

## What can be done

Although water pollution is serious and getting worse in Latin America, Africa, and Asia, the majority of rivers on these three continents are still in good condition, and there are great opportunities for short-cutting further pollution and restoring the rivers that need to be restored. In previous points the focus was on the extensive reaches of rivers where water quality is poor and further deteriorating. But the other side of the coin is that many stretches of rivers are not yet polluted:

- About one half to two-thirds of all river reaches (in Latin America, Africa and Asia) have a low level of pathogen pollution
- More than three-quarters have a low level of organic pollution, and
- About nine-tenths have low salinity pollution.

It is still possible to prevent these clean river reaches from becoming heavily polluted. It is also possible to begin restoring the river reaches that are already polluted. Many actions can be taken to avoid the increase in pollution and restore polluted freshwaters:

1. **Monitoring** – More understanding is needed about the intensity and scope of the global water quality challenge. For this understanding, it is urgent to expand the monitoring of water quality and drivers of deterioration, especially in developing countries and in countries affected by rapid demographic, socio-economical and climate change. At the international level, GEMS/Water will play a key role in these efforts.

2. **Assessments** – Comprehensive national and international assessments of the global water quality challenge are needed. These assessments are needed for pointing the way to priority locations and actions for dealing with water pollution.
3. **New and old management and technical options** – Developing countries have an opportunity to not only employ traditional wastewater treatment, but also to draw on many more new management and technical options for managing water quality including nature-based solutions.
4. **Setting up effective institutions** – An essential part of managing water quality is setting up institutions that promote action and overcome barriers to controlling water pollution.

Coping with the global water quality challenge is closely connected to many other priorities of society such as food security and health. Therefore, actions to protect water quality should be embedded in the larger concept of sustainability.

The case studies showed that the challenge of protecting water quality is intertwined with many other tasks of society – providing food, developing the economy, and providing safe sanitation. Therefore, over the coming years it will be very important to link goals for water quality with other goals of the Post 2015 Agenda and the new Sustainable Development Goals.

## For more information: [www.wwqa-documentation.info](http://www.wwqa-documentation.info)

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### Report

The report in the form of PDF with a complete list of authors can be viewed and downloaded at <http://www.unep.org/publications/>

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### Photographs

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# Policy Brief

## A Snapshot of the World’s Water Quality: Towards a global assessment

The quality of surface water has noticeably improved in recent decades in many parts of the developed world, but is being challenged as economic growth, intensification of land use often combined with demographic or climate change lead to widespread and severe degradation. The need to reverse this development is reflected in the 2030 Agenda for Sustainable Development, both as a dedicated goal on water and as an integral element of the objectives in other sectors.

The report ‘A Snapshot of the World’s Water Quality – Towards a global assessment’ summarizes key findings of the pre-study for a World Water Quality Assessment: (i) water pollution has worsened since the 1990s in many rivers in Latin America, Africa and Asia; (ii) the majority of rivers are still in good condition, and there are great opportunities for short-cutting further pollution and restoring the rivers that are polluted; (iii) monitoring and assessment are essential for understanding the intensity and scope of the global water quality challenge, yet data coverage is inadequate.

The methodology developed offers a baseline to measure progress, a framework for global assessment and a pathway towards sustainable solutions that will deliver on that agenda. With the support from UN Water and the many contributing authors, this report will help bridge the gap between water quality, the inclusive green economy and the interlinked issues of sustainable development.

