



# People-Centred Integrated Water Resources Management (IWRM)

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*Despite the guiding principles upon which it is based, in reality people are rarely at the centre of Integrated Water Resources Management (IWRM). Or put another way, IWRM programmes are, in many respects, just business as usual. This factsheet considers some of the different approaches to promoting stakeholder participation in IWRM, and especially entry-points and strategies for more bottom-up implementation of the concept. These alternative approaches include building IWRM principles into projects and programmes rather than focusing solely on the catchment level, using local laws and institutions as a basis for water management, linking to the domestic water sector's mission to supply water to all and responding to peoples' real demands for water. Links are provided in this factsheet to a variety of sources on innovative approaches to making IWRM more people-centred, practical and manageable to implement.*

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## Box 1. Definition of IWRM

The Global Water Partnership defines Integrated Water Resources Management (IWRM) as “a process which promotes the co-ordinated development and 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 eco-systems”.

## Introduction: what is IWRM?

Integrated Water Resources Management (IWRM) is about integrated or 'joined-up' water management (Box 1: see Moriarty et al., 2004 for more introduction). Based upon a widely agreed set of principles (see Box 2), it promotes better management across sub-sectors (including agriculture, industry, domestic water supply and environment). Figure 1 shows a broad estimate of the relative water use between the main sub-sectors.

## Box 2. Guiding principles from the Dublin Statement

Principle No.1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

Principle No.2: Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.

*The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.*

Principle No.3: Women play a central part in the provision, management and safeguarding of water.

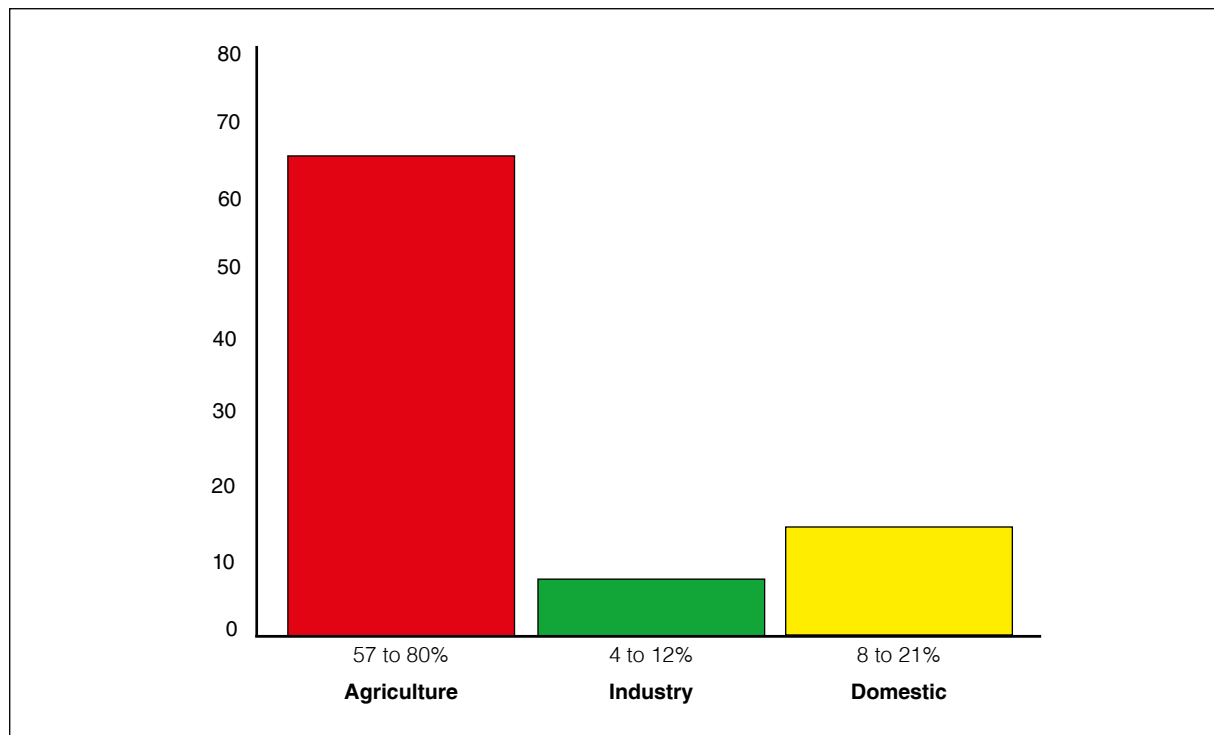
Principle No.4: Water has an economic value in all its competing uses and should be recognized as an economic good.

