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FOREWORD

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Date

**ASSOCIATE PROGRAM 1
BIODIVERSITY CONSERVATION**

INSTITUTION: Center for Tropical Forest Research,
 Smithsonian Institution

 Man And Biosphere, Smithsonian Institution

 Bioresources Development and Conservation
 Programme, Cameroon and Nigeria.

ACTIVITIES: Establishment of Biodiversity Plots
 Inventory
 Training

SCIENTIFIC RESULTS

A. Scientific summary:

Due to various delays, AP1 has had a belated start compared to the other APs. However, substantial gains were made in the planning for two of the three AP1 components and in training Cameroonian and Nigerian partners in an intensive biodiversity monitoring course in the US. With planning and training underway, it is expected that, during the fourth quarter (when the dry season begins), two of the AP1 programs will begin active research and training in Cameroon.

B. Research/training accomplishments:

i. Training/Small plots.

Of the three programs in AP1, the training/small plots program had the greatest research/training accomplishment. This year, the Smithsonian Institution/Man and the Biosphere (SI/MAB) course on International Measuring and Monitoring Biodiversity, which was held from May 12 through June 14, 1996 at the Smithsonian Conservation and Research Center in Front Royal, Virginia, included four participants from West

Africa: Edward Mgbang (Nigeria), Bernard Nwokocha (Nigeria), Bernard Aloys-Nkongmeneck (Cameroon), and Bruno Ewusi (Cameroon). Travel and course tuition was paid fully by AP1 for two of these participants and tuition was paid for a third participant.

This intensive 5-week course provided Mgbang, Nwokocha, Ewusi, and Nkongmeneck with training and a methodology for establishing long-term biodiversity monitoring programs. The training included detailed knowledge about measuring and monitoring abiotic factors, bacterial and micro-organisms, vegetation, bird populations and communities, amphibian and reptile populations, mammal populations, invertebrate populations, and freshwater fishes and aquatic invertebrates. These activities has also provided participants with a greater understanding of the breadth of disciplines involved in environmental management. A copy of the schedule is attached to demonstrate the breadth of the activities during the course.

After having spent five weeks with the four individuals, the Smithsonian staff and participants got to know each other quite well. Beyond the daily lectures and fieldwork, the participants also learned a tremendous amount from each other. Both networks and friendships were established over the course of the five weeks. It became evident that the four West African participants were learning a great deal while enjoying their experience in Front Royal.

In addition to the course activities, Smithsonian staff met with the four participants to discuss the possibility of running vegetation courses in Cameroon and Nigeria. In these meetings, we discussed course objectives, logistics, site selection, and what would have to be accomplished in the weeks immediately following the Front Royal course. It was agreed that these participants would be the key contacts to help facilitate getting the course organized and planning in their countries.

ii. Forest Dynamics Plot.

Plans for the second AP1 component, the large plot program, were substantially advanced during the last year as a result of several meetings attended by project members from Walter Reed Army Institute

of Research, the Smithsonian Institution, the National Institutes of Health, and the National Science Foundation. Additionally, a visit by the AP1 Principle Investigator, Dr. Elizabeth Losos, to Cameroon was also critical in advancing AP1 plans (see next section). However, accomplishments were limited to planning for the large Forest Dynamics Plot in Korup National Park because research and training can not begin until the initiation of dry season in October or November.

iii. Economic botany. The final component of AP1, the economic botany program, is scheduled to begin later this year. Extensive planning has been accomplished in this area.

MANAGEMENT ISSUES

A. Visit to Cameroon.

The AP1 Principle Investigator, Dr. Losos, took a short but useful trip to Cameroon to establish contacts and initiate planning for the AP1 programs. She met with Dr. Nicholas Songwe, the likely Cameroon technical advisor of the large plot project, to discuss scientific, managerial, and logistical issues. She held two meetings with executive board of the non-profit group Bioresources Development and Conservation Programme-Cameroon (BDCPC), a Cameroonian partner organization that is assisting with several of the APs. Dr. Losos also gave an evening slide presentation about AP 1 and Smithsonian research (including the Center for Tropical Forest Science and SI/MAB) to the entire membership of BDCPC. Dr. Johnson Jato, BDCPC executive director, acted as the host of Dr. Losos' trip.

A critical and successful meeting was held with the World Wildlife Fund-Cameroon and the Korup Project, which oversee the research and management in Korup National Park. The Korup Project showed great interest in the large plot project and pledged their assistance and support in carrying out the project. Other important meetings included visits with officials and researchers at Limbe Botanical Garden, officials at the Ministry of the Environment and Forests, officials from the Ministry of Scientific and Technical Research, and researchers at Wildlife Conservation International.

