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**CONSERVATION OF BIOLOGICAL DIVERSITY PROJECT
(BIODIVERSITY SUPPORT PROGRAM)**

FIFTH SEMI-ANNUAL REPORT OF PROGRESS

October 1, 1990 to March 31, 1991

BSP Staff

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Mr. Bruce Leighty, Program Officer
Ms. Kate Newman, Program Officer
Dr. Meg Symington, Program Officer
Dr. Janis Alcorn, Program Officer
Dr. Jacob (Les) Whitmore, Program Officer
Ms. Chadwick Kumpe, Program Assistant
Ms. Satta Nallo, Program Secretary

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Dr. Seymour Sohmer, Project Manager

World Wildlife Fund, Inc.

The Nature Conservancy

and World Resources Institute

A.I.D. Project No. 936-5554

A.I.D. Cooperative Agreement No. DHR-5554-A-00-8044-00

THE BIOLOGICAL DIVERSITY SUPPORT PROGRAM

5TH SEMI-ANNUAL REPORT

INTRODUCTION

The Conservation of Biological Diversity Project (No. 936-5554) is funded by the A.I.D. Science & Technology Bureau's Office of Forestry, Environment and Natural Resources (S&T/FENR). A Cooperative Agreement (No. DHR-5554-A-00-8044-00) was signed September 30, 1988 between A.I.D. and World Wildlife Fund, Inc. (WWF), awarding WWF \$12,844,931 for an initial period of five years. During the first five-year phase of the project, funding will come from two sources: CORE funding from S&T/FENR; and add-ons from Missions and Regional Bureaus interested in participating in the project. The project has a ten-year Life of Project (LOP) authorization.

The project adopted the name "Biodiversity Support Program" (BSP) for public use. BSP is being implemented as a consortium effort with the formal collaboration of The Nature Conservancy (TNC), and the World Resources Institute (WRI). Beyond the three member consortium of WWF, TNC, and WRI, the Biodiversity Support Program collaborates with a wide range of other U.S. scientific and educational institutions involved in international conservation, including the Consultative Group on Biological Diversity (CGBD) and the Peace Corps.

The goal of the Biodiversity Support Program is to conserve biological diversity and promote sustainable economic growth in selected developing countries through improved conservation and use of biological resources. Functionally, BSP works to facilitate conservation activities in A.I.D.-assisted countries by working in collaboration with A.I.D. Missions and Bureaus, government institutions, and nongovernmental organizations.

The project has five major components: (1) technical assistance for A.I.D. missions, host country institutions, local PVOs and the Peace corps; (2) a small research grants program for specific issues relevant to A.I.D.'s conservation activities worldwide; (3) training focusing on the capacity of host-country scientists and institutions to conserve biological diversity, particularly with respect to fund-raising and preparation of competitive grant proposals; (4) an information and evaluation network that compiles information on the conservation activities of A.I.D. and other U.S. institutions, and carries out information dissemination; and (5) pilot demonstration projects in the field funded largely by A.I.D. Mission or Regional Bureau add-ons (via contract amendments) to the program.

ADMINISTRATION

BSP added two new program officers and a program secretary to its technical staff during this reporting period. Current staff

totals are five program officers, one program assistant, and one program secretary. Dr. Janis Alcorn joined the staff of BSP as Senior Program Officer for Asia/Pacific in January, 1991 after serving as a consultant to A.I.D. and WRI. Dr. Alcorn was a AAAS Fellow advisor in natural resources to A.I.D. from 1988 to 1990, and a faculty member at Tulane University from 1985 to 1988. Dr. Alcorn's areas of expertise include ethnobiology, international development and environmental management, conservation of biodiversity, human ecology, indigenous agriculture, tropical ecology, agroforestry and tropical forest management. Dr. Alcorn has traveled extensively in Asia, Latin America and Europe and has served in the Peace Corps in India.

Dr. Jacob (Les) Whitmore joined BSP in March 1991 as a program officer for tropical forestry and global climate change. He is currently on loan from the U.S.D.A. Forest Service, International Division. Dr. Whitmore holds two forestry degrees from the University of Michigan and has worked with the Forest Service in Pennsylvania and New Hampshire, the American Friends Service Committee in Mexico, the U.S. Cultural Institute in Lima, Peru, the Organization for Tropical Studies in Costa Rica, and the University of Washington in Seattle. His work has included teaching and research on plantation forestry and life zone ecology. For the last twenty-three years, Dr. Whitmore has worked in over 45 nations and produced more than 50 publications.

Satta Nallo joined the staff of the Biodiversity Support Program in March as Senior Program Secretary. Before joining BSP, she worked for British Nuclear Fuels Limited, Inc., a firm which is involved in de-commissioning nuclear plants in the United States and Britain. As the daughter of a career diplomat from Sierra Leone, she has lived abroad and travelled extensively.

Dr. Gary Hartshorn continued to serve as acting director of BSP during this period while applications for a new director were being received and reviewed.

The six-person Executive Committee for BSP (comprised of one representative and one alternate from each of the three collaborating organizations) meets on a regular monthly basis. Alan Randall from TNC chairs the BSP Executive Committee for the calendar year 1991.

