

Globalization and its challenges for water management in the developing world

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Abstract Water management in developing countries is significantly affected by the processes of globalization: primarily the rapidly acting market-oriented changes that aim to improve economic efficiency through competition and trade. The various impacts of market forces enable 3 categories of developing country to be differentiated: those rapidly integrating into the global economy; those that are not attractive to international investment and become increasingly marginalized; and those countries where both tendencies are powerful, leading to internal divisions and instabilities. Broad framework national development plans are needed that are sensitive to the different circumstances in these countries and that enable the possible actors to collaborate optimally. Often the business sector can take a leading role, but its role is severely limited in other countries. In all cases however the long-term commitment of local communities is essential even when it is hard to secure.

Keywords Development; globalization; water management; water policy

Introduction: zeroing-in on “globalization and water management”

Water issues, which used to be basically local or regional questions, have clearly become global concerns. Global interdependence of daily lives through trade, investment, communication, and transportation has a number of water-related issues. It is time for the water profession to concentrate its attention on global aspects of challenges in water management.

Debates on globalization have been continuing for a decade now, and there are a certain number of factors that are being broadly recognized. They should be integrated into the analysis of water issues. One major point which is widely shared is the fact that while there are many issues which need to be addressed in industrialized countries, the challenges of globalization for the developing world are more difficult and more fundamental. Therefore, the focus of this speech is on the developing world.

The challenges of globalization for water management in developing countries are many, including trade, armed conflicts and cultural-civilizational dimensions. However, in order to focus on a single point in this article, development as such has been selected as the major theme. It is hoped that these remarks will contribute to the discussion of “globalization and water”.

One comprehensive development programme: water in development

A *comprehensive development framework* was proposed by Mr. James Wolfensohn, the president of the World Bank, as a critical approach to multiple challenges of development some three years ago. Taking this framework as a starting point, each developing country is expected to elaborate a single comprehensive development programme. The content of these national programmes will be naturally significantly different from each other. For a large number of developing countries, poverty alleviation with economic growth is a key concern, whereas privatization is the central objective for some others. There may be a number of developing countries where conflict management is the top priority, while

strengthening the banking sector may be the major concern in other developing countries. Environment is becoming an important concern in an increasing number of developing countries.

Water is increasingly recognized as one of the major issues to be addressed in each of the developing countries, which are invariably faced with multiple challenges. It is essential for efficient and effective management of water in the developing world *to be integrated into a comprehensive development programme* in each country. While supply and demand have to be considered in a balanced manner, the demand for water has to be looked into first. For this purpose, three sets of approaches need to be taken. One is to measure water use by various human activities such as agriculture, industry, and daily living. The second is to consider interactions with nature, such as conservation, flood and drought. The third is to consider ways to manage water in a comprehensive and integral manner. The supply of water has to be considered in relation to those three approaches. It is essential that both demand for, and supply of, water should be integrated into a comprehensive development programme in each country.

Capacity building of the water sector in each developing country is a major policy objective in the world community at a time when a comprehensive approach to water is still an elusive objective in the OECD countries. In a traditional approach to development cooperation, capacity building has been emphasized in a sector from which industrialized countries have “graduated”. This is due to the availability of experts in industrialized countries for contributions to filling in development requirements. However, at a time of rapid globalization, capacity building in developing countries and strengthening of a comprehensive management approach in industrialized countries have to be pursued in parallel with each other. For the water sector, there is no other choice.

However, it is not proper for water professionals to be directly involved in developing countries in any of the three approaches as above. The important consideration being to enhance *the ownership* of each developing country in policy-making; the role of water experts from industrialized countries is to train their counterparts in the developing country and to strengthen the institutions that manage water.

Another factor that is highly relevant is *decentralization*, which is proceeding in many developing countries. Local authorities are expected to play increasingly important roles in these countries, a factor which provides new challenges in the management of water, in particular, rivers. Capacity building efforts have to be pursued with the challenges of decentralization in developing countries in mind.

Probably the most significant factor is the challenge of *market forces*. How do we maximize the potential of external investment and its associated management capability, and of domestic investment, while minimizing any damage they might cause? There may not be a sweeping answer to this question. It is, however, essential that this factor has to be integrated into a comprehensive development programme of a country where appropriate, and not to be considered in isolation from other policy issues that determine the question of investment climate.

