

International

Thirst For Water Will Grow

Oxford Analytica 09.05.06, 6:00 AM ET

The World Water Week conference in Stockholm from Aug. 21 to 26 focused on water quality and quantity over the coming decades. The event opened with the release of a draft of the Comprehensive Assessment of Water Management in Agriculture:

--One of the findings is that one-third of the world's population already lives with water shortages. The rate of decline of water availability is faster than predicted.

--Where water resources are under pressure, damage to ecosystems tends to be exacerbated.

Indirect uses consume most water in many regions. Improving the quality and availability of food is an important priority, but it increases demand for water.

Calculating future changes in rainfall (precipitation) due to natural variability and climate change is extremely difficult. The Intergovernmental Panel on Climate Change (IPCC) has stated that precipitation globally, and across most of the Northern Hemisphere, increased in the 20th century. The incidence of heavy precipitation events also has increased in middle and northern latitudes. Underlying warming trends mean that more of this precipitation has fallen as rain, which affects the creation of glaciers and ice. The IPCC predicts that globally, precipitation is likely to continue to increase during the 21st century.

In addition to growth in the volume of rainfall, the intensity of rainfall events is likely to increase, leading to more secondary damage, such as flooding and landslides:

--The magnitude of changes is less than the projected water demand increase across many regions.

--While some regions will experience an increase in water availability through rainfall, structural trends in water demand are likely to absorb these increases very rapidly.

While water always has been an extremely important strategic resource, the end of the Cold War created stimulated debate in the early 1990s about the likelihood of "water wars" in the coming decades.

Kevin Watkins of the United Nations Development Program, and Anders Berntell of the Stockholm International Water Institute argue that four broad rules should be followed to address the water crisis:

- Water can no longer be treated as an infinite resource. Metering, pricing and more efficient technologies in agriculture can help increase the volume of water available.
- Rivers are indifferent to borders, which means that unilateralism needs to be avoided.
- Governments should actively build institutions to support basin-wide water governance.
- Technocrats have dominated negotiations, but it is important for political leaders to become involved to support the institution-building necessary for long-term international cooperation.

More generally, the report highlights a number of areas for further development, including:

- the need to "reinvent agriculture" so ecosystem services are valued more and efficiency is given greater emphasis;
- integrated water management and water harvesting; and
- using established technologies more widely.

The report emphasizes that the most important problems are political and economic: Poor governance of water resources is rife. In regions where conflict is endemic and intergovernmental relations poor, building viable cross-border water governance institutions is especially difficult.

Evidence from agricultural research suggests that water use can be reduced significantly through a range of techniques. Current efforts in Europe are focused on reducing losses between the reservoir and household. Effective water pricing depends on the existence of efficient institutions to collect revenues, regulate markets and monitor use. Moreover, to cut losses requires significant investment to upgrade infrastructure.

While climate change and natural variability will have variable effects globally, societal demand for good-quality water is likely to increase. Technical fixes are available in developed countries. However, in developing countries, poor water quality creates a major disease burden. While proven technologies are available, success will depend on national governments' political commitment to address water quality and availability issues in their own jurisdictions.

[To read an extended version of this article, log on to Oxford Analytica's Web site.](#)

Oxford Analytica is an independent strategic-consulting firm drawing on a network of more than 1,000 scholar experts at Oxford and other leading universities and research institutions around the world. For more information, please visit www.oxan.com. To find out how to subscribe to the firm's Daily Brief Service, [click here](#).