producers are often the same, although they need not be (a national government may provide an irrigation system but arrange with farmers to operate and maintain it) [2]. Partly this depends on the system considered – e.g. a natural resource system or an irrigation system – but also on the political and administrative system and on local norms and traditions. What is important is to recognize that these different functions exist and are in one way or another 'performed', and to distinguish them when dealing with water management[3].

The most important actors include the following.

- Government organizations at all levels – national, provincial and local – that act as providers are responsible for the enabling institutional environment, including financial arrangements, legal procedures, etc.
- Government agencies that act as producers refer mainly to implementing line agencies such as ministries of water resources, agriculture or mining. They are involved in the provision of goods and services to society, particularly those that are socially sensitive and/or commercially unattractive (information, public water supply, flood protection, large dams, etc.).
- Delegated functional water management bodies such as water boards and river basin organizations (see Appendix A) are government-controlled bodies with some degree of independence for practical reasons, but ultimately the government itself is responsible politically for their functioning and performance. They can be providers (e.g. issuing fishing licences or permits), producers (e.g. distributing water from reservoirs) or appropriators (e.g. extracting water for public water supply).
- Private corporate entities, most of whom can be characterized as appropriators, extract water or pollute it for use in the production of a variety of goods and services. In some cases, however, they produce 'water', for example as privatized public water supply companies. These corporate entities can be organized by sector (e.g. rubber or shrimp producers) or by region (e.g. chambers of commerce).

- Individual appropriators can be organized in many different ways as communities or user organizations.
- NGOs/CSOs can have many different roles, mainly as appropriators, although in some cases they may be entrusted with production tasks (see Section 6.5).

Schematically, the institutional structure is hierarchical in form. At the apex, the state legislature or parliament may issue directives requiring (or permitting) the ministries and departments connected with water resources to create new structures, policies or laws for developing and managing natural resources. The parliament may also create special councils for pooling the financial resources of different sectors (line ministries or agencies), or for generating and systematically exchanging hydrological or land-use data, etc., in order to integrate different interests. In other words, it is only after the state legislature has given a mandate to the executive arm that the process of sector reform and institution building can be set in motion.

In this context, the set of norms, beliefs and traditions also form part of the overall governance system, and so should be among the most important aspects of implementing the Negotiated Approach. It is therefore an important task of the NGOs or CSOs initiating IWRM processes to make sure that water resources management takes local knowledge and values into account.

Related fields of government

Besides the policies, laws and regulations related to the development and management of water resources in general, and river basins in particular, there are other enabling policies and laws relevant to the Negotiated Approach. Legislation on rights to (and/or freedom of) information is key, enabling the transfer of technical and scientific knowledge and information regarding bureaucratic and legislative processes and decision making from the strictly ‘state domain’ to the public domain. Such legislation can lead to the release of so-called ‘classified’ or ‘official’ documents that can subsequently become the basis for informed public debate and discussion.

Experiences in many developing countries indicate that wherever such freedom of information legislation is in place, and invoked appropriately by civil society, levels of inefficiency and corruption are reduced. It can also weaken the nexus between contractors, bureaucrats and politicians, and as a consequence, government officials tend to be more responsive and accountable to society. However, it goes without saying that the existence of such legislation alone is not sufficient, and that only persistent, proactive public pressure, such as through media campaigns, can ensure that the principles enshrined in these instruments are applied, thus leading to progress in the implementation of IWRM.

Another important institution is *the financial system* and related auditing and accounting regimes, both within the government establishment and in the private or ‘cooperative’ sectors. In order to ensure implementation or enforcement (whenever necessary), the banks and financial institutions need to be directed by the state to make finances available and to ensure the smooth and rapid flow of funds from the state exchequer to the ministries, departments and line agencies, local banks and financial extension offices, etc. Similarly, the state may offer incentives such as tax concessions for corporate and public donors, tax rebates and concessions for community-level organizations, including registered water user groups/associations, village-level water development committees, producer cooperatives, farmers’ and fishermen’s associations, etc. Further, instruments such as societies’ registration legislation, trusts, etc., may contain adequate clauses and provisions related to the administration, management and implementation of development projects, so they can create important institutions for implementing IWRM.

Other instruments that are apparently unrelated to IWRM may also be important. These include the policies, laws and procedures concerning environmental impact assessment, resettlement and rehabilitation of project-affected families, public hearings and dispute resolution systems, etc. Similarly, in the case of scientific research, reliable and authenticated information and analysis, state-sponsored or private institutions are critical for collating, documenting and publishing reports related to physical, biological or social, cultural and economic assessments. Such institutions again have to be mandated and regulated to ensure that the empirical studies and evaluations related to water resources they carry out are unbiased and independent.

The instruments and institutions described so far are only the most important and indicative ones. The list is certainly not exhaustive. In all countries, establishing and ensuring the effective operation of this framework of enabling institutions is complex. Such institutions evolve gradually over time, and the process cannot be easily accelerated through international agreements, conventions and protocols, or through the ‘conditionalities’ imposed by multilateral financial institutions such as the World Bank.

It is recognized that there is no ‘one size fits all’ set of institutions or laws and policies that can be replicated or upscaled from the local and river basin levels to national and international levels. The enabling environment and institutions are products of socio-political transformation and reform through dialogue and negotiations, or, in rare cases, the result of revolutionary confrontation or social and natural disasters. It is also obvious that such an enabling environment, although critical for delivering results, is not strictly part of the water sector discourse either nationally or globally.

Recent developments

In response to the increasing complexity of water management, governments have come to play a more dominant role. In recent years, however, the governments of most developing countries have realized that they cannot solve the problem of water security on their own. They also acknowledge that the private sector is incapable of solving the problems of the poor, and especially problems related to environmental sustainability. They have therefore started opening up spaces for civil society organizations and community alliances to improve water delivery mechanisms. Such spaces have also been the result of people's movements and struggles. A key element of good governance has been the introduction and advocacy of water sector reforms and the decentralization of water management.

At the global level, the UN Millennium Declaration (2000) encouraged national initiatives by emphasizing the importance of water conservation. This was then endorsed by the World Summit on Sustainable Development in 2002, where the world's heads of state agreed on a specific target 'to prepare IWRM and water efficiency plans' at the national level by the year 2005 (UN, 2002).

Since the Earth Summit in 1992, there has been a gradual shift away from the governance of water based on administrative units such as districts, counties, etc., to water governance based on geo-hydrological boundaries, namely 'river basins' or 'catchment areas'. This shift has led to the emergence of river basin organizations (RBOs) in many countries. France has established 'river basin agencies', while South Africa has created 'catchment management agencies'. In Europe, the EU's Water Framework Directive created national level instruments for water governance. In Asia, several countries have introduced reforms. The state of Maharashtra, India, established the Water Resource Regulatory Authority, which directed local or regional governments to create RBOs with mandates to prepare integrated river basin (development) and management plans. Interestingly, many states have issued guidelines for preparing such management plans, stipulating that stakeholders and beneficiaries should be involved.

Thus, water sector reforms have created spaces for community participation in the planning process, during implementation and in monitoring and evaluation. However, it must be noted that bureaucracies are not necessarily keen to share their authority with civil society organizations, yet these are precisely the type of situations where interventions through the Negotiated Approach will prove invaluable. There are, of course, many such opportunities and spaces where CSOs can establish credibility and build trust within the framework of governance as well as in society as a whole.

6.4 Filling the gaps, reforming the sector and creating an enabling environment

This section shows how the Negotiated Approach to IWRM can create spaces for civil society by operating in arenas that are far broader than those conventionally used in the water sector, using the concept of 'strategic management' (see Chapter 8). In this context, reforming the water sector would involve the following:

- the creation of a *strategic and coordinating platform* at the river basin level as an appropriate arena for applying the Negotiated Approach;
- the establishment of a *process of strategic management* as the main task of the platform and the main mechanism for implementing the approach; and
- the involvement of the platform in addressing a number of *cross-cutting issues for IWRM*, including institutional arrangements, knowledge management, communications, and strengthening the capacities of communities to improve their own livelihood conditions.

6.4.1 A strategic and coordinating platform for negotiations

Platforms for negotiation are meant to provide an environment where relevant stakeholders discuss decisions and actions related to water resources management. Such platforms already exist in many different forms and in different contexts, such as civil society forums that discuss and/or act against adverse impacts of major infrastructure projects, or as government-initiated consultation groups that aim to convince local water users of the need for a proposed intervention. Such platforms for discussion are important and may influence decision making and implementation, but they do not have a structured role that aims to give local communities a decisive voice in water resources management in the long run, and in bringing about the changes that are needed to reform the water sector (Section 3.1).

In this guide, a 'platform for negotiation' refers to a group of people who represent all interests in water resources management in an equitable way, and have a defined and accepted role in the decision-making, implementing and evaluation processes of the government. Such a platform for negotiation could take the form of a council, a committee or an advisory group that is established in a specific political and administrative environment, consisting of democratically elected bodies (and their corresponding political agendas and commitments) and a variety of institutional and legal arrangements. A negotiation platform is thus part of an existing administrative and political reality, and its 'power' to take decisions and actions depend on the mandate it receives from existing responsible agencies.

In other words, such platforms are not meant to become decision-making bodies per se, but in order to play their structural role in water management, they should be formally established or recognized, and their decisions and recommendations should play a role in government decisions and actions.

Such platforms *can* function on an ad hoc basis, dealing with one-off decisions on, for example, an infrastructure project or new legislation. Or they could be used to resolve a specific conflict, perhaps related to the allocation and distribution of scarce water resources. This guide, however, focuses on the establishment of permanent strategic and coordinating platforms as an important condition for water sector reform through the implementation of continuous participatory IWRM applying the Negotiated Approach.

Such permanent platforms can be functional at different levels of water management with different levels of authority, but even when they are created from the bottom up (which is strongly preferred – see below) their ultimate sustainability and effectiveness will depend on a formal mandate and support from the government, as the caretaker of the country's natural resources, including water. Under certain conditions, decision-making power and management responsibility may be delegated, such as when communities are given a mandate to manage their water resources as a common-pool resource and to take all corresponding decisions and actions. More commonly, however, these platforms have an advisory and coordinating role, such as a river basin council that has been given a mandate to formulate strategic water management plans and coordinate, monitor and evaluate their implementation.

The status and influence of such organized platforms – i.e. the extent to which their recommendations will be taken into account in the political arena and by implementing agencies – depend not only on their formal positions and mandates and their 'enabling environment'. Their real influence has to build up slowly and will depend on more practical and operational issues. These include the degree to which they represent local water users; have access to information and are able to learn from monitoring and feedback procedures; their levels of expertise and independence; and their record of advice and decisions.

Most important, the platform should play a proactive role in strengthening the capacity of all of its members, particularly those who represent local actors (see Section 6.5).

Initiating a platform

Platforms can be initiated from the top down or the bottom up. It is preferable, however, to rely on bottom-up processes that reflect the needs of communities to reform the water sector, rather than on top-down processes that have

proved to be unable to establish adequate procedures for participatory management (see Section 3.1). As such, good use can be made of existing groups and forums that organize local people around burning issues, in particular when adequate solutions require that problems are addressed in the wider context of, say, a (sub-)river basin (see box, 'Initiating platforms for negotiation' on page 58). By building on such existing, but often limited, initiatives, efforts can be made to expand the spatial and time dimensions of the group's approach. An example of expanding the spatial dimension is when a group addressing floods in downstream floodplains start to consider rehabilitating forests in the upstream watershed area, while an example of increasing the time dimension is when a group shifts its focus away from immediate remedial actions to addressing long-term strategies.

Establishing a platform for negotiation according to the ideal picture presented here is a long-term process that has to be carefully tuned to local political, institutional, physical, social and economic conditions. There is no formal recipe for such a process. For NGOs that aim to moderate such a process it is important that they are familiar with and knowledgeable of the starting conditions, and have the vision and motivation to reach their target ahead of a well-functioning negotiating platform. Everything in between requires a creative process that is played out in harmony with local players in a specific local context.

In upscaling the local groups referred to above, priority should be given to increasing the political dimension, implying that the group should be formalized and recognized by the political and administrative establishment. Thus its membership should be extended to include both local people and government. It is a major challenge for such a platform to avoid becoming a fighting arena between local and government representatives, and to establish a shared understanding of the problems and a willingness to find common solutions.

To be able to perform its tasks in an innovative way that contributes to the reform of the water sector, such a platform needs to address at least the following arrangements:

- the platform's mandate, tasks and responsibilities, making explicit, for example, whether it is permanent or temporary, which management tasks it can address, and what are the boundaries of the area of management;
- its independence, politically and financially (reporting to whom?);
- its composition, allowing the genuine participation of CSOs;
- its working procedures, including how decisions are to be made;
- its communication with communities and government agencies;
- its technical and financial support;
- its access to information and the media; and
- training of its members.

Initiating platforms for negotiation

The case studies in Appendix B offer various examples of the way negotiating platforms have been or are in the process of being established.

- In Indonesia in 2005, the local NGO PBS assisted riverine communities in the Lamasi basin to establish the Forum DAS Walmas, as a platform to find solutions to the ongoing disputes over water. The platform then moved beyond settling disputes towards formulating and proposing alternative management options for the basin. As a direct result of the Forum's activities, in 2006 the Luwu district authorities issued an official decree on the conservation and management of natural resources, and in 2010 established a river basin council.
- In India, the NGO Gomukh started organizing local communities to improve soil and water conservation in Kolwan, a valley within the Bhima River basin, in 1997. Gomukh helped set up a platform for the communities to negotiate water allocations based on information provided by Gomukh on the water balance of the valley, including annual rainfall, water storage capacity, and crop water requirements. The communities negotiated among themselves and with external actors such as government officials and tourism organizations, and succeeded in bringing about radical changes in the management of natural resources in the catchment. Encouraged by the effectiveness of the platform in Kolwan, Gomukh then decided to upscale the approach horizontally, to Shivaganga, another small drought-prone valley, about 70 km away.
- In Costa Rica, the National Alliance for Water Protection (ANDA) was created by civil society organizations – all of them members of the Fresh Water Action Network Central America (FANCA) who wished to influence policy and improve water management. The alliance members developed strategies and lines of action for advocacy campaigns tailored to the different stages in the process. Using the 'popular initiative' mechanism, the Alliance organized a petition urging the government to submit a bill to the Legislative Assembly. The campaign was a success (the petition was signed by 5% of the electorate), and the proposal is now (2010) being discussed in Congress.
- In the Plate River basin in South America, the Wetland System Alliance was formed by more than 300 NGOs and associations, including grassroots organizations and national, European and North American NGOs. The Alliance acted as the main channel for reaching out to decision makers, public authorities and international institutions, and proactively elaborated a vision and guidelines for an integrated programme for the wetland system. As a result, the wetland system concept is now recognized by the governments of the five basin countries, and by international organizations and conventions.
- In Peru, the NGO Asociación Especializada para el Desarrollo Sostenible (AEDES) has provided training for local communities in the Cotahuasi basin since 1995. AEDES has also supported the creation of public spaces for citizen participation known as consensus roundtables, where civil society groups are able to articulate and discuss local development plans and proposals. The roundtables have contributed to the designation of the Cotahuasi valley as a natural protected area and, in cooperation with national and provincial governments, to the establishment of sub-river basin councils and later a river basin council.

The role of facilitators

From the above, it is clear that platforms for negotiation can have many dimensions and different mandates, depending on their stage of development. They may be established in specific contexts to organize communities to resolve their own problems, or they may be existing bodies that already advise governments on strategies and/or legislation. Each platform has to find its place and role in an existing administrative and political landscape, which will be a long, ongoing process. It is important that a platform establishes an environment where stakeholder representatives can meet as equals and engage in dialogue to resolve a common problem. That will require an atmosphere of understanding and trust among stakeholders, based on which the role and influence of the platform can grow (see box, 'Initiating platforms for negotiation' on page 58).

In such a process, the facilitator plays a vital role. The facilitator is not only a neutral intermediary who enhances communications between stakeholders. In order to forge agreements, the facilitator also needs to have a strategy, resources and a power base. He or she needs to demonstrate authority, skills and charisma, and be trusted by all participants in the negotiations (Leeuwis, 2000).

Such a general profile of a facilitator, however, describes an ideal, perhaps non-existent individual. The profile will therefore need to be adapted to the specific circumstances and the purpose of the platform. Sometimes a strong local leader may be needed to able to stand above the negotiating parties. In other situations, a politically neutral, academically strong individual may be better able to resolve a difficult conflict, or it may be preferable to choose a young and enigmatic leader who can set a new platform on the rails. In any of these cases, the ideal candidate will be difficult, if not impossible, to find. The selection is most likely to be the outcome of a political process on which the influence of the platform itself, especially in its early years, is unlikely to be decisive. In this regard, two issues need to be addressed.

First, there is the question of whether the facilitator should be independent, or depends on the support of one of the participating organizations. Complete independence is an illusion; individuals who are familiar with the problem situation often have relationships with one or several of the stakeholders. However, it is important is that the facilitator is not considered to represent just one of them, and has the freedom to act as a neutral authority. Allowing the facilitator to access the media and sources of information, to give unsolicited advice, and to remain accessible to the public are effective ways to ensure his or her independent position.

The second issue concerns the task of the facilitator to create an ambiance of trust and respect among the stakeholders. All concerns, and ideas on how to resolve a particular problematic situation, should be taken seriously and discussed in a way that all participants can understand. Most important, the facilitator should regard the negotiations as a process of communication and learning, rather than as a decision-making process. However, it is perhaps unavoidable that the facilitator also arbitrates in situations where participants are unable to reach consensus. In such cases he should ensure that the discussions that lead to decisions are transparent and properly documented.

Enabling conditions for the functioning of a platform

The successful functioning of the platform is dependent on two sets of enabling conditions: those that are 'subjective', depending on the people involved in the negotiations; and those that are 'objective' and define the context in which the negotiations take place.

Subjective conditions refer to the attitudes and capabilities of the participants, including:

- trust and respect between the various actors;
- ability to communicate;
- availability to participate (time for participation is often a scarce resource);
- willingness to listen to the problems and concerns of others;
- goodwill to look for alternatives and negotiate; and
- knowledge and understanding of how, and in what political context, decisions are taken and implemented.

Objective conditions refer to the presence of an adequately functioning platform for negotiations. A fundamental precondition for the success of such platforms is the existence of adequate legal and institutional frameworks, or formal arrangements, including:

- transparent and operational links to the political decision-making structure, and to the budgeting and implementing agencies and procedures;

- the presence of all relevant stakeholders and their equitable participation and involvement in all steps of management, including implementation and evaluation (and not just in planning exercises);
- the commitment of all stakeholders to follow up on the decisions and recommendations made by the platform;
- a space and an environment that encourages local initiatives;
- opportunities to strengthen the capacity of all stakeholders; and
- the existence of mechanisms to upscale negotiations and networking to involve actors at all levels.

What to do if the enabling conditions are not in place

It is unlikely that all the conditions described above will be in place, given the reluctance of established institutions (and individuals) to accept innovative approaches that deviate from business-as-usual. For example, it may appear that one party is not playing the game according to the rules (see principled negotiations in Section 7.1), or that the power balance in a river basin management council is still too much in favour of established institutions, or that the council itself lacks operational capacity and links to the political decision-making structure.

Such shortcomings should be subject of continuous negotiations. Groups that are involved in participatory management should continue to improve themselves and gradually gain a better position and more influence in political decision-making and management processes. It is essential that communities and their representatives understand that in order to achieve genuine participatory management, both institutions and management practices will have to change. They should not hesitate to take proactive action to explore alternative ways to participate in management. For communities to become respected partners in management they should not only have a good understanding of existing institutional arrangements, but also of the resources to be managed and the management issues at hand. Only by taking a proactive stand, based on an adequate understanding of the natural, socio-economic and institutional systems, can communities be expected to bring about and contribute to the required reforms in the water sector.

With respect to parties that do not play according to the rules of 'principled negotiations', Fisher et al. (1991) offer the interesting suggestion that the participants in the negotiations explore, before the negotiations, what to do if an agreement is not reached. Fisher et al. recommend developing a 'best alternative to a negotiated approach', or BATNA, as the standard against which any proposed agreement should be measured. A BATNA would help participants to avoid both accepting terms that are too unfavourable, and rejecting terms that would be in their interest to accept. Such a BATNA can thus greatly strengthen their position.

Generating and developing possible BATNAs require participants: 1) to compile a list of possible actions if no agreement is reached; 2) to improve on some of the more promising ideas and converting them into practical alternatives; and 3) to select, tentatively, the one alternative that seems best.

6.4.2 A process of strategic management

Strategic management is an approach that goes beyond the mere formulation of strategies. In the context of applying the Negotiated Approach, a water management strategy refers to a package that is composed of all the strategies of participating stakeholders. More important, however, strategic management also refers to management that uses such strategies for guiding and coordinating its interventions. Monitoring and feedback mechanisms would then provide for a continuous, cyclic and iterative management process in which the Negotiated Approach would guarantee that all stakeholders are involved and participate in the learning process, which is an essential characteristic of such an approach. This process of strategic management is further elaborated in Chapter 8.