The starting point of the consideration of globalization and its challenges for water management in the developing world, therefore, has to be to recognize the importance of a comprehensive national development programme and to consider a number of policy challenges in this context.

Two processes of globalization

In considering various policy packages of a comprehensive national development programme, the most powerful factor against which the policy exercises need to be pursued is “globalization”. The water profession cannot escape from this reality. While various

aspects of globalization have been examined, the most important, and yet often neglected, factor is the emergence of the global linkages that are responding to the problems caused by market forces. These problems include environmental degradation, poverty and armed conflicts, all of which involve water issues in important ways. The major actors that are attempting to deal with these problems are NGOs, bilateral donors, UN agencies, the World Bank, regional development banks, and an increasing number of governments in the developing world. The major forces that take initiatives among them are the NGOs, which have an impact on bilateral donors, and which in turn also have bearings on multilateral agencies directly or indirectly through membership structures. A new global alliance of these actors has been emerging in dealing with such issues as poverty, environment or conflicts, thus, the birth of an alternative globalization, an alternative to market based globalization which has been subjected to examination by a great number of analyses in recent years.

The reality of globalization is that these two processes are proceeding in parallel with, and often interacting with, each other. One process is a well known phenomenon which is promoted by market forces around the world, a process which I call market-based globalization, whereas the other process, which I have just described as an alternative process, is an emerging process, which I call civil globalization. Focusing on the speed of the impacts of these processes, the market orientation can be described as the fast track globalization, whereas the alternative one can be called the slow track globalization.

Therefore, in considering “globalization and its challenges for water management in the developing world”, it is important to examine how these *two processes of globalization* work. The interactions between these two processes are intensified locally as well as globally. Locally, numerous activities are pursued. Micro-credits are interacting with national and international financial institutions.

Alternative trade activities are having an impact on consumer behaviors in OECD countries. Globally, NGO caucuses have been main features at major UN conferences for the last three decades, in particular since the Rio Summit on environment and development in 1992. In recent years, advocacy activities have been accelerated, a phenomenon which is often called a post-Seattle syndrome. They are advocacies which are characterized by demonstrations outside major international conferences, even including resorting to violence occasionally, rather than as integral parts of them.

These interactions between market-based globalization and civil globalization will evolve rapidly in the coming period. The forms of the interactions will multiply and change. A major focus of the research community world-wide will be on those interactions in the early part of the 21st century, revealing a number of interesting factors and the dynamics of them, which will provide important clues to the formation of a governance structure in the world community.

Three categories of developing countries

However, for the time being, the forces of market-based globalization are much more powerful than civil globalization. Global enterprises, communication firms, and an increasing number of emerging corporations are aspiring for larger shares of the global market. Government enterprises are receding world-wide, whereas the regulatory functions of the governments are being strengthened, regulatory roles which, however, vary widely in various countries. Some of the international institutions are promoting market orientations in the world community. They notably include WTO, IMF and OECD. While the institutional objectives as expressed in the constitutional instruments of these organizations have always been to promote market forces and to improve market operations internationally, their functions to strengthen markets have been enhanced significantly in the last ten

years due to stronger support of the private sector and of the governments of the major industrialized countries.

The reality, however, is that it is practically only the U.S. economy which has been significantly liberalized. All other countries, including practically all other OECD economies, are basically cautious of the brute forces of market-based globalization. This means that there is a large scope for strengthening market-based globalization, and that indeed, its forces will be strengthened further in the coming period.

The predominant feature of globalization being a market orientation, the world community is now basically being structured by market-based globalization. An enormous number of dramas are being played around it which enhances economic efficiency through competition. One major impact on the world community is that adversarial relations among major powers have disappeared. Major European countries, Russia, the United States, China and Japan are not enemies any more for the first time in history. It is not because they have become friendly with each other. It is basically because the competition which is promoted by market-based globalization is so harsh that they cannot afford to make an enemy out of major countries. While many difficult issues are bound to emerge among these powers, the requirement of market-based competition will force them to moderate extreme reactions on those issues. Unilateralism such as the U.S. withdrawal from the Kyoto Protocol and the U.S. missile defense initiative has its limits, and the reactions against it have also their limits. Management of serious international issues, therefore, will be pursued against this background.

