

About AWDO 2007

The *Asian Water Development Outlook (AWDO) 2007* is a package of factual information, data, experiences, and solutions to problems in the water and sanitation sector of countries in the Asia and Pacific region. It provides comparative data for the sector in a number of countries and new perspectives on present issues in the sector and their relationships with other sectors, and looks at the sometimes startling and thought-provoking implications of present global trends on the future of the sector.

It begins with a sweeping overview of the sector by Asit Biswas that explains why some countries, cities, and rural areas around the world have succeeded in providing their populations with good water supply and sanitation and others have not. Developing countries face much more difficult problems than developed countries because the gradual pace of development in the former allowed the sector to keep up with and plan ahead of expansion, unlike in developing countries where development is taking place at relatively breathtaking speed, defying the efforts in many cases of public providers to cope with such problems as populations that are both increasing and aging, industrial demand for and pollution of water, and infrastructure needs for

waste collection and treatment.

Worldwide, competition for water is increasing apace in response to growing energy—including biofuel production—and food needs, and for the environment itself, an equally legitimate user of water. In Asian developing countries, the problems of coping with these demands are exacerbated by the often short seasonal nature of rainfall, which must be stored to enable it to last from one season to the next.

However, as Prof. Biswas points out “It is likely that if there will be a water crisis in the future, it will not come because of actual physical scarcity of water, as many predict at present, but because of continuing neglect of proper wastewater management practices. Continuation of the present trend will make available water sources increasingly more contaminated, and will make provision of clean water more and more expensive, as well as more complex and difficult to manage. By diluting seriously the definition of access to clean water and considering sanitation only in a very restricted sense, developing countries, including many in Asia, are mortgaging their future in terms of water security.”

In the past, population growth has generally not been considered to be directly related to water management.

However, the fact is that populations affect water in terms of demand, use patterns, and management practices. Similarly, water affects populations directly in terms of health (for example, waterborne diseases affect mortality rates), and indirectly, through such issues as regional development, employment generation, and gender-related matters. A related, major factor that is still not being adequately considered in Asian countries is the implication of an increasingly aging population on water-related issues. This is likely to be an important policy issue in nearly all Asian countries during the next 3–4 decades.

It is now widely accepted that the global climate is changing. This is creating a new level of uncertainty in water planning and management processes because it is difficult to manage water projects without knowing the likely future distribution of rainfall and temperature over space and time. We cannot even predict with any degree of confidence the annual average changes in rainfall and temperature over a country as a whole, let alone for specific areas considered for planning purposes. Thus, climate change is likely to introduce high levels of risks and uncertainties that the water profession simply may not be able to handle with any degree of confidence, at least over the near term. All this will make efficient water planning and management an exceedingly complex and difficult task during the post-2025 period. This aspect needs urgent attention and accelerated research from water scientists and climatologists, especially in the Asian monsoon countries, if serious water-related stresses are to be avoided in the future.

In the future, water issues in Asian developing countries are likely to be

quite different from those in the past. While historical knowledge is always useful, solving the water problems of the future will require additional skills, innovative approaches, and new mind-sets. It will also require a more holistic approach that can successfully coordinate the energy, food, environment, and industrial policies of a nation, all of which have intimate linkages to water. Each will affect the others and, in turn, be affected by the others. Policies in all these areas will similarly be influenced by external forces like demographic transitions, advances in technology and communication, globalization, free trade, and increasing social activism.

All these factors within and beyond the sector will make future water management in Asia a far more complex task than ever before. It will be a formidable challenge, but one that must and can be met because the knowledge, experience, and technology to solve the problems in a timely manner already exist within Asia, not in one location but within the region as a whole. A synergistic net needs to be cast to identify and collect all the successful attempts for possible replication in other parts of Asia.

Basic to solving both sectoral and intersectoral water problems is the presence of adequate capacity at all levels, which is often not the case in Asian developing countries. Capacity development must receive much higher priority from both national water authorities and external support agencies. Equally, the external support agencies must ensure that the types of capacity development activities they support will actually help to improve substantially the water management practices of Asian developing countries, where conditions are different from

those in the industrialized countries. Further, the results must be sustainable over the long term.

One of the main purposes of the *AWDO 2007* is to focus the attention of national leaders and key decision makers on the need to increase investments in the water sector if Millennium Development Goal (MDG) targets are to be achieved by 2015. Although some countries have made good progress, others need to make dramatic improvements. This is shown quantitatively and qualitatively for twelve countries from the region by Geoff Bridges. He finds several common issues that need to be resolved if countries are to meet these targets, including poor sectoral management; poor management of water resources; high water connection fees that prevent the urban poor from being connected, and low tariffs that do not reflect the true service cost for sustainability; and lack of awareness among consumers of the “true” value and scarcity of water.

