

Brown, S. (Principal Investigator). 2003. Carbon and Co-Benefits from Sustainable Land Use Management. Cooperative Agreement between Winrock International and the US AID, Cooperative Agreement No. EEM-A-00-03-00006-00.

The CCB Initiative is designed to accelerate the expansion of carbon and co-benefits approaches to sustainable land use management in developing countries and to improve the quality of life for rural people. The purpose of the CCB Initiative activities is to reduce the technical, financial, economic, and institutional risks associated with carbon and co-benefits investments by strengthening the science and understanding of carbon storage for common USAID project approaches.

Winrock International will focus on expanding the quality and availability of data for a range of carbon sequestration project activities in USAID's portfolio of forestry-related projects. The principal means employed will be the application and refinement of tools and methods for measuring, monitoring, and prioritizing carbon and co-benefits from land-use change and forestry projects, including development of baselines; use of ground measurements, aerial and satellite imagery including Winrock's leading edge Multispectral Three-Dimensional Aerial Digital Imaging (M3DADI); and development of new ways to assess compliance with regulatory requirements

Specifically, the Ecosystem Service technical team worked on the following

- Improve and strengthen carbon monitoring and reporting across selected USAID forestry projects.
- Improve and modify the tools for designing, measuring and monitoring carbon and co-benefits in Land-Use Change and Forestry (LUCF) projects with special attention to projects related to forest management and forest protection.
- Disseminate experience with measurement and monitoring of USAID projects to local, national, and international organizations to improve the global reporting and integrity of land-use change and forestry projects.

Work on this project has resulted in numerous reports on the following topics:

- Quantify the impact that changes in forest harvesting, e.g. from conventional logging to a form of reduced impact logging have on the emissions and removals of carbon. Field data and aerial digital imagery were used to estimate the change in carbon stocks from logging forests in the following four regions
 - the CARPE region—specifically Republic of Congo
 - northern Mexico pine forests,
 - Amazon region of Brazil,
 - East Kalimantan in Indonesia.
- Developed and tested methods using spatial modeling techniques to selected regions to determine which forests are likely to undergo deforestation in future decades. This has been completed for
 - a region in Republic of Congo
 - the whole of East Kalimantan in Indonesia.