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## ETHIOPIA'S NATIONAL STRATEGY FOR IMPROVING WATER RESOURCES MANAGEMENT

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Ethiopia's current approach to assessing and managing water resources, including geothermal, assigns very high priority to the use of isotope hydrology. Incorporation of this technology into government planning began with a few activities, in local groundwater assessment and in geothermal studies, kicked off by a 1993 National Isotope Hydrology Training Workshop that the IAEA helped arrange. The first results of isotope studies were useful in characterizing the Aluto Geothermal Field, where a 7.2 MW(e) power plant was later built with support from the UNDP and the EEC. And the Government is now hoping to introduce isotope techniques to improve utilization of the field.

Isotope hydrology has successfully aided attempts to better understand ground water occurrence, flow and quality problems in arid regions of Ethiopia. These efforts are continuing through studies in the Dire Dawa, Mekelle and Afar regions.

Rising water levels in Lake Beseka are threatening to submerge vital rail and highway links. Isotope hydrology made a unique contribution to understanding the surface and subsurface factors responsible, leading to an engineering plan for mitigating the problem. The Government has allocated substantial funding and construction work has begun. A similar success story is emerging at Awassa Lake, where isotope hydrology is proving a very useful complement to conventional techniques.

Another promising application of isotope hydrology is taking place as part of the Akaki Groundwater Study near Addis Ababa. Preliminary isotopic results indicate that earlier conclusions based on conventional techniques may have to be revised. If so, there will be significant implications for the exploitation and management strategy of the resource.

Based on these encouraging results, the Government is proceeding with the preparation of a project document for the Ethiopian Groundwater Resource Assessment Programme. With the assistance of the IAEA, the U. S. Geological Survey played a leading role in conducting a National Workshop that designed the programme's basic features.