

EU Water Framework Directive vs. Integrated Water Resources Management: The Seven Mismatches

MUHAMMAD MIZANUR RAHAMAN, OLLI VARIS &
TOMMI KAJANDER

Water Resources Laboratory, Helsinki University of Technology, Finland

ABSTRACT The aim of this paper is to analyze how the EU Water Framework Directive complies with the international principles concerning Integrated Water Resources Management (IWRM) agreed in major conferences. The outcomes of the International Conference on Water and Environment (Dublin, 1992), the Second World Water Forum (The Hague, 2000), the International Conference on Freshwater (Bonn, 2001), and the World Summit on Sustainable Development (WSSD) (Johannesburg, 2002) were compared with the EU Water Framework Directive. Seven notable mismatches were found, even though several EU countries have played a leading role in those conferences. The question arises whether the outcome of these conferences is not efficient enough to influence EU policies—do the conferences just produce collections of idealistic buzzwords or is there a requirement for different principles regarding IWRM for developing countries and developed countries?

Introduction

There is a growing recognition throughout the world of the urgent need for Integrated Water Resources Management for the effective and efficient management of water resources. According to the Technical Advisory Committee of Global Water Partnership (GWP, 2000, 2003) “IWRM is 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 ecosystem”.

Different international organizations are trying to promote IWRM all over the world. In recent years a number of conferences have been held to give specific guidelines for promoting IWRM. The most influential attempts in these regards have been the Dublin Conference (January 1992), the Second World Water Forum & Ministerial Conference held in The Hague (March 2000), the International Conference on Freshwater, Bonn (December 2001), and the World Summit on Sustainable Development, Johannesburg (2002). In all the conferences representatives of different international organizations, government delegates from all

Correspondence Address: Olli Varis, Water Resources Laboratory, Helsinki University of Technology, PO Box 5200, FIN-02015 HUT, Finland. Email: olli.varis@hut.fi

over the world, non-governmental organizations (NGO) representatives and different donor agencies have shared their views on new approaches for the assessment, development and management of freshwater resources. All four international conferences have highlighted the participatory approach, women's role in decision making, have considered water as an economic good and promoted decentralization.

This paper takes one of the most influential, contemporary water policy tools into consideration, namely the European Union Water Framework Directive (EU WFD). The aim is to analyze how the EU WFD complies with the international principles concerning Integrated Water Resources Management agreed in major conferences and the WSSD and focus on the mismatches between them. Whereas these principles have been strongly influenced by governments of several EU countries and they are meant to be principally applicable throughout Europe—and in practice worldwide—why are the principles of EU WFD in discord with the principles of different internationally agreed principles of water resources management?

International Events Focusing on IWRM

Several major international events have been held in the past decade focusing on IWRM. Here, the outcomes of the four most influential ones are summarized.

Dublin 1992: International Conference on Water and Environment

In January 1992, the International Conference on Water and Environment Issues for the 21st century was held in Dublin, Ireland. It served as the preparatory event for the Rio Conference with respect to water issues. The conference report set out recommendations for action at local, national and international levels, based on four guiding principles. Current thinking on the crucial issues in water resources is heavily influenced by the Dublin Principles (ICWE, 1992), which are:

1. Fresh water is a finite, vulnerable and essential resource, which should be managed in an integrated manner.
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 role in the provision, management and safeguarding of water.
4. Water has an economic value and should be recognized as an economic good, taking into account affordability and equity criteria.

