

UNESCO combating drought in **Horn of Africa**

UNESCO begins mapping groundwater in January in the drought-stricken Horn of Africa, in order to bring the population a sustainable water supply. Drought has caused the region's worst famine in 60 years, with 12 million people at risk of starvation. Those living in refugee camps are particularly vulnerable.

The first stage of the project is being supported by Flemish funds to the tune of US\$396,000 with an additional US\$100,000 from UNESCO. It involves a series of national consultations organized by UNESCO to mobilize stakeholders, partners and potential donors, followed by a regional workshop and the mapping of groundwater at pilot sites in Ethiopia and Kenya.

The first national consultation took place in Ethiopia on 1–2 November. This was followed by field visits by experts to assess the situation in the Dolo Ado refugee camp in the southeast of the country from 4 to 10 November and in the Fafen upper valley from 12 to 14 November (*see map*). A second national consultation in Kenya this time on 9–10 November was followed a month later by a field visit to Kakuma refugee camp in Turkana.

Following close on the heels of the third national consultation in Somalia on 1 December was a regional workshop in Addis Ababa. On 5 and 6 December, specialists from UNESCO's offices in Nairobi and Addis Ababa met with ministerial staff and experts from six countries belonging to the Intergovernmental Authority on Development (IGAD) to share the outcome of the national consultations, agree on the scope of regional activities and mobilize partners at the regional level.

Mapping will begin in the Fafen upper valley in January and should be complete by the end of April.

Thanks to advances in geosciences, it is now possible to detect the precise location of groundwater in arid climates like that of the Horn of Africa. UNESCO is using new remote-sensing technology developed by Radar Technologies International to generate high-resolution groundwater potential maps of the area under study. These maps will in turn guide partners in determining where to drill boreholes to bring the water to the surface in a cost-effective manner. These partners include UNHCR, UNICEF, USAID and a number of NGOs.

The technology developed by Radar Technologies International has already proven its worth in Darfur (South Sudan) and in a UNESCO groundwater survey in Iraq last year. The technology processes remote-sensing data, including data from the LANDSAT and RADAR satellites, in combination with ground truth data provided by a ground penetrating radar and other information drawn from geological, hydrogeological, geographical, hydrological and climate data and, when dealing with deep aquifers, seismological data.

Once the maps and a related database have been produced, these will become the property of the countries concerned. UNESCO will maintain a presence, however, to ensure sustainable management of the groundwater for generations to come.

UNESCO plans to consult experts and commission studies before extending the project into the northern arid and semi-arid parts of Ethiopia and Kenya, as well into refugee camps in Somalia. For this second stage, UNESCO will need additional funding. A decision is expected by late January on a proposal UNESCO has submitted to the Government of Japan for US\$1.5 million over eight months.

UNESCO's action plan for the region also covers the longer term. UNESCO will be offering medium- to long-term support in drought monitoring and preparedness, in order to ensure the Horn of Africa is better prepared next time a severe drought strikes. The Organization also plans to strengthen institutional and technical capacities in the region with the support of the Regional Groundwater Training and Research Centre in Kenya, which operates under the auspices of UNESCO.

UNESCO's action plan has been devised in line with the *Nairobi Declaration* adopted by Heads of State during their emergency summit on the crisis in the Horn of Africa on 9 September 2011.

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A family using a hand-pump to collect water from a well in the Fafen Upper Valley in Ethiopia.