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## **GLOBALIZATION AND WATER RESOURCES MANAGEMENT: THE CHANGING VALUE OF WATER**

**AUGUST 6-8 AWRA/IWLRI-UNIVERSITY OF DUNDEE INTERNATIONAL SPECIALTY CONFERENCE 2001**

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### ***INTRODUCTION***

#### **GLOBALIZATION AND WATER MANAGEMENT: THE CHANGING VALUE OF WATER**

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### **BACKGROUND**

Over the course of last year (2000), the American Water Resources Association (AWRA) and the International Water Law Research Institute (IWLRI) at the University of Dundee began investigating the possibility of partnering to jointly sponsor an international conference. The University of Dundee had been hosting a very successful annual legal workshop on water resources for several years, and AWRA had a long history of outstanding conferences on cutting edge water resources issues in the United States. An event to build on the strengths of these two organizations was envisioned, and a conference was planned for August 2001 in Dundee.

The theme of the conference was carefully considered in light of mutual interests and current happenings in water resources management worldwide. Representatives of both organizations participated in the World Water Forum in The Hague in March 2000. As many Forum attendees observed, the issues surrounding the nature of water as an economic good, water pricing, and privatization were fairly controversial subjects at The Hague and remained unresolved in the corresponding World Water Vision documents. Conference organizers decided that the interplay between globalization trends and water resources management was ripe for in-depth discussions by water resource professionals and other interested parties.

“Globalization and Water Management: The Changing Value of Water” was scheduled for August 6-8, 2001 in Dundee Scotland. The meeting’s Call for Papers attracted much interest and the Final Program included over 75 papers and 16 poster papers. Presentations covered a broad spectrum of topics: from challenges in transboundary management to the environmental valuation of water ecosystems; from the political economy of water ownership and control to innovative legal frameworks; from the role of civil society in water management to the role of water utilities in a global economy. The Final Program also included a half-day workshop on “The Essentials of Private Sector Participation” and a plenary session on the UNESCO/IHP Hydrology for Environment, Life, and Policy (HELP) Programme. These Proceedings are a collection of abstracts, papers and ancillary materials for this conference (these materials have been published on CD-ROM and will be made available on the AWRA website at [www.awra.org](http://www.awra.org) as well). This preface provides an overview to globalization trends and the challenges it brings to water management.

### **UNDERSTANDING GLOBALIZATION**

Globalization is an abstract concept, and admittedly a slippery one. In many uses, the word globalization has become a catchall term with a wide variety of meanings. It is hard to define exactly what globalization is, while relatively easier to recognize its manifestations. It is a difficult concept because it refers to societal processes, which

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require interpretation and evaluation. At a basic level of understanding, globalization is a complex process that involves political, economic, and socio-cultural changes. Globalization does not refer to a new process, but much has been written about its intensification in the 1990s (Friedman, 2000). This acceleration is due to emerging technologies, particularly information and communication technologies, deepening worldwide acceptance of markets, and increasing free trade activity. Giddens (1990) defines globalization as the intensification of worldwide social relations, which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa. In the water resources sector, we can observe how local water management issues are increasingly tied to events and actors distantly located. We find private utilities headquartered thousands of miles away from municipalities they manage, citizens halfway around the world mobilizing to oppose the construction of dams, multilateral banks promoting full cost recovery for water investments, etc. Water management activities are also influenced by the Internet (Anderson, 1999).

As a broad phenomena, globalization represents a world-wide process in which all spheres of human society dynamically interact in a causal relationship toward a global level of intensity (Chase-Dunn, Kawano, and Nikitin, 1998). These spheres encompass economic, political, social, environmental, ethical, and communicative aspects of human society. The globalization phenomenon includes the inter-related changes in all of these areas, and thus cannot be seen as a singular process. Globalization is more than just intensifying economic interconnectedness as it involves a qualitative shift toward a system predicated upon a consolidated global marketplace, rather than upon autonomous national economies. This consolidation transposes the set of opportunities and risks that individual decision-makers face as they respond to these processes of globalization. Nation-states, international institutions, corporations, and civil society are all affected. Over the course of the 1990's, we have observed significant changes in the set of opportunities and risks facing decision-makers dealing with water resources issues. Many of the papers in these Proceedings deal with sorting out and understanding these changes.