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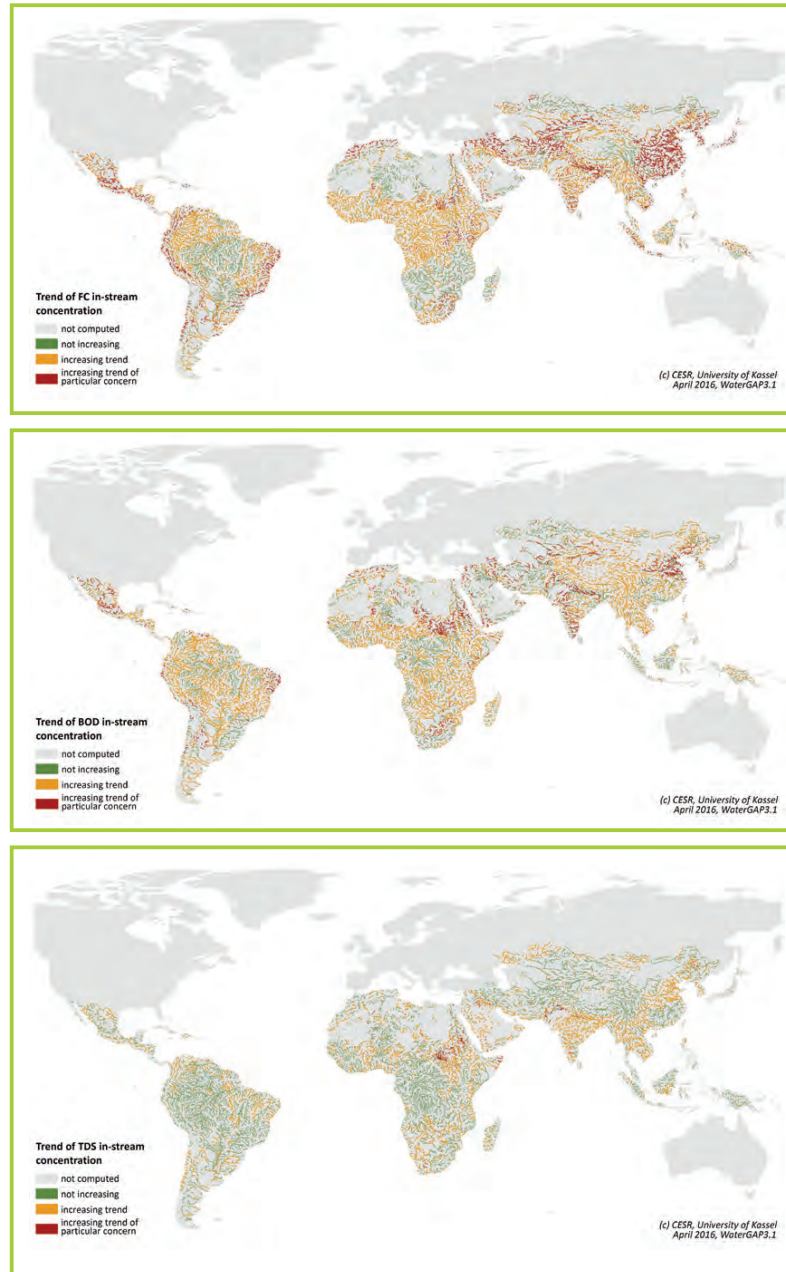


People and ecosystems require both an adequate quantity of water as well as an adequate quality of water. Therefore, it is urgent to assess where water quality is inadequate or under threat and to incorporate the need for good water quality into the concept of water security. The report focuses on water quality and its relation to development objectives such as health, food security and water security. To make this connection, the report reviews important water quality problems in surface waters including pathogen pollution, organic pollution, salinity pollution and eutrophication. The focus is on three continents: Latin America, Africa, and Asia.

Enhancing water security has been an international priority for the last several years. Through Millennium Development Goals and other efforts, the international community has given priority to the quantity side of water security by expanding the access of people to a safe water supply. Indeed, delivering an adequate amount of water to people, to industry, and to agriculture is, and should remain, a high international priority.

But another dimension of water security is becoming increasingly important – ensuring that freshwaters have an adequate quality of water. This is of concern because the water quality of the world’s rivers and lakes is going through important changes. The growing priority being given to water quality is reflected in various targets in the Sustainable Development Goals.