The Hague 2000: Second World Water Forum & Ministerial Conference

The Second World Water Forum was held from 17–22 March 2000 in The Hague, the Netherlands. In almost 100 sessions, more than 5700 participants from all over the world discussed the urgency of the water crisis and debated on the steps required to ensure the sufficiency of clean water for all of us in the future. Privatization of water, or more precisely, the issue of public-private partnerships, received a great deal of attention during the forum. 'Water is a basic human right'

was another hot topic. The key issues raised in the Second World Water Forum (WWC, 2000) are:

1. *Privatization*: To achieve water security, water must be everybody's business, but on the other hand the government monopoly in water management should not be replaced by a private monopoly.
2. *Charging the full cost for water services*: Users should be charged the full cost of the services, with appropriate subsidies made available to the poor.
3. *Right to access*: Water is not only considered essential for human health, it is also desperately needed by millions of poor women and men in rural areas for productive reasons: to grow food for the family or generate income. Almost 90% of water resources are used for agriculture. Right of land and use of water are key determinates for people's potential to break down the poverty trap.
4. *Participation*: Water can empower people, and women in particular, through a participatory process of water management. Participation implies sharing of power, democratic participation of citizens in elaborating or implementing water policies and projects, and in managing water resources.

Bonn 2001: International Conference on Freshwater

In December 2001, the International Conference on Freshwater took place in Bonn, focusing on water as a key to sustainable development. The Bonn Conference was the major preparatory event in the field of water management towards the Johannesburg Summit in 2002. The conference brought together government delegates from 118 countries, including 46 ministers, representatives from 47 international organizations and delegates of 73 organizations from major groups and the civil society.

The conference reviewed the role of water in sustainable development, took stock of progress in the implementation of Agenda 21 and identified how its implementation can be improved. Agenda 21 is the result of many previous efforts and conferences that have defined the challenges, development principles and policies related to water and sustainable development. There is often a gap between making such policies and putting them into practice. The conference therefore focused on practical ideas. The Bonn Keys are listed below (ICFW, 2001a):

1. The first key is to meet the water security needs of the poor.
2. Decentralization is key. The local level is where national policy meets community needs.
3. The key to better water outreach is new partnerships.
4. The key to long-term harmony between nature and its neighbours is co-operative arrangements at the water basin level, including across waters that touch many shores. IWRM is therefore needed to bring all water users together to share information and make decisions.
5. The essential keys are stronger, better performing governance arrangements.

Johannesburg 2002: The World Summit on Sustainable Development (WSSD)

In August and September 2002, the World Summit on Sustainable Development

was held in Johannesburg, South Africa. This Summit brought together tens of thousands of participants, including heads of states and governments, national delegates and leaders from non-governmental organizations (NGOs), businesses and other major groups. The aim was to focus the world's attention and direct action toward meeting difficult challenges, including improving people's lives and conserving natural resources in a world that is growing in population, with ever-increasing demands for food, water, shelter, sanitation, energy, health services and economic security.

By strongly reaffirming commitment to Rio Principles and commitment to the full implementation of Agenda 21, the WSSD had a strong focus on IWRM. The main points of the WSSD Plan of Implementation relating to IWRM are listed below (WSSD, 2002):

1. Developing IWRM and water efficiency plans by 2005 for all major river basins of the world.
2. Developing and implementing national/regional strategies, plans and programmes with regard to IWRM.
3. Improving the efficiency of water usage.
4. Facilitating the establishment of public-private partnership.
5. Developing gender sensitive policies and programmes.
6. Involving all concerned stakeholders in all kinds of decision making, management and implementation processes.

EU Water Framework Directive: An Overview

The increasing demand by citizens and environmental organizations for cleaner rivers and lakes, groundwater and coastal areas is evident. This demand by citizens is one of the main reasons why the EU Commission has made water protection one of the priorities of its work. To ensure that polluted water is properly treated and clean water is kept clean, the roles of citizens and citizens' groups are crucial. For this reason the new EU Water Framework Directive attempts to get citizens more involved.