Lubbers (2000) defines globalization "as a process that deepens the extent and form of cross-border transactions among peoples, assets, goods and services and that deepens the economic interdependence between and among globalizing entities, which may be private or public institutions or governments." Issues of globalization are increasingly raised throughout society in reference to the consequences being brought about by these trends and this dialogue must necessarily venture into the dialectical dynamic of globalization. What are the ground rules for these increasing international transactions? Academics, politicians, CEO's and representatives of civil society have all entered into this dialogue. At times, it has been loud and violent as the varying results of globalization processes have triggered a strong backlash. Protests against globalization have mobilized and garnished much media attention. The names of locations of recent international meetings (Seattle, Davos, Washington, DC, Nice, Quebec City, etc.) bring these events to mind, and have caused some international organizations to postpone, or even cancel, meetings in anticipation of these protests. The water sector witnessed protesters at the Hague at last year's World Water Forum meeting, civil protests over dam construction and relocations, and riots breaking out in Bolivia and Spain over water pricing and policy reforms.

Globalization is extending the scope of public policy beyond national borders and public policy is increasingly becoming influenced by global conditions.. The causes of public policy problems can often lie far beyond a state's boundaries, leaving a country to deal only the symptoms of a problem that lie within its decision-making power. In a globalizing world, the types of public policy problems are increasingly complex as more and more policy issues cut across traditional disciplinary boundaries and bureaucratic expertise. Globalization also has the effect of shortening the amount of time that decision-makers have to develop new policies and to make key decisions. Our formal policy-making institutions – national legislatures, international law, government agencies, and multilateral institutions – often lack the speed and scope to obtain and use crucial information needed to formulate effective policy (Reinicke, 2000). These issues in the case of water resources management are clearly discussed in the papers of these Proceedings. This institutional deficiency is especially problematic in light of increasing calls for adaptive management approaches to water management. The public policy environment is undergoing much change in response to globalization.

In this globalizing system, environmental policy issues are intricately bound together with issues of trade policy, human rights, and economic security, For example, the U.S. - Mexico border area has experienced an explosion of growth in response to recent trade agreements and the increased employment opportunities have led to a large influx of people. These rapid changes in manufacturing and agricultural trends are greatly impacting water use as well as wastewater production patterns, and the potential implications of all these trends on water quality remain to be studied. In the current policy arena, water and its management are now also issues of trade and basic human rights. Water professionals without an understanding of these broader issues will find themselves increasingly ineffective in policy dialogues. Much research is needed studying the impacts of globalization on water management outcomes and options, particularly taking into account the differences between mature economies,

newly industrialized economies, and developing economies. Giddens (1999) emphasizes the point that it is important to understand that globalization is a complex set of contradictory forces not a single force pulling in a single direction.

## IMPACTS OF GLOBALIZATION ON WATER RESOURCES

The speed, pattern, and outcomes of globalization have been very uneven among countries, sectors, and firms. In part, this uneven distribution has led to the polarization in society over globalization. It is clear that globalization trends have affected the water sector, and have opened it up to significant competition and external influences.

Globalization processes have generated significant privatization activities around the world, and water privatization activity has increased since 1997. While all areas have seen some water privatization, it has mainly occurred in Latin America and the Asian and Pacific Basin areas (Beecher, 1997). The privatization of previously public assets generates revenue from sales and promotes greater efficiency from revamped operations, while promoting profits for the new owners. As a basic necessity of modern life, many corporations view water as a good investment. In many places, past fiscal mismanagement of the provision of local water services by the public sector has served to promote the attractiveness of privatization. While the water sector has not been subject to the heavy privatization trends affecting the energy, pharmaceutical and telecommunications sectors, the clear trend has been towards decentralization of water supply and sanitation services. This includes these privatization activities and also the overall shifting of responsibilities towards the level of municipalities and pricing reforms. The balance between public and private sector management is changing and under much scrutiny worldwide. As with other sectors, privatization of water services has drawn criticism from those concerned with the accountability of large corporations, the needs of the poor for basic services, and with the integrity of the environment.

