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Huge Aquifers Are Discovered in North Kenya

By Nicholas Kulish

NAIROBI, Kenya — The United Nations and Kenyan officials on Wednesday announced the discovery of a potentially enormous underground supply of water, a find they said could improve the lives of generations of people in impoverished northern Kenya, if not the entire nation.

With water security a growing concern around the world, the discovery of five aquifers in drought-plagued Turkana County could help secure Kenya's access to the most critical of natural resources, particularly in the arid north.

Out of a population of roughly 41 million people, 17 million Kenyans lack sufficient access to safe drinking water and 28 million are without adequate sanitation, said the United Nations Educational, Scientific and Cultural Organization, known as Unesco.

"This newly found wealth of water opens a door to a more prosperous future for the people of Turkana and the nation as a whole," Judi Wakhungu, Kenya's secretary for the environment, water and natural resources, said in a Unesco statement on Wednesday. "We must now work to further explore these resources responsibly and safeguard them for future generations."

In addition to potentially providing drinking water, the vast underground supplies could be used as a source of irrigation for crops or to water livestock. Malnutrition has been a growing problem among the Turkana people, and a new supply of water could help head off conflicts over scarce resources in the region, where deadly cattle raids are common.

The finds were a product of cooperation between the Kenyan government and Unesco, with the financial support of Japan. According to Unesco, further study is needed to determine exactly how much water there is and its quality. It also remains to be seen how easy and expensive tapping the new supply will be.

The Lotikipi Basin Aquifer — which by one estimate is roughly the size of Rhode Island — and the smaller Lodwar Basin Aquifer were discovered using advanced satellite technology and confirmed with drilling. The other three aquifers still need to be confirmed through drilling, Unesco said.

Gretchen Kalonji, Unesco's assistant director general for natural sciences, said in the statement that the find "clearly demonstrates how science and technology can contribute to industrialization and economic growth, and to resolving real societal issues like access to water."

Radar Technologies International, the natural resources exploration firm that discovered the aquifers, said that they contained "a minimum reserve of 250 billion cubic meters of water," or about 66 trillion gallons, and that rainfall in Kenya and Uganda refilled them with about 898 billion gallons annually.

Unesco described the find as a scientific triumph and one that it hoped to replicate elsewhere. "We will continue to support Africa to unlock the full potential of its invisible water wealth," Ms. Kalonji said.

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Where Water is Gold

Newly discovered aquifers in Kenya promise relief for parched nation

By the Editorial Board

Some rare good news has offset the usual grim predictions about the planet's dwindling natural resources. Kenya, one of Africa's most important countries, has uncovered a potentially huge new water source. Now comes the challenge of managing it fairly and transparently.

The discovery, announced last week by Kenya and the United Nations, involves five aquifers in impoverished Turkana County that could mean a more secure future for the country as a whole. Of Kenya's 41 million people, an estimated 17 million lack access to safe drinking water and 28 million are without adequate sanitation. The new underground sources, estimated to hold at least 66 trillion gallons, could be used for drinking, irrigating crops and watering livestock.

The project shows what can be done when responsible authorities work together. Identifying the aquifers was a joint effort of the Kenyan government and Unesco, with financial support from Japan, a major donor of international development assistance. Advanced satellite equipment and expertise from **Radar Technologies International** helped provide technical breakthroughs.

Radar Technologies, a natural resources exploration concern, has confirmed two of the five aquifers through drilling, but further exploration at the other three sites is needed before experts can determine more precisely how much water exists and what it will take to extract it.

Kenya's task is to figure out, with United Nations help, how to protect these supplies and tap them in ways that ensure they last for generations. Management needs to be fair and open, with clear limits on how much water can be extracted, how often and by whom. This may not be easy in a country with a history of corruption, and where the president and deputy president are facing trial by the International Criminal Court for crimes against humanity stemming from the 2007 presidential election.

Water scarcity is a huge problem globally, fueling competition among states, regions and tribes and sometimes leading to bloodshed. The Organization for Economic Cooperation and Development has estimated that by 2030 nearly half the world's population will live in areas with severe water stress. Kenya's remarkable good fortune is a ray of hope in this otherwise gloomy picture.

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