6.4.3 Cross-cutting issues

The main tasks of a negotiating platform are to establish and implement a process of strategic management following the principles of the Negotiated Approach. This means, however, that the platform should also be proactively involved in addressing a number of cross-cutting issues, including:

- institutional arrangements (institutes and laws/regulations), including different forms of partnership;
- knowledge management – the availability of and access to knowledge and information;
- maintaining a well-functioning communication network; and
- strengthening the capacities of communities.

Adequate institutional arrangements for water management

The platform needs to analyze existing institutional arrangements and suggest changes to improve water management. Institutions, in particular the way they function, and the management instruments they have at their disposal, can change; corresponding arrangements will thus be subject to negotiations.

Important in this context is an in-depth knowledge and understanding of the existing institutions, their mandates, strengths and weaknesses, as well as the laws and regulations that provide them with the 'instruments to manage'. As mentioned, local norms, beliefs and traditions should be carefully

considered when dealing with institutional arrangements, their inclusion being an important justification and a principle of the Negotiated Approach. Special attention may need to be paid to different forms of public–private partnerships, but these should never become a recipe for reducing the responsibility of the government for managing the nation's water resources (see box below).

Knowledge management

Management decisions should be based on the best available knowledge. Knowledge management deals with the creation and operation of a knowledge base in support of the key stages of strategy formulation, action planning, implementation and monitoring and evaluation. Although the indicator framework is an important component of such a knowledge base, knowledge management has a much broader connotation. It refers not only to other sources of information, such as maps, books and experts, but also to how this information is obtained, stored and made accessible.

An important justification of a knowledge base that is open and acceptable to all parties is that negotiations on important water management issues should not be side-tracked by concerns about data and information. Thus all parties should have access to the same information and expert knowledge.

Knowledge can take many different forms, ranging from hard data to insights and understanding, and resides with many organizations and individuals in many different formats, such as computer databases and map collections maintained by hydrographic departments, and the experiences of experts.

Public–private partnerships

Public–private partnerships have long been hailed as innovative solutions to existing problems and are often proposed in situations where users, and not the taxpayers, are expected to pay for the services delivered. Governments may help with the initial investments and could bear the risk – of natural calamities, for example – while private organizations would be responsible for the day-to-day operational management. Such solutions may only be attractive in natural resources management when private organizations are under strict contract with the government, and the government remains in control of at least long-term – non-commercial – issues, such as those related to sustainability and poverty reduction.

The desire to reduce the responsibilities of government agencies should never be used as a justification for establishing public–private partnerships. The amount of effort involved in properly monitoring and controlling private organizations under such partnership arrangements is often underestimated or even ignored.

Of particular importance is the knowledge that resides within government agencies and with local people, which is not always easily available and accessible. In many countries, knowledge residing with the government is considered public domain in theory, but is difficult to access in practice. Local knowledge may be hidden and difficult to find and retrieve.

Structured knowledge management needs a host organization charged with the long-term tasks of identifying, collecting, managing and disseminating knowledge. A crucial first (and continuous) task of such an organization is to decide on what kind of knowledge is needed (needs assessment). In other words, what is involved is *the design of the knowledge base*. Obviously, the design will depend on the knowledge requirements of the processes the knowledge base is expected to support, and has to be carefully decided in close cooperation with the strategic and coordinating platform. Once the need for knowledge is established, the host organization should identify all possible sources and make arrangements about their access and availability. Not all knowledge will be available at the host organization, but it should at least be able to locate the knowledge and to arrange for access.

In addition to having access to information, all parties should be able to understand and interpret it. This should be considered an important condition for successful negotiations and thus an important task for any organization entrusted with the task of knowledge management. (For further information on required knowledge, see Section 8.4.3.)

Communication networks

The importance of aproperly functioning communication network relates to the need for the platform to be transparent and accountable on such issues as:

- the identification of problems;
- the proposed solutions;
- knowledge and information on the status and processes of the water resources system, and on the progress of interventions; and
- the functioning of the platform, including working procedures, decisions/advice and finances.

The communication network should help to improve understanding, obtain knowledge and information, and support decision making. An explicit communication policy is an important management instrument.

In addition to the direct communications between individual participants of the platform and the organizations they represent (see Section 7.3.6), the platform as a whole has to establish a two-way communication network with: the political and administrative environment that enables the platform, water users and the public.

The utilization of the host of communication techniques that are available should be subject to negotiations. A highly relevant issue, for example, is the platform's access to the media, which is related to its degree of independence.

Strengthening the capacities of local communities

An important aspect of participatory IWRM, and of the vision and principles of the Negotiated Approach (see Chapter 4) focuses on increasing the capacities of communities to improve their own livelihood conditions – including promoting economic development, reducing vulnerability and protecting the environment. Here, it is important to ensure that all members of these communities, both men and women, have access to institutions, resources (natural and financial) and knowledge, and that local knowledge, traditions and customs are recognized and incorporated in the process of formulating strategies and action plans.

6.5 The involvement of NGOs

How, when and where do NGOs[4] apply the Negotiated Approach, given the institutional framework, the largely hierarchical process of decision making and the above suggestions for reforming the water sector? Experiences suggest that a community or its representatives can initiate an intervention at practically any point in time or at any level within the water sector.

6.5.1 Dealing with different contexts

NGOs can play several different roles, depending on the context. There are four possible situations:

1. The government is performing its functions as conventionally expected, allowing participatory processes, albeit with flaws. This is the ideal situation, but it is rare. Here, the position/role of NGOs is to follow and support the state as the main agency responsible for water management.
2. The government is absent and not performing its expected role. Here, NGOs often perform roles in which they replace government/line agencies, or encourage and support them to play their expected roles.
3. The government wants to outsource resource management to the corporate or private sectors. Here, the starting point is more complex since it involves a broad range of actors, perhaps even the military. NGOs perform their conventional roles – negotiating and proposing alternatives or challenging the state and other sectors (see the box, 'Public–private partnerships' on page 63).

4. The government is repressive. In such undemocratic environments the immediate concern of NGOs may be to survive as dissident groups. Since there is little room for such actions as those mentioned above, they may focus on raising awareness, and their work may be limited to the village level.

Strategic management as described above only applies to the first and second situations (although in Europe line agencies are able to reach out to society, which is not the case in many developing countries). In the third and fourth situations, NGOs may be confronted with issues that are non-negotiable for them, so that it is unlikely that they sit at the negotiating table with governments. In those cases, NGOs perform their conventional roles of empowering communities.

In reality, local communities and NGOs/CSOs tend to act in response to events such as severe water shortages, floods, pollution episodes or the start of construction of a large dam that will summarily displace large populations. Conflicts and disasters, unfortunately, are the motivating factors that start off community mobilization and the creation of multi-stakeholder platforms where strategic negotiations can take place.

The Negotiated Approach can be applied in urban contexts or in industrial situations where the upstream and downstream links are well established.

6.5.2 Possible strategies and roles

If the government is performing its functions as conventionally expected (situation 1 above) and the legal and institutional frameworks are largely in place, then perhaps the best time and location for an NGO to intervene and to set up a platform for negotiation is when a river basin organization (RBO) has announced its intention to prepare an integrated river basin plan. This is the stage where there is the least resistance to suggestions and ideas from beneficiary communities, and a positive attitude to a proactive and constructive process of participation can be expected. It should be realized, however, that such platforms still represent top-down approaches (see Section 3.1) and efforts have to be made to convert them into the platforms described in Section 6.4.1. For example, the RBO may not have accepted the concepts of strategic management, in which case an NGO can focus on empowering communities by raising awareness, strengthening capacity and supporting networks.
When the government is not performing its expected role, NGOs may represent the interests of local water users at higher levels of management, such as national or provincial water councils. Issues to be negotiated at these levels relate to general

water management. In these situations NGOs may not represent just one specific group, but are expected to have a good overview of the interests of different social groups and how they are dependent on water resources. Thus NGOs must have access to active communication networks linking such groups in the field.

If the national constitution is lacking in provisions or clauses that enable IWRM, NGOs can initiate the Negotiated Approach at the highest political level, i.e. at the level of amendments to the constitution. Similarly, if the government introduces a new policy, act or regulation that is not perceived as pro-community, NGOs could use the approach and community mobilization as appropriate 'tools' for bringing about change.

When dealing with repressive regimes, NGOs may be confronted with issues that are non-negotiable for them. Here NGOs could support CSOs to initiate the process at the level of the smallest village or community by identifying the most critical or contentious issues and then start putting into motion several rounds of discussions with other actors/institutions. Community members can also start by trying to solve a local water/sanitation problem themselves, and then extending the process to include other villages and towns in the discussions and negotiations.

Examples of the roles of NGOs

In the context of the above strategies for involvement, NGOs can play a variety of roles, as the organizations that contributed to this guide have demonstrated (see Appendix B).

- Initiating and formalizing strategic platforms where they can represent civil society.
- Developing the capacities of social groups and communities to enable them to participate effectively in planning processes.
- As social contractors, NGOs are in a good position to identify critical social groups and assess their livelihoods and activities. With their understanding of local knowledge, perceptions and preferences, NGOs could make important contributions to the process of analyzing problems and identifying solutions.
- Contributing to knowledge management. NGOs often act as intermediaries between local users and the strategic platform and government organizations, and so can assist the two-way flow of knowledge: (i) by identifying local knowledge and making it available and understandable to other stakeholders; and (ii) by making relevant knowledge and scientific information available to local users and developing their capacity to understand and use it.
- Assisting in the technical design of a knowledge base (what knowledge needs to be available to support the strategic management process) and making sure that local knowledge is included.

The role of NGOs at the national level

NGOs can play an effective role as representatives of civil society in improving the enabling environment for IWRM.

- In Indonesia, Telapak is participating in the National Water Council, created through a new water law (2004), which is leading the formulation of a national water policy and preparing regulations that will enable operational water management at regional and local levels.
- In Costa Rica, the Fresh Water Action Network Central America (FANCA) and one of its members, the Fundación para el Desarrollo Urbano (FUDEU), are members of a national committee that is preparing new water legislation. The committee was successful in ensuring that necessary technical improvements were included in the legislation, and in clarifying and reaching agreement on the processes of IWRM that would be incorporated.

- Developing the capacities of local communities. NGOs can be involved in developing models of good practice, and the capacities required. Such models would take into account local power relations, focusing on enabling various social groups to access institutions, resources (natural and financial) and information.
- Monitoring public–private partnerships, in order to defend the interests of local people. NGOs may identify where such partnerships could be effective, formulate and negotiate conditions, and monitor their performance.
- Establishing a communication network. NGOs must be proactive in designing and implementing the framework for social communication that defines the actors and the steps required in a structured approach to transparent management.
- Other functions. In certain situations, an NGO may be contracted by a community to carry out a specific task, such as to test water quality, or to develop alternative reservoir operating rules in negotiation with management agencies.

6.6 Summary

This chapter has addressed two challenges facing organizations that wish to apply the Negotiated Approach to IWRM. First, they need to understand the institutional arrangements for water resources management (the combination of institutions, laws and regulations, and local norms and traditions) and the various actors involved. The second challenge is to help create an environment that will enable the successful implementation of the approach and to encourage reform of the water sector.

In order to fill the gap between the concept and practice of IWRM, the Negotiated Approach involves the following crucial steps.

- The creation of a *strategic and coordinating platform* at the river basin level as an appropriate arena for applying the Negotiated Approach.
- The establishment of a *process of strategic management* as the main task of the platform and the main mechanism for implementing the Negotiated Approach.
- The involvement of the platform in addressing a number of *cross-cutting issues for IWRM*, including institutional arrangements, knowledge management, communications, and strengthening the capacities of local communities to improve their own livelihood conditions.

In the efforts to reform the water sector, the mandate, the composition/capabilities, and the technical and financial support for such a platform will define its relations with existing planning and implementing line agencies. Its position and authority has to develop and grow in specific situations as it will depend on political will and administrative and personal capacities to challenge and change established power structures. But because the main function of the platform is coordination, its aim should not be to duplicate the work of existing line agencies.

In her book *Governing the Commons* (1990), Elinor Ostrom distinguished between providers, producers and appropriators. *Government* agencies and *delegated functional water management bodies*, such as water boards or river basin organizations, may play several roles, so that their objectives and intentions may be confusing and non-transparent. As providers, government organizations, for example, are responsible for allocating resources, sometimes to themselves as producers of water-related goods and services (public water supply, irrigation, flood protection). Two other actors, *private corporate entities* and *individual users* are mostly appropriators.

A fifth group of actors, the *NGOs/CSOs*, can play various roles, depending on the context in which they operate. Four situations are discussed: (i) the government is performing its functions as conventionally expected, allowing participatory processes, albeit with flaws; (ii) the government is absent and not performing as expected; (iii) the government wants to outsource responsible resource management to the corporate or private sectors; and (iv) the government is repressive. In many situations NGOs can focus on empowering communities by raising awareness, strengthening their capacity and building civil society networks. But where governments fail, NGOs may also take a more proactive role and may initiate and facilitate the Negotiated Approach, even at the highest political level, i.e. at the level of amending the national constitution. In some cases NGOs can be entrusted with production tasks.

In addition to these ‘direct actors’ there are many other areas where governments are relevant for the NA, such as in providing access to information, maintaining the financial system and enforcing environmental regulations.

Notes

1 In international discourse, ‘appropriators’ are often referred to as ‘users’.

2 When government agencies play the part of both provider and producer, these can be clearly distinguished. On the one hand, they own water as a public natural resource (caretaker) putting them in the exclusive role of allocating this resource (provider) to different producers and appropriators. On the other hand, they produce water-related goods and services, in particular in areas where market mechanisms fail (major infrastructure, flood protection, etc.).

3 Worth mentioning is that flood protection can be regarded as a (negative) demand for water, implying that people and activities that are protected against inundation should be regarded as users of the water resources system or appropriators in the above classification.

4 In this section, ‘NGOs’ refers to CSOs with adequate organizational capacities to develop and implement the Negotiated Approach. Referring to CSOs in this context would be far too general, although it is not meant to imply that CSOs other than NGOs would not be able to assume the task of developing and implementing the Negotiated Approach (see the box ‘CSOs and NGOs’ in Chapter 5, page 42).

7 Participation as a negotiation process

The Negotiated Approach has evolved as a response to problems associated with past and present water development and management practices (see Chapter 3), but it is also part of a broader change in approaches to conflict management and group decision making. These developments reflect efforts to handle increasingly complex decision-making processes, and to respond to the increasing dissatisfaction with the limited effectiveness of existing participatory processes.

In this chapter, participation is regarded as a process of negotiation. The aim is to improve decision making and management processes while fully recognizing the – sometimes conflicting – interests and perceptions of all stakeholders, while carefully taking into account their knowledge and experience. The focus is on structuring and facilitating negotiations as a careful process of preparing for the negotiations, structuring the negotiation process, analyzing the problems, identifying possible solutions, and forging and monitoring agreements.

7.1 Defining negotiation

In reading this chapter, it is important to recognize that the connotation of the word ‘negotiation’ has changed. Traditionally, negotiations have been viewed as battles over how to divide up a fixed ‘pie’, in which each participant fights to get as favourable an outcome as possible. Recently, however, in particular in situations where different issues are at stake, negotiations are viewed as a creative interactive process that encourages change and innovation (see box below).

Negotiation – a parable

A well-known negotiation parable involves two people arguing over the best way to share an orange. The most obvious approach was to simply cut it in half, with each person getting an equal share. But, after talking to each other and exchanging information about their interests, it became obvious to both of them that there was a better solution to the problem. One person wanted the orange for juice for breakfast, while the other wanted only the peel to make marmalade. Thus one took the flesh, and the other took the peel. Both sides ended up with exactly what they wanted, and more than they would have had if they had simply cut the orange in half.

'Negotiations to participate' thus do not refer to a process of bargaining for a '*single-merit solution*' in which participants try to maximize their individual gains. Rather, it is an open and flexible approach in which all participants are involved, and find their different interests reflected in a creative '*multi-merit solution*' where the benefits are 'optimally' shared among as many stakeholders as possible. One element, or even a condition, of this approach is that it recognizes the importance of local knowledge. The negotiations consist of a dialogue intended to resolve disputes and to reach agreements on courses of action. To make such an approach successful in reaching win–win situations requires an open, although carefully structured process and a paradigm shift in the thinking of all stakeholders.

7.2 Facilitating the negotiation process

Facilitators of negotiation processes cover a broad range of activities, geared towards creating 'platforms', improving insight, bringing unrecognized knowledge to the surface, managing conflicts, creating productive group dynamics and bringing about coordinated action. It is important that they establish a dialogue in an atmosphere of understanding and trust; create a level playing field for all stakeholders and monitor the implementation of agreements.

Several methods may be used to help turn negotiations into the intended creative process. One of these is *principled negotiation*, developed by Roger Fisher et al. (1991). This method does not involve bargaining over positions, but instead focuses on effective communication among the participants and negotiating the merits of different positions. This method emphasizes four main points:

- people: separate people from problems;
- interests: reconcile interests, not positions;
- options: invent options for mutual gain; and
- criteria: insist on using objective criteria.

People: separate people from problems

Negotiation is a process of *communication*, with discussions going back and forth for the purpose of reaching a joint decision. Facilitators therefore need to create an effective communication process, in which the participants:

- listen actively and acknowledge what is being said;
- speak in order to be understood;
- speak for a reason (i.e. before making a statement, knowing what to communicate or find out, and for what purpose);
- build a working relationship with other participants; and
- address the problem, not the people.

People often enter into negotiations feeling threatened, knowing that the stakes are high. Facilitators can control such *emotions* by:

- recognizing and understanding emotions;
- making emotions explicit and acknowledging them as legitimate; and
- encouraging the use of symbolic gestures, such as a note of sympathy, a visit to a cemetery, or joint dinner, that can have a constructive emotional impact on the other side.

Interests: reconcile interests, not positions

The participants in a negotiation process will have many different positions in relation to their constituencies. For example, representatives of government agencies are part of a hierarchical organization, or they are directly elected by groups of users. The problem in negotiations lies not in such possibly conflicting positions, but in the conflicting interests – needs, desires, concerns and fears – on each side.

Facilitators therefore need to focus on ways to reconcile such interests. Behind the opposing positions lie shared and compatible interests, as well as conflicting ones. The most powerful interests are basic human needs, such as security, economic well-being, a sense of belonging, recognition and control over one's life. In many negotiations, participants tend to think that economic interests are the only drivers. By ignoring these basic needs, opportunities to come to an agreement may be overlooked.

Options: invent options for mutual gain

Win–win solutions can be identified by focusing on commonalities. In this sense it is essential that the facilitator separates 'inventing' from 'deciding' by organizing a brainstorming session designed to produce as many ideas as possible; and to broaden options by looking for mutual gains, identifying shared interests and dovetailing different interests. The latter can be done for instance by formulating *package deals* (see task 5 in Section 7.2).

Criteria: insist on using objective criteria

At an early stage in the decision-making process, the participants should be encouraged to establish and agree on objective criteria. Standards of fairness, efficiency or scientific merit should be introduced to steer the process towards an agreement that will be reached on the basis of principles (*don't yield to pressure, only to principle*). Such standards can be the starting point for identifying objective criteria.

Fisher's method of principled negotiations provides general guidelines to initiate a dialogue that takes place within an environment of understanding and trust, and is geared towards multi-merit solutions.

In the following we attempt to provide a set of guidelines for facilitators of negotiation platforms that apply the strategic management approach (section 6.4). The challenges of such platforms are (a) to create a level playing field to ensure the participation of stakeholders who are usually excluded from negotiation processes, and (b) to ensure monitoring and evaluation of implementation of agreements.

The tasks of facilitators of such platforms and negotiation processes are as follows (adapted from Leeuwis and van den Ban, 2004):

- task 1: preparing the process;
- task 2: reaching and maintaining agreement on the design of the process;
- task 3: joint fact-finding and situation analysis (problem analysis);
- task 4: identifying and analyzing possible solutions;
- task 5: forging agreement;
- task 6: representatives communicating with their constituencies;
- task 7: monitoring implementation of agreements; and
- task 8: strengthening the capacity of participants.

These tasks should not be regarded as sequential 'steps'. Most of them will be relevant during only part of the process, others may need to be repeated, and yet others will continue throughout the decision-making process. For example, when discussing an agreement (task 5), participants might zoom in on a few alternatives for which they need more information, and so will need to repeat tasks 3 and 4. Training activities under task 8 will require continuous efforts throughout the negotiations.

These eight tasks are described in more detail in the following. It should be noted that these tasks are based on Western literature, and so will need to be adapted to local cultures of learning and negotiation.

Task 1: Preparing the process[1]

Before the negotiation process begins, several issues may require attention, many of them relating to whether favourable conditions exist or can be created for an interactive process with outsider involvement. The quality and the ultimate success of the negotiation process are dependent on these preparatory activities and the careful attention they receive. Obviously, the relevance of the issues – and thus the degree of attention they require – will depend on the problems and management context at hand.