Current trends toward free trade also impact water resources. The stated goal of free trade is economic growth and rising standards of living. Deregulation is often implied as well, and environmental problems can be exacerbated when environmental externalities are present. The ability of nation-states to regulate environmental quality may be affected by the power that trade agreements confer upon corporations. The relatively weak level of existing national environmental policies and enforcement activities around the world amplifies this concern. The implications for water resources may be increased risk to both quantity and quality dimensions. The constraint of debt payments on developing governments and its tendency to encourage extractive industries to raise currency is also a concern here. The unregulated taking of natural resources can lead to rapid depletion, as has occurred in extractive industries such as forestry and mining. These activities can greatly affect water quality and groundwater pollution is of particular concern here as well.

Globalization and trade have many important implications for both water quantity and quality issues. The mining of groundwater for both industry and agriculture is a substantial concern in many places. Pollution levels are also a major issue with greater corporate production activities in the globalizing economy. Persistent organic pollutants utilized in the production of plastics, synthetics, pesticides, detergents, pulp and paper, etc. are a primary concern as they pose a serious hazard to water quality. Food security is increasingly a high priority issue in this global world (Brown, 2000). The growth of corporate agriculture implies an extensive use of pesticides and fertilizers and their impact on water quality has been well studied. Production levels of toxic wastes are also a concern to environmental quality, particularly as trade in toxic wastes increases.

To deliver on higher living standards, globalization and free trade engender greater production activities in various locales around the world selected to minimize the costs of production. As the economy is becoming a consolidated marketplace, transportation activities also increase. Under the current regime, both increased production and transportation are resulting in higher energy demands. This greater demand for energy can directly impact the hydrologic cycle, particularly as fossil fuels still dominate energy consumption. While the implications of climate change are uncertain, continued intensification of fossil fuel consumption can potentially disrupt hydrogeological cycles on both local and global scales (Gleick, 1998). Scenarios include changes in rainfall events, the timing and magnitudes of extreme events (floods and droughts), shifts in runoff regimes, and altering groundwater recharge characteristics. Each of these outcomes would have significant water management implications.

## FUTURE WATER MANAGEMENT ISSUES AND CONCERNS

The effects of globalization are significant and many have commented on its powerful integrative momentum (Lubber, 2000). This current momentum shapes the evolution of North-South relations, challenges the adaptive capabilities of the nation-state and other institutions, calls into question our traditional means of governance, demands new democratic processes, enables civil society and NGOs to advocate new norms, etc. Clearly, intensifying globalization has brought many changes to society and everyday life. These changes also have serious implications for the world's water resources and thus pose significant challenges to water resources management. These challenges will only be outlined here as the papers in these Proceedings provide in-depth discussions of these issues.

Better Governance. As globalization proceeds, we clearly need better understandings of what is needed for good governance. Specifically, how do we best govern our water resources? In the past, states have often failed to work together to solve global problems effectively. What forms of governance structures are likely to emerge? States are also challenged to solve their national problems within this globalizing system. What systems of national law are most effective and in what circumstances? The roles and strengths of different governance actors (i.e., nations, civil society, corporations, etc.) remain to be worked out and tested. Clearly, governments, civil society, and private business will each have critical governance responsibilities within a global society. Under what conditions is each effective? How can society hold these actors accountable?

