

CONFERENCE REPORT

Seminar on 'Water Security, Climate Change and Sustainable Development', Gandhinagar, Gujarat, India, 12 January 2015

The Gujarat Water Supply and Sewerage Board, the government of Gujarat and Gujarat Narmada Valley Fertilizers and Chemicals Ltd, under the guidance and support of the Third World Centre for Water Management, Mexico, organized a high-level international seminar on 'Water Security, Climate Change and Sustainable Development' as a main component of the Vibrant Gujarat Global Investors' Summit in Gandhinagar, India, January 2015. The focus of the seminar was on the interrelationships between water security and climate change in terms of sustainable development, which would contribute to poverty alleviation, employment generation and better quality of life of the people.

Globally, the statistics are sobering. At least 3.5 billion people do not have access to safe drinking water. All water bodies within or near urban centres of the developing world are heavily contaminated with known and unknown pollutants that need expensive treatment before being safe to drink. In China, 46% of the rivers have disappeared due to overuse during the past 60 years. Millions of people die each year due to water-related diseases. In many countries, costs of poor water management are approaching nearly 5% of gross domestic product (GDP). The problems will become more serious and complex if future climate change scenarios are considered.

Unlike other natural resources, water is a renewable resource. With good management it can be used and reused numerous times. Properly managed, the planet has enough water not only for today's needs but also for the estimated 9.3 billion world population by 2050.

In addition, there are likely to be tremendous advances in science and technology that will contribute to new ways of managing water. Water is a catalyst for social upliftment and economic growth. It has not only engineering, economic and environmental dimensions but also social, emotional, ethical, political and institutional.

Three major problems that surfaced during the seminar were lack of political will, consistently poor management practices and the mindset of water users. The panel came to a general consensus that the starting point for solutions to the global water crisis will have to come from strong and effective institutions, good education of all water users, proper water pricing and continuous technological innovations.

The panellists emphasized the need for innovative policies and their implementation. It will require strong political support in many different areas, including water pricing, education and awareness-building, fostering coordination between all water-related ministries, planning for future climate changes, promoting technological advances and their prompt adoption, and constructive roles for the private sector, along with all other stakeholders involved in water allocation decisions.

Driven largely by economic and population growth, anthropogenic emissions are now higher than ever. Emission growth per year to the year 2000 was 1.3%, which has risen to 2.2% after this date. These changes will impact the water availability and use practices, which will need even better and more efficient management practices. Extreme climatic events are likely to alter the availability and quality of rivers and groundwater. The mountains and

glaciers are important sources of water that feeds many global rivers. Since temperatures are rising faster at higher elevations, this will increase the influx of water into the river systems over the next two to three decades, making floods more frequent and intense. Asia is in a monsoon region, and many of its major rivers originate from the Hindu Kush Himalayas. Thus, planning for climate change will remain complex and will require the right mix of research and institutional responses.

Water scarcity and climate change can have serious impacts on the economy and thus quality of life. Asia is likely to be a main driver of future global economic growth. However, competing demands for water, together with climate change, can seriously hamper development scenarios unless water management practices can be significantly improved. India is classified as an 'extreme high risk' economy with reference to climate change. Between 2000 and 2008, Asia experienced the highest number of climate-related disasters in the world, and suffered 27.5% of the total global economic loss. Mitigation strategies can often be expensive, and developing countries may not always afford them. However, from a benefit–cost perspective, stringent mitigation strategies are expected to cost about 0.6% of GDP, which though significant is affordable.

Additionally, expansion of infrastructure has to be done responsibly. Energy is a critical component for development. Since 1980, the GDPs of many countries like the United States and Denmark have increased significantly without similar advances in energy consumption. This can be attributed to several factors, including proper and timely interventions, stringent energy efficiency standards, increasing public awareness and reducing subsidies.

The private sector is contributing very significantly to sustainable development at various levels. Using solutions that range from simple to complicated, it is contributing significantly to water security by steadily increasing their water-use efficiencies and reusing treated wastewaters. For example, the Nestlé plant in Moga in Punjab will be one of the first in the world to add water to the environment instead of taking it away from it. Many major multinational companies like Nestlé and Coca-Cola are emphasizing water, energy and other natural resource conservation, practising biodiversity conservation, and reducing wastewater discharges. It is essential that other private sector companies follow the footsteps of leading companies such as these.

Overall, the seminar was truly remarkable because not only did it assemble a group of the world's most renowned academics and captains of major industries but also because of the rich presentations and discussions that followed.

The best papers prepared for the seminar, now being peer reviewed for possible publication in book form by a major international publisher, were by Jeremy Bird, Director-General of the International Water Management Institute, Colombo, Sri Lanka; Joppe Cramwinckel, World Business Council for Sustainable Development, Geneva, Switzerland; Sanjay Khajuria, Senior Vice-President of Corporate Affairs, Nestlé, New Delhi, India; Bindu Lohani, Vice-President of the Asian Development Bank (ADB), Manila, Philippines; David Molden, Director-General of the International Centre for Integrated Mountain Development, Kathmandu, Nepal; Taikan Oki, professor at University of Tokyo; Asim Parekh, Vice-President of Coca-Cola, Delhi, India; and Adam Roberts, Head of Indian Bureau at *The Economist*, Delhi, India. The book will have an overall framework chapter by Asit K. Biswas and Cecilia Tortajada of the Lee Kuan Yew School of Public Policy, Singapore, and co-founders of the Third World Centre for Water Management, Mexico, a foreword by the Chief Minister of Gujarat, Smt. Anandiben Patel, and an introduction by Peter Brabeck, Chairman of the Board of Nestlé

in Vevey, Switzerland. It is expected the book will be officially launched by Gujarat's Chief Minister at a high-level ceremony in early December.

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