

For background information, images, and maps, please visit the online press room at:  
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## **New Digital Map of Africa's Depleted Soils to Offer Insights Critical for Boosting Food Production**

*The Bill & Melinda Gates Foundation and Alliance for a Green Revolution in Africa Award  
US\$18 million To International Center for Tropical Agriculture*

Nairobi, Kenya (13 January 2009)—Responding to sub-Saharan Africa's soil health crisis, the International Center for Tropical Agriculture (CIAT) announced today an ambitious new effort to produce the first-ever, detailed digital soil map for all 42 countries of the region. This project combines the latest soil science and technology with remote satellite imagery and on-the-ground efforts to analyze thousands of soil samples from remote areas across the continent to help provide solutions for poor farmers, who suffer from chronically low-yielding crops largely because of degraded soils.

Efforts to improve African soils, which are among the most depleted on earth, have been hampered by a lack of up-to-date, comprehensive knowledge about current soil conditions. This information is critical to identify the types and amounts of mineral and organic nutrient sources needed to increase crop yields. The need for action is hard to ignore; according to FAO, one in three people - or 236 million (2007) - in Sub-Saharan Africa are chronically hungry.

The African Soil Information Service, or AfSIS, will respond to that need by making up-to-date assessments of soil properties. Researchers will probe the landscape of sub-Saharan Africa, using a variety of highly accurate digital soil mapping techniques to create detailed soil maps, which will be available on the Internet. Data provided by AfSIS at the regional, national and local levels will help farmers and agricultural experts identify the best options for sustainably improving crop production through better soil management.

Work on AfSIS is supported through a four-year grant of US\$18 million from the Bill & Melinda Gates Foundation and the Alliance for a Green Revolution in Africa (AGRA). CIAT's Nairobi-based Tropical Soil Biology and Fertility (TSBF) Institute will lead the effort. The new digital soil map will ultimately be developed as part of a global soil mapping initiative, called *GlobalSoilMap.net*.

"Soil management in sub-Saharan Africa must be improved dramatically if we are to reduce poverty, feed growing populations and cope with the impact of climate change on agriculture," said Dr. Nteranya Sanginga of CIAT, which is one of 15 centers supported by the Consultative Group on International Agricultural Research (CGIAR). "Achieving this requires accurate, up-to-date information on the state of Africa's soils."

"This project will benefit farm families in Africa by showing how they can reverse the trend of declining soil fertility, a major reason for slow growth in the region's agricultural productivity during recent decades," said Dr. Namanga Ngongi, president of AGRA.

AfSIS will use innovative remote sensing technology via satellite to create detailed images of large areas indicating nutrients, moisture and organic matter in the soil. It will also use infrared spectroscopy to analyze the chemical and physical properties and organic matter of soil samples. Commonly used in the medical industry, this latter technique is now being used in agriculture, to perform quick assessments of the soil's capacity to retain water and absorb nutrients.

All soil information will be collected and made available via the Internet in a user-friendly manner. AfSIS experts will offer training to agricultural extension agents and others on how to interpret and translate information provided by the soil map for practical application.

Agricultural policy makers will find the information helpful for developing recommendations about the types, blends and amounts of fertilizers and other soil supplements that are most appropriate for improving harvests in particular regions. The project will pinpoint areas where soils are at risk and provide detailed information on interventions that have proved effective for deterring soil degradation. The data will also provide insights on the environmental and human factors (such as weather patterns and population growth) associated with soil degradation and with the improvement of soil health.

“Helping small farmers increase their yields and incomes is one of the most important things that world can do to alleviate hunger and poverty,” said Dr. Rajiv Shah, director of Agricultural Development at the Bill & Melinda Gates Foundation. “Access to better information about their soil will empower African farmers to use methods tailored to their conditions so they can boost their productivity and build better lives.”

Partners in the effort include the Earth Institute at Columbia University, the World Soil Information (ISRIC) at Wageningen University in The Netherlands and the Nairobi-based World Agroforestry Center. AfricanSoils.net will initiate collaboration with national agricultural research programs across Africa, including the establishment of regional soil health laboratories in Tanzania, Kenya, Mali, Nigeria, and Malawi.

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**About the International Center for Tropical Agriculture (CIAT)**

CIAT is a not-for-profit organization that conducts socially and environmentally progressive research aimed at reducing hunger and poverty and preserving natural resources in developing countries. CIAT is one of the 15 centers funded mainly by the 58 countries, private foundations, and international organizations that make up the Consultative Group on International Agricultural Research (CGIAR). For more information, please visit: [www.ciat.cgiar.org](http://www.ciat.cgiar.org)

**About the Alliance for a Green Revolution in Africa (AGRA)**

AGRA is a dynamic partnership working across the African continent to help millions of small-scale farmers and their families lift themselves out of poverty and hunger. AGRA programmes develop practical solutions to significantly boost farm productivity and incomes for the poor while safeguarding the environment. AGRA advocates for policies that support its work across all key aspects of the African agricultural value chain – from seeds, soil health and water to markets and agricultural education.

AGRA's Board of Directors is chaired by Kofi A Annan, former Secretary-General of the United Nations. Dr Namanga Ngongi, former Deputy Executive Director of the United Nations World Food Programme, is AGRA's president. With support from The Rockefeller Foundation, the Bill & Melinda Gates Foundation, the UK's Department for International Development and other donors, AGRA works across sub-Saharan Africa and maintains offices in Nairobi, Kenya, and Accra, Ghana. For more information, visit: [www.agra-alliance.org](http://www.agra-alliance.org)

**About the Bill & Melinda Gates Foundation**

Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving them the chance to lift themselves out of hunger and extreme poverty. In the United States, it seeks to ensure that all people—especially those with the fewest resources—have access to the opportunities they need to succeed in school and life. Based in Seattle, the foundation is led by CEO Jeff Raikes and co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett. For more information, please visit: [www.gatesfoundation.org](http://www.gatesfoundation.org)