Specific attention should be given to strengthening the negotiating capacity of local communities. The target groups of the Negotiated Approach – the local communities – may need extensive training if they are to build up the knowledge and skills they need to become equal partners in management and negotiation. An assessment of these needs at the very beginning of the process is therefore of strategic importance to the process (see also task 8: strengthening the capacity of participants).

Reviewing past initiatives and local innovation capacity

When dealing with a problematic situation, it can be assumed that the actors affected have already considered and/or launched initiatives that could help to improve it. It is important that such initiatives and experiences, as well as the obstacles that surfaced in the process, do not remain hidden. It is equally important to explore existing social arrangements and forms of organization, and their capacity to contribute to innovation and change. Leeuwis and van den Ban (2004) described a range of methods and tools that may be helpful in such exercises.

Delineating management areas

As explained in Sections 2.2.2 and 3.1, hydrologically well-defined areas such as river basins are usually preferred as water management units. However, there may be cases where river basins may not be the most appropriate management areas. For example, if a so-called demand area is different from a supply area (e.g. when water from within a basin is delivered to users elsewhere), it may be practical and convenient to select a management area that includes different basin areas that service the same (often dominant) demand. Another situation in which a different management area might (or should) be considered is when the boundaries of the basin are difficult to define, such as an estuary or a coastal wetland system that receives inflows from two or more rivers. Here, the management area may consist of areas where communities share a common interest in drainage, or ecosystem areas, such as wetlands, that form strong ecological units.

Building on previous initiatives

Previous initiatives are often important in preparing the ground for the Negotiated Approach. In the Luwu District in South Sulawesi, Indonesia, the Forum DAS Walmas, a civil society platform, has been working to promote community-based water management in the Lamasi River basin since 2004.

As a result, in 2006 Luwu Regency council approved regulation (perda) No. 9 on watershed management and conservation. This regulation proved to be a precondition for the district government to establish the Lamasi River Basin Council, which will apply the Negotiated Approach to promote the sustainable management of the basin.

Building on previous initiatives

In the 1990s, more than 300 NGOs working to protect the Paraguay–Paraná wetland system in South America decided to form the Rios Vivos Coalition to collaborate and to share the lessons learned. The coalition successfully opposed a Paraguay–Paraná waterway, and the proposals were later officially withdrawn by the national governments.

Through the coalition, the NGOs and grassroots organizations were able to establish common ground, and to build networks for exchanging experiences to improve their own practices. Thus, when NGOs from across the region created the Wetland System Alliance, they were able to build on these established relationships, the previous work with local communities, and the existing channels for dialogue/negotiation with governments and international agencies. The Alliance would be proactive in elaborating a vision and guidelines for an integrated programme for the wetland system.

In negotiations on water management, it is extremely important that the participants explicitly agree on the boundaries of the management area at the outset. These boundaries are relevant not only in the selection of stakeholders and carrying out a problem analysis, but in particular for making the required administrative arrangements for the negotiation process itself. Such arrangements are needed because the boundaries are unlikely to coincide with local or district administrative boundaries. The arrangements should at least consider including government agencies both in the negotiation process and in the implementation of the outcome of the negotiations.

Preliminary stakeholder analysis and conflict assessment

When preparing for an open and flexible negotiation process geared towards a multi-merit solution, it is important to identify those stakeholders whose interests are 'at stake' in maintaining and/or changing a situation, and critical societal groups in relation to the problem at hand. These may include not only groups such as small farmers and subsistence fishers who will be most affected by (changes in) the state of the water resources system, but also groups and economic activities that affect the condition of water resources, such as industries that discharge waste into the river. Special attention has to be paid to illegal activities, in particular those that are tacitly accepted by the authorities and cannot be prevented by applying existing regulations. Wherever possible, such activities have to be represented in the negotiations.

Once the stakeholders have been identified, it is important to acquire a historically sensitive understanding of, for example, their aspirations and interests, the nature and strength of the relationships between them, the resources and capacities that they can mobilize to influence outcomes, etc.

Based on this information, possible alliances and/or opponents can then be identified and their potential to contribute to or disrupt the negotiations can be assessed.

Selecting stakeholder representatives

Based on the stakeholder analysis and conflict assessments, and considering the institutional setting of the negotiations, the selection of stakeholder representatives can begin, preferably by a team representing those who took the initiative to introduce the structured negotiations. As mentioned above, the mutual interdependence of stakeholders who share a common problem is a precondition for successful negotiations and should be considered a criterion for selecting participants. It is important to decide whether participants are selected on the basis of their position or personal qualities. It may not be advisable, for example, to invite the managing directors of agencies or companies to participate in the negotiations, since they are highly unlikely to attend themselves.

Ultimately, the participants selected should represent a 'balance of power' in which all stakeholders are represented in a setting that guarantees that they be able to speak out and are listened to in accordance with their involvement and interest in the problem at hand. In this context, it is important to be aware of possibly existing alliances among different stakeholders.

Formulating objectives and (objective) criteria

Decision making is driven by objectives and alternative actions are assessed against a set of criteria. In order to guarantee a balance of power among

Livelihood and activity analyses

In Indonesia, the first task of the Lamasi River Basin Council (see previous box) will be to carry out an initial problem and conflict assessment through *livelihood and activity analyses*. The aim is to understand households and economic activities in terms of their own objectives and perspectives as both water users/consumers and polluters.

A *livelihood analysis* focuses on how local people perceive their living conditions related to water in terms of their well-being, vulnerability and desires, combining an inventory of household assets and perceptions.

An *activity analysis* assesses activities that produce goods and services (e.g. industries, agriculture and tourism), asks such questions as: what are the inputs and outputs (also residuals) of the production process and are there alternative options (production functions); and how would those activities be damaged by events such as water shortages or poor water quality (damage functions).

stakeholder representatives, it is crucial that they agree on common, clear and operational objectives (see also Section 7.1). In an iterative process, these objectives drive the identification and selection of stakeholders, who would then be asked to specify their objectives and corresponding criteria. This has to be done at an early stage in order to facilitate the problem analysis and the identification of solutions. The following two considerations merit attention.

- Objectives and targets should be as concrete and specific as possible. Vague aspirations such as: 'improving the well-being of the population' or 'ensuring that the river is safe for swimmers' can hardly be translated into concrete and objective criteria and are thus not helpful in decision making.
- Objective criteria should not be confused with preferences that reflect subjective values. For example, using an irrigation project to improve a 'farmer's income' is an objective criterion, whereas a 'farmer's opinion' about the same project is subjective.

Once the participants reach agreement on such objective criteria, decision making boils down to a process in which *different preferences* (weights) for these criteria are 'negotiated' in a dialogue (see above) among stakeholders who understand each other's interests.

Identifying broad areas and boundaries of intervention

When engaging in explorations as described above, the participants should not immediately limit the scope of the discussions as a result of preconceived problem definitions or narrowly defined organizational mandates. However, at a certain point they will have to reflect on how the emerging insights relate to their own capacities and mandates, and try to reach a common understanding with at least some of the stakeholders as to what meaningful role they can play.

Assessing and creating the institutional space for the negotiation process

Creating the institutional space for the negotiation process involves putting in place the enabling conditions, in particular the platform for negotiations with a clearly specified mandate and set of working procedures. This is a crucial activity that might expand beyond the preparation process itself. As mentioned, it is important that stakeholders make long-term commitments to be involved in all stages of management. If these commitments are not made at the outset, they could require continuous efforts during the negotiation process itself.

Negotiation processes only make sense if there is a fair chance that the wider institutional policy and administrative environment (e.g. local or national governments) will react positively to its outcome. Ensuring a good link (e.g. in terms of timing) between interactive processes and formal policy processes is essential. As a preparatory activity, the institutional arrangements for

water resources management need to be analyzed, highlighting the context of existing policies and strategies.

Availability of and access to information

It is crucial that all stakeholders have access to objective scientific information. Data on rainfall distribution, river discharges, soil conditions, agricultural practices and household composition, etc., will reduce the uncertainties and make better decisions possible. Where such information exists, arrangements should be made to ensure that such information is made available to, and is understood (!) by all stakeholders.

Task 2: Reaching and maintaining agreement on the design of the process

This task relates to defining the rules of the game for the negotiation process itself. The prior agreement of all participants on procedures is important to ensure that the process is transparent and fair. This will create trust among participants and ease the work of the facilitator, while creating realistic expectations in the outside world. This task involves:

- specifying the terms of reference for the negotiations, including formulating objectives and outputs and identifying constraints;
- establishing a provisional working agenda and procedures, including setting deadlines and time limits; and
- specifying methodologies and the division of tasks.

The process should be sufficiently flexible to allow the terms of reference to be adapted as the process unfolds.

Task 3: Joint fact-finding and situation analysis (problem analysis)

An important aspect of the negotiation processes involves ensuring that the participants *understand each other*. As a first step, they might try to reach consensus on a situation analysis that encompasses the perceptions of all stakeholders. Such an analysis might include assessments of (possible) problems as well as opportunities for multi-merit solutions. Efforts to conduct a joint situation analysis might also result in the development of a 'common language' that is understood by all participants, and which will be helpful in ensuring the transparency of internal and external communications.

Conducting the situation analysis should preferably be an ongoing activity, starting with the most vulnerable groups, such as landless farmers and their

activities. During the subsequent negotiations, the process of collecting and analyzing information as well as consulting outsiders will help the participants to broaden their knowledge and deepen their understanding of the situation.

The situation analysis should examine not only the existing situation, but also expected developments. This is usually done by considering a range of scenarios for future development, e.g. on economic growth, population growth, world market prices or climate change. If such scenarios are obtained from official sources such as national planning departments and international agencies, they will need to be 'translated' to ensure they are relevant to local circumstances.

Task 4: Identification and analysis of possible solutions

The problems identified during task 3 that are based on perspectives of the respective stakeholders, are likely to include ideas about possible solutions. It is important that all such solutions identified by the stakeholders are taken seriously, and that discussions and possible decisions on their feasibility are properly documented. Since in the subsequent processes of eliminating possible solutions transparency is crucial, it is important that:

- there is prior agreement on the criteria to be used; and
- these criteria are separate from the preferences or the weights or given to them by the different stakeholders.

A well-guided discussion on possible solutions will substantially increase understanding, is likely to reduce the number of possible solutions and might result in new solutions that create win–win situations for all stakeholders.

Task 5: Forging agreement

In some cases, task 4 may result smoothly in agreements on possible solutions and actions to be taken. In most cases, however, negotiations are needed. This is the kernel of the process, where the preparations and previous tasks can be expected to bear fruit. Here, the facilitator plays an extremely important role in establishing and maintaining a constructive atmosphere and preventing the participants from hiding behind their preferred proposals and only criticizing others. The facilitator may, for example, invite participants to indicate under what conditions other proposals would be acceptable, with the aim of reaching an arrangement that is acceptable to all. Another option is for the facilitator to combine proposals into package deals where participants may find it easier to give in on certain issues, as they see other issues accepted in line with their preferences.

In this process it is important that the participants focus on commonalities in order to *identify win–win solutions*. Identifying possible options should be separated from deciding by organizing a brainstorming session designed to generate as many ideas as possible. The range of options can then be broadened by looking for mutual gains, identifying shared interests and dovetailing different interests. The latter can be done, for instance, by inventing several options that are equally acceptable to some parties, and then asking the other parties which one they prefer. This might result in *package deals* in which all participants have the feeling that they have been compensated for the inclusion of options that do not satisfy their criteria.

Agreement might be reached through an *iterative process* of identifying, analyzing and selecting promising solutions and combining them in possible package deals. Such gradual zooming-in on a final solution is an essential procedure where stakeholders participate in a *trade–off* among different options. Where needed, additional data can be collected and analyzed, and new and creative solutions might emerge from the mutual understanding of a shared problem and each other's interests.

This stage of the negotiation process is of special importance in the framework for strategic planning, which is explained in Chapter 8 (see Table 8.2 and Section 8.4.2).

Group decision making and multi-criteria analysis techniques are further explained in Section 7.3.

Task 6: Communication of representatives with constituencies

Since the participants in the negotiations represent others, it is important that they communicate with their constituencies. Relations between the representatives and their constituencies can be considered as a separate negotiation process, which is in line with the idea of negotiations as processes of learning and network building.

If the facilitator can allow representatives with ample time and provide well-documented information on the interactive process, this will help to prevent representatives and their constituencies growing apart. It is important to realize that representatives, by being part of the interactions and negotiations, go through a much more intensive learning process than the people they represent, and their understanding of the other parties is difficult to transfer to their constituencies. Moreover, it is likely that agreements reached at the negotiating table will need to be ratified by the representatives' constituencies.

Task 7: Monitoring agreed actions

It has been reasoned that real participation can only take place when stakeholders are involved in implementing and evaluating the agreed interventions and actions. This requires that the stakeholders make long-term commitments and reach agreement on monitoring procedures. Two types of monitoring should be considered:

- monitoring of the actions stakeholders promised to take; and
- monitoring of the impacts of those actions in terms of whether they solve the identified problems.

Monitoring thus serves the purpose of evaluating either the progress of an intervention (promised actions) or its effectiveness (impact). This is always a sensitive issue and special arrangements are needed to ensure that monitoring is relevant, and that it supports the learning process of managers in their attempts to achieve equitable and sustainable management of natural resources. These arrangements include full agreement on the criteria to be used for evaluation and access to required information.

Task 8: Strengthening the capacity of participants

The success of any participatory negotiation process will depend on the skills of the participants to communicate and negotiate, as well as their ability to understand the issues involved and the consequences of the decisions to be negotiated. Enhancing these skills and abilities will require explicit and continuous attention, based on a broad and open assessment of the need for capacity building. The target groups of the Negotiated Approach – the local communities – may need extensive training if they are to build up the knowledge and skills they need if they are to become equal partners in management and negotiation processes. Examples of areas where capacity and skills building may be needed include:

- communication and negotiation skills;
- the concepts of IWRM;
- management regimes and water as a human right;
- existing institutional arrangements;
- the functions and processes of natural water resources systems; and
- the various tools and techniques for IWRM.

7.3 Group decision making and multi-criteria analysis

The way decisions are made has been the subject of many investigations, but analytical techniques that aim to support decision making have been developed only in recent years. These techniques fall roughly into two categories:

- operations research (OR) techniques are applied to decision-making problems with the objective of selecting the best or most efficient alternative; and
- multi-criteria analysis (MCA) techniques rank alternative options using different preferences/weights given to multiple objectives or criteria.

Multi-criteria techniques are of special interest for group decision making (for a detailed overview see Figueira et al., 2005). The general principle of these techniques is that alternative solutions are compared and ranked according to: (i) the 'scores' on criteria; and (ii) the 'weights or preferences' given to those criteria (by different stakeholders, for example). In the case of group decision making and uncertainties related to the alternative solutions, members of the group can play 'what if' games by changing scores and/or preferences for certain criteria that reflect different points of view. In many cases, such 'what if' games show consistently high rankings for certain solutions and mutual trade-offs (under what preferences will rankings change?) that may be helpful in reaching final decisions. Many MCA techniques allow the use of both quantitative and qualitative data.

Analytical approaches such as these should not be considered as decision-making models but as support to negotiations. Experience has shown that such techniques, when used correctly, can be very helpful in structuring discussions and group processes by enabling the members of the group to understand the importance of other positions and arguments.

One widely used MCA technique is the analytical hierarchy process (AHP), developed in the 1970s by Thomas de Saaty. With this widely used technique it is possible to compare diverse and often incommensurable criteria or elements in a rational and consistent way using personal judgements in addition to analytical criteria. This capability distinguishes the AHP from other decision-making techniques (see Bhushan and Rai, 2004). Users of the AHP first decompose their decision problem into a hierarchy of objectives and sub-objectives (expressed in terms of criteria), each of which can be analyzed independently. The elements of the hierarchy can relate to any aspect of the decision problem – tangible or intangible, carefully measured or roughly estimated, well or poorly understood – anything at all that applies to the decision at hand. Once the hierarchy of criteria is built, its various elements are systematically evaluated by comparing them, two at a time (*pairwise*

comparison). The AHP converts then these evaluations to numerical values that reflect priorities for each element in the hierarchy.

7.4 Overcoming bottlenecks in negotiations

Negotiations as participatory processes involving a wide variety of stakeholders are unpredictable. They must therefore be facilitated in a flexible way, i.e. without following a fixed, predetermined agenda. For example, if conflicts on problematic situations and condition of natural resources persist, it is important that the process allows additional 'fact-finding' exercises to be organized. It is also important that representatives are allowed opportunities to communicate with their constituencies and other parties, and that it is accepted that results of such communications may alter their positions in the negotiations. Unanticipated developments and new opinions may affect the negotiations and require adjustments to the stipulated path.

During any negotiations, bottlenecks can emerge. Some recommendations, for both the facilitator and participants, that might serve to prevent or overcome bottlenecks include the following.

- Make sure from the beginning that all participants understand the *institutional context* of the negotiations and its possibilities and limitations.
- Make sure that all participants have access to and understand *objective information on the natural system* under consideration. It should not be necessary to focus on the value and reliability of information during the negotiations.
- In order to gain insight into the backgrounds, aspirations and interests of the various stakeholders and to understand their perspectives, stakeholders can be asked to review and analyze their experiences during *in-depth interviews or small group discussions*.
- *Joint fact-finding and reducing uncertainty*. When considering the different perspectives and aspirations it may become evident that information on certain aspects of the problem is lacking or contradictory. In such cases, it may be helpful for participants to undertake joint fact-finding exercises or research in order to gather more information. It is crucial that such exercises are conducted jointly, both to encourage shared understanding and establish a common knowledge base, as well as to enable the participants to build up relationships among themselves.
- If one party continues to restate its position in unequivocal terms, and is concerned only in maximizing its own gains, a third party may be invited to shift the process from positional bargaining to 'principled negotiations' using the one-text procedure. In this, the third party compiles an inventory of the different interests and produces a text that accommodates the interests

of all sides as far as possible. This text is discussed with all sides, adjusted accordingly and discussed again. This can continue until the third party has a text that he or she feels can not be improved further, and then recommends that all parties accept it.

7.5 Summary

In the context of the Negotiated Approach, negotiations are regarded as a process of participation, and thus involve an open, flexible approach in which all stakeholders are included. They find their different interests reflected in a creative '*multi-merit solution*' where the benefits are 'optimally' shared among as many stakeholders as possible. This is in contrast with traditional negotiations that involve a process of bargaining for a single-merit solution in which participants try to maximize their individual gains.

To help turn negotiations into the intended creative process, this chapter presented some general principles and tasks for facilitating the negotiations. The general principles are taken from the method known as '*principled negotiations*' developed by Roger Fisher et al. (1991), which emphasizes four main points: separate people from problems; reconcile interests, not positions; invent options for mutual gain; and insist on using objective criteria.

The success of any negotiation process is largely dependent on its facilitation. Eight tasks, adapted from Leeuwis and van den Ban (2004), have a structured order but are not meant to be carried out in sequence. The most important tasks are the careful preparations for the negotiations and strengthening the capacities of the participants. Note that there are some similarities between these tasks in the negotiation process and the formulation of strategies described in Chapter 8.

Section 7.3 briefly discusses some advanced techniques for group decision making, such as multi-criteria analysis (MCA). When used correctly, these techniques can be applied to support (but not replace) decision-making processes, but require an advanced level of rather abstract thinking.

Knowing how to deal with the bottlenecks that can occur in negotiations is often regarded as an art rather than a technique. Section 7.4 offers some recommendations on how to prevent or overcome them.

Notes

1 Adapted from Leeuwis and van den Ban (2004).

8 Strategic water resources management

This chapter focuses on strategic management, for two reasons. The first is that structured strategic management is needed to transform planning for water resources management into a *continuous, sustainable negotiation process*. There is also a need to move away from traditional one-off or ad hoc master plans and project planning, which are still based on the paradigm that 'development means projects' (and vice versa).

The second consideration is that strategic management, with its iterative approach and feedback mechanisms of monitoring and adaptation, involves a process of *continuous learning* that encompasses all steps in the management cycle. This is *the* arena for applying the Negotiated Approach, through which civil society organizations can be effectively involved in water management tasks that determine their livelihood conditions, both directly and in terms of sustainability. The Negotiated Approach contributes to making planning processes sustainable and inclusive, while at the same time improving water resources management through a learning process in which all stakeholders participate.

8.1 Introduction

In this chapter, a *strategy* refers to a set of identified priority interventions and corresponding medium- or long-term goals, together with concrete and measurable targets for reaching those goals. The purpose of such a strategy is to provide a guide for real *actions* (mostly by implementing agencies or individuals) that often are elaborated in detail within the framework of allocated annual budgets.

A strategy can also be regarded as an operational mechanism for implementing vaguely formulated *policies* that express visions and intentions, such as for poverty alleviation or sustainable development. Within such policies, strategies deal with existing constraints in terms of time and other resources, mainly natural and financial. The real strength of these strategies, however, 'surfaces' when they are used as reference points for monitoring and assessing the impacts of interventions, enabling their adaptation to real-world conditions and changes in priority (see also Section 8.4.1).