B. Staffing.

As outlined in the grant proposal and its amendments, Dr. Losos of SI is the Principle Investigator. Drs. Francisco Dallmeier and Don Wilson of SI will assist the PI in overseeing the small plots and training component of the project. Dr. Richard Condit of SI will assist the PI in overseeing the Forest Dynamics Project. Additionally, Dr. Duncan Thomas will serve as the U.S technical advisor to the large plot project and Dr. Nicholas Songwe will serve as the Cameroonian technical advisor to the large plot project. Dr. Songwe is currently employed as the scientific director of the Korup Project; we are waiting for authorization from his employers that he can also participate in this project. Most other staffing decisions will be made in the next two quarters.

We are in the final stages of arrangements on the Cameroon and Nigerian training workshops. The leaders of these programs will be the individuals that participated in the SI/MAB workshop in Front Royal this May.

Additionally, we are currently seeking field leaders for the Forest Dynamics Project. One young botanist, David Kenfack, was highly recommended by Wildlife Conservation Society. Drs. Losos and Jato, who met with Kenfack in May, were both favorably impressed with his energy and credentials. He also has the support of Dr. Thomas. The final decision will be made by Drs. Losos and Songwe. Another excellent candidate, Dr. George Chuyong, has been recommended by Dr. Songwe and the Korup Project for the top field leader position. We are currently examining possibilities of including Dr. Chuyong in the project and the possibility of bringing one of the senior field leader from a recently completed Forest Dynamics Plot Project in Zaire to Korup for six months. There are several advantages to this scenario. First, the Zairians now have three years of experience working on large plot projects, which is an enormous bonus when starting up a new project. Second, this exchange would foster regional cooperation and network-building, as outlined in the grant proposal.

C. Budget.

The budget for AP1 is very tight. Currently, we are working with financial officers from the Smithsonian Institutions and the parties involved in the grant to how to minimize our costs and still achieve all of the objectives that we have set out. For example, we are investigating the least cost method for acquiring tree tags - whether it entails buying pre-stamped tags or employing laborers to punch out the numbers. Additionally, we have also eliminated all salaries and other fees going to Smithsonian staff, and reallocated those funds to the general budget.

D. Site selection.

We have selected the sites for the Cameroon workshop this fall and for the Forest Dynamics Plot. We are finalizing with officials from Limbe Botanical Gardens (LBG) as well as University of Buea on the use of their facilities for the workshop in November. Additionally, one of the SI/MAB course participants, Bruno Ewusi, is a forester on staff at Limbe. As LBG has the facilities and interest necessary to host such a workshop, we have tentatively chosen this site. The small biodiversity plots will be set up during the workshop. The Nigerian workshop and establishment of plots is scheduled for February, 1997. There will be a total of five plots in each country. The trainees are also encouraged to set up similar plots in their localities. Participants from neighboring countries have also been invited and areas in dire need of biodiversity conservation have been considered in the selection of candidates for the workshop.

The Forest Dynamics Plot will be located in the southern portion of Korup National Park, as has been authorized by the Government of Cameroon. The exact location will depend on a variety of biological, edaphic, and logistic characteristics, such as topography, soil types, species composition, history of natural and human-caused disturbance, and accessibility. Drs. Songwe and Thomas will select one or several potential sites during the upcoming year. During the visit by the Principle Investigator and other Smithsonian staff in November, site selection will be finalized.

WORKPLAN AND TIMELINE

The current activities will take place during the third quarter, the wet season. Most activities will be carried out in anticipation of initiating field work and the workshop when the dry season begins in November.

A. Purchase vehicle.

The World Wildlife Fund, which has NGO status, has agreed to assist with the importation of a vehicle for the project. They can import vehicles duty-free. They are also very experienced with vehicle importation.

B. Begin tag production in Mundemba.

Assuming we decide to manufacture tree tags by hand, we will begin tag production in Mundemba, the nearest town to Korup National Park, in November.

C. Forest Dynamics Plot site selection.

A tentative site(s) for the large plot will be selected by Drs. Thomas and Songwe. Work will begin fully in November.

D. Preparations for November workshop in Limbe and Buea.

With the likely assistance of Bernard Aloys-Nkongmeneck, Bruno Ewusi, the LBG staff, and the BDCPC staff, we will conclude preparations and hold the upcoming workshop in Cameroon.

E. Finalize Contracts with parties in AP1.

We expect to finalize contracts between the Smithsonian Institution and the BDCPC, the Korup Project (including N. Songwe), and Duncan Thomas.