

GUIDANCE IN PREPARING A NATIONAL INTEGRATED WATER RESOURCES MANAGEMENT AND EFFICIENCY PLAN: ADVANCING THE WSSD PLAN OF IMPLEMENTATION

**VERSION ONE
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**Based on the outcome of
the International Workshop on
“How to Proceed for IWRM Planning at National Level”**

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Guidance in Preparing a National Integrated Water Resources Management Plan: Advancing the WSSD Plan of Implementation

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FOREWORD

At the World Summit on Sustainable Development held in Johannesburg in 2002, the international community called for all countries to “develop integrated water resource management and water efficiency plans by 2005, with support to developing countries”. Like many apparently simple directives, this one has proved difficult to interpret and put into practice. What does the WSSD Plan of Implementation’s 2005 directive really mean? Is it merely the development of a plan, a first step in a longer process of institutional change, or a bit of both? What is the practical value and significance of developing a plan? How will such plans relate to the day-to-day struggle to promote economic and social development? How, in practical terms, can countries go about preparing a plan? Most pressing, is it pie-in-the-sky to think countries can do so by 2005?

This document is part of a series of publications prepared by the Technical Committee of the Global Water Partnership aimed at providing support to those responsible at all levels for the achievement of the WSSD directive. A few months ago, GWP released TEC Background Paper No. 10, the first of this series, authored by former TEC Chair Torkil Jonch Clausen, which was entitled “Integrated Water Resources Management (IWRM) and Efficiency Plans by 2005: Why, What and How?”.

This document, the second paper in the series, is intended to be a guidance document that provides practical advice on implementing the WSSD Plan of Implementation 2005 directive – explaining Integrated Water Resource Management approaches in practical terms and outlining what needs to be done to prepare a Plan. It addresses in a practical, implementation-oriented way some of the constraints that countries may experience in preparing Plans. It puts special emphasis on demystifying concepts, identifying the essential elements that need to be addressed as part of the process of change, and providing practical ideas on how to deal with typical issues that arise in the preparation of Plans.

Intended to guide countries as they work to prepare their IWRM Plans, this document is written principally for Governments – for policy-makers, water managers and civil servants – as well as their partners in water management reform. Though the process, structure and content of a Plan will vary from country to country, every Plan will share certain features. By suggesting preparatory steps and topics to include in Plans, we hope the document will be a useful prompt.

Importantly, this guidance document is intended to help *all* countries in developing their IWRM Plans. In developing countries, IWRM Plans may be oriented towards efforts to achieve the Millennium Development Goals. In industrialized countries, IWRM Plans may, for example, concentrate on environmental maintenance and restoration, as required by the European Union’s Water Framework Directive.

This first version of the paper is being released in April 2004, so as to be of immediate assistance to countries working to meet the WSSD directive, as well as to contribute to the twelfth session of the Commission on Sustainable Development. In August, we will release a second—we hope improved—version of the paper, which will take into account feedback received on this version. We expect that this

final version of the guidance document will also evolve and be refined as more experience with the Plan preparation process is gained.

The paper has been prepared by a writing and editing group consisting of Per Bertilsson, Hartmut Bruehl, Leanne Burney, Malin Falkenmark, Nighisty Ghezae, George de Gooijer, Jan Hassing, Jacques Rey, Albert Wright and myself. It draws on the findings of a structured workshop convened by the Global Water Partnership in Stockholm in February, and on the deliberations of a review group whose members include water professionals already working on preparing IWRM Plans. We would like to express our appreciation for the very helpful comments and suggestions received from Margaret Catley-Carlson and Emilio Gabbrielli, as well as the assistance of Christie Walkuski in finalizing the report and of Sue Parrott of Green Ink in the preparation of an early draft. We have benefited greatly from the United Nations' excellent paper, *Guidance in Preparing a National Sustainable Development Strategy*¹, whose easy to read and substantively sound approach we have endeavoured to follow.

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¹ United Nations, Department of Economic and Social Affairs, "Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium," Background Paper No. 13, Commission on Sustainable Development, Second Preparatory Session, 28 January – 8 February 2002

GUIDANCE IN PREPARING A NATIONAL IWRM PLAN: ADVANCING THE WSSD PLAN OF IMPLEMENTATION

1. The WSSD Directive

Although the concept of integrated water resources management had been discussed in major international conferences throughout the 1990s and early 2000s², the major step forward at the World Summit on Sustainable Development (WSSD) was that the Plan of Implementation included a specific directive calling for all countries to develop IWRM and water efficiency plans by 2005. Specifically, Paragraph 26 of the WSSD Plan of Implementation, issued in Johannesburg in September 2002, read as follows:

Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels to:

- (a) Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management, and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water
- (a) Employ the full range of policy instruments, including regulation, monitoring, voluntary measures, market and information-based tools, land-use management and cost recovery of water services, without cost recovery objectives becoming a barrier to access to safe water by poor people, and adopt an integrated water basin approach
- (a) Improve the efficient use of water resources and promote their allocation among competing uses in a way that gives priority to the satisfaction of basic human needs and balances requirement of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human domestic, industrial and agriculture needs, including safeguarding the drinking water quality
- (a) Develop programmes for mitigating the effects of extreme water-related events
- (a) Support the diffusion of technology and capacity-building for non-conventional water resources and conservation technologies, to developing countries and regions facing water scarcity conditions or subject to drought and desertification, through technical and financial support and capacity-building
- (a) Support wherever appropriate, efforts and programmes for energy-efficient, sustainable and cost-effective desalination of seawater, water recycling and water harvesting from coastal fogs in developing countries, through such measures as technological, technical and financial assistance and other modalities
- (a) Facilitate the establishment of public-private partnerships and other forms of partnership that give priority to the needs of the poor, within stable and transparent national regulatory frameworks provided by the Governments, while respecting local conditions, involving all concerned stakeholders, and monitoring the performance and improving accountability of public institutions and private companies.

² Annex 2 provides a brief review of these historical antecedents, conceptual thinking and international deliberations on the concept of integrated water resources management and water efficiency.

Explicitly or implicitly, the above directive conveys five clear messages:

First, countries must translate principles of IWRM into a specific plan.

Second, countries must complete IWRM Plans by a firm target date—2005.

Third, all countries should have a Plan—whether they are rich or poor, whether they have plentiful water resources or scarce water resources.

Fourth, developing countries must be supported in the process of preparing their Plans.

And fifth, the content of these Plans must be wide-ranging, covering institutional, financial and technological change.