All stakeholders in water management can be expected to have their own strategies, serving their own specific objectives. Industrial enterprises, for example, have strategies to maximize their profits, farmer organizations aim to maximize farmers' incomes, while government organizations may have a variety of objectives in areas such as macroeconomics, environmental

protection, food security or public water supply. Strategic water resources management combines all of these individual strategies into a 'package of strategies', thus creating the synergy that is needed to make water management genuinely integrated.

Depending on the context, negotiations can take place at several or all steps of strategic management. This chapter presents an overview of these steps and, where relevant, provides examples of special methods that will facilitate the application of the Negotiated Approach in strategic management.

First, Section 8.2 explains strategic management as a process and gives an overview of the corresponding water management tasks (Table 8.1) as they may be organized in subsequent steps in the management cycle: planning, implementation, monitoring and evaluation. The remainder of the chapter provides examples of the variety of methods and techniques that relate to each of these steps and cross-cutting themes. Table 8.2 presents examples of decisions that may be taken at each management step and in managing the cross-cutting themes, and identifies the potential roles of the Negotiated Approach.

8.2 Strategic management as a process

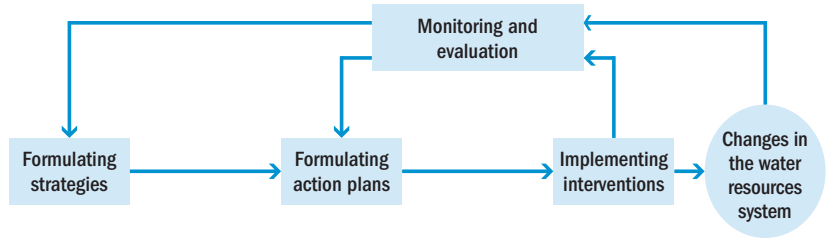
As stated earlier, *strategic management* refers to a structured, cyclic and iterative approach aimed at continuous learning that encompasses all steps in the management cycle. It is an approach that can be used and understood by many stakeholders – in particular by implementing government bodies – but is rarely implemented in full because of the lack of proper monitoring and feedback mechanisms.

Strategic management for integrated water resources management (IWRM), as a package reflecting the strategies of stakeholders, involves:

- formulating explicit medium-term strategies that set concrete and measurable medium-term targets (say five years) for different stakeholders;
- creating approaches to identify and develop interventions (action plans, often annual) by stakeholders to meet these well-defined targets; and
- developing mechanisms for monitoring and evaluating the progress and impact of these interventions.

Both experiences in implementing interventions and an understanding of their impacts provide essential inputs that can be used to improve future interventions, enabling a well-structured, continuous and progressive process of learning. Strategic management thus structures an iterative process in which management cycles (planning, implementation, and monitoring & evaluation) follow each other

Figure 8.1. Components of the management cycle



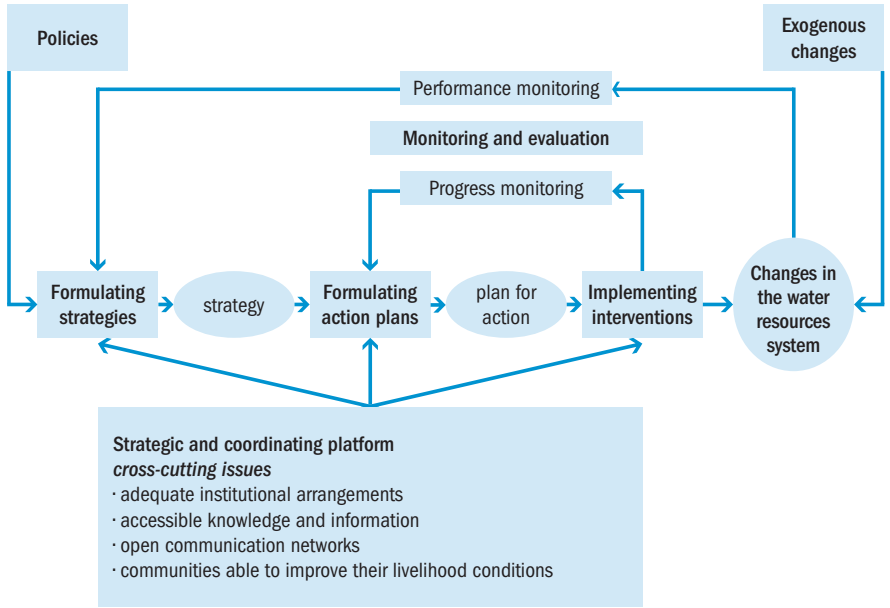
in continuous cycles, while the findings in any one cycle provide feedback into the next. This management cycle is represented schematically in Figure 8.1.

It is essential that this whole process is guided by a *strategic and coordinating platform* (see section 6.4.1) where implementing agencies and other stakeholders meet to negotiate and agree on the different management tasks and coordinate their activities. These tasks refer to the implementation of interventions but should also include addressing several *cross-cutting* issues that are essential for the successful implementation of the *key stages* of iterative management tasks: strategies, action plans, and interventions (see Section 6.4.3). These cross-cutting issues require the coordination that is essential for IWRM, but which has so far failed in conventional, fragmented and sector-oriented approaches.

The strategic management process, schematically depicted in Figure 8.1, is further elaborated in Figure 8.2. It is important to recognize the following points.

- In addition to changes in the water resources system brought about by the interventions, there are other *exogenous* changes that are not subject to interventions of the water management agencies (*Scenarios* – see Section 8.4.2). Such scenarios refer, for example, to different economic or demographic projections. All stakeholders must agree on the scenarios on which the strategies are based and interventions implemented.
- Planning consists of two interrelated activities that differ in terms of their time dimension and scope:
  - *formulating medium-term strategic planning* strategies that define goals and targets for development, and identify concepts and priorities for possible interventions (preferably those requiring integrated actions) to achieve those targets (see Section 8.4.1); and
  - *drawing up annual plans for action* to implement a strategy. Such annual plans used to be closely related to the budgeting procedures of the implementing line agencies, which often had their own policies and strategies (see Section 8.4.3).

Figure 8.2. The strategic management process



- *Three types of iteration* can be distinguished:
  - annual iteration of action plans and budgeting;
  - strategic planning rounds, perhaps every five years; and
  - infrequent rounds of policy formulation, perhaps once in about 15–25 years.
- *Two types of monitoring* that provide feedback for strategy formulation are:
  - monitoring the development of the water resources system and its use (performance modelling), which should reflect the effectiveness of interventions; and
  - monitoring the implementation of interventions (progress monitoring), which should reflect the efficiency of the interventions.
- The strategic management process is driven by policies that respond to problems in the water resources system that are difficult to resolve without making political choices. This means that the approach must fit with an existing reality of water agencies with their own policies and strategies. It does not mean that existing agencies create boundary conditions that are invariable and cannot change. Changing institutional arrangements, however, has a political dimension and cannot be achieved by strategic management alone.

Table 8.1 summarizes the main tasks of functional management, distinguishing between the key iterative management tasks and tasks related to the cross-cutting issues.

Table 8.1. Examples of issues for a Negotiated Approach in strategic water resources management

CATEGORIES OF MANAGEMENT TASKS	EXAMPLES OF ISSUES FOR DECISION MAKING	EXAMPLES OF ISSUES FOR NEGOTIATIONS
KEY STAGES IN ITERATIVE MANAGEMENT		
Formulation of strategies	· Joint problem statement · Scenarios of exogenous developments · Formulating strategies and implementation targets	· Analysis of wishes, obstacles and possible solutions of all actors, based on their perspectives · Assessments of the state of the natural system · Selection of scenarios · Identification, analysis and selection of strategies
Formulation of action plans	· Annual programming and budgeting for investments and other interventions · Operations and maintenance (O&M) plans	· Identification and prioritization of actions (interventions) against strategic targets and needs of local users · Allocation of resources for annual O&M
Design and implementation of interventions	· Design and construction of infrastructure · Design and enforcement of implementation incentives · Arrangements to create an enabling institutional and legal environment for the interventions	· Discussions of options for implementing selected interventions (physical, incentives and institutional) · Representing and organizing local knowledge, interests and participation in implementation
Monitoring and evaluation	· Developing and using indicators to monitor and assess: (i) the compliance of all actors; and (ii) the state of the water resources system	· Selection of indicators · Assessing annual and medium-term developments
CROSS-CUTTING THEMES		
Integrated knowledge and information base	· Developing a set of indicators and designing and implementing a corresponding information and knowledge system	· Involving local knowledge · Creating access to information
Enabling institutional arrangements	· Defining and maintaining the institutional arrangements that should enable the implementation of all management tasks	· Defining mandates and distribution of tasks over different agencies at different government levels · Taking into account local norms and traditions · Establishing public–private partnerships
Communication networks	· Networks among stakeholders, policy makers and the public	· Composition of the network · Communication strategies
Communities capable of improving their own livelihood conditions	· Strengthening the capacity of communities to manage their own environment	· Responsibilities and tasks to be delegated and capacities required · Monitoring and control mechanisms

8.3 Water resources systems and their functions

Underlying this chapter on strategic management, functional management relates to areas with *physical boundaries*, such as (sub-)river basins or drainage units in delta areas. Such physically determined areas are referred to as water resources systems; see sections 2.2.2 (box), 3.1 and 7.2.1.

Knowledge of the different components of the water resources system and an understanding of their functioning in the hydrological cycle is essential for any decision on the use of water resources. Examples of such components include the following.

The catchment of a river basin refers to the area that collects precipitation, which either evaporates into the air, infiltrates into groundwater aquifers or runs off as surface water into streams, rivers or other surface water bodies such as lakes or canals. Rainfall/runoff coefficients (depending on basin characteristics such as vegetation cover and soil structure) define the percentage of precipitation that becomes surface water runoff. Different forms of land use and deforestation/reforestation activities can have major impacts on river basin hydrology.

Groundwater aquifers perform an important function in storing rainwater that feeds rivers in dry periods. The extraction of groundwater from aquifers should not exceed their recharge capacity. Over-extraction in coastal areas will result in long-term damage to aquifers due to the enhanced intrusion of saltwater.

Natural and man-made *surface water storage bodies* such as lakes and reservoirs may have significant effects on the distribution of river discharges over time, such as reducing peak flows and augmenting low-water flows.

Rivers that transport water and sediments to the sea. In lower (alluvial) reaches, rivers present a balance between freshwater and sediment discharge, saltwater intrusion and riverbed forms. Any intervention in a river basin affects these relations, leading, for example, to increased erosion or sedimentation of the riverbed or increased saltwater intrusion. Rivers also become important mechanisms for transporting wastes and contaminating substances away from their inland sources, often accumulating them in delta regions and coastal waters.

Delta areas. The lower reaches of rivers may form deltas where land and sea interact through a network of river branches where fresh river water mixes with saline seawater. Deltas are considered biologically active areas, while fertile deposits of fine sediments offer opportunities for human activities such as agriculture. Perhaps unsurprisingly, many ancient civilizations originated in delta regions, while today the rates of urbanization are highest in deltas

worldwide. But deltas are also extremely vulnerable to natural disasters and to the adverse impacts of human activities. These include flooding due to high river flows and poor drainage conditions; cyclones and storm surges; saltwater intrusion into surface water and groundwater aquifers; the increasing use of upstream freshwater and over-extraction of groundwater. In other areas, the building of flood protection works means that fertile sediment is no longer deposited on floodplains; and polluted water and contaminated sediment are carried downstream and deposited in deltas, creating potential sources of future contamination. In addition, rising sea levels are increasing saltwater intrusion and drainage congestion.

These hydraulic processes are complex and difficult to control, so careful planning is needed to address such challenges in the future.

The various components of a water resources system serve many functions, related to their utilization and exploitation by humans. Each system presents a unique combination of these functions, which fall into four categories:[1]

Regulation functions related to the maintenance of life-support systems are often not recognized until they are disturbed. Examples include:

- flood attenuation and control (flow regulation);
- prevention of saltwater intrusion (protection of agriculture);
- groundwater recharge and discharge (safe public water supply);
- protection against natural forces (soil or shoreline erosion, storm surges);
- sediment retention and the storage and recycling of organic matter (purification of water, fertilization of floodplains);
- maintenance of biological diversity; and
- micro-climate stabilization.

Carrier functions in general provide facilities for human activities, such as:

- human habitation and settlement;
- cultivation: crops, animal husbandry, aquaculture;
- recreation and tourism; and
- navigation.

Production functions relate to those goods that are produced by nature and for which humans need only to invest time and energy to harvest them. Products include:

- water as harvestable resource (irrigation water, domestic and industrial water supplies, hydropower);
- raw materials, e.g. animal and plant material for clothing, housing, construction, etc. (fur, wool, silk, hides, rope, baskets, timber, paper); and
- fuel (fuelwood, charcoal, peat, leaf litter, dung).

Information functions provide opportunities for spiritual enrichment, cognitive development and recreation, such as:

- aesthetic information (scenery, landscape);
- spiritual and religious information (religious sites, emotional attachment);
- historical information (old trees as landscape elements, historical and archaeological elements); and
- educational and scientific information (natural science classes, research, indicators, models for research).

8.4 Planning for strategic management

8.4.1 Strategies

Strategies are the principal means through which water resources policies are implemented. Their periodic development is about building a process, not preparing a plan in the classical master plan sense, that analyzes past and future developments in the water sector, makes strategic choices and sets priorities, such as in relation to targeted regions, disadvantaged groups and issues, and sets targets for interventions. Most important, strategies should also create an environment that will enable the identification, elaboration and implementation of further interventions, and set up a framework of indicators for monitoring and evaluating the interventions and their impacts. This is an important arena for the Negotiated Approach.

Planning for strategic management refers to the formulation of strategies that are distinct from one-off efforts such as those related to master planning. Such strategies

- link policies with concrete actions by translating vague policy objectives and intentions into concrete, measurable medium-term strategies and targets that provide a framework for annual action plans;
- identify concepts for priority actions to guide further elaboration into action plans and do not prescribe timetables for interventions;
- should explicitly contribute to the environment that enables these actions (funds, institutional capacities, etc.); and
- provide mechanisms for monitoring and evaluation (indicators and multi-criteria analysis) that provide feedback into a continuous process of planning, and allow the timely adjustment of interventions so that the target is maintained.

The actions that are proposed and enabled relate to three types of intervention:

- physical or infrastructure interventions such as barrages and embankments intended to change the availability of water;

- implementation incentives, such as pricing and quotas, which induce behavioural changes in relation to the use of the available water; and
- institutional arrangements for managing the above types of intervention.

Water managers have tended to focus on physical measures. Demand-oriented interventions (implementation incentives) are seen as the responsibility of different line agencies, such as ministries of agriculture or energy, while institutional arrangements – even in the water sector – are often completely neglected. Strategic management has two important characteristics – both supply- and demand-oriented measures are considered, and explicit attention is given to the institutional environment required to enable the implementation of strategies.

8.4.2 Framework for the formulation of strategies

Table 8.2 presents a framework for a negotiated formulation of a strategy. The following observations merit mention.

- In many situations, existing *institutional arrangements* are significant bottlenecks to effective and efficient integrated water resources management. Good governance requires that *full attention is given to the implementation* of the selected strategy.
- Natural resources planning is the responsibility of the government, with the ultimate goal of benefiting society as a whole. This requires the application of a *special set of criteria*, such as economic efficiency, equity and ecological integrity, and due attention to long-term, inter-generational effects.
- Most important, the formulation of strategies is an iterative process. During the negotiations on alternative strategies, for example, participants may view problems in different ways, alternative interventions may emerge and even the planning objectives and corresponding criteria may need to be adapted. It is an essential characteristic of the Negotiated Approach that this flexibility is possible and even encouraged, to ensure that the ultimate decision is sustainable.
- In the process of formulating strategies, there are many intermediate moments of choice. Efforts should be made to ensure that related decisions are *explicit* and that they are well documented to make the process transparent and accountable.
- *Strategies and scenarios*. *Strategies* consist of the combination of physical measures, implementation incentives and institutional arrangements mentioned above. Strategies and their component measures or interventions are within the control of water managers. *Scenarios*, in contrast, refer to changes that are beyond the control of managers; they represent assumptions about exogenous conditions, such as demographic

Table 8.2. Framework for strategy formulation

STAGE IN STRATEGY FORMULATION	ACTIVITIES	OUTPUTS
Initiation of negotiated planning	· Specifying the boundaries of the planning area and understanding the physical systems and their functions · Identifying existing and possible problems and conflicts · Specifying the institutional setting and corresponding arrangements: agencies, laws, policies, etc. · Identifying and selecting stakeholders · Establishing the platform and reaching agreement on the process	· Mandated platform with tasks, work procedures and deadlines
Negotiated specification of planning objectives and criteria	· Joint exploration and situation analysis (problem analysis based on perceptions) · Collecting baseline data · First identification of possible solutions	· Clear objectives and concrete criteria for assessing strategies. · Joint problem analysis · Baseline database
Design of possible strategies and development scenarios	· Inventory and ranking of all possible interventions (based on rough feasibility criteria) · Combining individual interventions into promising strategies · Identifying scenarios, such as projections of population, migration, economic development and market prices, impacts of climate change	· Selected strategies and scenario conditions and system assumptions for further investigations
Analysis of selected strategies	· Analyzing human and economic activities and making projections of water demand under different scenarios and interventions · Analyzing natural systems and assessing impacts of water demand projections and interventions under different scenarios · Analysis of impacts on socio-economic and natural systems and identifying promising strategies	· Promising strategies to be further analyzed during implementation and monitoring requirements
Implementation of promising strategies	· Identifying management tasks and responsible agencies related to implementation of promising strategies · Assessing the ability and willingness of these agencies to implement strategies (policies, strategies and capacities) · Financing and staffing of proposed strategy · Community capacity building	· An enabling institutional environment
Monitoring	· Identifying and selecting indicators for progress and performance monitoring · Design of monitoring procedures	· An accounting framework
Final evaluation of strategies	· Identifying all relevant impacts, possible implementation bottlenecks and monitoring requirements · Analyzing 'benefits and costs' (broad sense) · Ranking proposed strategies (multi-criteria analysis)	· Proposed strategic plan for decision making
Presentation and decision making	· Final presentation and preparation for decision making	· Elaborated, agreed strategic plan, including institutional arrangements and monitoring requirements

developments or world market prices. They may pertain to any of the three following categories of *agents of change*.

- Economic and human developments directly affect the levels and spatial patterns of activities in and around the water resources system under consideration, and thus affect both the availability and the demand for resources.
- Changes in natural system processes (such as morphological and hydrological processes), due to both anthropogenic and natural causes (e.g. subsidence, deforestation, long-term coastal formation processes, or changes in river discharges from upstream countries).
- Climate change factors, including all structural changes in climate-related boundary conditions, which are directly or indirectly caused by the greenhouse effect, including sea-level rise.

Some natural processes, such as subsidence, may operate on very long time scales, whereas others are visible on shorter time scales, such as vegetation succession and sedimentation. The time frame of the effects of human activities on water resources systems ranges from virtually instantaneous, as in a chemical spill, to decades, as in accumulation of toxic materials in delta sediments. The time frame of climate change ranges from decades to centuries.

8.4.3 Required knowledge

To formulate strategies and, more generally, to participate or even support negotiations in the different steps of strategic management, the participants should have a good understanding of the functioning of the water resources system under consideration. Therefore, they will need to have access to the following categories of knowledge.

The water resources system and its functions. It is essential that participants have access to information that will enable them to understand:

- the hydrological processes (hydrological cycle) that define the basic components of the water resources system (Section 8.3);
- the functions of the water resources system in terms of its potential use by humans and human activities (Section 8.3); and
- the impacts of the proposed interventions.

The socio-economic system. Participants need to be aware of the relationships between vulnerable social groups and/or economic activities that depend on and in turn affect the water resources system. It is important that participants understand how these users themselves perceive their water-related problems, by:

- identifying vulnerable groups and their activities in relation to the water resources system;
- carrying out a livelihood analysis of poor households (from their own perspectives), focusing on their vulnerability and/or dependence on water/natural resources systems, and on the institutional arrangements that determine their access to these systems; and
- analyzing economic activities, including production and damage functions and water use (including discharges). Alternative production functions may be identified that result in the same products at lower costs in terms of the use of water or other natural resources. Damage functions show the sensitivity of these activities to water shortages or poor-quality water.

The legal and institutional environment. An analysis of who does what, and how, might include:
- identifying existing agencies and organizations and assessing their mandates and capacity to manage water/natural resources;
- an assessment of relevant laws and regulations as instruments for the management agencies and their effectiveness for IWRM;
- an analysis of local customs, practices, norms and traditions;
- a review of existing policies and strategies of the various agencies; and
- assessing the availability of funds for possible interventions.

Here, the participants should address questions such as the following.
- Are existing institutional arrangements and capacities adequate and if not, can improvements be made?
- Are the political and administrative cadres supportive (e.g. in terms of sharing information) and are there any conflicts of interest?
- Are all local stakeholders involved?
- Are the required funds available and accessible?
- Can realistic feedback be obtained from implemented interventions through monitoring and assessment?