European Water Legislation was initiated in 1975, in a 'first wave', with standards for rivers and lakes used for drinking water abstraction, and culminated in 1980 in setting binding quality targets for drinking water. The Community Water Policy Ministerial Seminar in Frankfurt in 1988 reviewed the existing legislation, identified the gaps and proposed a number of improvements. The outcome of the Frankfurt Ministerial Seminar was the adoption of The Urban Waste Water Directive (1991) and The Nitrates Directive (1991). In its resolution of 25 February 1992 the Council of the EU requested an action programme for groundwater and a revision of Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances as part of the overall policy on freshwater protection. On 10 November 1995, the EU Environmental Agency presented an updated state of the environment report 'Environment in the European Union 1995', confirming the need for action to protect community waters in qualitative as well as in quantitative terms. On 18 December 1995, the Council adopted conclusions requiring the drawing up of a new Water Framework Directive establishing the basic principles of sustainable water policy in the European Union.

The EU Council on 25 June 1996, the Committee of the Regions on 19 September 1996, the Economic and Social Committee on 26 September 1996 and the European Parliament on 23 October 1996, requested the Commission to come forward with a proposal for a Water Framework Directive. The European Parliament's Environment Committee and the Council of Environmental Ministers requested the Commission: "Whilst EU actions such as the Drinking Water Directive and the Urban Waste Water Directive can duly be considered milestones, European Water Policy had to address problems in a coherent way. This is why the new European Water Policy was developed in an open consultation process involving all interested parties" (EC, 2000).

All parties agreed on the need for a single piece of framework legislation to resolve these problems. In response to this, the Commission presented a proposal for a Water Framework Directive with the following key aims (EC, 2000):

- Expanding the scope of water protection to all waters, surface waters and groundwater.
- Achieving 'good status' for all waters by a set deadline.
- Water management based on river basins.
- 'Combined approach' of emission limit values and quality standards.
- Getting the right prices of water.
- Getting citizens more closely involved.
- Streamlining legislation.

On 23 October 2000, the "Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy" or in short, The EU Water Framework Directive (EU WFD), was finally adopted. The Directive was published in the official journal of European Communities (OJ L 327) on 2 December 2000 and came into force on the same day.

The Seven Mismatches

Even though it was carefully designed to improve and harmonize water resources management in the EU member countries, the EU Water Framework Directive has some clear mismatches compared with the guidelines that are the focus of the Dublin Principles, Bonn Keys, the statements of the Second World Water Forum and in the WSSD Plan of Implementation, to make an effective water policy for IWRM. In this section seven mismatches are revealed and discussed.

Gender Awareness

Women play a pivotal role as providers and users of water and guardians of the living environment. For millions of women around the world, fetching and carrying water is part of their daily work routine. Men rarely take part in the collection of water—it is generally seen exclusively as women's work. Lack of water is a determinant of poverty and contributes to the feminization of poverty. Women are responsible not only for themselves, but also for the members of their families and the community at large. As women are carriers of water, main users, family health educators, motivators and agents of change, for better and efficient water resources management the role of women must be reflected in the institutional arrangement of water resources. Women rights entitle them to an

equitable share in the management of water for all uses including domestic, farming and entrepreneurial and to protection of the environment.

A gender sensitive approach is one crucial part of managing water in a sustainable manner. IWRM calls for women's specific needs to be addressed and to equip and empower women to participate at all levels in water resources programmes, including decision making and implementation, in ways defined by them. The Dublin Principle 3 states that women play a central role in the provision, management and safeguarding of water. In the Second World Water Forum the Ministerial Conference was urged to emphasize the need for fair and balanced male and female roles and responsibilities at all ages and in all settings—in water policies, institutions and in the design, planning, implementation, monitoring and evaluation of schemes. The Bonn Recommendation for Action also stresses the promotion of gender equity in water resource management. Men and women should be equally involved in managing the sustainable use of water resources and sharing of benefits.

The Report of the Gender Plenary Session in the Bonn Conference recommended that planners must systematically include a gender perspective in the development of all national and regional water resources policies and programmes. They should reflect the division of roles and labour, paid and unpaid, between men and women in all settings related to water. Data relating to water should be disaggregated by gender (ICFW, 2001b). The WSSD Plan of Implementation urges the enhancement of the role of women at all levels and in all aspects of rural development, sustainable agriculture, and nutrition and food security. It also gives priority to the need to develop and implement gender sensitive policies and programmes to eliminate social inequities.

