

International Activities in the Water Field by the German Federal Ministry of Education and Research

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Currently, Germany is maintaining scientific-technical relations to more than 50 countries worldwide. The partners are institutions of higher education as well as non-university research institutes and companies. Several bilateral projects geared to sustainability have been supported by the BMBF. They include activities concerning land use, climate, consumption, and global governance. Among the internationally most successful ones is the cooperation in the water field.

In the field of research and education, the plan of implementation envisages:

- intensifying research cooperation between developing countries and industrialized countries
- strengthening cooperation between natural and social sciences and between politics and science
- incorporating the issue of sustainable development on all levels in the educational system, and
- improving the access of students, researchers, and engineers from developing countries to universities and research institutes in industrialized countries

Development of Sustainable Water Technologies

- Fundamental review of the existing water structures, retaining regional resources in the region, and achieving differentiated water qualities for different use
- Development of new strategies in addition to the existing philosophy of a central water supply and waste water treatment, e.g. decentralized supply and disposal systems without any loss of functionality and safety
- Completely new, unconventional methods of water extraction in arid and semiarid regions (e.g. use of air humidity over land or of water vapour over the sea surface, tapping of underground rivers, systematic use of rainfall with a high seasonal fluctuation)
- Reuse of wastewater with special attention being paid to the possible impacts on human health (e.g. for irrigation, industrial purposes or groundwater recharge) with respect to the legal and institutional requirements
- Better understanding of the groundwater ecosystem
- Multiple use of water and, thus, effective resource protection through an intelligent combination of different economic sectors at industrial estates including energy and waste
- Recovery of reusable materials from wastewater and sludge (e.g. phosphorus)