The impact of market-based globalization on the developing world is also a determining factor in the formation of the new structure in the world community. It is important to notice that while the impacts of market-based globalization on developing economies are complex, the basic forces at work are relatively simple. They consist of powerful forces that function in diametrically opposite directions: some integrating developing economies into the world economy, and others marginalizing them from it. The integration of developing countries into the world economy is promoted by foreign direct investments, trade, internet communication and air transportation. Marginalization takes two different forms. Active marginalization is caused by brain drain, capital flight or lower prices of commodities. Non-active marginalization results from being abandoned by international investors.

The net impacts of these two forces of market-based globalization are to differentiate developing countries into *three categories*.

Category 1 – integrating forces

The first category of countries is the ones where integrating forces into the world economy are powerfully at work. Foreign direct investments are concentrated heavily in these countries, with attendant increase in international trade. With a sudden reduction of these investments in the period of 1997–1999, there has been the recovery of the secular trend since 1999. This category of countries includes many in East Asia, and some in Latin America and in Central Europe.

These countries are characterized by the swings between rapid economic growth and the collapse of the economies. Sizable foreign direct investments can bring about high growth which attracts short-term capital as well. While an increasing scope of markets in these countries inspires institutional investors to aim for high yields in these economies, they are not necessarily knowledgeable about these markets, feeling uneasy about their investments. They can withdraw their capital at even slight hints of adverse signals economically, financially, socially or politically. Sharing uneasiness, they can easily take a horde behavior, in particular in withdrawal. The collapse of the economies of these countries, or at least severe balance-of-payment problems may be brought about by these hasty actions.

Most of these countries have been urbanized significantly and poverty has been alleviated in various degrees. The private sector is vibrant. At the same time, the swings between high economic growth and the collapse of the economies will continue for the foreseeable future. Those factors provide unique challenges for water management in these countries.

Category 2 – marginalizing influences

The second category of developing countries consists of those where marginalizing forces are powerfully at work. Highly educated human resources for which investment has been urged by industrial countries for decades are moving to OECD countries. Savings which also have been preached by donor countries as the basis for development are siphoned by the global capital markets. These moves of human capitals and domestic savings from developing countries are “rational” reactions in the expanding global market.

At the same time, strong competition among manufacturing firms has reduced significantly the cost that is related to natural resources over the last three decades since the first oil shock of 1972. Reduction in the use of natural resources has been accelerated by intensified competition in the global market, resulting in lower prices of these commodities. A large number of developing countries that are exporters of commodities have been negatively affected by reduction of export volume and of their prices.

Most developing countries are not attractive to international investors at all. Foreign direct investments go largely to some 30 developing countries out of a total of about 140. Those developing countries that have been neglected by the investors are left out from increasing economic efficiency in the world economy, resulting in a widening gap between them and the dynamic world economy.

Many of the African countries are affected by all of these marginalizing forces. Some countries in Asia and in Latin America are also negatively affected by these forces in various degrees.

Another feature of intensified global competition in market places is the increasing risk of investors in securing natural resources, a phenomenon which seems to be contrary to the reduction in use of them. However, both aspects are the two sides of the same coin: competition. Therefore, struggles for the control of such commodities as diamonds, copper and oil have been intensified in particular in the countries that are being marginalized from the world economy, due to easier access of the private firms to the power holders in these countries than in countries where the state structure is firm.

All of these negative forces are powerfully at work in this category of countries. Many of these countries have been involved in armed conflicts domestically and/or regionally. Once a country suffers from intense armed conflicts, it is extremely difficult for it to get back to a developmental path. Out of around seventy countries that have been drawn into these conflicts in the past dozen years, only one (Mozambique) or two (and Cambodia) would be able to pursue developmental courses. The structural weakness, prevailing violence, psychological trauma and an adverse international environment in such areas as trade, investment and debt have made it extremely difficult for them to get back to a developmental path.

There are a number of challenges for water management that are unique in these countries.