2. What Is Integrated Water Resources Management?

This document provides guidance on the preparation of plans for integrated water resources management, which is an approach towards an end, rather than an end in itself. An IWRM approach seeks to address a country's key water-related development problems—water for health, for food, for energy, for environment—more effectively and efficiently than is possible using traditional approaches. It seeks to avoid the lives lost, the money wasted, and the natural capital depleted because of fragmented decision-making about developing and managing water resources that did not take into account the larger ramifications of sectoral actions. It aims to ensure that current demands for water are met without jeopardizing the ability of future generations to meet theirs. Overall, it seeks to advance a country's social and economic development goals in ways that do not compromise the sustainability of vital ecosystems.

Integrated approaches, of course, will imply deliberately moving away from fragmented approaches. On the natural system front, they might involve integration of land and water management, of surface water and groundwater management, of quantity and quality, and of upstream and downstream water-related interests. On the human system front, they might involve ensuring that policies and priorities take account of water resource implications, that there is cross-sectoral integration in policy development, that macro-economic effects of water resource development are properly accounted for, or that water management considerations are integrated in city planning (see Box 1).

Moving from fragmented to integrated approaches to developing and managing water resources will require change, much of it difficult. Changes will likely be wide-ranging, encompassing institutions and policies, technology and infrastructure, and financial mechanisms. At the most fundamental level, areas requiring change of one form or another may include:

1. The role of the state in water resources development, management and use

- Policy instruments and the legal and regulatory framework relating to water resources
- The way in which water is allocated among users
- Data collection systems, and how information is made available to users
- Policy regarding public-private and tripartite partnerships

2. Systems to reconciling water quantity and quality needs of all water users

- Methods to balance human activities and ecosystem protection
- Mechanisms for consultation and public participation

3. Investments and policy change

- Measures to improve the efficiency of water infrastructure
- Structural and non-structural measures to mitigate the effects of floods and droughts and other extreme water-related events
- Stimulation of non-conventional approaches to water resources development and conservation, including desalination, water recycling and water harvesting

4. The way in which the roles of women in the provision, management and safeguarding of water are promoted and supported

5. Institutional reform and development

- The way in which capacity needs are assessed and capacity building efforts are promoted
- The effectiveness of management agencies (including river basin organizations)
- Effectiveness of regulatory authorities

6. Mechanisms to achieve financial sustainability in water management systems

- Subsidies
- Tariff policies
- Cost recovery

But IWRM approaches do not necessarily require making all these changes at once, nor do they imply starting in a broad-based manner. Indeed, IWRM approaches can often best be initiated by focusing on specific issues. Those countries that have made the most progress towards more sustainable water management practices have often started by focusing on specific water challenges – such as coping with perennial droughts or finding ways to increase water for agriculture while still ensuring access to domestic water in burgeoning urban areas. South Africa, for example, developed comprehensive policies, legislation and strategies starting in 1994, focusing outward from drinking water and later sanitation, to give expression to the political, economic and social aspirations and values of the new democratic political paradigm. Like sustainable development, therefore, an integrated water resources management approach is incremental and builds on what already exists.

Importantly, the changes needed in moving towards a more integrated approach will not always be in a forward direction – they may sometimes imply corrective action as well. Sometimes, considerable investment of financial resources will be needed to remedy unsustainable situations caused by past policies or lack thereof. Australia, for example, is currently planning to invest billions of dollars to reconvert the Murray-Darling basin to more sustainable conditions.

A key challenge in moving from fragmented to integrated approaches is to make sure that we do not focus so much on the desired outcomes (e.g. “optimum allocation of water among sectors”) that we lose sight of the practical activities involved in getting there. Reallocating water, for example, does not usually happen by decree but through what might be termed “unexpected detours”— like cutting subsidies to farmers, introducing an urban development policy, changing an environmental regulation or adopting a new energy policy. This means that we need to find practical ways in which these kinds of decisions can be taken in a more concerted fashion – identifying management tools (incentives, forums, mechanisms, rules, models, thresholds, indicators, overall performance frameworks) that can help ensure that the water component of these decisions is adequately considered while assessing their impact on the desired outcomes.

Inherent in an IWRM approach is the recognition that truly sustainable water resources management involves managing demand, not just supply. Water currently wasted in poorly constructed or managed irrigation systems, through leakage in urban supply systems, in wasteful industrial practices and so on, could be conserved, and must be to satisfy increasing demand for water. Water efficiency must be addressed at several levels, both through technical means and through improved management practices.

We will return to some of these issues in later sections of this paper that deal with the substantive components of the IWRM Plan.

Box 1. Integrating water management in city planning³

Water flows only where there is a slope. It does not flow on horizontal ground; rather, it stagnates. A city built on flat ground entails huge drainage expenses; building on a steep slope involves risk of natural disasters; and building on flooded ground requires huge investments for flood protection. In all cases, it makes better sense to think about water management during city or land use planning procedures than afterwards.

³ Drawn from Ivan Cheret, Brief to the Minister, Draft, March 24 2004

3. What are National IWRM Plans?

Simply put, a National IWRM Plan⁴ is a plan for better water management—a road map to guide the changes needed to move from fragmented to integrated ways of developing, managing and using a country’s water resources, and to accelerate action towards those ends. It clearly establishes the goal posts and the road to achieve them, with milestones along the way. A Plan therefore must:

- Describe the current way in which water resources development and management decisions are made and actions taken
- Outline where the country wants to be in the future in terms of decisions made and actions taken to solve problems
- Map out how it plans to move from where it is now to where it wants to go, with milestones and time frames.

An IWRM Plan should also be dovetailed with and build on other national plans and strategies – including the strategies called for by the key environmental conventions, such as the National Biodiversity Strategy and Action Plans and the National Plans to Combat Desertification. In many developing countries, IWRM Plans need to be dovetailed with a country’s poverty reduction strategy paper or its national strategy to meet the MDGs.

4. Preparing a Plan—Some Practical Considerations

No blueprint exists for how to prepare an IWRM Plan. Each country must find its own way, one best suited to its unique politics, history, culture, and ecology. That said, in this section we provide some practical tips that can make preparing a Plan more effective and make the best use of available human and financial resources. While this section focuses on the process of preparing a Plan, the next section discusses the substantive content of the Plan itself.

We start with the organization and management of Plan preparation, and then go on to three key issues that need to be addressed in the preparation of a Plan – managing participation, mobilizing resources and building capacity.

Organization and management

Strong political commitment from the top leadership of a country, as well as from local government, is an essential prerequisite for the successful preparation and implementation of a Plan. A dedicated group of people who are willing and able to drive the process must be put together, and high-level political support is essential if the group and its activities are to succeed.

⁴ From here onwards we will use the term “IWRM Plan” or simply “Plan” as shorthand for a national integrated water resource management and water efficiency plan.

Experience suggests that the establishment by government of a secretariat for Plan preparation – staffed by a management team of qualified professionals and guided by a steering committee – can be a useful mechanism for driving the preparation of a Plan. Ideally, this secretariat will have a certain amount of infrastructure, staffing and funding in order to carry out its functions.

