A blue revolution: The key to future food security

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By International Water Management Institute

A blue revolution: The key to future food security

Colombo, Sri Lanka 6th November 2009. "We will need nothing less than a 'Blue Revolution', if we are to achieve food security and avert a serious water crisis in the future said Dr. Colin Chartres, Director General of the Sri Lanka - based International Water Management Institute. Chartres was speaking to the Economic and Finance Committee of the UN General Assembly, at a special event on "Enhancing Water Governance", convened by the UN today. He stressed that only strategic investments in water can address the massive pressure that population growth, changing diets, urbanization and climate change are having on the world's water resources. Investments in water can also reduce poverty by increasing farmer incomes, providing employment for the landless, reducing staple food prices and contributing to overall economic growth.

Scientific evidence and underpinning research and development are the basis for such investment. There is compelling evidence that the decline in ODA expenditure on the agriculture sector has led to declining rates of productivity increase. If this continues we will not be able to feed the world in another 30-40 years. The cost of preventing a global food crisis and its social consequences is small compared to that of the financial crisis bail out.

Within the next 40 years, the world will have an additional 2.5 billion mouths to feed, most of them in developing countries across Africa, Asia and South America. Global crop production will have to double to feed this growing population unless we learn to reduce waste and use water more efficiently. Given that one liter of water is needed to produce one calorie of food, it will take up to 6,000 cubic kilometers of additional water annually to feed another 2.5 billion people. This is almost twice what is used today and is not sustainable.

About one third of the world's population already live in areas where water is physically scarce, or economically scarce due to limited investment in necessary water delivery infrastructure. This figure will rise significantly by 2050. Chartres says there is a way out of this predicament for water-scarce countries, but it will require major policy reforms and new investments.

There is huge potential to reduce poverty in Africa through irrigation development. For example, in Sub-Saharan Africa, water infrastructure needs to be developed as a range of agricultural water management interventions, from full to supplemental, on-farm and basin wide options. Such interventions could potentially benefit 65 million rural poor in

Sub Saharan Africa and 70 million rural poor in India, living outside formal irrigation districts, with respective increases in agricultural production estimated at 30 to 50 percent.

The central challenge for governments is to make agricultural use of water more productive and efficient. Two ways of doing this are to refurbish irrigation systems and improve rainfed agriculture through better soil management and expanded use of water harvesting and supplemental irrigation. New crop varieties that tolerate extreme conditions, like drought and flooding, can also help.

IWMI and FAO recently published a report on "Revitalizing Asia's Irrigation; To Sustainably meet Tomorrow's Food Needs". This study was commissioned by the Asian Development Bank (ADB) and presented new strategies for modernizing and improving irrigation performance in Asia. It also identified opportunities for investment outside the conventional parameters of irrigation investment.

Another area that needs attention is groundwater. Thanks to a global groundwater boom, millions of farmers in Asia and Africa have improved their livelihoods. But the practice has now become unsustainable because of overexploitation of the resource and anarchy. Groundwater recharge, legal and regulatory control, groundwater pricing and water saving technologies are some measures that can help manage groundwater more sustainably.

The hard part is creating incentives for governments to implement reforms. Present water governance arrangements were designed around the middle of the last century, when water was viewed as an unlimited free good. Although now outdated, these models are still in place. Chartres said that governments need to adopt a new paradigm in which water is valued and fairly priced. In other words, societies must start to pay for the environmental and other benefits that water brings. Only then can we avert the water crisis and ensure future food security.

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Notes to Editors:

1.Dr. Colin Chartres, Director-General of the International Water Management Institute (IWMI) Colin Chartres is Director General of the International Water Management Institute. He has 30 years experience in driving research and policy reform in natural resources management. Dr Chartres has recently played a leading role in alerting the world to an emerging water crisis that will impact all water users and, in particular, food security in many developing countries.

Prior to joining IWMI in 2007, he was Chief Science Advisor to Australia's National Water Commission where his role included developing improved national water data and information systems, the development of a national groundwater action plan and advising on the role of science in a range of more general water reform issues. Previously he held senior research and research management positions with CSIRO, the Bureau of Rural Science and Geoscience Australia and has also worked in academia and the private sector.

Dr Chartres believes that most of today's water issues cannot be solved without an integrated triple bottom line approach involving environmental, social and economic inputs.

2. About IWMI

IWMI is a non-profit research organization headquartered in Sri Lanka, with regional offices in Africa and Asia. IWMI works towards improving the management of land and water resources for food security, livelihoods and the environment. It is one of 15 research centers supported by the