Category 3 – simultaneous integrating and marginalizing

The third category of countries are impacted by integrating forces and marginalizing influences at the same time. They include most of the major developing countries such as China, India, Brazil, Egypt, and South Africa, and probably it is possible to include Indonesia in this group, while it had belonged to the first category until the onset of the East Asian economic crisis in July 1997.

From the viewpoint of investors, the modern sectors in the urban areas in these countries are highly attractive. Relatively well developed economic infrastructures, highly educated but inexpensive laborforces, and sizable domestic markets provide strong incentives for investors, if political and social stability is provided by their political leaders. These urban areas constitute another category of economies where foreign direct investments are concentrated. The coastal region of China and Bangalore in India are typical examples. These areas are characterized by rapid economic growth.

However, the rest of the economies in these countries suffer from the same types of forces as marginalization in the second category of countries. Poverty in the rural areas is not alleviated or is even aggravated. The authoritarian state controls migration from rural areas to cities.

The major problem in these countries is the widening gap between the rich and the poor. Social instability is the major political concern of national leaders. Democracy, in this situation, tends to create tension with neighboring countries in order to divert the attention of the people from domestic problems to external concerns. Developmental authoritarianism, however, is liable to suppress social grievances so that a “good” investment climate is not undermined by social instability.

The opportunities and problems in these countries provide a yet different set of challenges for water management.

Four challenges for water management

In view of the differentiation of developing countries into these three categories, there are basically four sets of challenges in water management in the developmental context against the background of globalization.

Category one countries

The major challenge in category one countries where rapid economic growth and the collapse of the economies constitute two sides of the same coin is to combine the dynamism of the private sector with the requirements of stability. The powerful and efficient forces of the private sector in these countries should be important factors for water management. International investors should be strongly interested in investing in water resources also in those countries. However, there is always a risk of the collapse of the economy. Water being life, it is impossible to reflect the economic difficulties directly on the price of water. A measure of stability in provision and price of water is an essential requirement.

A combination of private investments and public authorities should be aimed for in these countries. A number of options are available and there are some experimental activities around the world. With a broad trend of decentralization in most of these countries, cooperation between cities, towns or villages, and private investors is the practical approach. *Identification of best practices* in public-private cooperation should be a starting point for meeting the challenges of water management in these countries.

Category two countries

Category two countries are rampant with difficult problems, which include severe poverty, armed conflicts, HIV/AIDS, and often droughts and floods. In order to accept the challenge of water management in the context of a comprehensive development plan which addresses itself to all of these difficult problems, it is important to recognize that *the scope for business sector activities is limited*.

The key consideration should be cooperation among the government, donors, NGOs and the local community. While requirements for specific measures vary widely in different

geographical, hydrological and social contexts, the collaboration among these actors should be the common denominator.

In addition to this common factor, particular attention has to be paid to the difficult management requirement of international rivers. In this category of countries where armed conflicts and social instability are not exceptions, the management of these rivers poses added difficulties. Local armed violence, which can easily spill over into adjacent countries, poses a difficult challenge for management of water in these rivers. There may be scope for a third party involvement in the management of these rivers as a means of preventive diplomacy.

Category three countries – urban areas

In the third category countries, the challenges of water management are significantly different between, on the one hand, the modern and urban sector and, on the other, the rural areas. The involvement of the private sector in water management has a strong potential in *the modern and urban* sector which is characterized by dynamism of the business sector and by rapid economic growth. *The full cost pricing* of water can be introduced in these areas and privatization of water management can be introduced in an increasing number of the urban areas. It should be useful to consider the possibility of establishing a monitoring mechanism of the management by private firms so that the country concerned, and the world community at large, can learn from the experiences. This mechanism might consist predominantly of national experts, but also of a few international professionals.

Rural areas of category three countries

The rural areas of the third category countries pose a yet different kind of challenge for water management. The people are mostly poor. The largest part of the water use is in relation to agriculture. The scope for business sector involvement is severely limited. At the same time, the role of the national government in the management of water is bound to be limited also. The most important factor for water management is *the local community*.

The important task of the national government is to make sure that water management by the local community is an integral part of a national development plan which may address, among other issues, poverty and agriculture. Special considerations have to be given to the requirements of the poor people in water consumption. And the concept of agricultural productivity has to be clearly changed from per hectare productivity to productivity per drop of water.