Based on: The Dublin Statement on water and sustainable development, 1992.

[www.wmo.ch/web/homs/documents/english/icwedece.html](http://www.wmo.ch/web/homs/documents/english/icwedece.html)

The 'integrated' and 'management' parts of IWRM warrant some further introduction. 'Integrated' management aims to minimise the negative impacts that might be created by the actions of one particular sub-sector, stakeholder or time, on others. It seeks to avoid inefficiencies and conflicts that are a feature of less-integrated approaches. IWRM thus implies a move away from traditional sub-sector foci that address domestic water supply, wastewater, irrigation, industry and the environment separately (often within different agencies or government departments) to a more holistic approach. This does not mean that all actions have to be fully integrated and handled by a super-agency that replaces the many actors in water, rather it is about finding ways to coordinate and address coordination problems.

Management is sometimes very narrowly interpreted, but here we take it to have a broad meaning to cover all aspects of intervention in the water cycle including planning, systems of water rights and allocation of water resources, development of infrastructure and monitoring.



**Figure 1.** Range of water use by sectors in Africa, Asia and Latin America

Source: *Comprehensive Assessment of the Freshwater Resources of the World*, Stockholm Environment Institute, 1997

## IWRM for whom?

IWRM emerged in the 1990s as a response to the ‘water crisis’: a widespread and well-articulated concern that the planet’s freshwater resources are under increasingly unsustainable pressure from rising populations, growing demands for water and increasing pollution. Almost all definitions of IWRM stress that it is an approach to improve efficiency in water use (has an economic rationale), promotes equity in access to water (has a social or developmental rationale) and to achieve sustainability (has an environmental rationale). With all these different objectives, it can be a challenging and sometimes unwieldy concept.

So, where do people fit into IWRM? Underpinning values in IWRM stress the promotion of participation in decision-making, equity in the sharing of benefits between users and decentralisation of water management to the lowest appropriate level (Box 2). Yet, in practice, IWRM is often translated into the establishment of relatively centralised catchment or river basin agencies. These agencies often cover areas of tens of thousands of square kilometres with tens, or hundreds, of thousands of inhabitants. How in practice can people participate, and will it make any difference?

This factsheet identifies some possible mechanisms, with a focus on strategies to craft more grassroots IWRM strategies to address the needs of the poorest and most marginalized.

## Promoting participation in catchment level agencies

Peoples’ views can, of course, be taken into account in the running of catchment level agencies. This may be through direct involvement and consultation, for example in the development of catchment plans. The EC Water Framework Directive for example, requires active involvement of all interested parties in catchment planning and tools have been developed to facilitate such

processes (Harmonicop, 2005). Multi-stakeholder platforms have been a popular way to encourage related dialogues (Warner, 2006).

Alternatively, or in combination, participation may be by representation of different types. People may be represented in catchment agencies by their democratically elected bodies, such as local government, who may be allocated a seat in the decision-making organs of the agency (for example, in South Africa). Or catchment agencies may set up their own structures for water management to represent different types and groups of stakeholders, including platforms at different levels (catchments, sub-catchments etc). In some countries there is a mix of these types of representation, and frequently, contestation over roles, for example local governments taking over or sidelining catchment agencies.

## The problems

There has, until recently, been a pre-occupation with the river basin or large catchment as being the most sensible unit for IWRM. While certainly some functions are best handled at this scale, the second Dublin principle speaks of acting at the lowest appropriate level, and much water management has to happen at far more local levels (Blomquist et al., 2005). Administrative units also prove to be better scales for much decision-making and implementation.