The EU WFD does not focus on gender awareness and the involvement of women in water management, decision making and the implementation of water related projects. It is not gender sensitive.

Integration between Different Sectors

All life depends on water. The same water can serve many different purposes, in different places. It is even possible for the same water to fulfil different purposes at the same time or sequentially, if proper planning takes place. As water is essential to our health, our spiritual needs, our comfort, our livelihood and our ecosystem, IWRM calls for integration between different sectors. An integrated approach to water and water management takes into account the needs of all sectors. The key to future action on water and sustainable development is to integrate programmes and policies on conservation. The WSSD focused on the necessity of managing natural resources in a sustainable and integrated manner for achieving sustainable development. It urged for the implementation of strategies at national and regional levels to achieve integrated management of land, water, living resources and protecting ecosystem.

EU WFD mainly focuses on water status and environment and water needed as drinking water (EC, 2000). The Directive does not focus on the need for an integrated approach between different water related sectors. There is no guideline to relate population growth, increasing demand for water (for food, hydropower, transportation, fisheries, energy etc.), promotion of water efficient technologies in industry, and water saving irrigation techniques. All in all, the important role that water plays in economic development is not properly understood in the Directive.

Decentralization

Privatization and public–private participation are among the most important issues that are the focus of different international conferences related to freshwater management. Bonn Keys stated, “Decentralization is key. The local level is where national policy meets community needs”. The Bonn Recommendation for Action also calls for making water attractive for private investment. In view of the high capital demand for water infrastructure investment, it is necessary to augment public funding by mobilizing private funding for water utilities, wastewater treatment, irrigation and other water-related programmes (ICFW, 2001c).

The Bonn Recommendation for Action focuses on public–private partnerships, noting that privately managed service delivery does not imply private ownership of water resources. It also argues for the use of self-help potential in local communities to reduce the financial requirement of rural and urban projects for poverty alleviation by supporting NGOs and others to develop micro-finance capabilities. In the Second World Water Forum privatization and public-private partnership were widely propagated. The Second World Water Forum also called for making water everybody’s business to achieve water security. The WSSD focused on public–private partnership and also urged that such a partnership must consider the needs of the poor, involve all concerned stakeholders and transparent monitoring and accountability criteria.

Decentralization is neglected in the EU WFD. The Directive does not set out clear guidelines to promote decentralization, private investment and support to develop micro-finance capabilities.

Participation of Stakeholders

Stakeholder participation is one of the most important issues in IWRM. Water can empower people, and particularly in the process of water management. The political Law of Hydraulics states, “Water flows upwards towards power” (GWP, 2000). The Dublin Principle 2 calls for the development and management of water through a participatory approach, involving users, planners and policy makers at all levels. IWRM requires decisions at the lowest appropriate level, with full consultation and involvement of the users in the planning and implementation of projects. The Bonn Recommendation for Action states that participation of all stakeholders who use or protect water resources and their ecosystem is required and special attention is needed to improve the participation of those people, particularly the poor, who are often excluded from decision making. Ministerial declarations of the Second World Water Forum urged that water should be governed wisely, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources. Users should not only have a right to access of water services but also participate actively in water resource management. In order to achieve efficient, equitable and sustainable water management within the IWRM approach, the principle of subsidiary, which drives down action to the lowest appropriate level, will need to be observed (SWWF, 2000). The WSSD called for facilitating the establishment of public-private partnership and other forms of partnership by involving all concerned stakeholders. It also focused on the need for facilitating access to public participation and participation, including women, in all kinds of policy and

decision making and implementation processes related to water resources management.

The EU WFD sets out clear guidelines for stakeholder participation in the production, review and updating of the river basin management plans, but it lacks a focus on any clear guidelines to include water users and other interested parties in the management of water resources.

