



# SCARCITY OF WATER AND LAND RESOURCES

## FAO FOCUS AREA

FAO estimates that developing countries will need to double agricultural production by 2050 to meet food demand. Given the finite availability of freshwater and the limited opportunities for expanding arable land, levels of agricultural production to meet demand will be maintained essentially by intensifying current water and land use. Water scarcity already affects more than 40 percent of the world's population, while some 25 percent of the population depends on land already degraded – degradation is estimated to cost USD 40 billion a year in lost productivity. These challenges and resulting competition over resources will be further exacerbated by increasing demand for biofuel production and anticipated impacts of climate change.

### **Concerted efforts to manage water and land scarcity for agricultural production**

FAO has deployed a comprehensive framework to reconcile competition for scarce water resources across agricultural systems, focused on water use efficiency and productivity increase. The framework provides a comprehensive set of tools to support water resource management and agricultural policy, including water audits to guide decision-making towards productive and sustainable water use patterns.

FAO also has had a leadership role in creating the Global Soil Partnership (GSP) for Food Security and Climate Change Adaptation and Mitigation. Launched in September 2011, it brings together FAO regional soil networks, governments, partners and researchers to develop coordinated actions addressing soil-related problems. The GSP helps raise global awareness of the rapidity with which this critical resource is being lost and the urgent need for concerted action to reverse soil degradation and promote sustainable soil management for future food security and resilience of the earth's production systems.

These areas of work are complemented by valuable networks, partnerships and information systems facilitated by FAO such as the Global Land Cover Network and AQUASTAT, a global database on water resources and agriculture.

### **FAO WATER PLATFORM**

Water is the critical common factor for producing crops and livestock, maintaining freshwater fisheries, or ensuring that forests and aquatic systems continue to provide local communities with their foods, medicines and other ecosystem services. Yet, the approach to water management has often not been cross-sectoral. To help address this issue, FAO has established the FAO Water Platform, an internal coordination mechanism that integrates the multiple uses of water and encompasses technical, policy and legal considerations. The Platform aims to foster the adoption of comprehensive water management measures by Member Countries, for greater coherence and synergy between water uses and better water productivity. The Platform also promotes partnership between FAO and other agencies that have an interest in water issues.



# EXAMPLES OF IMPACT

## INFORMATION PRODUCTS FOR NILE BASIN WATER RESOURCE MANAGEMENT

The population of the 11 countries that share the Nile Basin, currently around 200 million, is expected to increase between 61 and 82 percent by 2030. At the same time, environmental degradation, climate extremes, inadequate infrastructure and social instability threaten to perpetuate poverty.

**PROCESS:** The Nile Basin project consolidated spatial information on water and agriculture in the region, developed and disseminated 18 manuals on water measurement techniques and trained hundreds of specialists. It also introduced the concept of water auditing, to ensure countries had a picture of their



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water resources, in terms of how much water there is, how it is used and whether current use is sustainable, that can be used nationally and regionally.

**IMPACT:** The lessons learned from the Nile Basin project have been compiled for use in other water management projects, including a new project FAO has launched in Mesopotamia.

Although the Nile Basin project has ended, the products were produced under the Nile Basin Initiative which continues to refine and use the information products.

## LAND DEGRADATION ASSESSMENT IN DRYLANDS

The problem of land degradation crosses national borders, ecological zones and socio-economic levels and can be especially devastating for the world's poorest living in dryland areas. The reduced productivity of degraded land leads to uncertainty in food security, migration, limited development and damaged ecosystems.

**PROCESS:** The FAO Land Degradation and Assessment in Drylands Project (LADA), supported by Global Environmental Facility (GEF), worked with six pilot countries to develop participatory methods and tools for local, national and global levels to assess land degradation and sustainable land management (SLM), their causes and impacts on livelihoods and ecosystems services.

**IMPACT:** The toolbox is now being used in over 25 countries in both drylands and humid regions. At local level, countries learn to use low-cost, user-friendly biophysical measures and appraisal tools that consider socio-economic contexts as well as land use practices. At national or river-basin level, mapping of land degradation enables identification of hotspots and bright spots to guide response strategies and investment. LADA has compiled over 50 case studies to share their best practices and promote their scaling-up. The tools enable countries to contribute effectively to the United Nations Convention to Combat Desertification (UNCCD) while achieving synergies in terms of biodiversity, climate change resilience and food security.



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