8.5 Plans for action

Periodically formulated strategies should not be alien documents that are parachuted into the different sectors for implementation. A strategy is a framework for reference and for coordinating the interventions of line agencies and other implementing organizations. Action plans are used to put strategies into operation and further elaborate the interventions that are identified as part of a strategy into concrete technical and financial proposals. Traditionally, action plans are drawn up by implementing agencies and are subject to sectoral budgeting and implementation procedures.

While the main responsibility for implementation remains with line agencies, strategic management implies new and integrating approaches in which the strategic and coordinating platform plays an important and active role, for example, in:
- coordinating sectoral interventions and creating mechanisms for monitoring progress;
- promoting interventions that integrate contributions from different sector agencies; and
- explicitly involving civil society organizations as implementing agencies in, for example, extension, capacity building, demand-oriented interventions or operations and maintenance (O&M) activities.

Annual action plans refer not only to new physical interventions and corresponding investments, but also to O&M activities. Investments in new infrastructure and O&M are intrinsically linked, not only because any new physical measure will require O&M in the future, but also because investments might relate to rehabilitation or delayed O&M, or O&M after a disaster. Annual O&M should therefore be regarded as an integral component of any annual action plan.

In addition to physical measures and O&M, action plans should pay attention to many other interventions and issues, including adaptations to the enabling institutional environment; measures that affect demand (implementation incentives) such as charges and taxes; training and capacity development; and extension services.

Such integrated action plans may include many kinds of inputs, such as the existing annual plans of line agencies, proposals from central planning agencies, or ideas and suggestions from individual water users. Within a strategic framework for coordinating interventions by different line agencies, such integrated action plans would represent enormous improvements on current practices. However, such plans would limit the role of the strategic platform to a rather passive one of monitoring and evaluating progress. A more proactive approach would be possible if the platform were to introduce a system of concept notes.

Concept notes are technical documents containing proposals for action (see box on page 102). They may be drawn up by a working group that includes representatives of government agencies, CSOs/NGOs and private sector agencies. Concept notes do not contain fully elaborated feasibility studies or designs, but should enable both management and funding agencies to take further action. This means that they should contain concrete plans for implementation, including the required institutional arrangements. Concept

Concept notes

In Bangladesh a system of concept notes was introduced under a project that aimed to establish a strategic management approach for its coastal zone (PDO, 2005; GoB, 2003). Concept notes were formulated by a group of selected implementing government agencies, if possible in cooperation with NGOs and/or CSOs, and were moderated and controlled by a special coordinating office for coastal zone management. The aim was to establish a continuous process of integration among line agencies, and a way to identify and prepare for projects that require joint implementation. The concept notes were expected to clearly indicate:

- the links with the overall coastal development process and objectives;
- expected outputs and related activities with corresponding timeframe;
- the resources (financial, human, etc.) required for implementation; and
- institutional arrangements needed for implementation.

Concept notes were formulated on such projects as water management and poverty reduction in the Greater Noakhali area, the management of the deep groundwater aquifer, and a strategy and action (research) plan for managing marine fish resources.

notes may form the backbone of the plans for action, formulated in a 'rolling' process that would allow them to be 'tested' against the priorities and targets specified in the strategies.

The strategic platform could guide the process of formulating concept notes as follows.

- *Identification of concepts and formulation of proposal*s. Concepts may emerge from two main sources – the strategy itself, or from an organization or individual. Based on these concepts, the platform may draw up concept proposals giving a minimum of background information to facilitate the processes of screening and selection.
- *Screening and selection*. Identified concepts form a long-list that should be subjected to an explicit and transparent screening and selection process, based on three criteria: (i) the degree to which the proposed project is in line with the strategic objectives; (ii) whether the proposed project contributes to the IWRM process as such; and (iii) assessments of the feasibility of implementing the proposed actions.
- *Formulation of concept notes*. The relevant agencies could establish a working group to write up selected concept notes.
- *Decision making*. The strategic platform decides whether to accept proposed concepts, and invites the implementing agencies to elaborate them further and to prepare for interventions.

Experience has shown that a working system of concept notes has two main advantages (see box on page 102). First, it may break through the established and rigid system of annual plans that focus almost completely on sectoral interests. Second, the main stakeholders are involved from the beginning in discussions on the design and feasibility of the interventions. However, it is essential that the coordinating platform continues to play an active role in the process.

8.6 Design and implementation

The platform would elaborate the approved action plans and concept notes during the detailed design of the individual measures, sometimes following or together with more detailed feasibility studies. This refers to three types of intervention: (i) mostly supply-oriented, physical measures; (ii) implementation incentives that focus on demand; and (iii) institutional arrangements to implement (i) and (ii).

The design and implementation of all these measures require negotiations with those directly involved on details such as the exact location of an infrastructure project, or on the level of water taxes and how they should be collected. In these negotiations it is important that local people are fully informed, not only about the different designs and corresponding justifications, but also about the possible modes of implementation. It is also important that the implementing agency is flexible in adapting the proposals. Such rather detailed and specific negotiation processes should be carefully structured and their results discussed at the strategic platform level.

Important issues to be included in these discussions are:

- the participation of local people in the construction, operation and maintenance (O&M) of physical measures (in Bangladesh, for example, destitute women are involved in maintaining dikes);
- the involvement of local communities in the implementation and enforcement of incentive measures such as subsidies and taxes;
- the involvement of local people in the quality control of physical measures; and
- strengthening the capacity of communities to 'manage' such interventions.

8.7 Monitoring and evaluation

8.7.1 Framework of indicators

Monitoring and evaluation (M&E) are key activities in the continuous learning process of strategic management, and the development and operation of a well-structured framework for M&E is an important task for any strategic

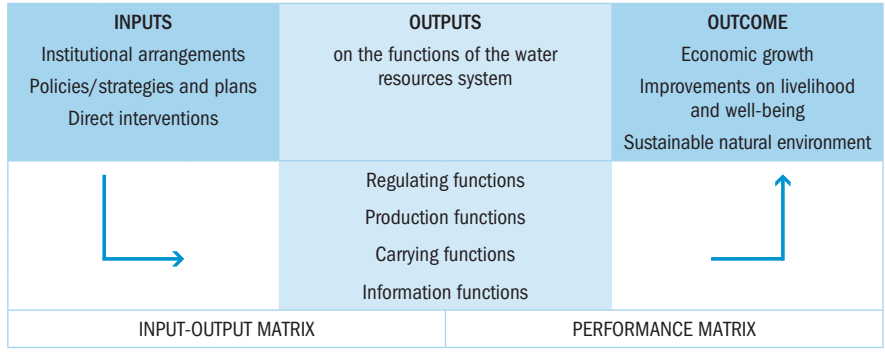
platform. Such a framework consists of a set of indicators to be monitored, and procedures for evaluating the monitored values of these indicators against corresponding reference values.

A fully fledged M&E framework considers three sets of indicators:
- *management input indicators* (MIIs), representing inputs such as expenditures on extension, maintenance and investments;
- *resource base indicators* (RBIs), reflecting outputs in terms of changes in the state of the water resources system, such as water levels, rates of erosion/sedimentation; and
- *decision support indicators* (DSIs), reflecting outcomes in terms of the objectives of IWRM such as to reduce poverty or ensure environmental sustainability.

The relationship between these sets of indicators can be visualized through two cross-reference matrices (Figure 8.3). The first is an 'objective' input–output matrix, showing the relations between management inputs and the condition or state of the water resources system. The second, known as a performance matrix, reflects the values of changes in the system in terms of policy or decision-making criteria.

As mentioned before, there are two kinds of monitoring:
- *progress monitoring* uses input and output indicators to provide information on the implementation of action plans and where adjustments may be needed; and
- *performance monitoring* uses output and outcome indicators to provide information for assessing the state and performance of the water resources system.

Figure 8.3. The framework of indicators



Indicators can sometimes oversimplify complex management and development processes. A set of meaningful and representative indicators, however, can provide significant contributions to discussions among stakeholders in multi-purpose decision-making processes. This means that all parties involved must select (negotiate) with care, and agree on, which indicators are to be used.

The framework of indicators must be:
- comprehensive, encompassing inputs, outputs and outcome indicators;
- developed by all stakeholders working in partnership;
- linked to existing set(s) of national/international indicators for sustainable development, poverty reduction and economic growth, such as those formulated in Poverty Reduction Strategy Papers; and
- the responsibility of a host organization that is mandated and equipped to take on the long-term task of maintaining the framework, collect the required data and disseminate the findings.

8.7.2 Evaluations and appraisals

Evaluations may use a variety of specialized techniques, ranging from cost–benefit analyses that attempt to translate costs and impacts as far as possible into monetary values, to sophisticated group decision-making techniques such as multi-criteria analysis.

Benefit–cost analysis

Benefit–cost analysis is a technique for assessing the pros and cons associated with alternative policies or projects, where the impacts are expressed in monetary terms, leading to such indicators as benefit–cost ratios and the (economic) internal rate of return, (E)IRR. In public sector assessments, the costs and benefits are expressed in economic rather than financial terms. The value of this method depends on the number of items included in the analysis and the way that impacts are costed.

The costs[2] of a project (on- and off-site) include at least the following:
- preparations for the project, including, e.g. land acquisition, land development, studies and surveys;
- implementation of the project, including, e.g. design, construction and costs involved in non-structural measures, such as subsidies and taxes;
- the costs of compensation and mitigation of adverse social and environmental impacts; and
- administrative or additional costs of implementing a project to local, regional and/or national government agencies.

The *benefits* (or losses) of a project (on- and off-site) include at least the following:

- higher or lower levels of output of economic activities such as agriculture, fisheries, transport, etc.;
- changes in expected flood damage to public and private assets, including to buildings, public infrastructure, livestock, equipment, etc.;
- changes in safety, public health and other living conditions;
- changes in the environment (groundwater, flood peaks, fish stocks); and
- damage to historical and cultural values in the project area.

Multi-criteria decision techniques

There are several multi-criteria decision techniques that aim to assess impacts expressed in different units, both quantitative and qualitative (see also Section 7.3). The overall principle is that criteria are identified and alternative solutions are compared according to their 'scores' on these criteria and the weights or preferences given to these criteria, for example by different stakeholders.

Formal models should not be regarded as decision-making models, but as 'what if' exercises that show the importance of the criteria and the relevance of the preferences. Experience has shown that when used correctly, such formal techniques can be very helpful in structuring discussions and in helping all stakeholders to understand the relevance of other positions and arguments. One widely used technique is the analytical hierarchy process (AHP; see Section 7.3)

Both techniques may be useful in negotiations over water resources. For example, benefit–cost analysis can help participants to decide what factors to include in the negotiations and how to value them, while multi-criteria approaches may be useful in discussions on the values given to certain indicators reflecting their preferences.

8.8 Summary

Strategic management of water resources is considered an important vehicle for the Negotiated Approach, and the main task of the strategic and coordinating platform, as suggested in Chapter 6. The main components of the management cycle (Figure 8.1) are: formulating strategies, formulating action plans, implementing interventions, and monitoring and evaluation. The main function of the proposed platform is coordination and certainly not implementation, which should remain the responsibility of existing line agencies.

The chapter has describes strategic management as an iterative process in which stakeholders (i) formulate explicit medium-term strategies that define concrete and measurable medium-term targets (say five years); (ii) identify approaches and develop concrete interventions (action plans, often annual) to meet those targets; and (iii) agree on mechanisms for monitoring and evaluating progress and the impacts of interventions. Such a process provides for a process of learning that will be substantially enriched if all relevant stakeholders participate on an equal footing. The strategic management process, as depicted in Figure 8.2, differentiates between scenarios and strategies, strategic planning and plans for action, different iterations and two types of monitoring.

An important step in strategic management is that the stakeholders identify the components of the water resources system that are subject to management interventions and their corresponding functions. Examples of such components include catchments or river basins, groundwater aquifers, lakes and reservoirs, rivers and delta areas, with possible functions that fall into four categories: regulation, carrier, production and information.

The formulation of strategies involves eight stages (see Table 8.2) similar to the tasks in facilitating negotiations. A strategy consists of a combination of three types of intervention: (i) physical or infrastructure measures such as barrages and embankments that aim to change the availability of water; (ii) implementation incentives, such as pricing and quotas, to induce behavioural changes in the users of the available water; and (iii) institutional arrangements for managing the above types of interventions. Water managers used to focus on physical measures. Demand-oriented interventions (implementation incentives) are regarded as the responsibility of line agencies, such as ministries of agriculture or energy, while institutional arrangements – even in the water sector – often are neglected.

The remaining stages in the management cycle (Figure 8.1) include plans for action, design and implementation, which typically belong to the realm of line agencies. Monitoring and evaluation is also an important task of the platform, both to follow the implementation of agreed actions, and to assess developments in the water resources system that is subject to management. For this purpose the platform should have a set of relevant indicators and have access to information about them.

Notes

1 The Millennium Ecosystem Assessment (2005) synthesis report used a similar characterizing and assessment approach to identify four kinds of 'services': provisioning, regulating, cultural and supporting (the last service is not elaborated).

2 Costs relate to expenses incurred in implementing a project; losses are negative benefits.

9 What next?

In 2005, *River Basin Management: A Negotiated Approach*, compared the experiences of partner organizations around the world (Both ENDS, 2005). Since then, the partner NGOs have continued to bring together promising field experiences with the approach and to prepare for further implementation and development.

Through the production of this guide, the partner NGOs have grown closer together and have evolved into what we now call the NA Alliance. In the process of defining a common vision and a set of shared basic principles, the partners were able to share their experiences and insights into the obstacles and solutions in applying the approach.

The approach is a bottom-up contribution to international discourse and developments in the area of integrated water resources management (IWRM). It facilitates such a contribution through a further specification of its vision, principles and characteristics and the presentation of generic frameworks for participatory processes of negotiation and strategic management.

This guide to implementation of the Negotiated Approach is an intermediate step in its further development. It is essential that the approach continues to be rooted in the field and based firmly on the experiences of NGOs. In that sense, it offers an alternative to the top-down approaches promoted by the international community, despite the rhetoric that public participation is crucial and needs to be improved.

The guide is clear that the Negotiated Approach can only be successful if it is properly implemented through institutional arrangements put in place by international agencies and national governments. In other words, real improvements in IWRM, based on genuine community participation, can only be achieved through the synergy of top-down and bottom-up approaches that are considered complementary and appropriate to local circumstances.

The NGO community should therefore continue to take the initiative (and the responsibility) for the further development of the Negotiated Approach. It is recognized that this can be achieved only through the slow build-up of experiences in the field through implementation of the approach in a wide variety of circumstances. As noted here, the Negotiated Approach should be seen as a way of thinking, even a paradigm, that is based on the participation of all stakeholders who are able and willing to participate in joint actions to achieve their individual goals, but who also recognize that they share a common interest.

Further activities to develop the Negotiated Approachmust focus both on efforts to improve the method itself, and its usefulness to be applied under specific conditions, and to create the enabling conditions through communication with international and national organizations. The partners therefore envisage the following actions.

National versions of the guide

The guide will be translated into five languages, giving priority to those of the participating NGOs: French, Bahasa (Indonesia), Marathi (the official language of the State of Maharashtra, India), Portuguese and Spanish. It is important that the partners ensure that each national version of the guide contains at least an overview of the existing national institutional arrangements for water resources management (see box on page 110). They might also consider including details of national water resources systems, socio-economic systems and local case studies describing successful applications of the approach.

Capacity development and institutional arrangements

Telapak is an independent environmental organization based in Bogor, Indonesia. Telapak works with local NGOs and community groups across the country to strengthen their capacities to manage their water and other natural resources.

As part of a two-year capacity development project (2009–2011), Both ENDS is supporting Telapak to become a major player in water management at the national level. Telapak already works with government departments and agencies at national, regional and local levels on policy and strategic issues, and is now a member of the national and several provincial water councils.

In the province of South Sulawesi, for example, Luwu District authorities have established a (temporary) river basin council (RBC) to manage water resources in the Lamasi River basin. Through the project, Telapak and associated organizations will provide support to strengthen the capacity of the RBC in its early days. Activities will include defining the RBC's tasks and responsibilities; outlining a strategic water resources management plan; carrying out a problem analysis based on the perceptions of local water users; and mapping the institutional arrangements for water resources management.

One important output of the project has been an overview of the institutional arrangements for water resources management in Indonesia, which Telapak will use in its training for its members who are, or who want to become, involved in water resources management. The document describes:

- the new national water law, introduced in 2004, which is the main instrument that structures water management in Indonesia;
- the actors involved in water management, including organizations and corresponding legal arrangements (mandates) of ministries such as public works, forestry, and land and spatial planning;
- different aspects of water resources management, such as water quality, groundwater, flood control, public water supply and irrigation; and
- the management of areas such as river basins and nature reserves.

Capacity development

A two-tiered approach to capacity development and training is envisaged. The first tier includes NGOs who will further promote, introduce and support the Negotiated Approach, while the second tier includes local actors involved in implementing it. Strengthening the capacity of the NGOs (first tier; training of trainers) should focus on the introduction of the guide (national versions) and the production of training materials for the second tier.

Most important, training courses for the first-tier NGOs will include the basics of water resources management – the functioning of water and other natural resources systems, an overview of institutional arrangements, and economic and social aspects. NGOs that play a prominent, political role in water resources management should have (access to) expertise in water resources systems and the management issues involved.

International coordination and exchange of experiences

Learning from each other's field experiences has proven to be essential in the development of the Negotiated Approach. The NA Alliance will now seek to consolidate these learning processes by supporting NGOs that wish to apply the approach, facilitating the exchange and dissemination of experiences, and promoting the approach in various ways, in continuous dialogue with the many international and national agencies involved in integrated water resources management.

Outreach and dialogue

The implementation of the Negotiated Approach will be sustainable only if other actors engage in its development, and contribute to strengthen the approach and make it accessible to all those involved in IWRM. The NA Alliance will offer this Guide to relevant institutions, and will invite them to enter into a constructive dialogue on the concept and its practical implications. Also, the Alliance sets out to construct partnerships with national governments, international institutions and knowledge centres to develop new initiatives and increase insights in the potential of the approach.

Appendix A: Water governance and management

This Appendix explains the concepts of water governance and water management, and the difference between general and functional management. It then discusses management regimes, and presents the principles for stable common property regime (CPR) arrangements.

Water governance

Water governance as a concept broadly accepts that the management of all water bodies, especially river basins, is the prerogative of the state and is therefore a part of the political and legislative domain. Consequently, making laws, policies and regulations for the development and management of water resources is essentially part of a political decision-making process. Since this applies to global and national levels, it is necessary to understand the broader context of water governance.

Governance, in general, is 'the exercise of economic, political and administrative authority to manage a country's affairs at all levels', and further, 'it comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences' (UNDP, 1997). In the same vein, water governance refers to 'the range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society' (GWP, 2003).

To put it more categorically, water governance refers to issues such as:

- financial accountability and administrative efficiency related especially to allocations of financial resources for water development projects and service delivery systems;
- human rights and participatory processes, respecting and honouring the legitimacy of democratic institutions such as the freedom of the press and other media, the right to (freedom of) information, the right to (non-violent) protest, etc.; and
- 'fair play' and equity in the distribution of benefits, sharing of costs and socio-environmental burdens, as well as in the allocation of financial resources.

Water governance refers to the direct management of water resources through statutory institutions and other formal or informal institutions that are mandated to perform managerial functions through a hierarchical (or non-hierarchical) framework. Governance also has an element of pragmatic politics, where legislators and bureaucrats are involved in negotiating through interest groups belonging to political parties and factions.

Water management

Formally, the objective of water resources management is to produce an optimal mix of goods and services for the benefit of the society as a whole, now and in the future (OECD, 1987). The management problem can be viewed as one of how to organize the interactions between all the actors involved: the providers, the producers and the appropriators of water resources. The general question is how to encourage and organize coordinated action to prevent appropriators who strive to optimize their individual profits from over-exploiting and even eliminating the productive capacities of water resources.

Management thus deals with all the tasks involved in the production of desired water-related goods and services. Consequently, it should involve both public and private agencies, who together: (i) set goals and targets and decide what mix of goods and services will be produced by the water resources system, when, where and for whom; and (ii) produce the goods and services in response to the demand from society.

In practice, water management consists of many different tasks that are allocated to a host of public, civil society and private organizations. Together they form the institutional environment that should enable the development and application of the Negotiated Approach.

When mapping the actors involved in applying the approach to water resources management, and when discussing methods, tools and examples, it is useful to differentiate between general and functional management.

General versus functional water management

*General managemen*t refers to tasks that are not specifically related to water resources systems such as river basins. Such tasks deal with institutional and legal arrangements defining, for example, which tasks are carried out by which agencies, what their mandates, responsibilities and capacities are, and what instruments they need to carry out their tasks (who does what, and

how?). These general management tasks refer mainly to administrative tasks that correspond to existing government agencies and can be executed in administrative areas such as countries or provinces.