PROGRAM BUDGET

A summary of expenditures for this reporting period, October 1, 1990 to March 31, 1991, is attached as Exhibit 1. It summarizes expenditures in this period and for life of project according to the categories in the Cooperative Agreement budget with additional detail given for the five major components: technical assistance; small research grants; training; information and evaluation networking; and pilot demonstrations (funded by add-ons).

PROGRAM ACTIVITIES

In Appendix 1, specific project activity summaries are presented that detail BSP activities during this reporting period. It is organized by the five major components: technical assistance; small research grants; training; information and evaluation networking; and pilot demonstrations (funded by add-ons). Activities covered under these summaries were either started or in progress during this reporting period.

EXHIBIT 1

Six Month Progress Report

October 1, 1990 to March 31, 1991

Expenditures for Reporting Period and Life of Project

<u>Cost Element</u>	<u>Expenditures This period (Oct. to Mar.)</u>	<u>Expenditures Life of Project as of 3/31/91</u>
Salaries	\$98,451.64	\$313,239.55
WWF Indirect Costs	65,413.00	234,564.69
Travel & Per Diem	1,617.54	31,671.87
Other Direct Costs	28,196.55	91,237.86
Grants and Subcontracts*	1,082,928.34	1,787,896.92
	=====	=====
	\$1,276,607.07	\$2,458,610.89

*Breakdown of Grants and Subcontracts:

	<u>Expenditures This Period</u>	<u>Expenditures Life of Project</u>
Technical Assistance	\$20,840.54	\$46,919.77
Research	6,029.62	6,417.32
Training	1,467.65	70,892.65
Information Networking	25,385.52	89,266.39
Pilot Demonstrations**	1,029,205.01	1,574,400.79
	=====	=====
	\$1,082,928.34	\$1,787,896.92

**Breakdown of Pilot Demonstrations (add-ons):

	<u>Expenditures This Period</u>	<u>Expenditures Life of Project</u>
Thailand Buy-in	\$12,021.57	\$134,828.02
LAC Buy-in	13,043.96	201,176.27
ANE Buy-in	34,567.05	178,759.73

**Breakdown of Pilot Demonstrations con't:

	<u>Expenditures This Period</u>	<u>Expenditures Life of Project</u>
Madagascar Buy-in	523.97	3,920.07
Nepal Buy-in	63.55	1,236.76
S&T/FENR I	21,331.53	45,276.87
Gambia I Buy-in	37,953.50	99,503.19
S&T GCC	189,091.20	189,091.20
LAC GCC	378.64	378.64
Mexico GCC	5,546.42	5,546.42
Training Workshop Brazil	17,796.84	17,796.84
LAC - Central America	95,000.00	95,000.00
Les Arcadins	40,203.56	40,203.56
Beza Mahafaly Nat. Reserve	84,266.98	84,266.98
Nectari	46,450.00	46,450.00
Annapurna	92,896.00	92,896.00
Mexico Ecodevel. Prog.	244,171.00	244,171.00
AID Resource Seminars	11,716.61	11,716.61
AID Para Forestry	102,182.63	102,182.63
	=====	=====
	\$1,029,205.01	\$1,574,400.79

TA904

TITLE: South Pacific Priority Ecosystems Inventory

COMPONENT: Technical Assistance

FUNDING: \$25,000

DURATION: Initiated 13 August 1990; ends 31 December 1991

IMPLEMENTOR: The Nature Conservancy (TNC) and South Pacific Regional Environment Programme (SPREP)

CONTACT: BSP: Bruce Leighty; 202-778-9685; fax 202-293-9211
TNC: Sam Pearsall 808-956-3521; fax 808-956-9608
AID/South Pacific: Jim Osborn 679-311-399;
fax 679-300-075

LOCATION: South Pacific/Papua New Guinea; Solomon Islands; Vanuata; Fiji; Tuvalu; Tonga; Niue; Cook Islands; Kiribati; Western Samoa

PURPOSE: To classify and develop a preliminary inventory of the ecosystems of the tropical Pacific that will provide needed information for the conservation of biodiversity in Pacific ecosystems.

DESCRIPTION: Covering the countries listed above, a tropical Pacific inventory of ecosystems will provide the following: 1) preliminary classification of terrestrial and marine ecosystems; 2) an evaluation system for the selection of ecosystem classes for conservation within the USAID region; 3) maps indicating the known locations of good examples of significant ecosystems for each country; and 4) a list of islands and archipelagos in the USAID region where ecosystems inventories and maps are most needed in order to guide sustainable development. This information, in turn, will assist the planning of regional natural resource efforts by the AID/South Pacific Regional Office and others.

PRODUCTS/OUTPUTS: Two working papers--one on terrestrial and one on marine ecosystems summarizing existing approaches to their classification, and an inventory of significant ecosystems in the region.

