Water and the Risks to Development

Only recently has it been recognized that the poorest parts of the world (e.g. Africa and South and Southeast Asia) are deeply water insecure today in part because they face very high rainfall and runoff variability. Overcoming this variability and complexity requires major investments in water information, institutions, and infrastructure. Wealthy countries face much less challenging hydrological conditions, with the few exceptions (e.g. Australia and the Western USA) having a recent history of massive inward investment of skill and capital. It has also become clear that the science of "the north" needs significant refinement for its application to the highly variable and vulnerable hydrological systems of "the south." This hydrological complexity adds significantly to the challenge of sustained economic growth in poor countries, requiring innovative development paths. At the same time, to the extent possible, these paths need to avoid the high price of ecosystem damage that most wealthy countries have paid on their paths to growth. The need for IIASA's applied systems analysis to analyze root causes, alternative development paths, and future outcomes is clear. Government policy initiatives in complex conditions need strong underpinning science; without it, policy is gambling.

IIASA

—the International Institute for Applied Systems Analysis— was founded in 1972 to use science to "build bridges" across an unstable world. Today, IIASA's mission is "to provide insights and guidance to policymakers worldwide by finding solutions to global and universal problems through applied systems analysis in order to improve human and social well-being and to protect the environment."

The WFaS Partnership and Funding

The WFaS initiative was launched with four additional partners, all institutions that are committed to promoting the scientific evidence base for global water security. In addition, IIASA is working closely with complementary efforts of other scientific groups around the world, in the belief that this will enhance the delivery and quality of outcomes and strengthen the scientific capacity to sustain policy-relevant research into the future. IIASA now seeks funding to move the initiative beyond its initial scoping phase. Financing partners are sought from:

- The development community, to support intensified science needed to refine policy, planning, and practice in the poorer regions of the world, characterized by complex hydrology, information scarcity, and institutional weakness.
- The business community, to support science that will provide the evidence base for water-related risk reduction and management which is essential for ensuring predictable costs of doing business and for justifying long-term investment.
- Science funders, including both public and private bodies, to support unprecedented policy-driven and interdisciplinary science to address the global water challenge in a rapidly changing world.

United Nations Educational, Scientific and Cultural Organization · IIASA · The Ministry of Land, Infrastructure and Transport

IWA International Water Association · WORLD WATER COUNCIL

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WATER FUTURES and SOLUTIONS

WFaS

October 2013

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WaterFutures 4theWorld.

The Need for "Water Futures and Solutions"

The quest for water security has been a struggle throughout human history. Only in recent years has the scale of this quest moved beyond the local, to the national and regional scales and to the planet itself. Absent or unreliable water supply, sanitation, and irrigation services, unmitigated floods and droughts, and degraded water environments severely impact half of the planet's population. Spillovers from these impacts, including supply chain failures, financial shocks, migration, and political instability, now ripple across our interconnected world. The impacts of rapidly changing economies, populations, and climate on fresh water fluxes, on which all terrestrial life depend, are unknown—although it is clear that most of the impacts of climate change on society will be transmitted by water. Building on its long history of applying world-class science to the resolution of grand challenges, IIASA launched a new flagship program "Water Futures and Solutions" (WFaS) in 2013, bringing to bear its unique skills, datasets, policy links, and reputation.

Water and the Risks to Business

Over the past few years, water insecurity has become recognized in the World Economic Forum global risk studies as one of the greatest threats that business leaders themselves see that they face in the future, both in terms of likelihood and scale. Recent water-related shocks in emerging economies are evidence of this, with massive insurance losses and with supply chain failures and price shocks rippling across the world. Unless these risks can be mitigated, business investments will stall, with severe consequences both for enterprise and for development. IIASA's science program is designed to support both business and governments, helping to identify, mitigate, and manage these risks.

WFaS

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Water, Complexity, and Science

The scale and complexity of the water challenges faced by society—particularly, but not only, in the world's poorest regions—are now recognized, as is the imperative of overcoming these challenges for a stable and equitable world. IIASA's WFaS is an unprecedented interdisciplinary scientific initiative to define the challenges and identify and test solutions across different economic sectors, including agriculture, energy, and industry. New water scenarios, based on cutting-edge global modeling, seek breakthroughs not only in problem understanding, but also in development of solutions. This scenario-based water analysis pioneers an interdisciplinary approach, combining multi-model ensemble analysis across sectors and socioeconomic factors such as governance. The initiative includes a major stakeholder consultation component to inform and guide the science, and to test and refine policy and business outcomes.


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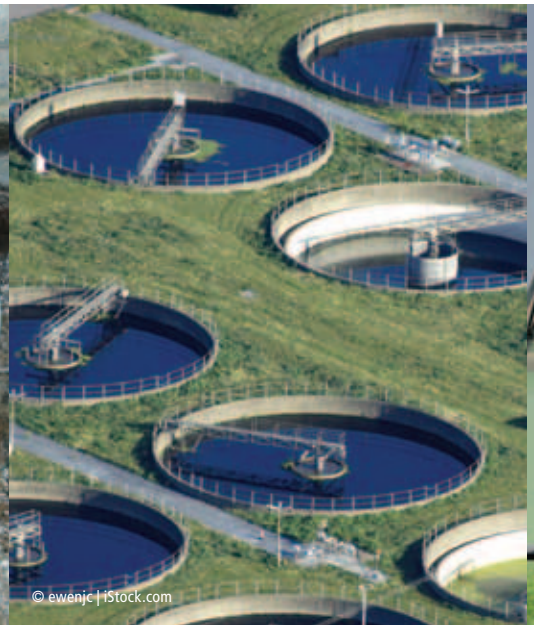
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