As the caretakers of public water resources, government agencies provide access to and are responsible for defining how and under what conditions the resources may be used, and to account for this use through democratic mechanisms. Examples of subjects for negotiation are:

- principles of water management: priority users, the precautionary principle, the ‘polluter pays’ principle;
- water quality standards;
- water policy;
- water legislation and regulations for implementation;
- licensing arrangements and sanctions/enforcement;
- rules for participation of local people;
- research arrangements;
- scenario development (e.g. water inflows from neighbouring countries, climate change);
- the division of the country into management units (water systems); and
- the design of institutional arrangements: mandates and capacities of institutes.

Functional management includes all the tasks that are necessary to keep water resources systems in good condition, and to produce the water-related goods and services demanded by society at large. In other words, functional management is an input into the production function of the water resources system.

Functional management tasks include the production of water for specific uses such as irrigation, flood protection, or the treatment of contaminated surface waters. These tasks, which are defined and enabled by general management, relate mainly (but not exclusively) to interventions and can be performed by public and private entities. They are most conveniently carried out on specific water resources or ecological systems where the availability and use of water should be kept in a sustainable balance, such as (sub-)river basins, drainage units or wetland systems. These tasks have a strategic component and an operational, action-oriented component.

Examples of such tasks that may be the subject for negotiations include the following:

- formulating strategic plans that identify medium-term targets for the water resources system under consideration, within the enabling conditions defined by general management;

- formulating operations and maintenance (O&M) plans;
- operating reservoirs;
- operating drainage systems;
- design and implementation of infrastructure, e.g. river regulation and flood protection systems;
- annual allocations of water from rivers and reservoirs among competing users;
- operating navigation channels;
- licensing of groundwater extraction;
- setting and collecting wastewater charges;
- monitoring of water quality; and
- water treatment.

Note: Although general management deals exclusively with creating an enabling environment for functional water management, functional management may also be involved in establishing enabling institutional arrangements, such as for the implementation of action plans or licensing and monitoring arrangements.

Functional versus general management

In the Netherlands, a low-lying country located at the deltas and lower reaches of the Rhine, Meuse and Scheldt rivers, water is a constant concern. The organization of water management offers a good example of how tasks and responsibilities are distributed.

The Dutch water boards are responsible for protecting the country against floods, and for the functional management of water systems, but they are controlled by the provinces as part of the national political and administrative system. The water boards have a high level of independence on technical and financial matters, but their statutes, as well as decisions on levies and charges, are subject to approval by provincial authorities. This link and the distribution of tasks between functional and general management have developed over the centuries, but in recent decades have been subject to unprecedented pressure as water has become a more important issue in Dutch society. The water boards have had to change from being almost entirely functional organizations for farmers, to bodies that also represent many other interests. For example, they recently had to decide whether to allow agricultural land to be flooded to create lakes for recreation. In response, many water boards have merged and now organize elections to their management boards.

Although the technical competence of the water boards is not in dispute, their situation is far from satisfactory. Discussions on how to improve on the functional and general management of the Dutch water system continue.

Management regimes

Water resources are public/national property, so that decisions on how they are utilized (in a broad sense) and the way it is managed belong to democratically elected representative and legislative bodies such as national parliaments or district councils. These legislative bodies thus decide who is responsible for what, and for creating the institutional environment that should enable the equitable and sustainable use of water resources.

For better understanding of management regimes, it is convenient to approach water resources as a productive system (water resources system, WRS) that produces the goods and services demanded by society. These goods and services refer to the production of water for domestic, industrial or irrigation purposes, but also to flood protection, scenic beauty and the provision of navigation channels. Water resources systems consist, in addition to the water itself, of natural, man-made components and institutional arrangements to manage the availability and use of the resource itself.

This overall responsibility cannot be delegated. What can be delegated are certain tasks that relate to the production of goods and services from (part of) this national resource. Such delegated tasks can be subject to different forms of management, depending on the nature of the goods and services produced: public, common-pool or private. Protection against flooding, for example, is considered a public good as it is difficult to exclude people from its benefits while the consumption of this benefit by one person does not affect the potential benefit to others. Private organizations used to have little (commercial) interest in producing such public goods, but they may be interested in producing, e.g. irrigation water for competing users that can be cut off if they are unwilling or unable to pay. Of special interest in this context are common-pool resources and common-property regimes (CPRs).

A common-pool resource is such that 'it is difficult or costly to exclude individuals from using the good … while the benefits consumed by one individual subtract from the benefits available to others' (Ostrom, 2000: 337). A typical example are fish resources from a small inland lake, used by fishers from two communities. Access to, withdrawal from, management and ownership of such a resource can be in the form of a CPR, but it need not be. A CPR is a set of social relations that are established and should function under final responsibility of the 'nation' as the owner of the resource. CPRs can be applied to well-specified parts of the WRS (for example a lake or an aquifer system) or to specific production systems such as communal water supplies or irrigation systems.

In CPRs there is no free access to the resource, as common-pool resources are not open-access resources and not public goods. While there is relatively free but monitored access to the resource for community members, there are mechanisms in place which allow the community to exclude outsiders from using the resource. Thus, in a common property regime, a common-pool resource has the appearance of a private good from the outside and looks like a common good from the point of view of an insider. The resource units (such as fish or units of water) withdrawn from the common-pool resource are owned individually by the appropriators.

CPRs typically function at a local level to prevent the overexploitation of a resource system from which fringe units can be extracted.

In her analysis of the design of long-enduring CPR institutions, Ostrom (1990) identified eight design principles that are prerequisites for stable CPR arrangements:

1. Clearly defined boundaries
2. A congruence between appropriation and provision rules and local conditions
3. Collective-choice arrangements that allow for the participation of most of the appropriators in the decision making process
4. Effective monitoring by monitors who are part of or accountable to the appropriators
5. Graduated sanctions for appropriators who do not respect community rules
6. Conflict-resolution mechanisms that are cheap and easy to access.
7. Minimal recognition of the right to organize (e.g. by the government)
8. In the case of larger CPRs, organization in the form of multiple layers of nested enterprises, with small, local CPRs at their base

Appendix B: Applying the Negotiated Approach

Five case studies

This appendix presents five case studies of NGOs that have been proactive in establishing participatory integrated water resources management (IWRM) using the Negotiated Approach. The case studies focus on the application of the approach, the results achieved so far, and the lessons learned.

1 Gomukh Environmental Trust: Empowering communities in the Bhima River basin, India
2 FANCA: Updating legal and institutional frameworks for IWRM in Central America
3 AEDES: Linkages and strategic adjustments in the Cotahuasi River basin, Peru
4 ECOA: Towards a Negotiated Approach to protect the Paraguay–Paraná wetland system
5 Telapak/PBS: Initiating a Negotiated Approach in the Lamasi River basin, Indonesia

1 Gomukh Environmental Trust Empowering communities in the Bhima River basin, India

In the Bhima River basin, India, the Gomukh Environmental Trust took the initiative to organize local people and to set up platforms for negotiation. Gomukh then focused on empowering communities by strengthening their capacity to negotiate water management issues with other stakeholders, including government agencies. The approach has brought about radical changes in the management of natural resources in the catchment.

The Gomukh Environmental Trust was established in 1995 as a response to the inadequate and lopsided approach of the government's watershed development programme. Gomukh's vision is to create a society where natural resources and ecosystems are restored and the poor can lead self-sufficient and dignified lives. Its aims are to encourage social mobilization and the use of appropriate technology for soil and water conservation, and to lay a solid foundation for equitable and fair resource utilization.

Gomukh's main areas of work include soil and water conservation; integrated river basin management; sustainable agricultural development for marginal farmers; equitable distribution of irrigation water; urban water management; water and sanitation; women's empowerment; capacity building and environmental education; sustainable livelihoods; and lobbying and advocacy.

The area

The Bhima is a tributary of the Krishna, the third-longest river in India. The basin is divided into Upper and Lower Bhima basins, based on the vast differences in precipitation and related ecosystems. The Bhima River flows from west to east through the states of Maharashtra and Karnataka, until it meets the Krishna, which then flows south, through Andhra Pradesh, to the Indian Ocean. The basin is located between 16° 25' to 19° 30' N and 73° 30' to 77° 55' E, and covers an area of 48,630 km^2.

The challenges

Due to the increasing demand for irrigation water for agriculture, urban settlements and industry, the Krishna basin has been declared a 'closed basin',

Location of the Krishna and Bhima River basins.

Source: Biggs et al. (2007).

meaning that the amount of water stored in and directly withdrawn from the rivers is equal to the total surface water flows. Discharges to the sea fell dramatically between 1975 and 2003, and nearly zero discharge during droughts. Runoff from both the Upper and Lower Bhima basins has also fallen rapidly.

The population of the basin is expected to rise from 12.3 million (1990) to 30 million by 2030. Urbanization is proceeding at breakneck speed, and about 35% of the population now lives in cities such as Pune, Pimpri, Chinchwad and Solapur. The population of Pune is more than four million, about 40% of whom live in slums and have no access to services such as safe drinking water and sanitation. The rural population still depends mainly on agriculture.

Communities in the Bhima River basin face two main challenges – the inequitable distribution of water and deteriorating ecosystems.

Inequitable water distribution

Within the Bhima basin, large-scale interventions with supply-based management systems have clearly shown their limitations. Although most of the Bhima's tributaries have been dammed, 51% of the area of the basin is not served by government irrigation schemes. Of the remaining 49%, only 5% of the area

cultivated is irrigated via the centralized network. Within the irrigated areas, up to 22% of the available water is taken by powerful farmers for sugarcane production.

Within urban areas, the slum populations are not connected to the centralized water supply and drainage systems, which are highly dysfunctional. In Pune, the Water Supply and Sanitation Department claims to supply 165 litres per capita per day (lpcd), which is much more than many other cities in India. In reality, however, the slums receive barely 60 lpcd at very low pressure, whereas affluent areas receive ample water at sufficient pressure. Unofficial private vendors, some of them members of the so-called 'water mafia', supply water to the residents of slums and unauthorized settlements but at a high price, so that the poor end up paying much more for their water than do more affluent residents of the city.

Deteriorating ecosystems

Environmental flows (e-flows) indicate the amount of water required for the effective functioning of riverine ecosystems, and are a crucial consideration in decisions on water allocation. In the absence of such environmental flows, the goods and services provided by a river – fisheries, pollution dilution capacity, groundwater recharge potential, etc. – are greatly compromised.

In the Bhima basin, no provision has been made for allocating environmental flows. The increasing rates of groundwater and surface abstraction have meant that many stretches of the river are no longer perennial, as they were in the past. Abstraction has also affected riverine and riparian flora and fauna, with severe impacts on the diversity of fish species, and on the fishing communities that depend on them.

As a result of the limited water availability in the basin, pollution is a growing problem, frequently causing massive fish kills. In the tributaries of the Bhima that flow through Pune, more than a dozen fish species are already extinct. The profile of fishing communities has also changed, as traditional tribal fishermen are replaced by contract fishermen from neighbouring states, causing conflicts and social tensions.

Water availability in the Bhima River basin

SUB-BASIN/ TRIBUTARIES	WATER AVAILABILITY (MILLION M^3/YEAR)	WATER AVAILABILITY PER CAPITA (M^3/YEAR)	WATER STRESS STATUS
Neera	2812	2027	Not stressed
Upper Bhima	7594	1442	Stressed
Maan	469	1141	Stressed
Bori-benetura	506	734	Highly stressed
Seena	1110	364	Highly stressed

Some 70% of the wastewater from Pune – nearly 700 million litres per day – is discharged into the Bhima river system without treatment, causing severe pollution downstream. The Maharashtra pollution control board has classified the river as category C – not fit for bathing. The Ujjani reservoir, located 100 km downstream of Pune, receives much of the city's untreated sewage, and frequent fish kills have been reported.

Unregulated and illegal sand mining from river beds and river banks is affecting both their ecological integrity and groundwater recharge. There have been many reports of casualties due to dangerous holes in the river bed where sand has been extracted. At the same time, the use of deep bore wells has resulted in falling groundwater levels.

Tackling issues through the Negotiated Approach

In 1997, Gomukh began its work to improve soil and water conservation and drought prevention in the Kolwan valley in the Western Ghats. Within the basin, the Kolwan valley is situated on the crest line of the Western Ghats, around 120 km from the source of Bhima. This small and isolated valley, which covers an area of 8000 hectares (ha), is typical of many such watersheds in the Bhima basin, where rural communities have been facing droughts and poor water management. The 16 village communities throughout the valley were facing acute water shortages, despite the heavy rainfall in the catchment.

Adopting a holistic perspective, Gomukh set up platforms for the communities and worked to strengthen their capacity to negotiate among themselves, as well as with external stakeholders such as government officials and tourist organizations, on the issue of how to share the valley's water. Armed with information provided by Gomukh on the water balance of the valley, annual rainfall, crop cycles and agricultural management (see box on page 124), the people themselves have brought about radical changes in the management of natural resources of the catchment.

Encouraged by the effectiveness of its platforms in Kolwan, Gomukh decided to upscale the approach to the Shivaganga, a drought-prone valley about 70 km from Kolwan (area 16,000 ha), and from there to the even larger Chikotra valley, 200 km to the southwest (area about 32,000 ha).

In recent years, Gomukh has organized four water conferences for stakeholders in the Bhima basin. Within these platforms, representatives of the government, farmers, city dwellers, tribal groups, fishermen and ecologists are able to discuss the challenges they face, as well as possible solutions.

Water availability

The volume of water that is available for utilization in an area, such as a lake or part of a river basin, can be calculated from a *water balance statement*, which summarizes the average inflows and outflows. The following table presents a water balance statement for the Kolwan valley (base year 2002).[a]

DETAILS	QUANTITIES	% OF ANNUAL WATER AVAILABILITY
Area of the valley	8000 ha	
Land suitable for agriculture	5000 ha	
Population (2002 census)	15,000	
Number of villages[b]	16	
Average annual rainfall	1400 mm	
Rainfall in base year 2002	1450 mm	
Annual water availability	116 million m^3	100
Annual water availability per capita	4000 m^3	
Available runoff	46.4 million m^3	40
Groundwater recharge	11.6 million m^3	10
Soil moisture conservation	3.5 million m^3	3
Evapotranspiration and crop water requirements	54.5 million m^3	47
Water storage capacity:		
A: Minor irrigation (MI) tanks and weirs	3.2 million m^3	
B: Watershed storage structures	2.7 million m^3	4.6
C: Total storage capacity	5.4[c] million m^3	
Water available for utilization (groundwater recharge + soil moisture + water storage)	20.5 million m^3	17.7
Water available for each of the 16 villages[c]	1.3 million m^3	
Water available for per ha of cultivated land[d]	8600 m^3	
Water available for utilization per capita	1367 m^3	

[a] Based on data from meteorological stations set up by government authorities and the Gomukh Trust.

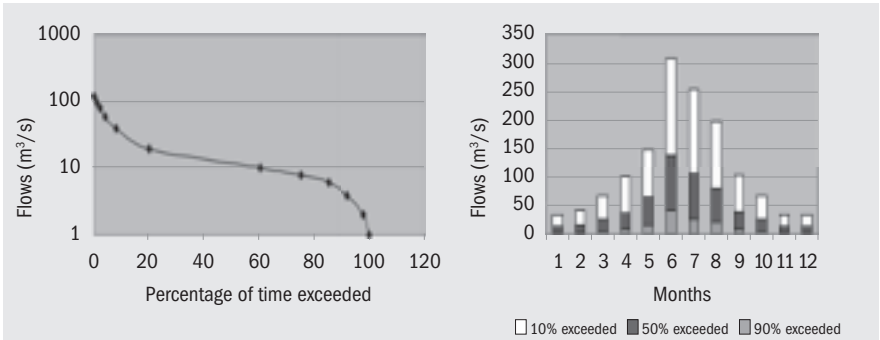
[b] Including settlements within the administrative limits of each village.

[c] Active total storage. 0.5 m^3 'dead storage' is reserved for use in emergencies.

[d] Figure includes return flows from upstream storage structures and farm ponds.

Alternatively, *flow duration* curves can be used to illustrate the amounts of water available in a river. These curves give information on the percentage of time that a given river flow is equalled or exceeded at a particular location. These flow duration curves are based on a frequency analysis of a series of data and may refer to an entire year or to a specific period, as shown in the graphs below.

Flow duration curve (*left*) and distribution of flows over the year (*right*).



Gomukh also convenes annual discussions where the villagers negotiate and decide on annual allocations of water to each of the villages. During these meetings, if the annual water availability is higher or lower than the long-term average, then any surplus or deficit is shared among the villages. Thus, the valley's water, annual costs and benefits, and annual deficits and surpluses are shared equitably. This process requires neutral mediation and sometimes arbitration between the villages, roles that are currently played by the Gomukh Trust.

Today, Gomukh is involved not only in soil and water conservation, but also in the overall development of the basin. It has helped women's self-help groups to set up vegetable processing units. It provides training in organic farming techniques, organizes the storage, marketing, packaging and transport of local produce, as well as forward market linkages, and promotes ecotourism. As a member of the Punya Nadi Samsad (the Pune River parliament), Gomukh is working to ensure community participation in efforts to restore polluted rivers and waterways in the city of Pune and to clean up the Ujjani reservoir.

Most important, Gomukh is lobbying to ensure that the Negotiated Approach is applied to river basin management at national and international levels.

Lessons learned

- Due to the flexible and dynamic nature of the Negotiated Approach, it is not always possible to keep to planned timelines. As a facilitator of negotiation processes, Gomukh now recognizes that applying the approach may be time consuming at first, but it is likely to be cost effective in the long run. Many empowered communities are now using the platforms to address other problems, and to ensure that the solutions they develop are sustainable.
- In order to ensure that negotiations actually lead to equitable solutions, efforts must be made to include all sections of society in the process of empowerment and dialogue, especially women and vulnerable groups. Facilitators also need to be on the lookout to ensure that the discussions are not sabotaged by powerful groups working for their own self-interest.
- An important condition for the effective application of the Negotiated Approach is that efforts are needed to address issues at many levels at the same time. These issues may concern community empowerment, appropriate technology and the availability of scientific information (e.g. research disseminated via publications, conferences, presentations and studies), or lobbying and advocacy work at regional and national levels.
- Community members, whether educated or not, can understand and appreciate objective scientific information. Simplified information in the hands of local populations can be a powerful tool in negotiations.

2 FANCA
Updating legal and institutional frameworks for IWRM in Central America

Through long (and continuing) advocacy campaigns, the Fresh Water Action Network Central America (FANCA) and partner NGOs have been successful in reformulating the legal and institutional frameworks for integrated water resources management in several countries. These campaigns have promoted dialogue and negotiations among local actors and national organizations involved in water management – the private sector, state institutions, civil society and universities.

The Fresh Water Action Network Central America (FANCA) is a network of local and national social organizations involved in the management of water resources. Formally established in March 2003, the network has been working to link together and coordinate the efforts of social actors across the region since 2002.

FANCA emerged from the need to promote the participation of local and national social actors in water policy making at national, regional and international levels so that their visions, needs and interests are considered and incorporated in such processes. FANCA is part of Freshwater Action Network (FAN), a global network based in London, UK, that links networks and organizations across five continents.

In Central America, FANCA has more than 200 member organizations – associations, federations and groups of federations – in Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua and Panama (see map on page 128). In each country, a national focal point coordinates the work of the network. FANCA's highest decision-making body is a regional committee that includes national representatives from each country, and an executive secretariat that is responsible for implementing and coordinating projects.

The challenges

Although all countries in Central America have their own legal and institutional frameworks for water resources management, state institutions often fail to implement them due to inadequate and sometimes contradictory legal frameworks and the absence of technical and financial capacities. Existing frameworks are ineffective from both legal and economic points of view.

Central America

In many cases, the legal frameworks are obsolete. Water laws are often very old, based on ineffective 'command and control' instruments that do not meet current demands or are beyond the capacities of institutions to implement. This situation has resulted in the creation of new legal rules and regulations of all kinds in order to overcome the deficiencies in current water laws.

Tackling issues through the Negotiated Approach

In response to the many problems related to water governance in Central America, FANCA began a process of advocacy with the aim of rebuilding the legal frameworks, incorporating environmental considerations in future legislation, and developing regional policies promoting integrated water resources management.

The network's national focal points established participatory processes in each country in which civil society organizations (CSOs) could express their views on the challenges they face, and their need for more effective water management. These views were later integrated into national legislation, and into the Central American Strategy for Integrated Water Resources Management (ECAGIRH).

The principal issues of concern to civil society were the need to maintain water as a public good, the human right of access to water, and the equitable participation of all actors in water resources management. Further, priority should be given to ensuring the availability of water for human consumption and for ecosystem sustainability.

Key activities and results

The participatory process of formulating legislation involved regional consultations (within each country) with CSOs, in order to improve on existing proposals for legislation, as in Nicaragua, or to design new ones, as in Costa Rica. Likewise, national consultation and design workshops were organized with CSOs as part of the process of building the regional strategy (ECAGIRH).