STATUS: Reports now coming due

SIGNIFICANCE: This activity was conceived and designed to assist USAID in the planning of a regional natural resources initiative, the Profitable Environmental Protection (PEP) Project by supplying important background information on the location of critical ecosystems in the region. The activity fully involves SPREP, the technical coordinating environmental agency for 22 countries and territories in the tropical Pacific, and relies on

TA905

TITLE: Forest Inventory/Bolivia

COMPONENT: Technical Assistance

FUNDING: \$4,552

DURATION: Initiated 22 December 1989; ended 24 October 1990

IMPLEMENTOR: David Neill, Missouri Botanical Garden (MBG)

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
MBG: David Neill 314-577-5169

LOCATION: Bolivia/Chimoré-Yapacaní

PURPOSE: The Bolivian Government (GOB) requested the support of a dendrology consultant to work with a Bolivian team under a sub-project entitled: "Protection of Renewable Natural Resources, Chimoré-Yapacaní". The consultant trained: 1) a Bolivian dendrologist in the botanical identification of forest species in the project area; and 2) local personnel in aspects of tree identification for the forest inventory component of the project.

DESCRIPTION: The GOB, with Interamerican Development Bank (IDB) assistance, works in eastern Bolivia to promote sustainable forestry and protection of fragile and diverse environments. The Ministry of Agriculture leads the efforts in this field and focuses its activities between the Chimoré and Yapacaní Rivers. This region includes areas where much of Bolivia's coca is grown and where settlement pressure is high. The region is characterized by rolling hills and high, densely forested steep mountains that represent important watersheds for the area. The GOB, with IDB financing, hopes to protect these watersheds. In addition the GOB wants to promote economic growth in the zone through the use of sustainable forestry practices.

PRODUCTS/OUTPUTS: A final report for the Chimoré-Yapacaní Project (in Spanish) includes a description of the area, an overview of the tree flora, various observations and recommendations, a tree species list arranged by family and another list arranged alphabetically by common name. The executive summary of the report is in English: Dendrological Survey of the "Elias Meneces" Experimental Forest, Choré Forest Reserve, Santa Cruz, Bolivia, 1990, by D. Neill, BSP, 3 p.

STATUS: Completed

SIGNIFICANCE: The technical assistance mission produced valuable information for the Chimoré-Yapacaní Project and a set of recommendations for current and future activities. The training of project personnel in various aspects of dendrology made a significant contribution to the forest inventory component of the

TA906

TITLE: Philippines Foundation Design

COMPONENT: Technical Assistance

FUNDING: \$2,000

DURATION: 3 to 7 November 1990

IMPLEMENTOR: John Rigby, Transcentury Foundation (TF)

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958
TF: John Rigby 202-328-4424

LOCATION: Philippines/Manila

PURPOSE: AID/Manila asked BSP to find an advisor to the Mission who could help identify issues and problems associated with the establishment of a foundation that would administer proceeds from a pending debt-for-environment swap.

DESCRIPTION: John Rigby was contracted by BSP to spend two days in Manila studying the proposed Natural Resources Management Project and its (NGO-centered) Resources Protection Component. He met with representatives of A.I.D. and the legal establishment and read existing documents to become familiar with the growing interests and approaches to creating foundations in the Philippines. After a preliminary assessment of the issues involved, the consultant provided both oral and written guidance to the Mission.

PRODUCTS/OUTPUTS: Rigby, J. 1990. Summary Report of Philippines Foundation Design. WWF and BSP, 11 pages plus draft of MOU and articles II-VI. (also on 3½" information disk)

STATUS: Completed

SIGNIFICANCE: There is relatively recent and widespread interest throughout the A.I.D. system as well as within NGOs and PVOs on endowment funding. PVO's have regularly received support from donors. As the demands for funding PVO's increases, and their need for support for at least the next decade increases, the need also increases for home-based foundations to support basic operating expenses. Additionally, as greater national debt burdens can be marketed for the environment, the environmental debt-swap has become a means of leveraging economic aid to countries with a large public debt.

RELEVANCE: Under Technical Assistance, this foundation design and establishment activity meets BSP's mandate by addressing programmatic priorities for financial sustainability for operating NGOs.

COMMENTS:

TA908

TITLE: Lake Tanganyika Conference on Conservation and Biodiversity (LT/CCB)

COMPONENT: Technical Assistance

FUNDING: \$50,000

DURATION: Initiated 9 March 1990; ends 31 December 1991

IMPLEMENTOR: University of Arizona (UA), Dept. of Geophysics

CONTACT: BSP: Kate Newman 202-787-9524; fax 202-293-9211
Bruce Leighty 202-778-9685
UA: Andrew Cohen 602-621-6024

LOCATION: Burundi/Participants included government and NGO officials from the riparian nations--Burundi, Tanzania, Zaire, Zambia, as well as scientists, conservationists, and resource managers

PURPOSE: The First International Conference on the Conservation and Biodiversity of Lake Tanganyika was designed to bring together key individuals in the fields of conservation, lake resource management (water and fisheries) and watershed management who are specifically concerned with the future of the Lake Tanganyika Basin, to discuss both immediate and long range conservation, planning, and research goals for the Basin. The conference participants: 1) reviewed existing environmental problems and legislation relevant to the Lake Tanganyika Basin in the four countries; 2) made immediate, specific recommendations for the establishment and maintenance of underwater reserves within the context of existing on-land national parks; 3) identified specific actions that might be taken immediately to mitigate the most serious environmental impacts now facing the entire lake; 4) designed a holistic proposal for long-term research and monitoring of the Lake Tanganyika Basin ecosystem; and 5) considered establishing a program of cooperative research among aquatic conservation biologists and fisheries biologists from the four nations bordering the lake.