Five actors in slow track globalization

In order to develop policy measures to meet the four challenges as described above, it is essential for slow track globalization to be strengthened in the coming period, and for fast track globalization to become civilized over time.

NGOs

The major promoter of slow track globalization being NGOs, it is important that NGOs should be strengthened in meeting various challenges of water management.

- a) In relation to the first challenge that requires close collaboration between the public authority and the business sector, NGOs can play a number of useful roles. In the high growth phase when water consumption will increase rapidly, the particularly useful role to be played by NGOs is to articulate the importance of water for the preservation of nature. Because this is the aspect which tends to have a low priority at the government level, and yet is where the NGO community is active. In the phase of the economic collapse, NGOs should be able to usefully advocate the needs of the people who have

- suddenly been deprived of jobs or otherwise adversely affected by the economic crisis. In order for NGOs to play these roles effectively, they should be included in the consultation mechanism for water management, a mechanism that should be fully developed.
- b) In relation to the second challenge where collaboration among various actors is required in vulnerable countries, NGOs should be able to play a major role by taking initiatives for cooperative actions. If they succeed in putting together the local needs that can be articulated based on the economic, social and cultural reality of the community, and the international concerns that are expressed by international NGOs who have expertise and financial resources, their initiatives will be particularly effective.
 - c) The useful roles for NGOs in the context of the third challenge, where the business sector plays the key role, will be consultative ones. Warning of any potential problems in water management by a private firm will be a role NGOs should be able to play most effectively.
 - d) The fourth challenge, where local communities should play the central roles, will require effective participation of NGOs. In dealing with issues that go beyond local communities, and that are quite common in water management, NGOs should play a critical role. If NGOs are active along the river basins, this role of NGOs should be of particular importance.

Communities

In water management, communities should play various useful roles in any context. The local communities, that can be villages or townships in cities, are the basic units where the concerns of water users should be articulated. Changing social relations in practically all of the local communities should require delicate approaches to them. At the same time, various measures for avoiding community egoism should be introduced. Working together for the management of water, members of the community should be able to develop *social trust*, which has largely been lost, and which is now, therefore, the most basic objective of development efforts in many countries.

Governments of developing countries

It is expected that national governments play critical roles in meeting all of the four types of challenges in water management. A national development plan into which water management has to be clearly integrated is put together by the government. The major challenge is to arrive at a coherent national water management policy in this context, a challenge no country, including OECD members, has succeeded in meeting. In category two countries, where the governments have to play central roles, this challenge is most difficult. It is important for the international community to strengthen capacity-building efforts in water management as an integral part of capacity-building of these governments as a whole.

International organizations

Sectoral roles of international organizations are expected to be of particular importance. FAO's technical roles in water management for agriculture have been an important feature. UNEP's contribution in capacity building in water management for environmental purposes is not negligible. It is important for the international community to strengthen these roles of international organizations.

At the same time, the support of the World Bank, regional development banks and UNDP has contributed significantly to water management in developing countries. Depoliticized roles of these operational institutions should be particularly useful in meeting the challenges of category two countries. While heavy involvement of the aid community in these countries is an important requirement, a donor's national character needs to be min-

imized so that political backlash of the recipient country should be avoided. The coordinating roles of international organizations in the water sector should be strengthened.

One major role the international community may expect from an international institution is intellectual leadership, which is a role played by international organizations in various aspects of international development. However, due to the lack of an international organization that specializes in water issues, this particular role of an international organization is missing.

Bilateral donors

Bilateral contributions in the water sector, excluding irrigation, have been between \$2–\$3 billions annually, where Japan's share has been over half of it. While it is difficult to expect significant increases in ODA in the water sector, it is possible, and important, to use the available ODA in a more efficient manner. The different roles to be played by ODA in meeting the four different types of challenges should be well articulated.

The most difficult task is to develop ODA policies for the rural areas in category three countries. Poverty and agriculture as related to water management may seem a typical role for ODA. However, the major players being local communities, the donor's approach towards them through a national government should require delicate political considerations because of increasing decentralization.

Six challenges for fast track globalization

The most important and in many ways the most difficult task in water management in the coming period is to find proper approaches to the enhanced roles of the business sector. It is essential for the water community to go beyond ideological debates in considering these questions.

