

**Monitoring forest conditions and land conversion in the Eastern Arc
mountains of Tanzania and Kenya**

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Executive summary

In recent years, watershed (catchment) health has become a major concern worldwide. In response, the USDA Forest Service and the National Association of State Foresters developed a program of forest health monitoring utilizing a combination of remote sensing, permanent plots and special aerial and ground survey techniques. The results will provide land managers, planners, policy makers, interested communities (villages) and individuals with the status and trend information needed for making decisions. It also provides an early warning system of stresses on the forest watershed through the use of specific indicators for sustainable forests. One area in need of quality information is the Eastern Arc Mountains of Kenya and Tanzania.

The Eastern Arc Mountains are a chain of isolated mountains (501,377 ha) in Kenya and Tanzania that are influenced by the Indian Ocean. They were areas heavily covered by forests. Much of the original forests have been converted for agricultural crops. These mountains are recognized as globally important "hot spots" for forest biodiversity and are major national, regional and local sources of hydropower, water and wide array of forest-based benefits and agricultural production.

In February 2000 we began a two-year evaluation of forest health, land-use change and information sharing in the Eastern Arc's. The project is funded by the U.S. Agency for International Development (USAID) and the Forest Service. Satellite imagery (pages 5-9), permanent plots (pages 10-19, Appendix II), and a web page/CD-ROM (pages 20-23) are main components of the study. Information gathered will be used to identify areas where remedial measures are most needed, and later whether they are working.

Only by engaging local villagers in forest policy and management decisions can the current trends be altered (page 24). Local projects are supported by the United Nations, Cross-Border Biodiversity Project, East African Wildlife Society, USAID - Tuskegee University, and World Wildlife Fund, among others. Contacts have been made and information/data shared with these projects as well as with others (Appendix I).

The Forest Service has been active in East Africa since 1994, when a formal agreement led to the creation of the Forest Health Centre in Nairobi. The current project involves Forest Service employees Denny Ward (Southern Region), Chuck Dull (WO), Barbara O'Connell (Northeastern Research Station) and Gerry Hertel (Northeastern Area). Dr. Keith Douce (University of Georgia), Dr. Seif Madoffe (Sokoine University of Agriculture - Tanzania), Dr. Arthur Siaway (Tuskegee University) and Professor Joe Mwangi (Forest Health Centre and Moi University - Kenya) complete the team.

Notes to readers

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For more information on the Eastern Arc Mountains, go to:
<http://www.easternarc.org>