

## Water management and food security

Today agriculture accounts for about 70% of the world's freshwater withdrawals and food demand is expected to more than double by 2050. Efficient use of water in food production is not only necessary to ensure food security but can also contribute to achieving health and energy objectives particularly benefitting poor and vulnerable groups. Sida promotes integrated and rights-based approaches for water efficient food production and sustainable use of water across sectors.

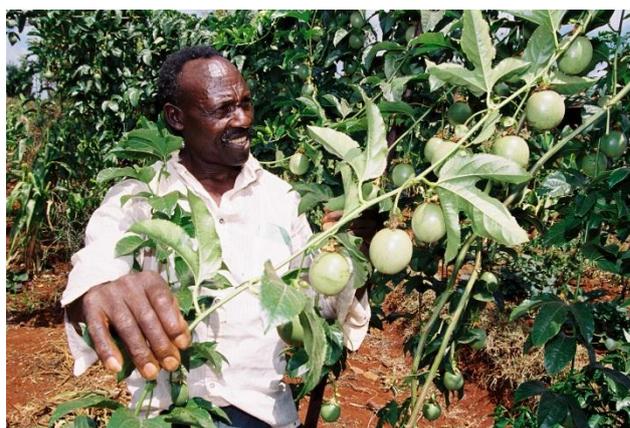
While there is sufficient water and land to feed all, a billion people go hungry. The majority of the world's poorest and hungry live in rural settings and depend directly on agriculture. In the years ahead the pressure on the food system will grow due to population increase, changes in diets and climate change. Consequently, ensuring food security will be a demanding challenge. It has been assessed that between 5 and 25 tonnes of water is used for every kilogramme of food produced. Furthermore post-harvest food losses have been estimated to range between 15-50 % which is a waste of both food and water. Addressing these challenges requires cross sector collaboration which is a priority for Swedish support to agriculture, rural development, water and energy.

Sida promotes integrated water, food and land resources management with particular attention to gender aspects and people in poverty. This brief provides a general overview of Sida's engagement in the area of water management and food security, and highlights selected examples relevant to the theme.

### SIDA PROMOTES MORE CROP PER DROP

Water-saving agricultural practices and effective and equitable water management methods are needed

throughout both rain fed and irrigated food production systems. A combination of approaches can be applied to increase the crop yields per unit of water. These include improved land management, such as no tillage, use of compost to increase water absorption, choice of better seeds, and application of nutrients and water control measures that minimise evaporation.



*More effective farming in Kenya. Photo: Simon Maina/Sida*

### QUALITY AND QUANTITY MATTERS

Water for food production comes from rivers and lakes, rainfall or groundwater. Measures to enhance the supply of water include rain water harvesting, re-use and recycling of water and pumping of ground water. Improving water storage capacity can greatly enhance food production by smoothing seasonal variations in water availability and may in many cases also allow for hydropower generation.

Water pollution constrains the productive use of water and the agricultural sector is in many countries a major source of pollution. Sweden supports management of chemicals and waste, wastewater treatment and separation of urine from faeces to recycle nutrients and improve water quality.

## Examples of Swedish support related to water and food security

### MULTIPURPOSE RESERVOIRS

Food insecurity is a large problem in rural Burkina Faso where agriculture is the main livelihood. The region is dependent on rain fed agriculture and droughts are common. Small reservoirs reduce vulnerability by increasing the supply of water for domestic use, small scale irrigation, livestock and fisheries. In response to the government's national adaptation plan and the national integrated water resource management action plan, Sida supports the construction, maintenance and rehabilitation of small water reservoirs in some of the poorest regions in the country. Women, young men and girls are large beneficiaries of the Swedish supported programme as they constitute the bulk of the seasonal workers around the dams.



Reservoirs in Burkina Faso increase farmers' incomes.  
Photo: P. Casier/CGIAR.

### SECURING WATER FOR FOOD

Greater efficiency in the distribution of food supplies and production of more food with less water is critical. To improve water sustainability and increase food security, Sida has in partnership with USAID, set up the new challenge fund *Securing Water for Food*. The fund provides investment support for technological and business model innovations that will enable production of more food with less water in developing and emerging countries.

### STRONGER INSTITUTIONAL CAPACITY

Bolivian farmers in arid and semi-arid rural areas have been able to improve their food security through the introduction of water harvesting installations and small scale irrigation systems as part of a large program for agricultural development. The agricultural program PROAGRO is a partnership between Sida, German development cooperation and the Bolivian Government.

The program addresses institutional capacity constraints at multiple levels in assisting farmers with services. The program also involves outreach to individual farmers to increase their productivity and resilience to climate change. PROAGRO is harmonised with the National plan for watershed management. The program has contributed to better coordination between public institutions.

### RESEARCH FOR FOOD PRODUCTION

The Consultative Group on International Agricultural Research (CGIAR) conducts research to foster sustainable agricultural growth that benefits the poor. Sida provides core support both to CGIAR fund and several individual CGIAR Research Programs, including the research program on Water, Land and Ecosystems managed by the International Water Management Institute (IWMI). The program focuses on learning how to intensify farming activities, expand agricultural areas and restore degraded land while using natural resources wisely and minimising harmful impacts on ecosystems. IWMI takes a river-basin and land-scape approach to provide solutions to declines in soil fertility, land degradation including erosion and salinization, and the critical phenomenon of water scarcity.

### CLIMATE RESILIENT AGRICULTURE IN ASIA

Agriculture is an important engine of growth and poverty reduction in the Greater Mekong Sub-region (GMS). Appropriate agricultural practices, including water efficiency measures, can contribute to food security and higher incomes in rural areas without degrading the ecosystems. Sida supports the Asian Development Bank's Core Agricultural Support program in the Greater Mekong Sub-region. Program components include research and pilot projects for water efficient and eco-friendly agricultural practices, strengthened policy frameworks for improving food quality management and expansion of regional trade. The vision of the program is for "the GMS to be recognized as the leading producer of safe food, using climate friendly agricultural practices, and is integrated into global markets through regional economic corridors".

#### 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.