

## Water resource efficiency

Water scarcity is a reality for hundreds of million people and competition for water is rising, highlighting the need for improved water efficiency. Present inefficiencies are explained by inadequate or deteriorating infrastructure in water supply systems and/or lack of incentives to use water efficiently. Sida supports capacity development, data collection, policy changes and investments to contribute to more efficient and equitable allocation of water.

Policy makers need to balance increasing water demands from households, farmers, industry, and hydropower while protecting the integrity of ecosystems. Good information on current and future water availability and demand under different scenarios helps policymakers to develop frameworks and investments for efficient use. Sweden acknowledges the central role of water governance and a rights-based approach when improving both water demand management and supply side measures. As water resources often are transboundary, international cooperation on data collection, policy responses and monitoring of implementation is often important. This brief provides a general overview of Sida's approach to water resource efficiency and highlights selected examples of relevance at both global and bilateral level on the next page.

### WATER DEMAND MANAGEMENT

Water demand management, a set of tools to *meet* and *control* water demand, is often applied to increase water resource efficiency. Sida supports water demand management activities through capacity building and promotion of various policy instruments, such as economic signals, regulations/quotas or information campaigns. Water metering and appropriate tariff systems help create an enabling framework for efficient water provision and use. Institutional capacity is needed to

design and implement policy responses that promote efficient and socially acceptable use of water.



*Learning to use drip irrigation. Photo: ICRISAT*

In the agricultural sector responses to policy instruments can range from application of more efficient irrigation technologies, such as drip irrigation, to improve maintenance of irrigation systems and reduce losses, as well as switching into less water-demanding crops.

Many transition countries with a history of subsidised water have reformed the tariff systems to allow cost recovery for service providers. A substantial reduction in demand has typically followed due to increased water efficiency. Sweden has in several cases combined support to reform processes with loans or guarantees to improve water and energy efficiency and stimulate investments in water provision infrastructure or wastewater treatment.

### REDUCING WATER LOSSES

In many countries a large share of the water supplied is lost either due to e.g. water leakages and illegal connections. Together with unpaid bills, this undermines the financial viability of service providers and creates disincentives to provide the services as planned. Investments and capacity to manage both water infrastructure and collection of bills are needed.

## Examples of Swedish support related to water resource efficiency

### TARIFF REFORMS AND INVESTMENTS

Large investments are needed in municipal water and wastewater treatment services in Eastern Europe, Central Asia and Caucasus. Opportunities to modernise energy and resource efficiency are generally substantial. Operation and maintenance typically require improvements in the tariff system to allow for cost recovery. Sweden continues to build on its long experience of combining support to institutional changes with investments in water infrastructure in countries like Georgia, Ukraine and Russia. In Bosnia-Herzegovina, Sida co-finances wastewater treatment plants to improve water quality. Investments are also made to reduce leakage and improve the quality and efficiency of existing infrastructure. Most of Sida's water infrastructure support in Europe is undertaken in collaboration with the European Bank for Reconstruction and Development.



*Cultivations by the Nile, Sudan. Photo: Petter Meirik/Sida*

### COOPERATION TOWARDS OPTIMAL USE

In the face of increasing competition, the 10 riparian countries of the Nile have over the years experienced an increased need to coordinate water use plans and water resource management. Sweden provides various types of support for cooperation between the basin countries, for instance through the Nile Basin Trust Fund (NBTF). The support has made it possible to move from the previously fragmented water management to a more integrated and regional approach based on cooperation. Another result of the NBTF is the development of a world class Decision Support System, providing a common knowledge base and way of modelling the river. The system is helping decision-makers to find win-win solutions from a regional perspective and to understand the tradeoffs between different investment options, such as hydropower and irrigated agriculture.

### COLLECTION AND ANALYSIS OF DATA

Efficient management calls for good information about water resources and their uses. Kenya is reporting declining levels of water per capita and declining per capita storage. However, data on rainfall, evaporation, climate, groundwater and water quality is lacking in many parts of Kenya, which constrains proper planning of resource use. As part of a support to the Kenyan water sector Sida has supported the Water Resources Management Authority (WRMA) to develop a monitoring system to improve planning and facilitate follow up. As a result, the water monitoring network works more efficiently with data availability reports and water assessment reports being provided regularly, and rainfall/run-off models have been developed by WRMA in 6 prioritised sub-catchments. Steps have also been taken to ensure data sharing with respect to regional climate modeling and rainfall/run-off modeling.

### PROMOTING INTEGRATED MANAGEMENT OF THE WORLD'S WATER RESOURCES

Sida is co-funding the Global Water Partnership (GWP) and provides core support to its 2014-2019 strategy period. GWP's mission is to advance governance and management of water resources for sustainable and equitable development. One of GWP's guiding principles is integrated water resources management that is based on the equitable, efficient management, and sustainable use of water. For example, GWP advocates for and works to strengthen all aspects of the enabling environment: policies, legal frameworks, financing, and incentives that safeguard human rights and protect public assets, such as ecosystem services. The enabling environment encourages the participation of all stakeholders from national to local levels to achieve efficient, equitable and sustainable water management. During the last four years, GWP's efforts have led to the adoption of Integrated Water Resource Management (IWRM) plans in 12 countries and reforms of national water policies in 11 countries.

#### Policy direction – water and sanitation

Sweden promotes efficient, fair and sustainable management of water and sanitation. Sida's interventions are directed by results strategies at country, regional and global levels.