DESCRIPTION: Cohen requested assistance from BSP to hold the LT/CCB on 11 to 13 March 1991, to provide a forum for participants to share in a dialogue on the conservation issues affecting the lake. Sixty-five participants from 12 countries attended the three-day conference. The participants proposed a number of specific measures to address the environmental threats to the Lake and called for international cooperation to solve these problems, both among the four nations bordering the lake and between these riparian states and the international community at large. The governments of Burundi, Tanzania, Zaire and Zambia enthusiastically supported the conference and directed follow-up activities.

TITLE: WCI Conservation Assessment

COMPONENT: Technical Assistance

FUNDING: \$15,670

DURATION: Initiated 19 November 1990; ended 29 February 1991

IMPLEMENTOR: Wildlife Conservation International (WCI)

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
AID/Africa: Tim Resch 703-235-3786;
fax 703-235-3805
WCI: Amy Vedder & Michael Fay 212-220-7159

LOCATION: The Congo

PURPOSE: To support WCI in a preliminary survey of the current conditions to be faced in future conservation efforts in the Congo.

DESCRIPTION: Rain forests cover roughly 60% of the People's Republic of the Congo (GOPRC), or more than 2 million square kilometers. This extensive forest zone is second in total area only to that of Zaire and is believed to contain some of the most biologically diverse sites on the African continent. The size of the remaining forest and low human population densities, especially in the north, combine to create favorable conditions for the long-term conservation of key areas. The intensification of commercial logging and the almost total lack of protected areas, however, threaten this forest resource base.

Faced with the above conditions, WCI expanded its long-term African Forest Program to include the Congo in 1989. AID/Kinshasa (Zaire), which is responsible for managing A.I.D.'s portfolio in the Congo, requested that WCI consider four specific areas of possible WCI/AID collaboration: 1) creation of the Ndoki-Nouabale Forest Reserve; 2) national level surveys to determine the Congo's faunal and floral resource base; 3) applied research and monitoring for sustainable forest use; and 4) training of national cadres in the area of rain forest ecology, conservation and management.

PRODUCTS/OUTPUTS: This activity generated a project proposal to AID/Kinshasa upon completion of the field survey and discussions with GOPRC officials and the U.S. Embassy in Brazzaville. The three-week trip by WCI's Michael Fay produced a project proposal entitled "Conservation of the Northern Forests of the People's Republic of Congo: Nouabale-Ndoki National Park and Forest Resource Conservation." The proposal was funded in full for \$2.5 million over five years by AID/Kinshasa.

STATUS: Completed

TA9010

TITLE: Dipterocarp Mast Fruiting, Indonesia
COMPONENT: Technical Assistance
FUNDING: \$3,500
DURATION: Initiated December 1990; ended March 1991
IMPLEMENTOR: Lisa M. Curran/Princeton University (PU)
CONTACT: BSP: Meg Symington 202-778-9727; fax 202-293-9211
PU: Lisa Curran 609-258-1325; fax 609-258-1712

LOCATION: Indonesia/West Kalimantan

PURPOSE: To enable the principal investigator to travel to West Kalimantan to coordinate an Indonesian team of researchers for the monitoring of an exceptional mast fruiting of the dominant tree family, Dipterocarpaceae (see RE901.7510, which is the research grant that followed this TA).

DESCRIPTION: The Dipterocarpaceae tree family is notorious for synchronous, supra-annual reproduction in the tropical rain forests of southeast Asia. These mast fruiting events may occur once every 7-17 years. Ms. Curran made an urgent request to BSP for travel assistance to coordinate with her Indonesian colleagues the initial design and field work for her larger research project on "The Effects of Selective Logging on Dipterocarp Forest Regeneration and Dipterocarp Seed Predators in Kalimantan." Specific objectives are to evaluate the potential of the remaining dipterocarp trees in logged forest to set sufficient seed and establish seedlings after seed predation.

PRODUCTS/OUTPUTS: Interim report

STATUS: Travel completed; interim report received.

SIGNIFICANCE: The proposed research (funded in part through a BSP small grant RE901.7510) will: 1) document dipterocarp demography, phenology and seed regeneration; 2) monitor abundance of vertebrate and insect predators on seeds; 3) determine if selective logging affects local harvest levels of illipe nut; 4) suggest modifications to dipterocarp extraction practices; 5) define criteria for the selection and design of nature reserves; and 6) train young Indonesian scientists in field ecology.

RELEVANCE: The opportunistic provision of technical assistance for better understanding natural interactions of dipterocarp trees and their seed predators will improve conservation efforts.