FANCA also worked to identify strategic allies within national congresses and key sectors in order to gain support for the legislation and the inclusion of amended proposals. At the same time, FANCA launched a campaign to inform the public about the progress in formalizing the amendments and proposals, and to influence decision makers at the political level.

The process led by FANCA fits within the framework of the Negotiated Approach, since the water legislation was developed by CSOs through dialogue and negotiations among actors at the local level, and subsequently at the national level of integrated water resources management (private, productive sector, state institutions, civil society, universities, etc.). The participatory negotiation process meant that most sectors supported the legislation when it was submitted to the respective legislatures for approval.

So far, the process has led to several positive outcomes. These include the adoption of the General Law on National Waters (Nicaragua, 2007), the Special Law on Water and Sanitation Committees (Nicaragua, 2010), and the use of the 'popular initiative' mechanism to urge the government of Costa Rica to submit a bill on integrated water resources management in (2010).

To achieve these outcomes, FANCA has used three strategies: strengthening the capacities of CSOs; building communication, empowering people and supporting action; and building platforms for negotiation.

Strengthening the capacities of CSOs

For many years FANCA has been advocating changes in the legal and institutional frameworks for IWRM throughout Central America, and promoting the involvement of CSOs in formulating new legislation. The process started with a survey to gather baseline information on these organizations and their capacities to engage in advocacy work and assess proposed legislation, and

to identify areas where these capacities needed to be strengthened. More than 60 organizations across the region took part in the process.

On the basis of the needs identified in the survey, FANCA produced a guide to help the organizations analyze water policies and proposed legislation, and which is now one of the main resources used in the capacity building programme. The organizations are using the guide to determine whether proposed legislation will benefit civil society, which elements need to be modified, and whether any important issues have been omitted. They have identified several such omissions, related to the participatory process, and access to public water resources.

Building communication, empowering people, supporting action

FANCA promotes the involvement of local and national actors in the elaboration of water policies and legislation at all levels. FANCA's work includes advocacy campaigns and facilitating negotiations between decision makers and the public, in line with the strategy approved each year by the regional committee.

Recognizing that in all its campaigns, effective communications are crucial, FANCA's communications unit works at five levels:

- *Lobbying*. To support FANCA's lobbying efforts, the network members gather and disseminate information, and maintain databases containing contact information on decision makers across the region.
- *The media*. FANCA tries to ensure that its actions and campaigns receive full media coverage, in order to create and maintain pressure on decision makers. For that purpose, it has access to key journalists in the most influential media outlets in the region, buys space in newspapers, radio and even TV, and is building relations with alternative media. It also uses various other outlets, including information bulletins, videos, server lists, websites, social networks, etc.
- *Campaign graphics*. All of FANCA's actions are accompanied by propaganda campaigns that include the production of graphics such as posters, stickers, flyers, etc.
- *Coordination with partners*. Also part of the work of the communications unit, coordination with partners involves identifying the most appropriate channels of communication to support particular actions or processes. Modern information and communications technologies (ICTs) are not always useful at this level, especially when working with local actors that may not have access to such tools. In these cases, traditional channels such as the telephone, printed materials or even personal visits to communities, are more effective.
- *Strengthening capacities*. Since FANCA aims to facilitate the participation of local actors rather than to represent them, strengthening their capacity to engage in advocacy and negotiations is an important part of any action that claims to be democratic and representative. The FANCA communications unit produces educational materials to raise awareness of the issues involved in each case. For example, twice a month the unit issues a newsletter with information on water management issues in Central America and the ongoing processes in which the members are involved.

Communications at each of these levels can be identified in all the processes in which FANCA is involved, such as the 'right to water' campaign and the National Alliance for Water Protection (ANDA).

Building platforms for negotiation

During the process of designing and promoting the Integrated Water Resources Management bill in Costa Rica, the members of FANCA established three platforms, with the support of the government. This process increased FANCA's credibility with both the government and the private sector.

- A water technical group, a temporary platform, which included representatives of civil society organizations (among them FANCA), public institutions and the private sector. The principal task of the group was to assess three bills already submitted to the Legislative Assembly. During six regional and two national workshops, participants from all sectors contributed suggestions on how to improve the legal framework.
- A multi-sector committee for dialogue, whose members included representatives of the private sector, academia, state institutions and two CSOs, FANCA and the Fundación para el Desarrollo Urbano (FUDEU), a member of FANCA. The committee was successful in ensuring that necessary technical improvements were included in the legislation, and in clarifying and reaching agreement on the processes of integrated IWRM that should be incorporated into the legislation, which had previously been areas of concern for several members.
- The National Alliance for Water Protection (ANDA) was created by CSOs interested in influencing and improving water management. The members developed strategies and lines of action for civil society advocacy campaigns at each stage in the process, and created a process to share and discuss their comments on the legal framework. Using the 'popular initiative' mechanism, the alliance organized a petition (which was signed by 5% of the electorate) urging the government to submit a bill to the Legislative Assembly, after which the Congress would be obliged to approve or reject it within the required maximum of two years. The proposal is now (2010) being discussed by the Congress, and by government water management agencies.

Lessons learned

FANCA has effectively used the Negotiated Approach to bring together local civil society organizations in the process of designing and developing advocacy campaigns. The approach has played an important role in enabling the CSOs involved to reach agreement on strategic goals and how to maintain the momentum of a campaign, as well as in identifying potential allies.

Among the many lessons learned, FANCA is aware that designing an effective advocacy campaign requires the following:

- Taking into account the individual strengths and weaknesses of CSOs and providing relevant support to strengthen their capacities. During the campaigns, FANCA continues to work with groups of CSOs but also within them, providing training courses and workshops to enhance their negotiation and communication skills.
- Involving CSOs though effective communication. It is not enough to involve CSOs in preparatory meetings and to keep them informed during the process. FANCA has developed a variety of creative communication strategies to reach out to CSOs.
- Creating tactical and strategic alliances with a broad range of stakeholders at the start and during each campaign. CSOs that have a clear idea of their goals and values can then decide how to approach the private sector and government.

Once a campaign strategy is established, the next step is to develop an inclusive process in which all stakeholders are involved in its implementation. Platforms for negotiation have proved to be invaluable in such processes.

3 AEDES
Linkages and strategic adjustments in the Cotahuasi River basin, Peru

The Asociación Especializada para el Desarrollo Sostenible (AEDES) has been working to empower Peruvian communities and strengthen the capacity of local organizations since 1994. AEDES has applied the Negotiated Approach in the process of vertically upscaling development planning and integrated river basin management from the village to the sub-basin and basin levels. As part of a horizontal upscaling strategy, AEDES formed an alliance with a partner NGO to contribute to a basin-wide management plan. The partners now are collaborating with the regional government to implement the new water resources law (2009) and to establish councils in the Ocoña basin. Ultimately, they hope to contribute to Peru's fledgling effort to reorganize its water sector.

AEDES is a local NGO that has worked in La Unión and Condesuyos provinces in Arequipa, Peru, since 1994. AEDES promotes locally based natural resource management so as to maximize social and economic welfare in ways that are equitable and do not compromise biodiversity or the sustainability of vital ecosystems. AEDES applies participatory approaches in its support for local development planning, agro-ecology, eco-businesses, water resource management, community conservation, rural tourism and export of organic products, as a means to promote development in some of the poorest and most remote parts of Peru's highlands.

Strengthening capacities and building alliances are key to AEDES's approach. By negotiating collaborative agreements with local, regional and national governments, AEDES is able to provide support to low-income communities, including assistance in project design and implementation. AEDES focuses on business development and other projects that address gender and multicultural aspects, sustainable biodiversity and environmental management, and integrated river basin management.

AEDES' experience with the Negotiated Approach began in the Cotahuasi sub-basin during the drafting of local development plans, known as 'Agendas 21', a process that involves analyzing problems and searching for common solutions. For example, communities were concerned about preserving the unique resources of the Cotahuasi canyon, and discussed their concerns in local roundtables. Their proposal to make the canyon a scenic landscape reserve was later accepted by the government, and the Cotahuasi canyon was designated a Protected Natural Area in 2005.

The application of the approach in the Cotahuasi sub-basin involved negotiations at provincial and national levels, where local civil society groups played key roles. Through these processes, locally appropriate strategies were incorporated into development and management plans, and local knowledge and priorities began to have an influence on regional and national decision-making processes.

The area

The Cotahuasi, a sub-basin of the Ocoña basin, is located in Arequipa's La Unión province. The basin, which covers an area of 4772 km^2 extending from the Pacific Ocean to the Coropuna glacier at 6093 m above sea level, is typical of Peru's Pacific watersheds. It has many unique environmental and cultural features, as well as high biodiversity, that have been maintained by the population using sustainable management practices over the centuries.

The Ocoña basin, Peru.

Farmers in this mountainous region produce a variety of crops. In areas at the upper limits of agriculture, families raise potatoes, quinoa and livestock, while at lower altitudes they produce kiwicha, quinoa, maize, wheat and beans for local consumption and for sale. AEDES and other NGOs support local farmers' associations in the production, processing and sale of organic crops in Peruvian and international markets. AEDES encourages economic alternatives such as organic farming and rural tourism, using natural resources in ways that are appropriate to local circumstances.

Despite the relative isolation of the Cotahuasi sub-basin, there is a diverse range of stakeholders, including the local offices of national government ministries, as well as district and provincial municipal councils. Other key stakeholders include NGOs, producer associations, indigenous communities, UGEL (education), transportation businesses, women's organizations, irrigation water committees and commissions, youth groups, miners, ranchers, shrimpers and organic producer groups. Many of these local organizations have joined together at the provincial level to form a women's federation, a federation of indigenous communities, irrigation water boards, and associations of organic producers in La Unión and Condesuyos provinces.

The challenges

The extreme poverty of many communities within the Cotahuasi basin poses many challenges for programme implementation. AEDES began working in the area in 1994, at the end of a long period of political and social violence in rural Peru, in response to the demands of civil society for new forms of governance. Given that the government had abandoned large parts of the Andes, including La Unión and neighbouring provinces in Ayacucho, Apurimac and Cusco departments, to the terrorist organization *Sendero Luminoso* (Shining Path), AEDES' priority was to encourage citizen participation in decision making as a means of promoting democracy from the bottom up. Civil society organizations were weak because of the broken relationship with the government, and most local groups and leaders were silent. After AEDES began raising awareness, individuals and groups gained confidence in their ability to help reconstruct their social organizations. As they became stronger, they joined with similar groups to form provincial federations and, in 2008, the platform of Ocoña basin water users.

AEDES's initial concern was to rebuild local organizational capacity in La Unión province. That capacity building has, in turn, enabled local planning based on negotiation and consensus leading to the formulation of district and provincial plans, known as Agendas 21, beginning in 1996. The link between these local planning processes and national planning and budgets was strengthened in 2001 when the government introduced its political decentralization reforms.

The participatory planning process serves as an important bridge between local and national governments, but grassroots contributions to national policy making remain weak.

The Negotiated Approach, as applied by AEDES and the mayor of La Unión province, is highly flexible and functions at different levels of planning and policy making simultaneously. Analysis, debate and planning begin in communities before advancing to districts and provinces. Through the consensus roundtables, first established in 1996, La Unión province was able to comply with the participatory planning and budget reforms introduced in the 1990s, and led to the speedy implementation of the approach by local leaders and authorities in their efforts to promote the integrated management of the Ocoña basin. The Negotiated Approach, as evidenced in local consensus building practice, has enriched the Ocoña basin management planning process beyond the levels of local participation and guidance contemplated in Peru's new water resources law (2009).

Tackling issues through the Negotiated Approach

AEDES has used its success with local planning based on participation and consensus to further the application of the Negotiated Approach for the integrated management of the Ocoña basin. The approach builds on local participation, organizational capacity and consensus-based decision making, while enhancing the negotiating skills of a diverse group of stakeholders. It can be adapted to any environment, using a bottom-up approach that starts with local decision making and advances to that of the entire river basin. In this upscaling process, the strategy has involved creating new venues for debate, reaching agreement and building consensus at each level.

In the Cotahuasi basin, AEDES has used a combination of steps to promote socio-economic development and to rebuild social relationships. As the confidence of participants has increased over time, so too have the credibility, legitimacy and representation of local actors, who are now united in their vision of, and interest in managing the development of La Unión province. The Negotiated Approach is a dynamic process involving building consensus among civil society organizations and with authorities at different levels. AEDES has also applied the approach to strengthen the relationships among diverse groups involved in drafting and implementing local Agendas 21.

AEDES's strategy consisted of the following steps.

- *Strengthening the capacity of local actors*. AEDES organized activities to improve civil society participation in the formulation of local proposals, including training for local leaders to improve their skills to negotiate in different platforms and levels of decision making.
- *Strengthening local institutions*. AEDES encourages the creation of grassroots organizations and provides training in the use of management tools that improve their ability to communicate with other organizations, institutions and authorities.
- *Strengthening participation, planning and lobbying mechanisms*. AEDES has supported the creation of public spaces for citizen participation known as consensus roundtables. At these local planning platforms, organized civil society groups are able to articulate and discuss development proposals. The approach has also been applied in the process of identifying, developing and implementing measures or actions to achieve more sustainable use of natural resources.
- *Formulating local Agendas 21*. The process of drafting local Agendas 21 has helped the communities to understand their own development prospects. During the negotiations the participants were able to voice their medium- and long-term aspirations, and to discuss the policies proposed by organizations and local governments.
- *Defining roles in the development process*. AEDES recognizes that true citizenship involves responsibilities as well as rights. In the platforms for negotiation, reaching consensus and making adequate decisions are important, but it is in the process of planning and implementing activities that actors are able to clarify and define their roles in the development process.
- *Strengthening communication systems*. AEDES encourages effective communication not only among participating actors, but also with the general public who are kept informed about the decisions made by their representatives and the agreements to be implemented. These communication systems contribute to collaboration among actors in the negotiation process, facilitate dialogue and consensus building, and heighten accountability.
- *Building negotiations at various levels – from the bottom up*. The consensus roundtables allow all actors to participate in decision making, and to voice the aspirations of their communities, districts and at the provincial level. At each of the roundtables organized in towns, districts and provinces, consensus is reached on priority development proposals. Local community proposals are submitted to the elected representatives for their support in the district roundtables. The district representatives then present the proposals of each district to the provincial roundtables.
- *Upscaling*. AEDES has used the experience gained in the Cotahuasi sub-basin to vertically extend its work by organizing similar activities in other Ocoña River sub-basins. AEDES is also upscaling horizontally by encouraging Arequipa's regional government to adopt the approach as they establish an Ocoña basin council.

New challenges

The integrated Ocoña basin management process was approaching its goal of including all stakeholders in basin-wide debate and decision-making process in 2008 when the Ocoña water platform was created. This platform sponsored basin-wide meetings in 2008 and 2009, but major changes in legislation concerning water and basin management in 2009 began to undermine those efforts. The law created a new entity, the National Water Authority (ANA), with decentralized offices administering 14 macro-basins. The ANA has divided Peru into basins, each with a major river and neighbouring inter-basins, administered by a local water authority. The new law gave the primary responsibility for establishing river basin councils and plans to regional governments, but Peru has yet to develop a strategy for managing its many multi-region basins.

The new law presents both challenges and opportunities. It will require concentrated efforts to motivate joint action and to reach consensus among stakeholders with divergent interests and priorities, yet it provides basin councils with the legal support necessary for long-term planning and management. AEDES anticipates that the more inclusive Negotiated Approach will enrich the implementation of the water resources law in various ways. For example, the approach is already being applied in planning by diverse stakeholders in the Ocoña basin, so that the information sharing and analysis phase of basin management is likely to proceed more quickly. Stakeholders have proposed a larger, more representative council in the Ocoña basin, involving more groups representing different interests. Non-farm water users in particular are under-represented in the new basin management structure.

Under the legislation, the composition of the councils will be the same throughout Peru, whether located at the desert Pacific coast, in the Andes mountains or in the Amazon basin. AEDES believes that such uniform councils are more likely to fail than the context-based, flexible roundtables of the Negotiated Approach.

Informal mining activities have increased dramatically in the Ocoña Basin in recent years as the price of gold has steadily risen. Not only are these activities a source of pollution, but in areas such as the Churonga sub-basin, informal miners are now competing for water. These miners are immigrants with no legal resource rights, but they now form a large group that must be included in the management of the basin. As their participation cannot be channelled through current rights-based consensus roundtables for community or district members, structuring their role in negotiations for basin management poses a new challenge.

Lessons learned

The Negotiated Approach is an important means of promoting equality, participation and local proposals that can be applied in different ways, and in different contexts and realities. Its flexible structure means that it can be adjusted according to context, means and institutional mission, but its success ultimately depends on dedication, inspiration and hard work in facilitating the negotiations.

- The successful application of the approach begins with groundwork to prepare a facilitating environment, including strengthening and building the self-esteem of local organizations. The empowerment of organizations and alliance building that follows is time consuming, but ultimately the time invested in such organizational groundwork heightens comprehension and flexibility. Thus, local leaders and NGOs are able to adjust to changing laws and policies.
- The AEDES team now needs to undertake an analysis of the socio-economic status, history, political leanings, interests and preferences of the various stakeholders, and the relationships among them.
- The Negotiated Approach is a learning process, whereby actors develop their knowledge, skills and attitudes in ways that reinforce their ability to listen, understand, debate and explain different ideas and proposals.
- Successful negotiations require that the participants are objective, focus on identifying commonalities and set concrete goals and objectives.
- The institutionalization of forums for stakeholder debate and democratic decision making, such as the consensus roundtables in Peru, is key to the success of the Negotiated Approach. To the extent that community roundtables are linked to district and provincial roundtables, stakeholders can move up the negotiation or decision-making hierarchy when presenting their proposals for consideration.
- The inclusion of the entire Cotahuasi sub-basin within the borders of La Unión province has facilitated sub-basin planning using the Negotiated Approach provincial roundtables. Participatory planning in the Ocoña basin has been a slower process, requiring alliance building among stakeholders from seven provinces and three departments.
- Once key professionals are convinced of its importance, the Negotiated Approach can become an element of an institution’s development promotion strategy. All of the NGO team needs to be trained in the approach and the flexible use of the tools it offers.
- If NGOs can form strategic alliances for horizontal upscaling, perhaps to cover to an entire basin, these will also benefit lobbying and vertical upscaling efforts.

4 ECOA
Towards a Negotiated Approach to protect the Paraguay–Paraná wetland system

Ecologia e Ação (ECOA) and partner NGOs from the member countries of the Rio Vivos Coalition have successfully opposed proposals for a Paraguay–Paraná waterway, which were officially withdrawn by the respective national governments. The partners then formed the Wetland System Alliance, which developed a new conceptual framework in which people and the environment are at the centre, and the wetlands are seen as opportunities for development and regional integration at all levels. The Negotiated Approach has provided innovative tools for establishing platforms and channels for dialogue that have been fundamental for advancing sub-regional agendas and for putting an integrated programme into practice.

Ecologia e Ação (ECOA) was established in 1989 when a group of researchers and environmentalists in the state of Mato Grosso do Sul, Brazil, decided to come together to discuss ways to improve local livelihoods and to promote the conservation of the region's natural resources. In particular, ECOA is working to protect the Pantanal, the world's largest inland wetland area, and the Cerrado (savannah-like forest) in the Upper Paraguay River basin.

Since its creation, ECOA has focused on addressing key social and environmental processes that affect the health of vulnerable communities and ecosystems. ECOA therefore brings together scientific research and local knowledge and action, pilots innovative initiatives based on social technologies, and lobbies decision makers to promote policies that are environmentally sustainable and socially equitable. Community empowerment and autonomy, democratic processes and proactive approaches are the key concepts that guide ECOA's work.

ECOA supports networks and grassroots organizations to strengthen their capacities, and organizes lobbying and advocacy campaigns. The organization understands that partnerships and cooperation with other actors in the region are necessary to increase the scale and impact of its activities to promote conservation and sustainable livelihoods. ECOA also functions as a resource centre that gathers and disseminates information on issues affecting the Pantanal and Cerrado at national, regional and international levels.

The main issues addressed by ECOA include the impacts of infrastructure projects; energy and biofuels; sustainable development for rural and urban communities in the Pantanal; and safeguarding protected areas.

The area

The Plate River basin, the second-largest in South America, is home to more than 130 million inhabitants, and contributes up to 80% of the economies of Brazil, Argentina, Bolivia, Brazil, Paraguay and Uruguay. Within this basin lies a region with one of the world's highest levels of biodiversity, formed by the convergence of ecosystems such as the Amazon, Cerrado, Chaco, Atlantic forest, humid pampas and Chiquitanean forest. All of these ecosystems contribute to the macro-system of floodplains along the Paraguay and Paraná Rivers, known as the Paraguay–Paraná wetland system.

The Plate River basin. The blue areas in the river basin indicate the wetlands that comprise the Paraguay–Paraná wetland system.
Source: Intergovernmental Coordinating Committee of the Plate River basin countries (CiC Plata).