An associated “participatory platform” entailing a wide range of forums—informal meetings, workshops, consultation processes, public meetings, focus group interviews, policy dialogues, round tables, and media events—can also help different groups meaningfully contribute to the preparation of the Plan. Such a platform should encourage a continuous refining of aims, objectives, and activities.

Ideally the platform should be perceived generally as the appropriate and logical forum for any matter concerning the management of water resources.

It is important to agree on the roles and responsibilities of the different actors at an early stage, perhaps along the lines suggested in Table 1 below. While the national government has the authority and the mandate to implement the necessary reforms, it can delegate various tasks. The involvement of stakeholders has to take place within a clear management framework with agreed roles and responsibilities.

Table 1. Roles and Responsibilities of different actors.

Actor	Roles and responsibilities
National government	<ul style="list-style-type: none"> • Lead role, ‘owner’ of the process • Mobilize funding
Steering committee (group with wide representation)	<ul style="list-style-type: none"> • Guide, monitor, follow and ensure quality of process and output
Management team (group of qualified professionals)	<ul style="list-style-type: none"> • Day-to-day process implementation
Facilitating institution, where appropriate ⁵	<ul style="list-style-type: none"> • Provides neutral platform for dialogue • Supports planning process by providing advice/guidance and sharing knowledge/experiences

⁵In some countries, Country Water Partnerships may be able to play this role

Experience shows that a log-frame approach, clearly delineating the activities and outputs that have to be undertaken, can be a very useful way of organizing the preparation of a plan. Annex 3 outlines the log-frame approach employed in an ongoing effort to prepare IWRM plans in five countries in Africa.

One organizational question that often arises is how long it will take to prepare an IWRM Plan. Clearly, the amount of time countries will spend will vary considerably. Some countries may take a rapid initial approach, and then update as they delve into implementing their plan. Other countries, however, may elect to invest more time—perhaps to build stakeholder participation and ownership—in preparing their Plan.

While the preparation of a Plan is a time-bound, one-off exercise, it may be updated during implementation to take into account new information and changing conditions. Properly developed, during implementation Plans will become dynamic instruments that progressively identify necessary strategies and actions in water resources management, development and use.

Managing participation

A Plan should be prepared with participation of key stakeholders at signal points in the process, which will pave the way towards effective Plan implementation. One supported by diverse stakeholders will be able to survive disruptions of future leadership or governmental change.

To be effective, a Plan must balance two possibly conflicting demands. On the one hand, it must win broad-based support from stakeholders, or it cannot be effectively implemented. On the other hand, a Plan must be realistic and practicable, which means resolving conflicts among often competing stakeholders. The key to balancing these demands is to ensure that the process of preparing a Plan encourages broad participation by diverse stakeholders in a well-organized, time-bound fashion.

Core stakeholders to be engaged in the preparation of a Plan include:

- Government Ministries and related institutions in key sectors, including water and sanitation, irrigation, agriculture, energy, transport, fisheries and industry
- Water utilities, agencies and related bodies (e.g., Water Development Boards)

Essential stakeholders to be brought into the process will likely include most of the following:

- Local communities and community-based organizations (mayors and religious leaders, for example)
- The private sector, including but not limited to water supply and sanitation service providers
- Sectoral interest groups such as farmers, fishermen, and women's associations
- Non-government organizations
- Media representatives
- Research and training institutions, including Universities
- Facilitating partners (e.g., in developing countries—UN agency country offices, Global Water Partnership country water partnerships)

Effective communication among stakeholders—not information disseminated from the top down—is essential to stakeholder participation in the preparation of a Plan. Communication activities should engage the key stakeholder groups, construct a realistic picture of water resource use and management, and ensure that stakeholders are up-to-date on Plan preparation and how they may contribute to it.

In preparing a Plan, it will be important to bear in mind that water management is essentially conflict management. It is ultimately Government's role to sort out potential conflicts at the planning stage, which will reduce the need for formal conflict solving procedures at later implementation stages.

Mobilizing resources

Preparing a Plan will cost money and require human resources and technical skills. The participation component can be costly – especially to secure the participation of weaker groups – and this should be borne in mind when planning consultation exercises. Though the costs of preparing a Plan are typically minor in comparison with the costs of Plan implementation or water resources development and management more broadly, they must be properly estimated and budgeted for.

Many developing countries do not have the human, technical or financial resources to meet the IWRM Plan directive, and the imperative for strong support to such countries was emphasized in the WSSD Plan of Implementation. Canada, the Netherlands and Norway have already committed to supporting developing countries in the preparation of their Plans, while other industrialized countries, including the UK and the US, are considering similar actions.

Building capacities

Capacity is needed to prepare a Plan as well as to implement it. Many countries will have to start building capacity for planning as well as for implementation as they embark on the process of preparing a Plan.

Clearly, developing the substantive content of a Plan will require technical capacities in a number of specialized areas. But capacity will also be needed to manage the participatory processes inherent in preparing a Plan – meaning skills in communications, negotiation, conflict resolution, facilitation, consensus building, time management, community mobilization. Capacity building needs are likely to include:

- Technical expertise in management areas, including monitoring and evaluation, engineering and applied science, hydrology and ecology, and the social sciences, especially economics, political science and public administration
- Modeling and analysis of data, and developing and maintaining databases
- Conflict resolution, negotiation skills, transboundary cooperation and planning, mobilizing financial resources
- Training (preparing short-term project-based modules to serve as refresher training for water managers, decision makers and politicians, promoting staff exchanges and sharing experiences).

Building capacity for the preparation of a Plan and its implementation should be seen as a continuous process. Each step brings in demands for new knowledge and competencies to help understand new directions, build commitment and develop appropriate responses to resource management challenges.

5. Preparing a Plan—the Technical Content

Clearly, the technical content of a Plan will be entirely context-driven, responding directly to the specific water demand and supply characteristics of each country as well as its politics, history, culture, and ecology. The types of technical issues that a Plan might address, and the steps that might be followed in putting together the technical content of a Plan, are discussed below.

Types of technical issues that a Plan might address

As noted earlier, a Plan should provide a road map for changing from current fragmented ways of water resources planning, development, management and use to an integrated approach. It should therefore contain at least three parts:

1. Current approaches to water resources planning, development, management and use
2. Desired future approaches to water resources planning, development, management and use
3. The transition plan to change from current to future approaches, involving the updating of existing approaches to bring them in line with the desired new approach.

Often, a Plan will be more effective if it focuses on one or two critical water resource challenges as entry points in order to move towards an integrated approach. As noted earlier, countries that have made the most progress towards integrated approaches have started by focusing on specific water challenges.

