

Discussion FORUM

Competition for Water

Washington-area professionals gathered on June 16th for the twenty second IRG Discussion Forum, Competition for Water in Developing Countries: Public and Private Sector Perspectives. Participants included Claudia Ringler, a research fellow at the International Food Policy Research Institute, and Jeff Seabright, Vice President for Environment and Water Resources at the Coca-Cola Company.

By 2025, 2.8 billion people in 48 countries could be facing severe, chronic shortages of fresh water, and the quality of remaining supplies is likely to be diminished. Increasing competition for existing supplies of fresh water has limited its use for irrigation and constrained food production worldwide. As increasing populations and urban growth accelerate demand from industrial and municipal sectors, water consumption for household, livestock, and industrial use will increase greatly, while consumption for irrigation will grow much less. The challenge of feeding more people on remaining freshwater supplies will become even greater, as will the need to increase the efficiency of water use in all sectors.

Changing Global Demand

Globalization and growing world trade play an important role in water consumption trends: as goods and services are traded to and from water-scarce countries, decisions made outside the water sector affect water quality and supplies. Climate change can also be expected to impact future water use, in particular by increasing the need for more efficient harvesting of and additional storage capacity for rainwater.

Cereals are the largest and most important crop worldwide, and the most significant future increases in food production are expected to come from increasing cereal yields. However, under a business-as-usual scenario, loss of grain production due to water scarcity in developing countries could be as high as 300 million metric tons by 2025. For these reasons, research and development in the area of cereal production continues to be a necessity. The increase in cereal production is expected to be split evenly between rainfed and irrigated crops, with most of the growth in both occurring in

developing rather than in developed nations.

The demand for water needed to raise livestock herds will also increase, as the demand for meat increases worldwide. More than two-thirds of the increase in fish production over the next two decades will stem from aquaculture, up from 31% today.

Food Security

International transfers of technology and research findings and increased global trade have both played important roles in improving food security in developing nations. World trade in crops and livestock has increased from \$32 billion in the early 1960s to about \$500 billion today. As a result, caloric availability among the poor increased by 30% since the 1960s and the number of



Jeff Seabright, Vice President for Environment and Water Resources at Coca-Cola Company discusses the company's water risk management process.

For More Information

International Food Policy Research
Institute: <http://www.ifpri.org/>

Coke and Water Conservation:

http://www.coca-colaindia.com/citizenship/citizenship_rainwater.html

UN World Water Development Report:

http://www.unesco.org/water/wwap/wwar/table_contents.html

Global Water Outlook to 2025:

<http://www.ifpri.org/pubs/fpr/fprwater2025.pdf>

malnourished children declined from 46% to 31% between 1970 and 1997. Food prices today are half what they were in the 1970s.

Nevertheless, international targets to reduce hunger are not likely to be met in the foreseeable future. High subsidies to agriculture and water infrastructure bring inefficiencies to trade, food production, and water use, leading to wastage, water scarcity, and food insecurity. The contribution of processed

products by developing nations has declined in recent years. In 21 countries around the world, the amount of both calories and proteins per capita is less today than it was in the 1960s. The Millennium Development Goals have dismissed the possibility of completely eradicating world hunger, as the level of malnutrition in the world will continue to decrease, only very slowly.

The Role of Trade and Investment

Trade, if not distorted, still holds some possibility for increasing the availability of both food and water in developing countries. Water use for growing cereal would be 6% higher without "virtual water" trade which allows countries to decrease their actual water use. Because

of the continued and growing reliance on food imports as fewer countries produce sufficient amounts domestically, it will be important for cereal production to increase worldwide, even in developed nations such as the U.S.

Along with well-managed international trade,

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complementary financial investments and social policies addressing poverty alleviation and food security will be needed. Among the most beneficial financial initiatives will be additional investment in

IRG Speaks Out

Asif M. Shaikh, IRG's President & CEO, in his capacity as President of the Society for International Development—Washington Chapter, served as master of ceremonies at the SID-W annual dinner June 9, honoring M. Peter McPherson, founding Co-Chair of the Partnership to Cut Hunger and Poverty in Africa. Among the honored guests who paid tribute to Mr. McPherson were Congressman Sander M. Levin, Fred Schieck, Deputy Administrator, USAID, Ambassador Abdoulaye Diop, Republic of Mali, and both the initial and current Executive Directors of the Partnership to Cut Hunger and Poverty in Africa, Ray Love and Julie Howard.