Focus on Poverty

Lack of access to adequate water for household use and food production and lack of a clean environment are among basic determinants of poverty. Poor water management hurts the poor most. The Dublin Principles aim at wise water management with a focus on poverty. The Bonn Conference focused on water as a key to sustainable development. The Bonn Recommendation for Action urges that policies for all aspects of water should be clearly linked to policies for poverty reduction and economic growth. The WSSD urged employment of the full range of policy instruments giving priority to the needs of poor, to the satisfaction of basic human needs and to eradicate poverty.

Governments should review the priority given to water, sanitation and productive water infrastructure in national and international programmes to tackle poverty. Plans should be realistic and targeted to the needs of the poor and should include targets and indicators of progress at all levels. In the Second World Water Forum poverty eradication through water use was one of the key issues discussed. It urged that efforts to eradicate poverty have to attach an altogether higher level of importance to water and sanitation-related investment if strategies to eradicate poverty are to be successful. It also mentioned that rights to land and use of water are key determinates for people's potential to break down the poverty trap. The WSSD also highlighted the need to mobilize international and domestic financial resources for water and sanitation infrastructure and service developments to meet the needs of the poor.

IWRM calls for 'A blue revolution' to ensure more jobs and more crops per drop of water (GWP, 2000). Agriculture is the world's largest user of water. Water is the essential requirement for all forms of food production. Almost 90% of water resources are used for agriculture. To eradicate poverty, water policies must focus on the agricultural sector.

The EU WFD does not mention any clear link to policies of poverty reduction. Poverty alleviation also goes hand in hand with gender integration. There is no specific guideline in the EU WFD to integrate the agricultural sector in water policies.

Human-oriented Management

The water resources crisis is not caused by modern technologies; it is the result of poor management. Technology-oriented management should be balanced with human-oriented management (Shen & Varis, 2000). The Dublin Principles focus on a holistic approach for effective water management, linking social and economic development with the protection of natural ecosystems.

The EU WFD promotes technology-oriented management. Technological innovations are important for water resources development. However, better, efficient and effective water resources management should not rely only on

technology. There should be a retrospective look at the successful water resources management stories in history and lessons should be learned from them.

Develop Responsibilities at Lowest Appropriate Level

For an effective IWRM it is necessary to develop responsibilities at the lowest appropriate level. The Bonn Recommendation for Action urges that decision making; the implementation of projects and the operation of services should be decentralized to the lowest level. Local government, community-based organizations and private service providers should be responsible for the management and operation of water services (ICFW, 2001c).

The EU WFD provides an appropriate institutional role by anchoring co-ordination at the highest apex level and creating co-ordinating bodies at the river basin level, but it is weak in the allocation of responsibilities for water services to the lowest appropriate level.

Conclusions

The outcomes of three major international conferences regarding IWRM and the Johannesburg World Summit were compared with the EU Water Framework Directive. Some notable mismatches were found between the principles of IWRM and the Directive. In the International Conference on Water and Environment (Dublin, 1992), the Second World Water Forum (Hague, 2000), International Conference on Freshwater (Bonn, 2001) and the World Summit on Sustainable Development (Johannesburg, 2002), several EU countries played a leading role. EU countries also follow the outcome of these conferences when they donate aid for development in developing countries. However, when the principles of IWRM and the EU WFD are compared, several mismatches are found in the EU WFD (Figure 1). They can be grouped under seven issues:

1. Gender awareness is omitted. There is no guideline for the role of women in the provision, management and safeguarding of water.
2. There is no guideline to encourage and regulate the private sector.
3. There is no guideline to ensure co-ordination between different sectors. The important role that water plays in economic development is not properly understood in the Directive.
4. The EU WFD does not set out clear guidelines for the active participation of local people and water users in the management of water.
5. There is no focus on poverty.
6. The EU WFD promotes technology-oriented management for drinking water and sanitation and ensuring good quality of water. However, better management would call for the integration of technology-oriented management with human-oriented management.
7. There is no standard guideline to develop responsibilities at the lowest appropriate level.