The solutions to these problems are implied in their descriptions. However, there are two key needs to make measurable progress. One is to collect better quality and more comprehensive data, especially from water utilities, so that real problem areas can be pinpointed. Bridges uses an international data set that, although based on 2004 information, overcomes the inconsistencies and “optimism” often appearing in national data sets. The other is to implement and enforce existing policies and legislation—policy development is not the issue. This can only happen if there is accountability and a strong regulation/monitoring regime in place.

One measure of progress in these and another 11 countries that together comprise 99% of the Asian developing

country population is a new composite drinking water indicator, the Index of Drinking Water Adequacy (IDWA). The index was devised by Bhanoji Rao and is an average of five components: measures of access, capacity, quality, resources, and use. The individual components can be used to indicate directions for policy, program, and project actions. The new index seeks to overcome some of the limitations of an existing indicator, the Water Poverty Index.

It is timely in that, half way through the MDGs timeframe, some countries may wish to fine-tune the goal and targets on water (and sanitation as per the Johannesburg Summit of 2002). IDWA can be expanded, depending on data availability, to include for example, dissolved oxygen concentration and suspended solids that could be combined into a quality index that can then enter the final composite IDWA. Similarly, the index could include sanitation if at least one or two good sanitation indicators were available, not only reflecting access to toilet facilities but also waste collection and disposal and sewage treatment. However, as Prof. Rao points out, the accuracy and consistency of national data may be a stumbling block at present.

Major intersectoral problems associated with water—population growth and aging, the economic and social transition in developing countries, issues related to energy, food production, environment, and climate variation and change—are presented in detail by Olli Varis. Population growth means more food is needed from shrinking agricultural land, which points to the need to improve efficiency of soil and water use. Low quality of water or limited access to water is one of the key determinants of poverty. At the same time, the poor cause a significant proportion

of global water quality problems, such as through uncontrolled deforestation. Thus, investing in poverty reduction is an important policy measure in working against further degradation of water resources and the environment.

Of importance is that 96% of contemporary renewable energy production comes from either biomass or hydropower. These both rely completely on water resources management. In this regard, joint management of rivers and aquifers is of crucial importance in most parts of Asia because the bulk of the region's population lives in river basins that include more than one state. Varis observes that in efforts toward regional integration, water is a subject that far more often increases cooperation than causes conflicts.

Progress in water resources development and management is being made using different approaches in different countries across Asia. Geoff Wright describes some of these advances. He finds that there are some common features in successful management examples from around the region, including stable and strong institutional frameworks; high level of cooperation and coordination among agencies; strategic and integrated planning in place; effective stakeholder and community participation; and reliable and comprehensive data and information, and decision-support tools in use. He gives examples and useful models to follow.

Water supply issues are discussed by Arthur McIntosh. Adequacy of clean water, a basic human need, has become a critical factor. The supply problems that have become most urgent are water quality and pollution, water conservation, and water and demand-side management. Water quality and pollution solutions include treating pollution

at source, addressing disposal of solid residues from municipal treatment, monitoring water quality, investing in wastewater treatment on a large scale, and seeking local government/community and nongovernment organization partnerships. Conservation can be improved through rainwater and stormwater harvesting and storage, incentives for water conservation, and regaining a respect or reverence for water, which has held a prominent place in all religions as the essence of life. Managing demand is basically a matter of adjusting tariffs. The present low tariffs common across much of the region not only result in degraded systems, but also perpetuate an inequitable subsidy to the rich, not the poor. In many cases, the solution may only require improved awareness by politicians.

The parallel issue is connecting the urban poor to piped water. McIntosh lists the many obstacles and options to overcome them, the best option being that the public or private utility borrows for connection fees, allowing poor consumers to pay over a long period with minimal tariff increase.

A pressing problem associated with pollution is open defecation in parts of the region, which concerns the health and dignity of a great many people, not to mention the environmental aspect. Community-led total sanitation efforts, which focus on demand creation, have not only successfully overcome the low demand for sanitation, but have also delivered significant changes in collective behavior, resulting in improved health for all.

The *AWDO 2007* multimedia CD-ROM also contains a large amount of published reference material, particularly from the Asian Development Bank, Asit Biswas and Cecilia Tortajada of the Third

World Centre for Water Management in Mexico, World Bank, Japan Bank for International Cooperation, and Japan International Cooperation Agency. There are summaries of more than 100 experience documents from around the region as well as video and audio files illustrating good practice solutions in specific situations.

A common message from many papers in the *AWDO 2007* is that commitment and leadership need to be

further developed among senior managers and officials. Finding champions who recognize the importance of implementing water management reforms and having the vision and courage to promote them may be the greatest challenge of all. The *AWDO 2007* offers many examples of ways to overcome these and the other problems faced by Asian developing countries in the water supply and sanitation sector. The *AWDO 2007* is a recipe for action.