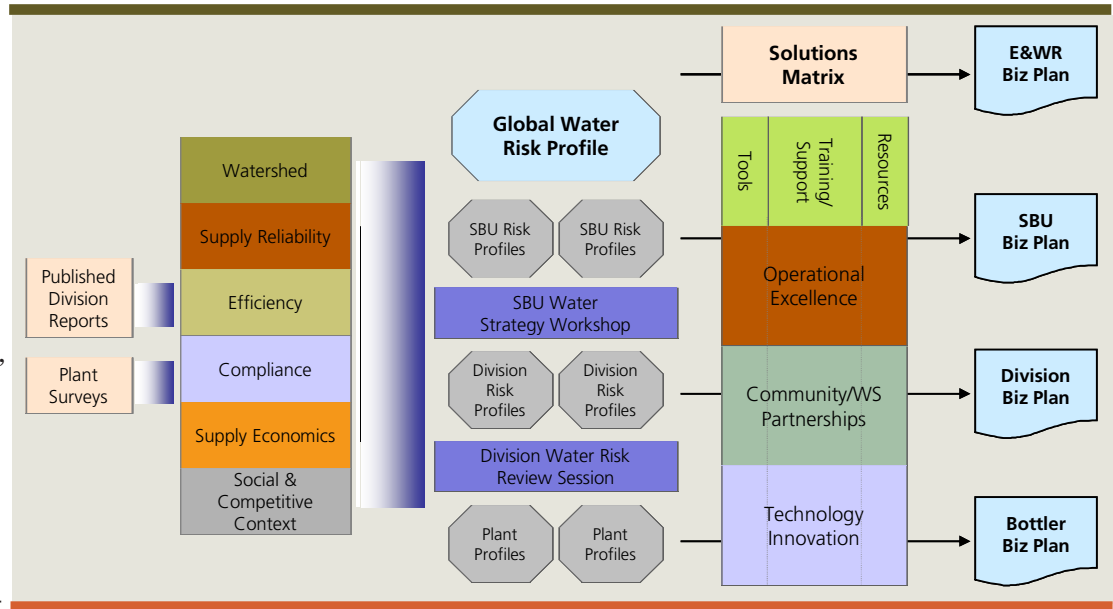
Mr. Shaikh also participated at the MCC event "Environment, Poverty, and the MCC: Leveraging U.S. Aid to Improve Natural Resource Management," as a member of the six-person Millennium Challenge Corporation expert panel, chaired by Governor Christine Todd Whitman and MCC CEO Paul Applegarth. It was held at the Brookings Institution on June 24th.

Alain Streicher, IRG's Vice President in Energy and Environmental Management, addressed a group of young gifted students in West Virginia (The SunDogs) about energy conservation on June 17.

Joan Ablett, IRG Communications Manager, spoke at the USAID Development Outreach and Communications Conference held in Bangkok, Thailand on May 23-26. The subject was Crisis Communications. She also participated in a three-member panel on "Working with Implementers/Partners" for USAID's Outreach Briefing to its home office staff on June 14 in Washington, DC.

Tom Wheelock, IRG's Vice President in Infrastructure, will discuss the USAID Iraqi Infrastructure Reconstruction Program on July 12 for a class of 40 USAID Program Officers.

Figure 2: 2005 Water Risk Management Process for Coca Cola



public water supplies, wastewater treatment, and irrigation, including dams; in breeding crops for drought, heat, and saline tolerance; and in research on water management, including low tillage and rainwater harvesting. On the policy side, establishing water rights that are well-defined but flexible enough to allow for trade; designing water pricing mechanisms that encourage irrigators to use less water; and eliminating power subsidies to groundwater pumping will be important.

The Role of the Private Sector

While establishing policies for efficient, equitable water management properly lies with national governments, the private sector has a role to play

by setting examples of efficient water use and the proper management of wastewater, as well as by facilitating and funding a variety of local initiatives. The Coca-Cola Company, the most conspicuous consumer of water in 200 countries around the world, provides examples of some of the possibilities.