Transboundary Water Management. Transboundary water management will face increasing challenges as globalization continues. Economic development within shared basins increasingly challenges water management and its institutions. Globalization processes bring our traditional views of international law into question. The fact that the U.N. Convention on the Non-Navigable Uses of International Watercourses was 27 years in the making serves as an indication of our past and present efforts and difficulties in formulating international water law, particularly in accordance with hydrology. Where is international water law heading? Many papers in these Proceedings discuss the role of water law in a globalizing world and offer much insight into the potential changes that may be helpful in managing international watercourses.

Global Policy Networks. As mentioned above, globalization trends raise legitimate concerns over governance issues. Yet individuals and groups, not bureaucracies, often drive political innovation and learning. To see where we are heading, we must look at bottom-up processes as well. The advent of global policy networks – loose alliances of government agencies, international organizations, corporations and civil society – coalescing to achieve aims that each organization by itself could not achieve (Reinicke, 2000). Examples include the Global Environment Facility, World Commission on Dams, the Roll Back Malaria initiative, and the WaterWeb Consortium, among others. These innovative networks are able to thrive in a borderless environment and often integrate new technologies in their efforts. These groupings are often able to give civil society a greater voice than more traditional organizations have in the past. These global policy networks have the potential to address the 'democracy deficit' that international decision-making, including environmental decision-making, has been criticized over its lack of public participation, transparency and accountability. How can those with water-related concerns effectively form and utilize global policy networks to solve water management problems? How do we sustain these international collaborations over time?

Property Rights and Valuation. Improving economic conditions within the global economy will improve the abilities of nations to pay for social and environmental improvements. Higher incomes and changing values may also increase the trade in pollution prevention goods and services. These prospects lead many to view globalization as a key in resolving environmental issues. If this scenario materializes however, intensifying globalization and an increasingly cross border world still pose substantial challenges to our abilities to resolve market failures. These challenges require us to reexamine our ideas of property rights and value. The use of such policies as taxes and subsidies requires an adequate understanding of the value of a resource, and research into the environmental valuations of water resources functions and services is important to developing a new understanding. How can we accurately measure the value of water ecosystems? How can we incorporate this knowledge into management decision-making?

Vision. Ultimately we are challenged by globalization processes to articulate a transformative vision of water management. It is significant that the Second World Water Forum focused on these vision issues, and certainly this process is not yet complete. This vision must be supported by sound understandings of environmental science and will need broad support throughout society. Dialogue, commitment and constructive action are needed to articulate our water future and design it into being. How can we best utilize professional conferences and international conventions to advance water resources management? What are the roles for water law, science, economics, political science, sociology, engineering, etc. in our vision? How will we operationalize integrated water resources management and evolving notions of sustainable development? And, importantly, how do we best grapple with globalizing processes and focus their energy towards meeting basic human and environmental water needs?

Discourse and Education. Water professionals need to pay greater attention to the content and process of global water discourse both in and with society and among professionals. The entrenchment of water issues and the persistence of human suffering stemming from unresolved water and sanitation issues are not amenable to short attention spans and media sound bites. Generic talk of water wars and global water crises in the popular media has not been very productive thus far in either generating effective solutions or in generating needed political will. Professionals also have an obligation to raise the level of discourse within water resources professions and with related professions. Business as usual in research and management activities will not be sufficient to address pressing water challenges. Given globalization processes, the idea of water research and water planning being conducted under a social contract (Lubchenko, 1997), with the need for justification within broader contexts and for wide dissemination of scientific knowledge and findings is a significant one. Of course, how we educate water resource professionals will influence both the possibilities of extending this social contract and the overall level of discourse. How do we best educate water professionals? How do we best dialogue with policy-makers and the public?

As our search for new water management paradigms continues, globalization may prove to be one of the most salient factors driving our search. How will we capture our lessons learned and collective knowledge to translate into effective management practices? While we transform our global world, the Earth's water resources remain roughly the same amount as throughout the ages. Any sustainable visions of the world's future must be predicated upon effective water management. Given our recent history of entrenched water management issues, significant challenges - with real consequences - lie ahead.

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