A further major criticism of much IWRM activity is that it ignores politics (Gyawali et al., 2006; Wester et al., 2003) which is one of the main mechanisms in society for organising participation. The water crisis is arguably more a function of unfair distribution than an absolute shortage of resources, and politics is the main process that determines how water (among other) resources are shared between potential uses. Real participation, as opposed to token participation, is always political because it implies a real sharing of power in decision-making.

Many attempts to encourage participation in IWRM score poorly when assessed on a ladder of participation (Bruns, 2003). Rather than power-sharing and more empowering forms of participation, most are limited to activities about informing or consulting people. The quality of participation in IWRM efforts is, amongst other things, like a real commitment to shared decision-making, limited by the human and financial resources available to catchment management agencies. Such agencies in many developing countries often lack the capacity to fulfil even basic functions. Developing comprehensive approaches to participation will take considerable time under these constraints.

At the local level, catchment agencies in many developing countries may be expected, at least in the short- and medium term, to struggle to establish legitimacy and be effective given their limited capacities. Fully-operational and resourced catchment management agencies will require decades of development. While this goes ahead, how else can IWRM objectives be promoted?

## Alternative strategies to build a grassroots IWRM

A number of different entry points or strategies are suggested here to craft a more grassroots IWRM that is based upon local activities and actions. Alongside other approaches, including a more political approach, these offer practical ways forward in implementing IWRM.

### Building IWRM principles into projects and programmes

“The main management challenge is not a vision of integrated water resources management but a “pragmatic but principled” approach that respects principles of efficiency, equity and sustainability” (World Bank, 2003).

While basin-level IWRM by representative bodies in which all stakeholders are fully and fairly represented is a good target, or endpoint, a strength of the IWRM paradigm is that real and significant improvements in water management can be made at all levels – from the household to the international basin – by individuals and institutions applying the Dublin principles in the context of their own abilities and opportunities (Moriarty et al., 2004).

Moriarty et al. 2000 call this 'light' IWRM, and it is a local approach similar to others called community water resources management or local water management. 'Light' approaches aim to apply IWRM principles at all stages of the project cycle (e.g. visioning, assessment, planning, implementation, monitoring and evaluating etc). The idea is that if sub-sector actors apply good IWRM practice at their own level, in their own work, this can lead to the emergence of better local level water resource management, and be an important first step in the process of IWRM.

An example of using guidelines based on the Dublin principles to implement 'light' IWRM at project or sub-sector scales are the working principles for IWRM in WATSAN (see Box 3) from field research involving eight WATSAN and three IWRM projects in seven countries. The principles were used as part of a process of self assessment and improvement of IWRM practice.

### **Box 3. Working principles for WATSAN and IWRM**

1. Catchment management and source protection are essential to ensuring sustainability of supply.
2. Water use efficiency and demand management must be addressed to minimise the need for new source development.
3. Multiple uses of water should be acknowledged and encouraged.
4. All stakeholders should be involved in decision making, but particular emphasis should be put on the active participation of users.
5. Gender and equity issues must be addressed throughout the project cycle.
6. Water provision should be priced so as to discourage wasteful use, while ensuring the right to access of a necessary minimum for all.

*Source: Visscher et al., 1999*

Other examples of such an approach include the EC Guidelines for Water Resources Development Cooperation (1998) and the Bellagio Principles for Environmental Sanitation (SANDEC/WSSCC, 2000) where many elements for applying IWRM to sanitation are defined.

### **Using local institutional arrangements**

Across much of Africa and the Andes, for example, decision-making on day-to-day water development and management issues is in the hands of local communities. Over centuries, local individuals and communities have developed small irrigation systems, springs and wells for domestic water supply and small dams for livestock with limited external assistance. These water systems are mainly governed by customary water management arrangements that have also been developed locally. These systems or rules are specific to local environments and while always changing, have stood the test of time in many places.

However, many current investments and efforts do not really build upon these existing arrangements. There are opportunities not just to build upon the existing infrastructure, but even

more importantly, upon the existing indigenous institutions that already have the experience, knowledge and systems needed to manage water effectively at the local level (Box 4).

#### **Box 4. Collaboration between the formal and informal institutions**

Given its limited capacity in terms of its human and financial resources, the Rufiji Basin Water Office in Tanzania has been forced to depend on the collaboration between a number of existing and new institutions in the regulation and distribution of river water flows during the dry season; the collection of water user fees; the construction of new infrastructure and, most importantly, the mediation and resolution of water conflicts.