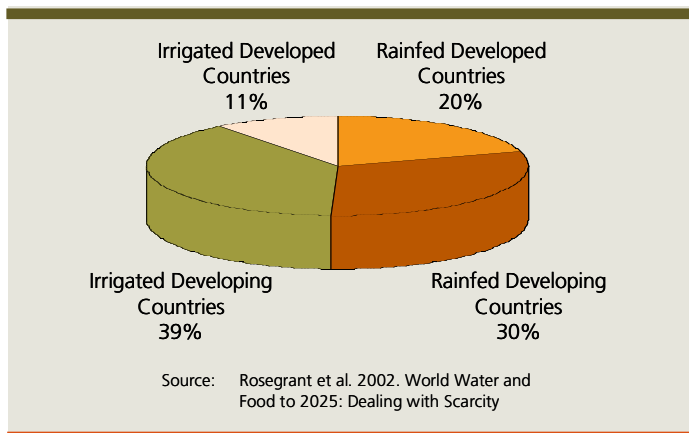
The company's water stewardship goals include improving plant performance to maximize water resource

of watersheds in water-stressed regions; and mobilizing the international community to address the issues of water scarcity and competing needs.


Local Projects Address Community Needs

In 2005, the Coca-Cola Company launched the Community Water Challenge Grant program to fund local initiatives, focusing on Africa, Asia, and Latin America and including pilot projects in Mali, Nigeria, South Africa, India, Vietnam, and Bolivia. These initiatives address a variety of areas, including watershed protection, efficiency and conservation, public education, health and sanitation, access and infrastructure, and overall water management. The company has also undertaken water system development and rehabilitation projects, in partnership with the United Nations Foundation, UNDP, and UNICEF, in countries

Figure 1: Share of Irrigation and Rainfed in Cereal Production Increase, 1995–2025



management and efficiency; launching local initiatives to improve access to clean drinking water in underserved communities; supporting the protection



affected by the December 2004 tsunami. These projects vary in scale, from providing safe water systems for 45 primary schools serving 22,500 children in Kenya, to supporting conservation efforts in the Sama Biological Reserve, which serves

more than 145,000 people in Bolivia. One remarkable project in South Africa, the installation of 34 "Roundabout Play Pumps" in school yards powered by children playing during recess, provides safe drinking water for about 140,000 people.

FORUM FEEDBACK

- ◆ A solution to the problem of world water management is unlikely to come from a technological "silver bullet." Even as desalinization becomes more economical, it will continue to be energy intensive, limited to coastal areas, and the cause of environmental management concerns. Rather, policy development, effective governance, better watershed management, and increased efficiency are needed to achieve a lasting solution.
- ◆ The unreliability of water supply often results in considerable waste in the agriculture sector. Rather than instituting water tariffs, it may be more effective to compensate farmers who are able to conserve their use of water for irrigation.

About the Speakers

Claudia Ringler is a research fellow at the Environment and Production Technology division of the International Food Policy Research Institute, where her current research interests are water resources management, particularly water quality management and adaptation options related to climate change, and agricultural and natural resource policies for developing countries. She holds a BA in Business Management from universities in Germany and Spain, an MA in International and Development Economics from Yale University, and a PhD in Agricultural Economics from Bonn University. Dr. Ringler has conducted river basin analyses in Cambodia, Chile, and Vietnam; helped develop Indonesia's agricultural development strategy; and served as a member of the scenario panel of the Millennium Ecosystem Assessment.

Jeff Seabright is Vice President for Environment and Water Resources at the Coca-Cola Company in Atlanta, Georgia. Before joining Coca-Cola, he was a managing director of Green Strategies, Inc., an environmental consulting firm in Washington, DC. Mr. Seabright has served as a legislative assistant to U.S. Senators, as a Foreign Service Officer with the Department of State, and as the Director of the Office of Energy, Environment and Technology at USAID. In 1999, he served as the Director of the Climate Change Task Force at the White House, subsequently joining Texaco as Vice President for Policy Planning. He earned an MS in International Relations from the London School of Economics. He serves on the boards of the American Council for Renewable Energy, the Keystone Center, the National Renewable Energy Laboratory, the Energy and Environment Study Institute, and the Houston Advanced Research Center, and was recently appointed to the Environmental Technologies Trade Advisory Committee of the U.S. Department of Commerce.

About the IRG Discussion Forum

The IRG Discussion Forum, a monthly event hosted by Henri-Claude Bailly (chairman of IRG's Board of Advisors), addresses issues affecting international development. Each session is informal, with guest speakers and attendees participating in a personal capacity. For comments, questions, or information on the Discussion Forum, contact discussionforum@irgltd.com or call IRG at 202-289-0100.

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include world-renowned specialists who have pioneered many of the analytical techniques employed in their fields. IRG's ability to provide management, economic, and technical advice is further enhanced by the diversity, cross-cultural experience, foreign language skills, and management capabilities of staff based in the Washington, DC, headquarters, corporate offices in India and the Philippines, and 20 project-dedicated offices around the world.



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