Developing countries concentrating on the achievement of water-related MDGs might, for example, take the need to harmonize water resource development and management to achieve this overall set of goals and targets as their entry point. Other developing countries might wish to take a narrower approach – such as reducing vulnerability to droughts and floods by enhancing their coping strategies, both structural and non-structural. Industrialized countries may focus first on ways to remedy unsustainable situations caused by past policies that are not based on integrated principles. Countries sharing transboundary rivers – particularly those located downstream of powerful neighbors – might focus initially on the challenges relating to sharing water resources (see Box 2).

Box 2. How should a Plan address transboundary issues?

Plans are developed by each country at the national level. Still, they must take into account transboundary water use, especially where there may be significant potential for conflict between different water users. Almost half the world's land is situated in a transboundary river basin. Many cooperation arrangements for such transboundary systems are already in place (in the Mekong Basin, for example), or are emerging (as in the Nile Basin). These agreements are made between countries at the regional level, but they require policy changes and reforms at the national level. Preparing a Plan provides an opportunity for synergies in addressing multiple water resource uses and potential conflicts, including the sustainability of aquatic ecosystems. Forming a transboundary organization or river basin commission will guide coordinated planning efforts.

In some cases, a comprehensive, exhaustive approach to enumerate a wide range of issues that need attention might be an effective way to move forward. An initial checklist of the kinds of technical issues that could be covered in a Plan (based on the list of change areas identified in section 2) is given in Table 2, below.

Table 2. Checklist of Issues that might be addressed in an IWRM Plan

- Interfaces between macro-economic and water resource decision making
- Efficiency of water infrastructure
- Mitigation of the effects of floods and droughts and other extreme water-related events
- Non-conventional water resources and conservation technologies
- Water quality and broader environmental issues
- Data collection systems, and access to information by users
- Policy instruments and the legal and regulatory framework
- The role of the state and the potential for public private partnerships
- Processes for reconciling water quantity and quality needs of all water users
- Mechanisms for consultation and public participation
- Water allocation systems
- The roles of women in the provision, management and safeguarding of water
- Capacity building
- Management agencies (including river basin organizations)
- Mechanisms to achieve financial sustainability

Regardless of the particular approach chosen, it is crucial to recognize that a Plan provides a practical way for countries to address a central dilemma – the need to reconcile development and environmental imperatives. Box 3 outlines practical ways in which IWRM approaches can integrate land, water and ecosystems and promote environmental sustainability as well as social equity and economic efficiency.

Countries also need to remember that the WSSD directive specifically referred to the ‘water efficiency’ aspects of the Plan, and incorporate into their planning the recognition that truly sustainable water resources management involves managing demand as well as supply. Water efficiency will need to be addressed at several levels, both through technical means and through improved management practices.

Box 3. Practical Approaches to Balance Human Activities and Ecosystem Protection⁶

Three key directions have to be incorporated in the emerging management system (secure-avoid-foresee): securing water-related services to the population, avoiding ecosystem degradation, and *foreseeing* changes and variability. Adequate attention has to be paid to the fact that water is deeply involved from many different perspectives through its many parallel functions:

- As societal support: health, socio-economic production, food/timber production, and energy production
- In ecological services, both in terrestrial and aquatic ecosystems
- In environmental threats from floods, droughts, diseases
- In its function as a “silent destroyer” through its two lift up/carry away functions (erosion/sedimentation and solute transport).

A fundamental way of approach must be to identify minimum criteria or “bottom lines” for ecosystems and their functions, terrestrial as well as aquatic. When balancing upstream against downstream interests one has to work from the downstream end after identifying bottom lines for the aquatic ecosystems there in terms of uncommitted environmental flows and minimum water quality. The approach then, has to be to move segment-wise upstream. A particular challenge here is to identify resilience determinants to avoid ecosystem collapses.

⁶ Drawn from Falkenmark, Malin, “Water Management and Ecosystems: Living with Change”, TEC Background Paper No. 9, Global Water Partnership

Steps that might be followed in putting together the technical content of a Plan

Experience suggests that developing the technical content of a Plan can be organized in terms of three inter-related tasks:

- Compiling knowledge
- Identifying key challenges and setting priorities
- Preparing the transition strategy – i.e., outlining concrete actions the country will take to move toward an integrated approach

Compiling knowledge: This step aims at giving participants in Plan preparation the building blocks of existing generic and specific experience. Knowledge to be compiled and made available includes experience with water resources management approaches within the country itself (national water laws, management organizations and water resources assessment tools), international experience with integrated approaches, experience from past and present national planning processes within and across sectors, and experience in related cross-cutting areas. Participation and partnership development, involvement of women in water resources management, capacity building, empowerment and decentralized decision making are all cross-cutting areas where practical knowledge is often needed.

Frequently, the knowledge needed for Plan preparation is neither readily available nor well documented. Instead, it exists in an ad-hoc form among professionals and practitioners as well as among government and non-government staff within water resources and water relevant sectors.

Often a baseline of key water issues provides a good basis for the rest of the Plan preparation process. This task could entail, for example, preparing an inventory of activities relevant to water resources management, or carrying out a survey of planning documents. Identifying and building on experience from other (non-water) planning activities, through literature reviews and interviews with key resource persons, can also be an excellent way to move forward.

Whilst guidelines (such as this document) are available for Plan preparation, it is important to transform these to suit national conditions. The technical process could well benefit from the preparation of simple tailored guidelines that explain what needs to be done, as well as how and when and by whom. This ‘methodological’ framework may provide guidance on how, for example, to conduct sectoral assessments and prioritize resource issues, set realistic objectives and targets, and coordinate the efforts of involved sectors and regions.

Data issues often present a key challenge. One dimension of this challenge relates to the need to collect reliable and complete data and make these readily available to all stakeholders. Tools to model or carry out sensitivity analysis of options, open to all stakeholders, are often extremely useful mechanisms to open the way towards new ways of doing things. However, lack of good data should not be held as an excuse for not getting on with the job – good professionals can often go a long way without having a full database.

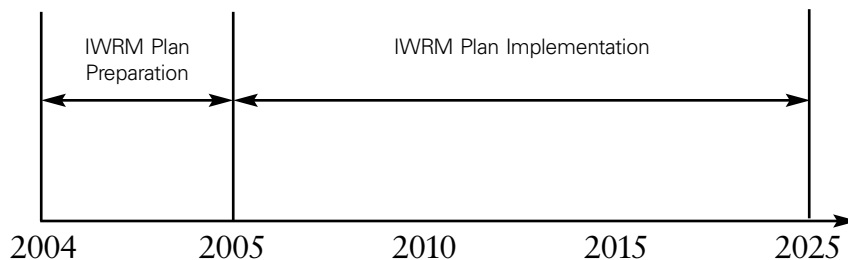
Identifying key challenges and setting priorities: One possible starting point for identifying key challenges is a comprehensive and critical water resources assessment. Some challenges will be demand-side problems, such as how to satisfy increasing, and often conflicting, demands for water from different economic sectors; others will involve impacts on water resources, such as the effect of climate variability and change, or of human activities and land management decisions. The assessment would need to be accompanied by a priority setting process along the lines indicated earlier, on the basis of agreed criteria.

