

Organization: University of Ghana-Department of Botany

Project Location: Ghana

Web address: www.ug.edu.gh

Title of Grant: "Ghana Biodiversity Informatics Project."

Grant Amount: \$198,400

Principal Investigator: Alex Asase

Organization Background:

The University of Ghana was established in 1948 as a teaching and research center when it was founded as a college of the University of London. The Department of Botany at the University is responsible for teaching and research into plant sciences including plant diversity, ecology, taxonomy and mycology. It has an associated botanic garden and a herbarium holding the largest number of specimens in Ghana, approximately 90,000.

The department has previously been involved in a number of biodiversity informatics related projects such as the African Plant Initiative and the conservation and cultivation of medicinal plants. It has been mandated within Ghana to coordinate the establishment and hosting of the Ghanaian Node of the Global Biodiversity Information Facility (GBIF).

Grant Description:

Lack of widely accessible working list of flora and fauna, up-to-date knowledge, information gaps and inaccuracies on the current status of biodiversity in Ghana is a constraint in the implementation of the aims of the Global Strategy of Plant Conservation of the Convention on Biological Diversity. This project seeks to address some of those impediments over a period of three years through: (1) establishment of a Ghanaian- Global Biodiversity Information Facility (GBIF) node to promote, coordinate, and facilitate the data-sharing and dissemination activities within the country, making use for that purpose of the standards, protocols, infrastructure, and capacity made available by GBIF as a global initiative; (2) digitization initiatives that builds on existing initiatives facilitating the integration of all data and information available about Ghana's biodiversity; and (3) collation and synthesizing information on medicinal plants as a practical demonstration of biodiversity informatics tools to produce meaningful analysis that can support policy or decision making within the country.

The Problem:

The global and local extinctions of flora and fauna constitute an environmental problem that demands action. Biodiversity is of importance in Africa for daily subsistence, health care and nutrition as well as for marketing and earned income. It is recognized that a challenge in developing countries is to combine sustainable use of biodiversity with continuous economic growth over the long term. Proper management of biodiversity is essential for the quality of life for current and future generations. African nations have in

the 2005 Commission for Africa indicated that they see sustainable management of this biodiversity as a priority.

The first attempt of a poverty reduction strategy for Ghana was focused on poverty reduction programs and projects. In 2005 the government of Ghana re-launched the poverty reduction strategy for Ghana, called Growth and Poverty Reduction Strategy. The emphasis of this new strategy is on the implementation of growth-inducing policies and programs, which have potential to support wealth-creation and sustainable poverty reduction. Ghana is strategizing to follow the Millennium Development Goals (United Nations 2000), but the ongoing degradation of biodiversity is seen as a road block to the success of the goals in general.

The Solution:

The ecosystem of Ghana spread in two major biomes, namely, tropical high forest and the savannas. There are over 3,600 species of plants with 19 species thought to be endemic, 724 species of birds, 221 amphibians and reptiles, and 225 mammalian species in Ghana. There is a high degree of butterfly endemism in Ghana where about 23 species are thought to be endemic. Ghana's freshwater fish fauna includes 157 species and over 392 marine species were recorded. This rich Ghanaian biodiversity provides livelihoods sources and well-being of people in terms of food, shelter, primary healthcare and economic income.

This project aims to develop informatics tools to support the conservation and sustainable use of biodiversity in Ghana by policy makers, resources managers and other potential end-users. Ghana has since March, 2001 been a member of the Global Biodiversity Information Facility an independent international organization established in 2001 with overall mission to work with its partners (countries, international organizations, natural history museums, herbaria, the scientific and IT communities, and the international biodiversity-related conventions) to provide free and universal access to the world's primary biodiversity data. The ultimate goal of this project is to be able to provide this baseline data. The proposed project also directly addresses the objectives of the Millennium Development Goals.

Global Impact:

The proposed project will be implemented over a period of three years starting from January 2009. The first two years of the project will involve; (1) organizing stakeholder's workshop to build national consensus on a Ghanaian node of GBIF; (2) setting-up of a Ghanaian-Global Biodiversity Informatics node (GhanaBIF); (3) training and capacity building workshop on specimen digitization; (4) digitization of herbarium specimens and museum insect and vertebrate specimens, and (4) training and capacity building workshop on IUCN conservation assessment and mapping of the distribution of medicinal plants. The third year of the project will involved; (1) IUCN conservation assessment of medicinal plants; (2) Mapping of the regional and national distribution of medicinal plants; (3) collation and synthesizing of information on medicinal plants; (4) production of a handbook on medicinal plants of Ghana. Finally, the University will organize a dissemination workshop to bring on board other data providers and users.