Within this vast, extraordinary region there are few human settlements, and areas of natural vegetation and wildlife habitats that are internationally recognized as Biosphere Reserves, Ramsar sites and World Natural Heritage sites. Extending over an area of around 400,000 km2, the Paraguay–Paraná wetland system is by far the world's largest freshwater corridor, with more than 3400 km of rivers free of dams, which provide quality freshwater more than 20 million people in rural and urban areas, including capitals such as Asunción (Paraguay) and Buenos Aires (Argentina).

The Paraguay–Paraná wetland system serves many important ecological, economic and social functions. It helps to prevent large-scale floods and droughts through the natural regulatory dynamics of the floodplains. It also stores a significant proportion of the basin's total rainwater, recharges groundwater aquifers, and provides natural habitats for many animal and plant species, thus contributing to the area's high biodiversity.

The challenges

The intense economic growth in the Plate River basin over the past 50 years has seen the rapid expansion of agribusiness and agricultural frontiers, mining activities, technology and research centres, infrastructure schemes and industrial development. Unfortunately, the benefits of such growth have not been equally shared among all sections of society. In some regions, natural ecosystems have been severely degraded, increasing the vulnerability of communities that depend on them directly for their livelihoods.

Throughout the Paraguay–Paraná wetland system, activities related to tourism, fisheries (e.g. the commercialization of fish for food, sport fishing, etc.), production of crafts, and extraction and commercialization of natural products and hunting, still sustain a large number of riverine and indigenous communities and generate incomes for the most impoverished segments of society in the five countries.

The main problem is the vulnerability of the local communities who depend on natural resources and corresponding environmental quality. The wetlands are responsible for providing people's livelihoods, but, at the same time, in the context of major regional policies and investments, are seen by decision makers as obstacles to development.

Over the past two decades, calls for 'regional integration' from governments and the international community have gathered strength, based on the prospect of developing major infrastructure schemes. The prevailing perception of

governments and investors is that development in the transportation, energy and telecommunication sectors could help overcome 'geographic barriers' (such as wetlands), strengthen markets and promote new economic opportunities.

In the early 1990s, for example, the five countries of the Plate River basin proposed large engineering projects to improve navigation. One of these was the Paraguay–Paraná waterway, which would have included major interventions, such as dredging and straightening the main river channels. Several other proposals for large infrastructure projects followed, including development packages such as the 'Initiative for the integration of regional infrastructure in South America' launched in 2000, and the 'Programme to accelerate growth' proposed by the Brazilian government in 2007.

However, despite the increase in the number and scale of infrastructure and energy investments promoted by international financial institutions and regional banks, and mass production for export, the challenge of overcoming poverty and inequality remains enormous. The expansion of the agricultural frontier in the watershed has proceeded on an unprecedented scale, driven by the demand for exports to China and the biofuel boom. In combination with major construction works in the name of so-called 'regional economic integration', these are now, paradoxically, among the major challenges for development as they threaten sustainability and equity throughout the region.

Tackling issues through the Negotiated Approach

In 1994, the Rios Vivos Coalition was formed by more than 300 NGOs and associations, including grassroots, small and national NGOs in the Plate River basin, as well as from Europe and North America. The coalition successfully opposed the proposals for a Paraguay–Paraná waterway, which were later officially withdrawn by the respective national governments.

The collaboration has been a major learning exercise for ECOA and many other NGOs, who gradually realized that opposing major schemes was not enough. They needed to substantiate their strategies with an alternative vision of sustainable development and local livelihoods, one that that considers local livelihoods, social and cultural diversity, environmental sustainability as well as equity, democracy and fairer economic development.

The NGOs agreed that they needed to unify their strategies and to adopt a participatory approach, involving a broad range of grassroots organizations and vulnerable communities. At the same time, they needed to reach out to decision-makers, public actors and international institutions, and to translate

local demands and knowledge into proposals for policies and innovative social technologies, thus mainstreaming ecosystem protection and livelihood enhancement.

The NGOs decided to adopt a Negotiated Approach to improve the management of the wetland system, and took the following important steps.

Conceptual framework

The first step taken by ECOA and other NGOs[1] was to develop a shared conceptual framework that considered the connectivity and inter-dynamics of the Plate River basin wetlands. Such a concept was shaped in the concept of the 'Paraguay–Paraná wetland system'.

This concept involved a major paradigm shift, in that the wetlands and its peoples were placed at the centre of the strategy. They were seen as key elements in securing local livelihoods and reducing poverty, in safeguarding ecosystems and respecting cultural, economic and social relations. It also involved persuading decision makers to see the wetlands not as natural barriers to development, but rather as opportunities for development and regional integration at all levels.

The Alliance and platform for outreach

The second step involved coordinating the work of the NGOs involved in the initiative. They formed the Wetland System Alliance as the main channel for communicating information and reaching out to decision makers, public authorities and international institutions, regardless of political and bureaucratic obstacles. The Alliance would be proactive in elaborating a vision and guidelines for an integrated programme for the wetland system.

By 2005, as a result of an intense mobilization campaign led by the Alliance and its member NGOs, the wetland system concept had reached the governments of the five countries as well as international organizations. A landmark was the Poconé Agreement, signed by the five governments officially recognizing the wetland system. The governments agreed to adopt the wetland system concept in their national agendas, to maintain its ecosystem dynamics and interactions and to promote sustainable livelihood opportunities. In a sense, the five countries agreed to develop an integrated programme for the regional development of the wetland system. The agreement has been recognized by major conventions (such as the Ramsar Convention) and by international organizations such as UNESCO and IUCN.

The Poconé Agreement established the enabling conditions for the development of initiatives under the wetland system 'umbrella'. International

donors are encouraged to adopt and fund parts of the agenda, while governments are able to include the wetland system in their national programmes.

Mobilization, networks and sub-regional approaches

Promoting channels and platforms for dialogue with various key actors, ranging from public authorities, research institutions, grassroots and international institutions at local, national, regional and international levels, has proven to be fundamental to advance the themes and sub-regional agendas for putting the 'integrated programme' into practice. The mobilization of such a broad range of actors produced a positive dynamic in which actors could take ownership of the wetland system concept and its content.

Moreover, by creating networks and coordination bodies, the Alliance helped to promote the adoption of the wetland system concept at all levels of society, thus increasing the sense of ownership and commitment at the local level. For example, debates within the Pantanal region led to the consolidation of a transboundary subregional network, involving NGOs from the Upper Paraguay basin in Bolivia, Brazil and Paraguay, and the development of joint strategies aligned with those of the Wetland System Alliance.

At the same time, the creation of thematic alliances, such as the Fisheries Network, allowed advances on social technologies and policy frameworks that consider local actors and provide income generation opportunities, by combining the wise use of natural resources with local knowledge.

The NGOs employed a variety of innovative and creative tools methods to attract, inform and involve actors from many fields, and organized regional and/or thematic workshops, debates and public exhibitions. Recognizing that effective communication is essential, they translated technical information into simpler, more accessible language, and made it accessible in various formats tailored to the needs of many audiences.

Strengthening 'positive evolution initiatives'

'Positive evolution initiatives' is the term used by Alliance members to refer to local (pilot) initiatives that contribute to livelihood enhancement and ecosystems protection by taking into account local/traditional knowledge and innovative technologies. Such initiatives may be replicated and upscaled, and/or translated into policies and programmes throughout the Paraguay–Paraná system. One example is the 'live bait' project for riverine communities of the Pantanal, Brazil, led by ECOA. The project has recently been adopted as an official programme of the Ministry of Fisheries of Brazil, and has now attracted the interest of relevant authorities in Paraguay and Argentina.

Lessons learned

- In applying the Negotiated Approach to the development of the Paraguay–Paraná wetland system, the Alliance has recognized the potential to replicate and upscale a wide range of local efforts, which in turn can lead to innovative approaches to equitable development. Such 'positive evolution initiatives' are now being used as the building blocks of an integrated strategy and programme for sustainable development of the wetland system.[2]
- ECOA and other NGOs in the Plate River basin found that their work at the grassroots level has encouraged public authorities to invest in basic services such as health and education, and to address the poverty dimensions of such issues as access and rights to natural resources.
- Efforts to strengthen local communities are most effective when they focus on facilitating their engagement in decision making, on enhancing local capacities and autonomy by creating and supporting local associations, on generating incomes through promoting the wise use of natural resources, and on the introduction of participatory planning.

5 Telapak–PBS Initiating a Negotiated Approach in the Lamasi River basin, Indonesia

Telapak is an organization that supports local initiatives throughout Indonesia. In response to growing conflicts among water users in the Lamasi River basin, Telapak and Perkumpulan Bumi Sawerigading (PBS), a local NGO, created a platform where water users can discuss their problems. Their work also led to a district regulation for watershed management and conservation. These initiatives received a fresh impetus in the context of a new national water law and efforts to introduce participatory water management at the river basin level. A river basin council has been established that will have the challenging task of developing the Negotiated Approach in a pilot project.

Telapak is a national NGO. It is a member organization of individuals affiliated with other NGOs, the corporate world, universities, the media or indigenous groups. Telapak works towards the sovereignty and integrity of groups of indigenous peoples, fishers and farmers in sustainable relationships with their immediate environment. Its work includes:

- strengthening the capacity of its partners, networks of grassroots NGOs and local communities to manage natural resources;
- coordinating with formal and informal leaders, with local, national and international NGOs, and with colleges/universities to improve natural resources management;
- acting as a pressure group that targets large corporations and financial institutions to hold them accountable for the social and environmental consequences of their actions; and
- promoting practices and policies that will ensure more equitable natural resources management.

The organization aims to become financially independent, with support from cooperatives and community enterprises involved in printing, mass media, organic agriculture and sustainable fisheries and forestry.

Since 2008, Telapak has represented civil society at all levels of water resources management, including in planning, decision making, implementation and monitoring and evaluation. Telapak is member of the National Water Council. In 2006, with support from Dutch development agencies, Both ENDS and Telapak provided training to strengthen the capacities of NGOs to implement the Negotiated Approach. These pilot projects are further testing the merits and possibilities of the approach

throughout Indonesia. In one of these projects, Perkumpulan Bumi Sawerigading (PBS), an NGO in Palopo, South Sulawesi, is playing an important role in organizing civil society in the Lamasi River basin.

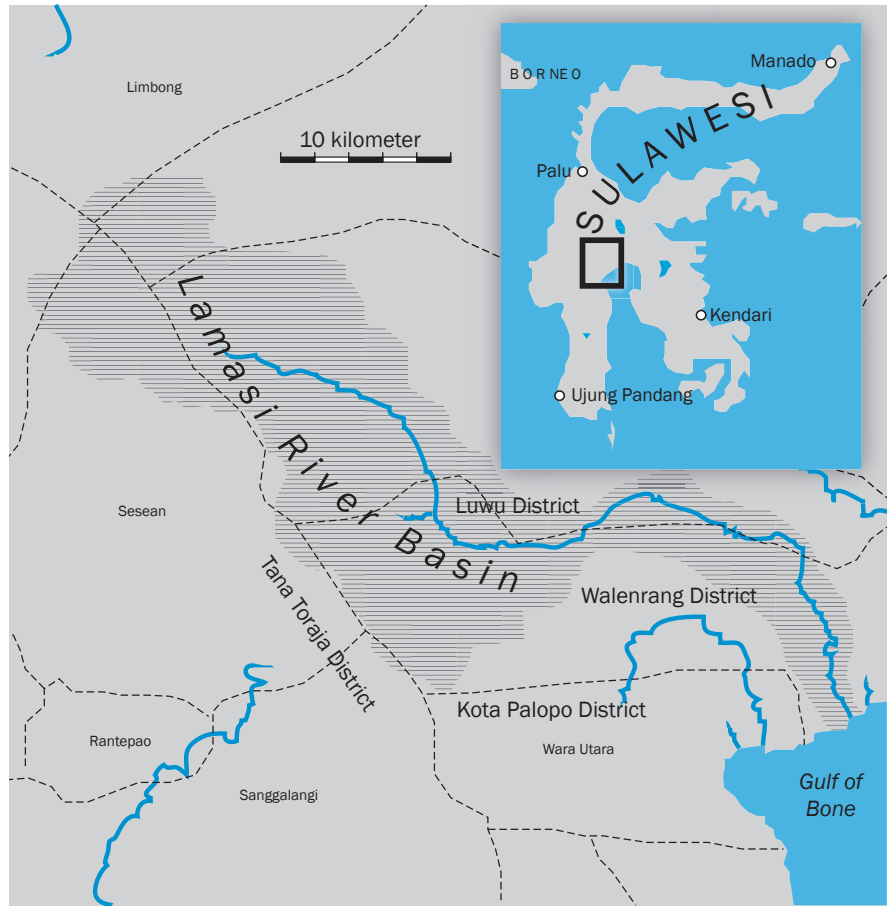
PBS works in the greater Luwu area, focusing on poverty reduction and promoting the human rights of marginalized groups that have been deprived of access to the natural resources that are crucial for their livelihoods.[3] Since 2002 PBS has been organizing civil society in the Lamasi River basin, starting with neighbourhood-based organizations, leading to the establishment of the Forum DAS Walmas in 2005 and the introduction of a district regulation (perda) in 2006.

The area

The Lamasi River is a small river, about 70 km long, in South Sulawesi. The area of the basin is about 48,700 ha, of which about 37,300 ha (75%) lie within Luwu district (kabupaten) and the remaining 25% within Toraja and North Luwu districts (4200 and 7200 ha, respectively). The population of the Lamasi basin was estimated at about 56,000 in 2009.

The average discharge of the Lamasi River is about 14 m^3/s. The upper and middle reaches of the river lie in the mountainous upland plateau, while its floodplain extends to the coast. The Lamasi is joined by the Rongkong River, to form an extensive delta at Bone Bay (see map on page 149). The river floods up to three times each year, seriously affecting living conditions and economic activities, especially downstream of the confluence of the two rivers.

There is still some virgin forest in the upper part of the basin, while mangrove ecosystems in the lower part are important to local fishermen. About 50% of the basin consists of protected forest, 10% production forest and about 5% mangroves. The remaining 35% is dedicated to agriculture, settlements and other uses. Activities in the basin include irrigated paddy (about 10,000 ha, although not fully operational), seaweed cultivation, fisheries, fish farming, and agricultural products such as cacao, coffee and fruits (durians and rambutan). Economic activities include sand and gravel mining from the river bed, galena mining (a 400 ha concession is in the planning stage) and small-scale hydropower.



The Lamasi River basin, South Sulawesi, Indonesia.

The challenges

- Logging concessions and illegal logging (backed by rich individuals from the city) have led to uncontrolled forest degradation in the upper basin, which is contributing to both the increasing floods and drought conditions downstream.
- In the coastal areas, the clearance of mangrove forest for fish farms and seaweed cultivation is threatening many delicate ecosystems.
- The damage to forest ecosystems is now threatening the endemic flora and fauna, and several species are already on the verge of extinction.
- Communities in the Lamasi basin have limited access to and influence on policy making. In Luwu district, for example, there is a land-use planning system, but it ignores the traditional rights of communities, and local organizations that voice their objections are ignored.

- There is little coordination among government departments.
- The management of the irrigation schemes in the middle of the basin has failed to take into account the different interests of upstream and downstream communities. This has led to conflicts between farmers within and outside the irrigated areas.
- Farmers' organizations inside the irrigation schemes are government designed and influenced, and are unwilling or unable to participate in civil society coordinating organizations such as the Forum DAS Lamasi (see below).
- The quality of public services, such as health and education, is poor and often fails to meet basic needs of local people.
- There are plans to grant mining concessions (for marble and minerals such as galena and black tin) in the upper part of the basin, but most are located in irrigation water catchment areas and will conflict with traditional community rights.

Tackling issues through the Negotiated Approach

In 2004, the national government approved a new water law (law No. 7 on water resources) that resulted in major changes in the water management landscape in Indonesia. For implementation of this law, the country was divided into 133 watershed areas (major rivers and combinations of small river basins), and responsibility for managing them was tentatively assigned to national, provincial or lower administrative levels. A national water council and more than 30 provincial water councils are in the process of being created.

The new law also provided the framework for the establishment of water management coordination teams (Tim Koordinasi Pengelolaan Sumber Daya Air, TKPSDA) within each watershed. The authority of these teams is not yet clear (end of 2010), but they will report to national and provincial governments. The law also allows for the establishment of kabupaten (district) water councils or river basin committees as and when the need arises.

In the context of the implementation of the new water law, the World Bank commissioned a consortium of NGOs, including Telapak and Both ENDS, to develop a model for public participation in the management of water resources. Based on the analysis of three pilot river basins by this consortium, Telapak and Both ENDS recommended to the World Bank that the Negotiated Approach offers a good model for public participation and that it should be further developed for implementation.

In line with this recommendation, in 2009 Telapak and PBS took the initiative to apply the Negotiated Approach in the Lamasi River basin.[4] This initiative

builds on the preparatory activities of the Forum DAS Lamasi, which was established in 2005 with the assistance of PBS. The Forum was set up as a platform to find solutions to continuous disputes over water, but moved beyond this to formulate and propose alternative management options for the basin. The Forum's activities resulted in the introduction, in 2006, of district regulation (*perda*) No. 9 on the management and conservation of resources in the Lamasi basin. Inspired by *perda* No. 9, in July 2010 the local government took the step to establish a Lamasi River Basin Council (LRBC), whose members include four government officials and seven representatives of civil society.

Over the next four years the council's important tasks will include the formulation of a water management strategy. It is an explicit objective of the government to enter into dialogue with the local people on the use of water resources in the area. Although the management area does not (yet) cover the whole river basin, it is hoped that the LRBC will become a pilot for the application of the Negotiated Approach to integrated water resources management at the river basin level throughout Indonesia.

Telapak and PBS aim to enter into a dialogue with the district government on a model for water resources management that includes a mechanism to allow for community involvement in all steps of management on a long-term basis. A key activity will be training for local representatives of civil society and district government staff. Such training will focus on the basic steps involved in setting up negotiations as a participatory learning process, the basic principles of IWRM and strategic management. The training in strategic management will include, for example, livelihood and activity analyses of households in the Lamasi basin, with the aim of assessing conflicts and understanding the circumstances of critical societal groups. In addition, the trainees will become familiar with the institutional arrangements for water resources management in Indonesia.

Lessons learned

- Few adequate studies of the hydrology, ecology, ecosystems and flora and fauna have been carried out in the Lamasi River basin. Moreover, the limited information that is available is not accessible to the public. Without access to detailed information, the NGOs have been unable to produce sound recommendations on sustainable basin management.
- While initiatives can and should be taken from below, they can only be successful when facilitated by legislation and regulations, and when they are properly linked to existing institutional arrangements.

- Local governments need to be strongly committed to developing a multi-stakeholder forum and making it operational for sustainable river basin management.
- The existence of the Forum DAS Lamasi, which represents communities throughout the Lamasi basin, has proved to be important in strengthening the communities' bargaining position in negotiations with the local government.
- The establishment of the Lamasi River Basin Council is considered a success and an important step forward in the efforts to introduce and apply the Negotiated Approach in Indonesia. However, it should be realized that it resulted from preparatory activities over a period of about five years, and that it relates only to (part of) a small river basin. There is still a long way to go before river basin councils working with the approach become a well-known and accepted model of public participation in IWRM in Indonesia. Continuous efforts will therefore be needed to disseminate the results and experiences to all relevant agencies and their development partners involved in water resources management throughout Indonesia.

Notes

1 Some of the NGOs involved in the Negotiated Approach for the Paraguay–Paraná wetland system were ECOA and WWF (Brazil), Fundación Proteger and M'Biguá (Argentina), SobreVivencia – Amigos de la Tierra Paraguay (Paraguay), ProBioma and WWF (Bolivia) and Both ENDS (the Netherlands).

2 'Positive evolution initiatives' refer to local (pilot) initiatives that contribute to livelihood opportunities and the protection of ecosystems by taking into account local/traditional knowledge and innovative technologies.

3 PBS was founded in 1997 as Yayasan Bumi Sawerigading (YBS), and changed its name to PBS in 2008.

4 This was part of a capacity development project (2008–2011), financed by Both ENDS, run by a group of Indonesian NGOs: Telapak, PBS and Yayasan Ulayat Bengkulu.

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The image on the front cover shows part of the well of the goddess Sita, who in Hinduism and in ancient Indian tradition is the personification of the earth's fertility, abundance, and well-being. This figure can be interpreted as a symbol of the wise use of water. It shows steps and waves, reflecting water access and use, while the island in the centre and the flowers at the corners represent life. The Sita Well symbolizes attitudes and practices that value water in a meaningful way – a logic that is more attuned to sustainability than are the visions of utility and efficiency that prevail today.

The Negotiated Approach described in this book keeps this ancient vision in mind as it addresses the immediate water needs we face today. The approach envisages the meaningful and long-term participation of communities in all aspects of managing the water on which their lives depend.

Based on on-the-ground experiences of organizations in countries all over the world, the book describes the Negotiated Approach in terms of its vision and principles. It also gives practical suggestions about how to negotiate, and how the approach can be implemented in what has been called strategic water resources management.