But a comprehensive water resources assessment is not necessarily the best way to go about this step. As indicated earlier, an alternative approach is to focus on a single water challenge. Sometimes a targeted approach, linked to an action plan based not on abstractions but real issues, is the best way to win broad public support.

Preparing the transition strategy: The key step in the process of preparing a Plan is to outline the transition strategy itself—the concrete actions and reforms in water resources management, water infrastructure development, improved water efficiency and better water service provision. A Plan should set forth a sequence of concrete actions, which taken over a specified time frame will transform a country’s approach to water resources development and management. Such a Plan should describe projected changes in key areas, from the country’s legal and regulatory framework to the way in which water management systems are financed.

The strategy for making the transition to a sustainable management of water resources should include milestones and time frames. As illustrated in Figure 1, developing countries focusing on the 2015 MDG timeframe might establish milestones every five years from 2005 onwards until 2015 or beyond.

Figure 1. Milestones and timeframes for plan preparation and implementation



In preparing a transition strategy, it will be important to draw on lessons learned in the field of institutional change. Political processes, parliamentary approvals, national budgeting processes, institutional changes, and capacity building will be among the important aspects to be considered in a strategy for transition. Transitional arrangements are crucial to the success of the Plan, as are the roles and responsibilities of key actors.

Monitoring, assessment, evaluation and learning will need to be an integral part of the transition strategy. Monitoring and evaluation in this context does not mean monitoring such parameters as access to

drinking water and sanitation; rather, it means checking whether planned changes are on track or not, as well as documenting changes in specific areas identified in the Plan and adjusting policies and priorities accordingly. Assessment criteria and qualitative and quantitative progress indicators should be defined at the start of the plan preparation process and can help to clarify goals. Through monitoring and evaluation, progress towards goals and objectives can be tracked and lessons captured and shared to improve performance.

Carrying out monitoring and evaluation effectively requires special capacities, which many countries lack. For example, it usually means involving stakeholders in designing and conducting the evaluation to ensure that the needs, concerns and ideas of different actors are expressed and considered. A good monitoring and evaluation system should be practical and relevant, providing information that is useful and reflective – which means learning from failures as well as successes. Monitoring and evaluation should not be regarded as a faultfinding process but as a beneficial tool that mobilizes commitment and fosters improvement.

6. Readyng the Plan for Implementation

Preparing the Plan for implementation entails ensuring its endorsement and adoption at the highest political level, and mobilizing resources and designing management structures for plan implementation.

Ensuring endorsement and adoption at the highest political level

A Plan will typically suggest actions that go well beyond the area of responsibility of a particular ministry or department, and may propose changes in central and local government institutions. It is therefore essential that the Plan be adopted at the level where inter-ministerial co-ordination takes place, and ultimately – as in the case of national water legislation - with the Parliament. Other levels will also be crucially important – such as the local government level, where key water resources management functions often take place.

Success in carrying out this step will therefore normally be evaluated in terms of whether the Plan has been endorsed or adopted by Government. Other indicators of success include adequate financial resources for implementation of the Plan, and awareness and support at all levels of implementation.

Securing political endorsement and adoption at the highest levels will frequently require identifying stakeholder groups that are negatively affected by the reforms to address their concerns while also building coalitions with stakeholder groups that are positively affected. Throughout it is important to adjust and accommodate the Plans accordingly to gain political understanding while selecting the most appropriate mechanism for adoption. This mechanism could include, for example, a national forum attended by key stakeholders.

Proponents of the Plan should therefore have strong negotiation skills and be politically savvy. The timing of reform proposals will have to take into account political realities – elections, for example, may sometimes be a decisive element.

Mobilizing funding for plan implementation

As noted earlier, funding for implementation of the actions proposed in the Plan is relatively modest, as the Plan normally comprises ‘soft’ interventions—policy work and law making, institutional and governance reforms, development of management instruments and capacity building, etc.—which are fairly limited as compared to the costs of infrastructure. Nevertheless, without funding for implementation, the preparation of a Plan is meaningless.

A program approach should be adopted for mobilizing the funds required for implementation, although sometimes it may be necessary to include a portfolio of sub-projects (such as strengthening data acquisition) that could be funded as separate activities. Some funds may need to be earmarked to address hot spots identified during Plan preparation, rather than waiting for the Plan to be finalized and adopted.

The identification of funding for Plan implementation should be undertaken in parallel with the preparation of the Plan. A long time span between completing and adopting a Plan and securing funding for implementation should be avoided. Early allocation of funds in national budgets is essential. It may be wise to estimate a funding envelope at the early stages of the process for inclusion in the future national budget, which will help maintain a reality check during formulation as well as ensure immediate action. Where donor support is needed, donor coordination meetings should be held during Plan preparation.

Designing management structures for Plan implementation

As suggested earlier, establishing a national steering group to ‘own’ the Plan will help to provide a driving force to enact the difficult reforms adopted. The same steering group might also monitor implementation progress and be held to account to a higher authority. A high quality implementation team should be identified as soon as the Plan is well advanced. The Plan should be well anchored at various levels of government (central, regional, local) and in the community at large in order to avoid disruption from change of government or departure of key personnel.

Before completing the Plan, an entry point for implementation should be identified—perhaps linked to infrastructure investment to help make reforms attractive to political leaders. The identification of ‘low hanging fruit’ to get tangible, short-term benefits can help bolster political support for implementation.

Annex 1. Frequently Asked Questions

What does an IWRM approach seek to achieve?

An IWRM approach seeks to address a country's key water-related development problems – water for health, for food, for energy, for environment – more effectively and efficiently than is possible using traditional approaches. It seeks to avoid the lives lost, the money wasted, and the natural capital depleted because of fragmented decision-making about developing and managing water resources that did not take into account the larger ramifications of sectoral actions. It aims to ensure that current demands for water are met without jeopardizing the ability of future generations to meet theirs.

What kinds of changes will be needed in moving from fragmented to integrated approaches?

Changes need to be made in the interfaces between macro-economic and water resource decision-making. Areas requiring change of one form or another will range from the way in which water quality and broader environmental issues are addressed to mechanisms to achieve financial sustainability in water management systems.

What does an “IWRM Plan” mean, in simple terms?

A National IWRM Plan is a road map to guide the changes needed to move from fragmented to integrated ways of developing, managing and using a country's water resources, and to accelerate action towards those ends. It clearly establishes the goal posts and the road to achieve them, with milestones along the way.

What's the difference between an IWRM Plan and an IWRM approach?

An IWRM Plan helps a country prepare for the changes needed in evolving towards an IWRM approach.