Management

Management contracts between municipal authorities and international firms are the most common form of involvement of the private sector in the water sector. Examples are being multiplied. It is essential for these contracts not only to establish rights and obligations of the firm and the municipal authority clearly, but also to set out the conditions and mechanisms for the various stakeholders to be involved in the relationship with the firm. It is difficult for the management arrangement to be sustainable without proper participation of the local population.

Investment

The World Commission on Water for the 21st Century indicated the broad target of investment requirements in the developing countries in the water sector in the period up to 2025. The amount is \$180 billion annually. Given the fact that the total annual ODA is between \$50–\$60 billion and that there is no prospect of any significant increase of this volume, it is for domestic investment (both public and private) and the international business community to fill the large gap. The category one countries and the urban areas of the category three countries are the major targets of the international investors. There is a significant scope for expansion of foreign direct investment in the water sector in these countries and cities.

At the same time, there are some possibilities for investment in urban areas of category two countries. In fact, there are some investment activities in the management of water in cities in Central Asian countries.

While privatization of water management makes it attractive for international investors, it is also possible to invest in public-private arrangements as in some Latin American cities.

It is important to establish research programs to review these experiences in the world community so that lessons from them can be constantly learned. Particular attention has to be paid to the impacts of private investments on the poor and the vulnerable.

Transfer of technology

Contracts for water management should include a provision for transfer of technology. In addition to engineering technologies, management technologies should be included in the provision. Without management technology transfer, the time limits of water management contracts, which range between 10 to 30 years, cannot be credible. In order for contracts for water management to be sustainable, the credibility of these contracts is an essential requirement.

Cooperation with governments and communities

International firms have to establish close cooperation with the national governments and with the local communities for effective management of water. Many of the governments being not particularly stable, it is not easy for the international firms to continue good working relations with successive governments. Long-term cooperation with national governments is an especially difficult challenge for international firms *vis-à-vis* category two countries.

Good working relationships with local communities may require various measures beyond water management. Good corporate citizenship has been pursued in a number of ways by various international investors. Water management firms can learn from the best practices of these corporations.

Cooperation with NGOs

Close cooperation with NGOs is an essential requirement for international firms. The scope for expansion of international investment in category one countries and in urban areas in category three countries depends critically on cooperation with NGOs. In these dynamic countries and cities, environmental issues will be even more central concerns of an increasing number of NGOs than in other developing countries. It is, therefore, essential for international water firms to cooperate with NGOs on environmental issues beyond water questions proper.

Fair competition

It is an essential requirement for the business sector in expanding its investment activities in developing countries to build up fair competition internationally. The current situation, which is characterized by the oligopoly of three major firms, is not a sustainable arrangement. It is important for an increasing number of water enterprises to invest in developing countries. Starting points for them should be category one countries and the urban areas of category three countries where there are abundant opportunities for investment in water.

Concluding remarks: seven recommendations

The above observations can bring about a number of conclusions. The following seven are the most critical recommendations.

1. It is essential for the consideration of water management in developing countries to examine relevant issues in relation to globalization. For this purpose, the basic starting point is the recognition that there are two processes of globalization, the fast track and the slow one.
2. Water management has to be considered in the broad framework of a national development plan.

3. It is important to articulate differentiated policy approaches to three categories of developing countries, categories that have been created basically by the forces of market-based globalization.
4. It is essential for various actors to try to cooperate with each other in a number of different ways. Various roles to be played by these actors have to be mutually recognized.
5. The business sector can play significant and expanding roles in countries that are rapidly integrated into the world economy and the urban areas of the major developing countries. However, these roles are severely limited in other countries.
6. The most important player among a number of actors is the local community. With changing socio-economic conditions in practically all of the local communities, long-term commitments of the local communities are difficult propositions, but need to be secured.
7. Globalization poses a major challenge to the water profession. This challenge is to develop research activities by putting together social scientists and natural scientists for the analysis of various factors that have been brought about by globalization. A useful starting point may be to produce a list of best practices in relation to each of the four sets of challenges that different disciplines have produced. Water professionals also have to acquire the habit of working together across disciplinary lines.

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