COMMENTS:

TA912

TITLE: Mafia Island Marine Park/Reserve

COMPONENT: Technical Assistance

FUNDING: \$25,000

DURATION: Initiated January 1991; ends December 1991

IMPLEMENTOR: World Wide Fund for Nature/Tanzania

CONTACT: BSP: Kate Newman 202-778-9524; 202-293-9211
Bruce Leighty 202-778-9685; 202-293-9211
WWF/Tanzania: John Boshe 255-51-28485;
fax 255-51-28486
WWF/US: Ted Dardani 202-778-9771

LOCATION: Tanzania/Mafia Island

PURPOSE: A workshop to be held on Mafia Island in late October 1991 will: 1) provide a forum for residents and resource users to share their views on the concept of a Mafia Island Marine Park/Reserve; 2) present the management proposal of the Steering Committee (made up of representatives from national and local governments, national and international NGOs and the University of Dar Es Salaam) and develop and approve an outline of the management structure and strategy; 3) forge agreement on the precise area and approve a plan for legal creation of the Park/Reserve; and 4) produce a timetable for implementing the actions identified.

DESCRIPTION: The marine resources in the waters around Mafia Island/Tanzania are among the richest on the East African Coast. Coral reefs are fast being destroyed or degraded in many locations, but those of southern Mafia Island are still in excellent condition. This situation is nevertheless threatened by the recent rise in dynamite fishing and other pressures such as the overuse of seine nets.

Discussions on a Marine Park in the Mafia Island area have been held at various levels of government for some years. The first formal initiatives to create marine and coastal protected areas in Tanzania came in 1975. Two areas off Mafia Island--Chole Bay and Tutia Reef--were declared Marine Reserves for total protection, but lack of personnel and funding slowed implementation. Suggestions from various quarters urged the creation of a larger, multiple-use area combining conservation of reefs and other key coastal and marine environments in the Mafia area with a coherent management strategy for sustainable resource use, including ecotourism. In February 1991, a well-attended meeting was held in Dar es Salaam where the concept of a marine park/reserve in the Mafia Island area was discussed, resulting in the formation of a Steering Committee to further develop planning

IN891

TITLE: Biodiversity Seminar Series
COMPONENT: Information Networking
FUNDING: Core funds (approx. \$5,000/yr)
DURATION: Initiated October 1989; continues indefinitely
IMPLEMENTOR: BSP/Gary Hartshorn, Chadwick Kumpe 202-778-9600
CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
LOCATION: Washington, DC/WWF

PURPOSE: To provide a forum for Washington-based conservationists and visitors to participate in monthly seminars on topics relevant to the conservation of biological diversity. These seminars offer informal gatherings where individuals from NGOs, AID/W and other development agencies can come together to learn about various biodiversity activities as well as get to know one another.

DESCRIPTION: In the fall of 1989, a mailing list was compiled that included A.I.D. personnel from different regional bureaus and program staff from conservation organizations in DC. It was later expanded to include other interested citizens. Approximately 300 announcements are sent before each seminar. Speakers include scientists from academia, representatives from projects/organizations and an A.I.D. Mission officer. Participants can partake of hors d'ouvres, beer and wine before or after the formal lecture. The seminar presentation is usually 45 minutes in length, illustrated with slides, and followed by a question-and-answer session.

PRODUCTS/OUTPUTS: A regular forum to hear interesting approaches to conserving biodiversity and a popular networking opportunity. See current listings for Biodiversity Seminars.

STATUS: The Biodiversity Seminar Series continues to grow in popularity and attendance. The average attendance is 75 people.

SIGNIFICANCE: The seminars have been a very effective tool for educating the public and key players in the conservation community. They are also a vehicle of publicity for BSP, as they are known throughout the area for the interesting presentations and delicious food.

RELEVANCE: The Biodiversity Seminar Series directly addresses a mandate under the information networking component to sponsor periodic technical seminars.

COMMENTS:

RELEVANCE: Consistent with the Cooperative Agreement, the Gnusletter assembles information on conservation activities, collects evaluation information and research results, and synthesizes information from a variety of sources.

COMMENTS:

institutionalized priorities, moreover, can signal a commitment to action at national and local levels, and focus additional investment.

RELEVANCE: The Information Networking component of BSP provides A.I.D. with an overview of its biodiversity program and forms the underpinning for the Technical Assistance, Research, Training, and Pilot Demonstration components. This activity should assist in that effort and produce a synthesis report of use to the broader conservation community.

COMMENTS:

STATUS: Active

SIGNIFICANCE: Diverse stakeholders can constructively work together in a workshop format. The video will be used during the follow-up workshops in three PVO-NGO/NRMS focal countries-- Cameroon, Mali and Madagascar. These workshops will bring together representatives of NGOs, indigenous peoples, and government officials, to work on country-specific issues relating to buffer zone management. The community leaders around Kibule Forest Reserve in Uganda are already planning their own workshop, bringing together all shareholders around the reserve to begin collaboration.

RELEVANCE: As specified by the Cooperative Agreement, this activity supported a technical seminar, disseminated technical reports to LDC institutions, synthesized information, and sought out evaluation information to document successes, failures, and lessons learned.

COMMENTS: There is reason to feel optimistic that this workshop can serve as a model for further workshops and field-based buffer zone management activities in Africa.

IN893

TITLE: Publication of Flora of Thailand (3 volumes)
COMPONENT: Information Networking
FUNDING: \$12,000
DURATION: Initiated February 1989; ended June 1991
IMPLEMENTOR: Royal Forest Department (RFD) Herbarium
CONTACTS: BSP: Gary Hartshorn 202-778-9600; fax 202-293-9211
AID/W: Sy Sohmer: 703-857-4669; fax 703-875-4394
RFD: Thawatchai Santisuk 662-579-1534;
fax 662-579-8611

LOCATION: Thailand/Bangkok

PURPOSE: To assist with the publication of three volumes of the Flora of Thailand.