What's the difference between an IWRM Plan and a project investment plan for water infrastructure?

While a Project Investment Plan or Water Resources “Master Plan” usually has a strong focus on physical infrastructure, an IWRM Plan will typically (though not exclusively) focus on software interventions, including policy changes and institutional reforms. Decisions related to the development, management and use of a country's water resources need to be gradually re-aligned towards the new approach.

Is an IWRM Plan only about managing water resources? What about the water resources infrastructure that a country needs to meet its development goals?

An IWRM Plan is a road map to guide the changes needed to move from fragmented to integrated ways of *developing* as well as managing and using water resources. An integrated approach helps ensure that the country can achieve its overall social and economic development goals in a sustainable way, both through water resources development and through measures to improve water resource management and use.

Do we really need an IWRM Plan?

An IWRM Plan helps accelerate action towards solving key national problems in water-related areas – such as health, food, energy, and environment. The preparation of a Plan along the lines outlined in this report will help ‘kick-start’ or provide renewed energy to the change processes needed to place a country’s response to water-related challenges on a more effective track. As importantly, the process of preparing a Plan can itself facilitate the implementation stage, for example by helping agencies within and outside government to be more aware of different stakeholder interests and competing needs.

How long will it take to prepare a Plan?

The amount of time countries will spend on preparing a Plan will vary considerably. Some countries may take a rapid initial approach, and then update as they delve into implementing their Plan. Other countries, however, may elect to invest more time to build stakeholder participation and ownership.

How should a Plan address the ‘efficiency’ component?

Inherent in an IWRM approach is the recognition that truly sustainable water resources management involves managing demand, not just supply. Water currently wasted in poorly constructed or managed irrigation systems, through leakage in urban supply systems, in wasteful industrial practices and so on, could be conserved, and must be to satisfy the increasing demand for water. Water efficiency must be addressed at all levels in water management, both through technical means and through improved management practices.

How should a Plan address transboundary issues?

IWRM Plans are developed by each country at the national level. Still, they must take into account transboundary water use, especially where there may be significant potential for conflict between different water users. Many cooperation arrangements for transboundary systems are already in place, and close links between the transboundary and national levels must be established. Preparing a Plan provides an opportunity for synergies in addressing multiple water resource uses and potential conflicts, including the sustainability of aquatic ecosystems.

Annex 2. Historical Antecedents for the WSSD Directive

The fundamental principles for the concept of integrated water resources management were laid at the International Conference on Water and the Environment held in Dublin in early 1992, which was convened to provide inputs for the UN Conference on Environment and Development later that year. The Dublin conference led to agreement on the four principles, which are:

1. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
2. Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
3. Women play a central part in the provision, management and safeguarding of water.
4. Water has an economic value in all its competing uses and should be recognized as an economic good.

These four Dublin Principles significantly contributed to Agenda 21: Programme of Action for Sustainable Development, adopted at the 1992 UN Conference on Environment and Development, in Rio de Janeiro. Chapter 18 of Agenda 21 was entitled “Protection of the quality and supply of freshwater resources: Application of integrated approaches to the development, management and use of water resources.” It included this recommendation:

“All States, according to their capacity and available resources, and through bilateral or multilateral cooperation, including the UN and other relevant organizations as appropriate, could set the following targets:

BY THE YEAR 2000:

- (i) To have designed and initiated costed and targeted national action programmes, and to have put in place appropriate institutional structures and legal instruments;*
- (ii) To have established efficient water-use programmes to attain sustainable resource utilization patterns;*

BY THE YEAR 2025

- (i) To have achieved subsectoral targets of all freshwater programme areas.*

The Dublin and Rio meetings are remembered for having laid the basis for an IWRM approach—expressed in the Dublin Principles—rather than for making specific calls for national action programmes by 2000. That no doubt reflects a concern that the concept of “integrated approaches to the development, management and use of water resources” needed further development before it could be made operational through national action programmes. And indeed, a lot of work took place in subsequent

years in building a stronger understanding of the conceptual foundations of the IWRM approach.

Two important parallel developments helped advance the concept of integrated water resources management. The first, in 1996, was the creation of the Global Water Partnership, and of its Technical Committee, which has helped to clarify and promote integrated approaches to water resources management.⁷

The other parallel development was the set of expert meetings and conferences, held since the review of Agenda 21 five years after Rio, in 1997. The first of these meetings—the Expert Group Meeting on Strategic Approaches to Freshwater Management (Harare, 27-30 January 1998)⁸—included the following paragraphs in its final report:

“11. Integrated water resources management within a national economic framework is essential for achieving efficient and equitable allocation of water resources and thus for promoting sustainable economic development and poverty alleviation. The adoption of an integrated approach to the environmentally sustainable management of water resources is also fundamental for protecting freshwater ecosystems, water quality and human health. At the same time, the financial sustainability of the water sector together with policies for financial burden-sharing and for ensuring access by the poor are a prerequisite for the successful implementation of integrated water resources management. In order to be effectively implemented, integrated water resources management should also include institutional and legal capacity building, human resources development and participatory approaches. The basis for a strategic approach to integrated freshwater management can be founded on a set of key elements that bring together all the relevant parties and their particular socio-economic, and environmental concerns that are bound by freshwater.”

Similar statements were included in the declarations of a second meeting held that same year in Paris (also convened as part of preparations for CSD-6); in the 1998 session of the Commission on Sustainable Development, whose theme was strategic approaches to freshwater management; and in the Second World Water Forum held in the Hague in 2000⁹.

At the level of heads of State and Government, the concept of integrated water resources management was embodied in the Millennium Declaration of September 2000, in which the leaders of the world—gathered at United Nations Headquarters in New York—resolved, under the heading “protecting our common environment”¹⁰:

“To stop the unsustainable exploitation of water resources by developing water management strategies at the regional, national and local levels, which promote both equitable access and adequate supplies”

⁷ One milestone was the publication in 2000 of TEC Background Paper #4, “Integrated Water Resources Management”, <http://www.gwpforum.org/gwp/library/TACNO4.PDF>.

⁸ <http://ods-dds-ny.un.org/doc/UNDOC/GEN/N98/031/17/PDF/N9803117.pdf>

⁹ This last was convened by the World Water Council, one of a series of World Water Forums that have played a substantial role in gaining acceptance for the integrated water resources management approach.

¹⁰ See “Achieving the Millennium Development Goals for Water and Sanitation: What will it take?” Interim Full Report, Task Force on Water and Sanitation, Millennium Project, December 2003

Because this resolution is only indirectly reflected in the official list of the United Nations Millennium Development Goals, Targets and Indicators¹¹ it sometimes is overlooked. But in the Report of the Secretary General, entitled “Road map towards the implementation of the United Nations Millennium Declaration” to the Fifty-sixth session in September 2001 on the follow up to the outcome of the Millennium Summit, it is highlighted as a goal.