Consequently, the question arises whether the outcome of different international events regarding IWRM are not effective and efficient enough to sufficiently influence EU policies for better water management or whether there is a requirement for different principles of IWRM for developing countries and

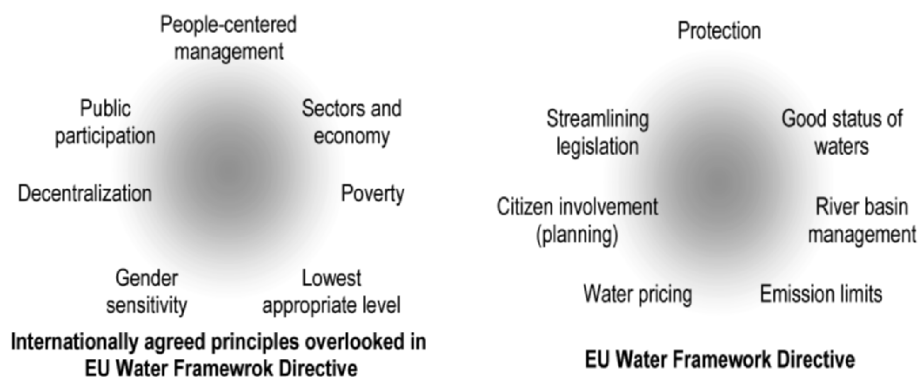


Figure 1. The internationally agreed water management principles and the EU Water Framework Directive focus on different issues. Does the EU require others—mainly developing and transition countries—to follow different principles than it requires from its member countries?

developed countries? Finally, why does the EU adopt different principles in its own water policies from those it promotes in global forums—should it follow the former or the latter when aiding developing countries?

Acknowledgements

This study was funded by the Academy of Finland, within the project 45809. The comments by Marko Keskinen and Pertti Vakkilainen are greatly appreciated.

References

- EC (2000) *Water Quality in EU: Introduction to the new EU Water Framework Directive*. Available at <http://www.europa.eu.int/comm/environment/water/water-framework/overview.html>
- EU (2000) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy, *Official Journal of European Communities*, (L 327), pp. 1–72.
- GWP (2000) *IWRM at a Glance: Technical Advisory Committee* (Stockholm: Global Water Partnership Secretariat).
- GWP (2003) *IWRM Toolbox: A Toolbox to Support IWRM* (Stockholm: Global Water Partnership Secretariat). Available at <http://www.gwpforum.org>
- ICFW (2001a) Conference outcomes: the Bonn Keys. Paper presented at the *International Conference on Freshwater*, Bonn, 3–7 December. Available at <http://www.water-2001.de>
- ICFW (2001b) Conference outcomes: report on gender plenary session. Paper presented at the *International Conference on Freshwater*, Bonn, 3–7 December. Available at <http://www.water-2001.de>
- ICFW (2001c) Conference outcomes: Bonn recommendations for action. Paper presented at the *International Conference on Freshwater*, Bonn, 3–7 December. Available at <http://www.water-2001.de>
- ICWE (1992) Dublin statement. Presented at the *International Conference on Water and Environment*, Dublin, 29–31 December. Available at <http://www.unesco.org/science/waterday2000/dublin.htm>
- Shen, D. & Varis, O. (2000) World water vision: balancing thoughts after The Hague, *Ambio*, 34(8), pp. 523–525.

- SWWF (2000) Ministerial declaration of The Hague on water security in the 21st century. Paper presented at the *Second World Water Forum & Ministerial Conference*, Hague, 17–22 March. Available at <http://www.worldwaterforum.net>
- WSSD (2002) *Report of the World Summit on Sustainable Development*. A/Conf. 199/20. Available at <http://www.johannesburgsummit.org/>
- WWC (2000) *Final Report. Second World Water Forum & Ministerial Conference. Vision to Action* (Marseilles: World Water Council). Available at <http://worldwaterforum.net>