To realise potential advantages associated with the alignment of formal and informal institutions, grassroots water users have been mobilized to discuss and agree on the amount of water to be allocated to various uses and users, and are authorised to oversee and regulate the allocation. Similarly, village leaders, both formal and informal, have been monitoring water availability and quality through gauge reading and through development and implementation of by-laws for pollution prevention.

*Source: Sokile, Mwaruvanda and van Koppen, 2005*

#### **Utilising the universal coverage objectives of the domestic sector**

Forging better links between the water, sanitation and hygiene (WASH) sub-sector and IWRM is another way to strengthen grassroots participation in IWRM. Since all people are domestic water consumers, building upon WASH service delivery is an obvious way to strengthen participation by providing people with a reason and motivation to become involved in IWRM.

A good example is the Save the Sand project in Limpopo Province, South Africa, where development of community water supplies has been integrated with programmes focusing on catchment scale water resources and environmental improvement. As part of this, local government (the responsible agent for WATSAN services) has been actively involved in establishing a catchment level management forum.

WATSAN activities can often be an appropriate entry point for area-based management initiatives, such as Integrated Catchment Management (ICM) and watershed development projects, as it responds to what is often peoples' most pressing water-related need, and provides immediate benefits, but more importantly gives people a stake in water resource management related issues. In this case, integration of WASH can be a means to an end, a way to address other pressing development or environmental issues.

#### **Responding to peoples' real demands for water**

Responding to wider 'domestic' needs of many consumers, such as for small-scale productive uses of water, is another way to implement IWRM (IWMI, IRC, GWP, 2006; Moriarty et al., 2004b).

Poor rural and peri-urban families often use water for a range of domestic and productive purposes: drinking and other household water uses, gardening, keeping livestock and small enterprises. However, water services providers tend to work in 'sectors' providing 'domestic' water supply systems, 'irrigation schemes' or 'livestock ponds' that only meet a part of people's water needs. These services fail to support poor men and women's livelihoods and are often unsustainable. It is possible to design multiple use water services that meet people's needs,

contribute to more sustainable systems and provide an unreached group of people with water to support their livelihoods (Box 5).

### Box 5. Domestic systems also provide water for productive uses

Around the city of Cochabamba in Bolivia, there are an estimated 800 locally-managed water supply systems serving communities living in the peri-urban areas. One such system in Challacaba is fairly typical, with a deep borehole linked to a piped network serving the 435 inhabitants. Like many other community-managed systems it offers a comparably high quality, dependable service at very low costs. Unlike other systems, it specifically aims to supply water for productive (mainly small numbers of dairy animals) as well as domestic users. There is an apparently self-reinforcing, virtuous-loop between a good low cost water service, productive uses to derive maximum benefits from the water service, improved willingness to pay for the water supply and an ability to continually invest to maintain and improve the system.

Source: Heredia, 2006

## Conclusion

This factsheet offers some examples of how IWRM may be made more people-centred than the prevailing approaches. IWRM and participation may well pull in different directions. In particular, people-centred IWRM will sometimes be at odds with a more environmental approach because people who participate in implementing IWRM will not necessarily make sustainable decisions. The factsheet aims to contribute to striking a good balance between equity and environmental integrity in implementation of IWRM.

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## Websites

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2. Eldis Participation Resource Guide [www.eldis.org/participation/index.htm](http://www.eldis.org/participation/index.htm)
3. Global Water Partnership [www.gwpforum.org](http://www.gwpforum.org)
4. Legal Pluralism & Integrated Water Resources Management: including cases and outcomes of a workshop on African Water Laws [www.nri.org/waterlaw](http://www.nri.org/waterlaw)
5. Productive uses of water at the household level (PRODWAT) thematic group [www.prodwat.watsan.net](http://www.prodwat.watsan.net)
6. Save the Sand project, South Africa [www.award.org.za](http://www.award.org.za)
7. Water Household and Rural Livelihoods Project [www.nri.org/whirl](http://www.nri.org/whirl)



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