The key International Conferences leading up to the World Summit on Sustainable Development that laid the basis for the WSSD directive are summarized in Box 1, below.

Box 1. Some key International Conferences, held prior to WSSD, that laid the basis for the WSSD directive

- 1992 International Conference on Water and the Environment, Dublin
- 1992 United Nations Conference on Environment and Development, Rio de Janeiro
- 1997 First World Water Forum, Marrakech
- 1998 Expert Group Meeting on Freshwater Management, Harare
- 2000 Second World Water Forum, The Hague
- 2000 United Nations Millennium Assembly, New York
- 2001 International Conference on Freshwater, Bonn

¹¹ The statement of the United Nations Millennium Development Goals, Targets and Indicators lists eight goals and 18 targets. The overall goal relevant to this area, labeled goal #7, is stated generally as “ensuring environmental sustainability,” with the first of its three targets making a specific reference to the need to “reverse (the) loss of environmental resources.”

Annex 3. Framework Employed In an Ongoing Effort to Prepare IWRM Plans in Five Countries in Africa.

An ongoing program to support the preparation of Plans in five countries in Africa¹² has established a systematic framework for structuring the process of plan preparation. The program is based on the premise that the formulation of the Plan can be understood as implementing a “national IWRM Plan Preparation process.” The value added by this process obviously lies in the shift in water governance towards IWRM principles. Among others, three important characteristics deriving from these principles are built into the planning process:

- A sustained effort to raise awareness about the holistic nature of the water-related governance system (integrated, goal oriented view, including the linkages to the environmental and socio-economic frameworks), legitimized by strong political will.
- A strong focus on multistakeholder participation (socially accepted change process) committed to improve the water situation
- A particular emphasis on capacity building

The structure of the national planning process

The *immediate objective* of the Plan Preparation process is:

“To set out (by 2005) a national strategy and priority steps that must be taken to reform the water-related governance system to include the principles and concepts of IWRM.”

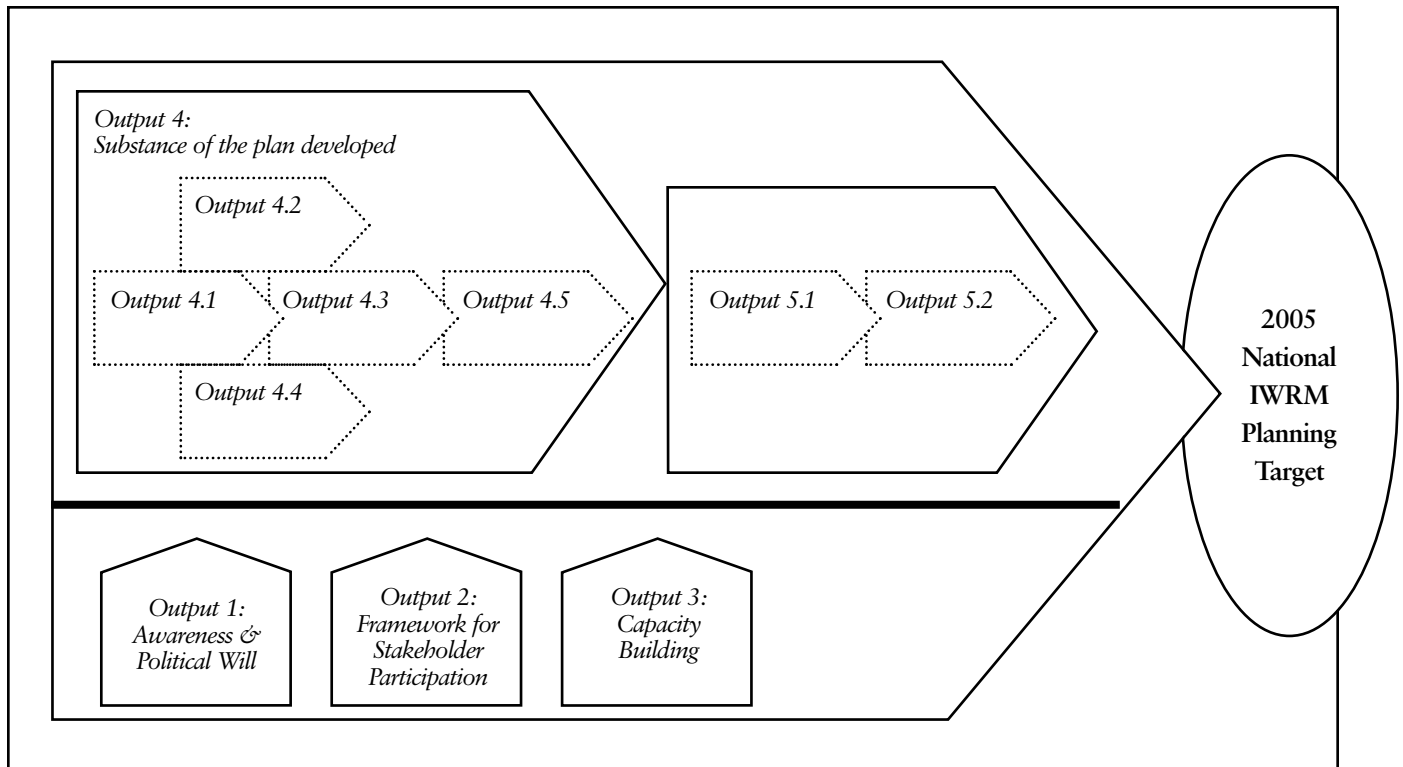
The key *outputs* of the program are:

1. Awareness on IWRM raised, political will and support for the reform process built.
2. Framework for broad stakeholder participation in place.
3. Capacity building activities for implementing the reform process initiated.
4. Substance of the plan developed
 - 4.1 Knowledge from past and on-going activities that the process can build on compiled and available.
 - 4.2. Water Resources Management-related issues and challenges identified in a participatory way.
 - 4.3. Water Resources Management-related functions required to deal with priority issues identified in a participatory way.
 - 4.4. Management potential and constraints identified in a participatory way.
 - 4.5. Action plan and transition strategy towards IWRM prepared in a participatory way.
5. Plan ready for implementation
 - 5.1. Action Plan and transition strategy adopted at all political level.
 - 5.2 Detailed program and funding strategy for the reform process prepared

¹² “Partnership for Africa’s Water Development, Project supported by the Canadian International Development Agency (CIDA) and facilitated by the Global Water Partnership, 2004-5.

The objective of the “national IWRM planning program” is achieved in a given country – and hence the 2005 target – when the five inter-related outputs are achieved, meeting a set of agreed performance criteria.