DESCRIPTION: Since the 1970 publication of the first volume of the Flora of Thailand, nine volumes have been published covering approximately 10% of the total flora of the country. The Editorial Board of the Flora of Thailand had some approved manuscripts in hand, but no funds to publish these installments as volumes. BSP funds were granted to publish 1,000 copies each of three volumes of the Flora of Thailand.

PRODUCTS/OUTPUTS: 1,000 copies each of three volumes of the Flora of Thailand. The inside cover carries the following acknowledgement "Published with financial assistance of the Conservation of Biological Diversity Program, a USAID-funded joint venture of the World Wildlife Fund, The Nature Conservancy, and the WRI Center for International Development and Environment."

STATUS: Completed

SIGNIFICANCE: The opportune funding of the publication of three volumes of the Flora of Thailand stimulated renewed interest and effort in promoting completion of the Flora of Thailand.

RELEVANCE: Publication of taxonomic treatments of the national flora contributes to a better understanding of biodiversity and is part of BSP's information networking component.

COMMENTS:

IN908

TITLE: WRI Investment Survey for 1989
COMPONENT: Information Networking
FUNDING: \$35,000
DURATION: Initiated 1 April 1990; ends 31 December 1991
IMPLEMENTOR: World Resources Institute (WRI)
CONTACTS: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
WRI: Janet Abramovitz 202-662-2528
Nels Johnson 202-662-2529; fax 202-638-0036
LOCATION: Washington, DC

PURPOSE: To support the research and publication of WRI's investment survey for 1989.

DESCRIPTION: This activity supports WRI in a follow-up of their 1987 survey of investments made by U.S. institutions in research and conservation efforts in developing countries. Specific support was provided for data collection and updating, processing, analysis, and publication of the 1989 Investment Survey, by Janet Abramovitz. The 1987 survey was well received, forming an excellent base for an enhanced 1989 survey.

PRODUCTS/OUTPUTS: Investing in Biological Diversity: U.S. Research and Conservation Efforts in Developing Countries by J. Abramovitz, 1991. Washington: WRI, 94 p.

STATUS: Completed

SIGNIFICANCE: This kind of publication provides important, but difficult to acquire, documentation on the background, planning, and activities of U.S. organizations investing funds and human resources in the conservation of biodiversity. It helps governments and NGOs to make better decisions as they plan future activities that relate to biodiversity, and provides for the first time an overall picture of the levels of support going to conservation. As the survey is repeated, it provides trend data, an important monitoring tool to assist in the evaluation of the pattern and effectiveness of conservation investments. For the two years that WRI has analyzed investments in biodiversity, the contribution to developing countries has gone from \$37.5 million to \$62.9 million--a trend that while positive, should be more rapid and aggressive.

RELEVANCE: BSP directly addresses its mandate to carry on the maintenance and collection of information on conservation activities of U.S. institutions.

COMMENTS:

IN909

TITLE: Tropinet Newsletter

COMPONENT: Information Networking

FUNDING: \$11,000

DURATION: Initiated April 1990; ends September 1991

IMPLEMENTOR: Organization for Tropical Studies (OTS) and
Association for Tropical Biology (ATB)

CONTACTS: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
Eds: Beth Braker 714-787-3495; fax 714-787-4286
Lucinda McDade 919-684-5774. (Duke U)

LOCATION: Riverside/University of California

PURPOSE: To provide the international network of tropical biologists with a quarterly newsletter of pertinent information.

DESCRIPTION: A four-page newsletter is produced quarterly as a supplement to the ATB journal Biotropica. Tropinet is distributed by electronic mail (BITNET), as well as by mail to the ATB and OTS mailing lists. Each issue of Tropinet contains: an editorial; regional news for Africa, Asia, Australia & Pacific Basin, Europe, Latin America, North America; a field station profile; and announcements of upcoming meetings and events.

PRODUCTS/OUTPUTS: A quarterly newsletter, Supplement #s 26, 27, 28, 29 of Tropinet published by OTS/ATB.

STATUS: Quarterly newsletters are being produced and distributed.

SIGNIFICANCE: There is an exponential growth of conservation activities in the tropics, but minimal communication within and among tropical regions. Tropinet is a significant effort to reduce the lack of interregional information exchange.

RELEVANCE: This project specifically addresses BSP's mandate to assist with information exchange and networking on topics relevant to the conservation of biodiversity.

COMMENTS: Tropinet is very popular among tropical biologists.

IN9010

TITLE: Women and Biodiversity Conference
COMPONENT: Information Networking
FUNDING: \$2,500
DURATION: Initiated 21 November 1990; ends 31 December 1991
IMPLEMENTOR: Committee on Women and Biodiversity (CWB), Harvard University
CONTACT: BSP: Kate Newman, 202-778-9524; fax 202-293-9211
CWB: Lea Borkenhagen 617-493-2307
LOCATION: Massachusetts/Cambridge/Harvard University

PURPOSE: To support the participation of two women from Ghana to the Conference on Biodiversity: Rainforest and Women, at Harvard University, 4 to 6 October 1991. The conference was designed to generate new approaches aimed at engaging women in the management of biodiversity. After the conference, multilateral funding agencies, non-governmental organizations (NGOs), and governmental agencies of developing countries will receive the conference's recommendations. Participants addressed the relation of women to tropical forests, constraints and problems for women, and implementation of the conference's recommendations.