Water quality has markedly improved in many developed countries, although some problems persist. Meanwhile, in developing countries the tendency is towards increasing water pollution as urban populations grow, material consumption increases and untreated wastewater volumes expand. But the actual situation of water quality in freshwater ecosystems in much of the world can only be conjectured because of the lack of basic information. Therefore, an assessment is urgently needed to identify the scope and scale of the “global water quality challenge”. This pre-study aims to provide some of the building blocks for a full-scale world water quality assessment that can be scaled up to a full assessment. It also presents a preliminary estimate of



Figures: Trend in FC (top), BOD concentrations (middle) and TDS levels (below) in rivers between 1990–1992 and 2008–2010. River stretches marked with orange or red have increasing concentrations between these two periods. River stretches marked with red have an “increasing trend of particular concern” meaning that in these stretches the pollution level increased into the severe pollution category in 2008–2010, or that they were already in the severe pollution category in 1990–1992 and further increased in concentration by 2008–2010.

the water quality situation of freshwater ecosystems in the world, with an accent on rivers and lakes on three continents.

### Water pollution has worsened since the 1990s in the majority of rivers in Latin America, Africa, and Asia.

Changes between 1990 and 2010 in key parameters in rivers reflecting pathogen pollution (faecal coliform bacteria; FC), organic pollution (biochemical oxygen demand; BOD), and salinity pollution (total dissolved solids; TDS) have been estimated. The level of pathogen pollution and organic pollution worsened in more than 50 per cent of river stretches on all three continents, while salinity pollution worsened in nearly a third. The worsening is of particular concern in a subset of these river stretches where water pollution has increased to a severe level, or was already at a severe level in 1990 and had worsened by 2010.

### Key findings on the core set of indicators for running waters

- Severe pathogen pollution already affects around one-third of all river stretches in Latin America, Africa and Asia. The number of rural people at risk to health by coming into contact with polluted surface waters may range into the hundreds of millions on these continents. Among the most vulnerable groups are women and children.
- Severe organic pollution already affects around one out of every seven kilometres of all river stretches in Latin America, Africa and Asia. The high level of organic pollution and its increasing trend is of concern to the state of the freshwater fishery and therefore to food security and livelihoods. Groups affected by organic pollution include poor rural people that rely on freshwater fish as a main source of protein in their diet and low income fishers and workers who rely on the freshwater fishery for their livelihood.

- Severe and moderate salinity pollution already affects around one-tenth of all river stretches in Latin America, Africa and Asia and is of concern because high salinity levels impair the use of river water for irrigation, industry and other uses. Groups affected by salinity pollution include poor farmers that rely on surface waters as a source of irrigation water for their small holdings.

### A glimpse on the lakes

Lake eutrophication is usually caused by anthropogenic loads of phosphorus, but loads of nitrogen can also play a role. More than half of the total phosphorus loads in 23 out of 25 major lakes worldwide are from anthropogenic sources. In addition, most of the major lakes in Latin America and Africa have increasing loads. By comparison, loads are decreasing in North America and Europe because of effective phosphorus-reducing measures.

### What causes the pressure on current water quality

The immediate cause of increasing water pollution is the growth in wastewater loadings to rivers and lakes. The most important current sources of pollution vary from pollutant to pollutant. Ultimate causes of growing water pollution are population growth, increased economic activity, intensification and expansion of agriculture, and increased sewerage with no or low level of treatment.

Collecting wastewater in sewers reduces the direct contact of people with wastes and pathogens and in this way is an important strategy for protecting public health. However, building sewers has also concentrated the discharge of pollutants into surface waters and shifted the location of health risk to people.

Important sources of anthropogenic phosphorus to major lakes in Latin America are livestock wastes and inorganic fertiliser, in Africa livestock wastes, in Asia and Europe domestic wastewater, livestock wastes and inorganic fertiliser, and in North America inorganic fertiliser.