Output structure (simplified framework)



Annex 4. References, Tools, Support Agencies and Other Resources (To be expanded—submissions welcome for version 2)

GWP TECHNICAL COMMITTEE (TEC) BACKGROUND PAPERS ON IWRM APPROACHES

TEC Background Papers address pressing issues related to the theory and practice of Integrated Water Resource Management. As TEC's flagship publication series, these papers offer cutting-edge analysis in order to advance knowledge. Generally authored by TEC members, background papers undergo a rigorous internal review. Please find the following publications at

<http://www.gwpforum.org/servlet/>

- No. 10 IWRM and Water Efficiency Plans by 2005: Why, What and How?
- No. 9 Water Management and Eco-Systems: Living with Change
- No. 8 Poverty reduction and IWRM (French and Spanish)
- No. 7 Effective Water Governance (French and Spanish)
- No. 6 Risk and Integrated Water Management (French and Spanish)
- No. 5 Letter to my Minister (French)
- No. 4 Integrated Water Management (French, Spanish, Arabic and over 20 other languages)
- No. 3 The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangements for Integrated Water Resources Management
- No. 2 Water as a Social and Economic Good: How to Put the Principle into Practice
- No. 1 Regulation and Private Participation in the Water and Sanitation Sector

The IWRM ToolBox

The IWRM ToolBox is a comprehensive source of knowledge, experience and guidance for sustainable water resources development and management including service provision. The ToolBox aims to help decision makers and practitioners to put together policy packages for sustainable water resources management. The ToolBox draws together experience and shares knowledge in implementing IWRM, worldwide.

<http://gwpforum.org>

SELECTED EXTERNAL SUPPORT INSTITUTIONS (GLOBAL AND REGIONAL)

(please note this list is incomplete: a comprehensive list will be included in version 2)

African Development Bank (AfDB)

The AfDB has a policy that encourages borrowers to adopt and implement an integrated approach to water resources management. The objectives of the policy are to rationalize and strengthen Bank Group interventions in the water sector.

<http://www.afdb.org/>

Asian Development Bank (ADB)

ADB is a multilateral development finance institution dedicated to reducing poverty in Asia and the Pacific. Established in 1966, it is now owned by 63 members, mostly from the region.

<http://www.adb.org/default.asp>

Canadian International Development Agency (CIDA)

CIDA has an active interest in IWRM Plans and has contributed \$10 million through the Global Water Partnership (GWP) to assist in the preparation of national IWRM frameworks and the integration of water issues into Poverty Reduction Strategy Papers (PRSPs) in a select number of African countries, and institutional development of existing and new GWP partnerships at the regional and country level in Africa.

<http://www.acdi-cida.gc.ca/index.htm>

Danish International Development Agency (DANIDA)

Reducing poverty in developing countries is central to Danish development cooperation priorities. A number of crosscutting themes are built into DANIDA's development assistance: women's participation in development, the environment, promotion of democracy and observation of human rights. These crosscutting themes are integrated into DANIDA's development activities more generally.

<http://www.um.dk/english/>

Global Environment Facility

The Global Environment Facility (GEF), established in 1991, helps developing countries fund projects and programs that protect the global environment. GEF grants support projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants.

<http://www.gefweb.org/>

Global Water Partnership (GWP)

The mission of the Global Water Partnership is to “*support countries in the sustainable management of their water resources.*” The GWP's objectives are to: clearly establish the principles of sustainable water resources management; identify gaps and stimulate partners to meet critical needs within their available human and financial resources; support action at the local, national, regional or river basin level that follows principles of sustainable water resources management; and to help match needs to available resources.

<http://www.gwpforum.org>

Inter-American Development Bank (IADB)

The Inter-American Development Bank website posts a helpful set of publications divided into subsections on best practices, strategies and policies, and technical studies and conference proceedings.

http://www.iadb.org/sds/ENV/publication_188_e.htm

Netherlands Development Cooperation

The Netherlands wants to combat poverty in a sustainable manner. This is the essence of development cooperation. The ideas enshrined in the Millennium Development Goals adopted by the United Nations, which set out what the international community wants to achieve by 2015, are one of the bases of Dutch development policy.

<http://www.minbuza.nl/>

Norwegian Agency for Development Cooperation (NORAD)

The main goal of Norwegian development cooperation is to contribute towards lasting improvements in the economic, social and political conditions under which people live in developing countries, with special emphasis on assistance that benefits the poorest sector of the community.

http://www.norad.no/default.asp?V_DOC_ID=244

Swedish International Development Cooperation Agency (SIDA)

SIDA, the Swedish International Development Cooperation Agency, is a government agency that reports to the Ministry for Foreign Affairs. The goal of SIDA's work is to improve the standard of living of poor people and, in the long term, to eradicate poverty. Sida is also responsible for cooperation with countries in Central and Eastern Europe.

<http://www.sida.se/Sida/jsp/polopoly.jsp?d=107>

Swiss Agency for Development Cooperation (SDA)

The SDA's Water Strategy 2004 supports and promotes a global vision on the issue of the water cycle based on IWRM recognizing that the relationships between water and health, hygiene, nutrition and productivity and integrated approach in the way we deal with water is a must.

<http://www.sdc.admin.ch/mainportal>

United Nations Development Programme (UNDP)

UNDP focuses on promoting effective water governance and directs its water strategy by a commitment to assist countries to meet the Millennium Development Goals, with an emphasis on poverty reduction and reduced child mortality. Along with the Dutch government, UNDP also supports CapNet, which is a GWP Associated Program that coordinates and supports capacity building for IWRM, transboundary

waters, and gender mainstreaming in water resources management.

<http://www.undp.org/>

United Nations Environment Programme (UNEP)

UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

<http://www.unep.org/>

United Nations Human Settlements Programme (UN-HABITAT)

The United Nations Human Settlements Programme, UN-HABITAT, is the United Nations agency for human settlements. It is mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all.

<http://www.unhabitat.org/>

World Bank

The World Bank Group's mission is to fight poverty and improve the living standards of people in the developing world. It is a development bank that provides loans, policy advice, technical assistance and knowledge sharing services to low and middle income countries to reduce poverty.

<http://www.worldbank.org/>

OTHER POTENTIAL RESOURCES

The Development Gateway

The Development Gateway Foundation builds partnerships and information systems that provide access to knowledge for development. They have an extensive section on water, including resources specifically on integrated water resources management.

<http://www.developmentgateway.org/node/130676/>

The International Water Academy - Norway

The academy's vision is to foster the existence of a community of experts with the purpose of aiding in management and use of water for the benefit of all humankind. The Academy hosted the "Water for the Poorest" international conference in Nov. 2003 to facilitate dialogue, learning and a commitment to action in the area of sustainable water supply and sanitation.

<http://www.thewateracademy.org/>

Case Studies on the Preparation of IWRM Plans

(To be included in version 2 – submissions welcome)

Recommended Reading

(To be included in version 2 – submissions welcome)



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