DESCRIPTION: Rural women in tropical forest regions have a profound effect on their environment through such actions as collecting fuelwood, clearing forest for agriculture, and gathering non-timber forest products. Over time, women develop extensive knowledge of forest composition, extraction potential, and management. However, funding agencies traditionally bypass women in development efforts and instead approach men, the customary owners of land. Because women are principle holders of knowledge and agents of transformation, they are an important resource for the conservation of biodiversity. It is critical that the often silent part women play in the conservation and use of biological diversity be recognized and acted upon. This topic has been broached before, yet results of discussion have had little effect on large-scale development plans pursued by multilateral funding agencies, less still on rural projects.

BSP supported two participants from Ghana to provide the conference with vital, personal insights on how African women think about and affect the conservation of biodiversity. Amowi Phillips is adjunct professor in Comparative Law at Gonzaga University in Spokane, Washington, and a former member of the legal committee of the Ghana National Commission on Children. Ama Buabeng is a small-scale farmer from the eastern region of Ghana and a member of a traditional theater group that performs for grassroots communities throughout Ghana.

IN912

TITLE: Forests & People Conference/NYBG

COMPONENT: Information Networking

FUNDING: \$25,000

DURATION: Initiated 11 March 1991; ended 1 July 1991 (may be extended)

IMPLEMENTOR: New York Botanical Garden (NYBG)

CONTACT: BSP: Janis Alcorn, 202-778-9697; fax 202-293-9211
AID/Jakarta: Jerry Bisson 62-21-360-360
fax 62-21-380-6694
NYBG: Christine Padoch 212-220-8700

LOCATION: New York City/NYBG

PURPOSE: To provide a forum for international scholars, resource managers and the public to discuss Indonesia's Kalimantan forest ecology, human use and management of the forests, and the local and global effects of development in those forests.

DESCRIPTION: BSP supported 14 scholars and government representatives, including six officials from Indonesia, to attend the conference on Indonesia's Kalimantan forest. The support funds also provided conference and lodging expenses for selected participants from USAID-assisted countries. BSP Program Officer, Janis Alcorn, attended the conference.

PRODUCTS/OUTPUTS: A publication is expected in 1993.

STATUS: The NYBG Conference (June 21 to 23, 1991) attracted more than 70 participants, including Nelson P. Hutabarat, the Indonesian Embassy's Agricultural and Environmental Attache, and Graham Kerr, Chief, Regional and Resource Management Division, Office of Agriculture in the AID/Jakarta Mission. Christine Padoch, (co-convenor of the conference with Nancy Peluso of UC/Berkeley), requested that the BSP funds in excess of what was needed for participant support be used for publication of the papers presented. The request is being processed.

SIGNIFICANCE: The conference provided a unique opportunity for social and natural scientists to discuss conservation issues. Presentations were excellent and discussions were productive. The Indonesian delegation closed the conference with an invitation to continue the discussions next year at a follow-on conference in Indonesia.

RELEVANCE: AID/Jakarta concurred with BSP funding because the conference brought together Indonesian decision-makers and international scholars to discuss biodiversity issues related to Kalimantan forests. The conference promoted a direct exchange of

IN913

TITLE: WRI/WCMC Biodiversity '92/Expanded Investments Survey

COMPONENT: Information Networking

FUNDING: \$105,000

DURATION: Initiated April 1991; ends December 1992

IMPLEMENTOR: World Resources Institute (WRI)

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
WRI: Janet Abramovitz 202-662-2528

LOCATION: Washington, DC

PURPOSE: To continue to monitor, analyze and report on investments by USAID and other US institutions in biodiversity and conservation while enabling WRI to expand efforts by working with key biodiversity countries to collaboratively determine information needs, build local capacity and develop data sets on their internal investments. These data will help WRI compare US investments to internal investments for select countries.

DESCRIPTION: WRI's two previous publications on U.S. investments in biodiversity proved to be in great demand by government and non-government organizations, charitable organizations and the like. There is now a potential to see trends emerging in the economics of environmental investments in research, education, policy, planning, management, institution building, and other areas. WRI will continue to solicit information from previous and new contributors, but will also gather data on investments made internally by key countries around the world.

PRODUCTS/OUTPUTS: Publications expected

STATUS: Active

SIGNIFICANCE: The cataloguing and identification of investments in environmental and biodiversity activities is relatively new; however, the demand for the previous two publications (WRI investment surveys for 1987 and 1989; see Activity Summaries IN892 and IN908) has been great. The anticipated survey is expected to yield new trends in investment patterns. Like the previous publication, the forthcoming one will serve the broad public and government as a valuable resource.

RELEVANCE: BSP's mandate is to address maintenance and collection of information on conservation activities, including those of A.I.D. and other U.S. institutions.

COMMENTS:

IN914

TITLE: Conservation Education in Southwestern CAR

COMPONENT: Information and Evaluation Networking

FUNDING: \$19,000

DURATION: Initiated February 1991; ends December 1991

IMPLEMENTOR: WWF/US, Africa Program

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
WWF/Africa: Ned Seligman 202-778-9770

LOCATION: Central African Republic (CAR)

PURPOSE: To produce quality conservation education materials to be used by the Dzanga-Sangha Project which seeks to integrate wildlife protection, rural development, tourism, research and education, and preservation of the cultural integrity of the BaAka Pygmies. The conservation educational materials, printed in both English and French, will be used in the school system, nature clubs, and community groups. They are also the core materials for training programs for project staff and the community at large. These materials will help increase environmental awareness of target communities and teach them the value of conserving forest habitat and utilizing resources in a sustainable fashion.

DESCRIPTION: There exist only a few remaining areas of undisturbed lowland tropical forest in central Africa. These forest ecosystems are home to a variety of primates, including chimps and lowland gorillas. The forests also harbor elephants, bongo, a rich flora and indigenous hunter-gatherer people. In recent years, however, these forests have come under increasing pressure and are threatened by uncontrolled tourism, colonization and agriculture encroachment, poaching and uncontrolled mining. The tropical moist forests of southwestern CAR contain the country's last diverse forest habitats. In this region, the government of the CAR and WWF have come together to create a multiple-use reserve and national park to protect this unique ecosystem. The management is based on the Biosphere Model and allows for traditional hunting, agroforestry development and selective logging, while also providing areas of total preservation. As part of this larger Dzanga-Sangha Project, BSP has funded the printing of conservation education materials prepared by the current Dzanga-Sangha Conservation Education Coordinator, Denise Stromme, and Site Manager, Philip M. Hunsicker.

PRODUCTS/OUTPUTS: The conservation education materials include a detailed curriculum and activity package, extension booklets, slide presentations and a poster produced by the projects' Central African Co-Director. Printing includes 500 sets of the

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IN915

TITLE: National Forum on Ocean Conservation
COMPONENT: Information Networking
FUNDING: \$10,000
DURATION: Initiated April 1991; ends December 1992
IMPLEMENTOR: Smithsonian Institution (SI) Office of Environmental Awareness
CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
SI: Judith Gradwohl 202-357-4797; fax 202-786-2557
LOCATION: Washington, DC

PURPOSE: To provide funds to support the research and publication of a book resulting from the National Forum on Ocean Conservation, organized by the Smithsonian Institution (SI).

DESCRIPTION: The National Forum on Ocean Conservation, 19 to 21 November 1991, has a multidisciplinary overview of the status of marine conservation. It will focus the public, media, and policy-maker attention on the mounting problems associated with coastal and open-ocean ecosystems, and their implications for human society. Two full days of talks and panel discussions will highlight marine-based environmental issues and the interactions between land and sea. The program will frame the current critical issues, outline our state of knowledge, and present policy options and research needs.

PRODUCTS/OUTPUTS: A book will be researched and produced incorporating the above-mentioned environmental issues.

STATUS: Active

SIGNIFICANCE: The conservation of marine and aquatic ecosystems receives little support and attention when compared with terrestrial ecosystems. Members of the marine and aquatic sciences have less opportunity to get together and discuss status, problems, and solutions in their area of specialty. This meeting and forthcoming book have the potential to be seminal endeavors that should help to galvanize actions and provide a forward thrust to marine and aquatic conservation efforts.

RELEVANCE: This activity addresses BSP's mandate to expand outreach efforts, assemble information on the conservation activities of other major U.S. organizations, establish linkages and produce a text that should have impacts on economics, socio-political and ecological understandings about poorly understood effects of development on marine and aquatic ecosystems.

COMMENTS:

IN917

TITLE: Conservation Biology Subscriptions
COMPONENT: Information Networking
FUNDING: \$3,000 for the first year
DURATION: Initiated 30 October 1990; continues 2 to 3 years
IMPLEMENTOR: Society for Conservation Biology (SCB)
CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
SCB: Stephen R. Humphrey 904-392-6581;
fax 904-392-8783
LOCATION: Worldwide

PURPOSE: To sponsor 20 subscriptions a year to Conservation Biology for the next three years for Third-World conservationists.

DESCRIPTION: The Society for Conservation Biology requested financial assistance from BSP for its program of sponsored subscriptions to the journal Conservation Biology. This program was designed to promote the dissemination and discussion of critical ideas in conservation theory and management by providing the journal to countries where economic circumstances limit subscriptions.

BSP agreed to fund 20 new subscriptions to Conservation Biology for two to three years. A list of 20 individuals and institutions in Africa, Asia and Latin America was generated by staff at BSP, WWF and A.I.D., taking into account technical and financial need as well as the degree of exposure a recipient would be able to provide for others to use the journal. This list was forwarded to SCB and their publisher, Blackwell Scientific Publications.

PRODUCTS/OUTPUTS: The journal is mailed to 20 sponsored subscribers. Recipients also receive any available back issues of Conservation Biology.

STATUS: The activity is proceeding on schedule. SCB plans to take over all funding responsibility for sponsored subscriptions when it achieves financial independence, expected to occur in two to three years; hence the uncertain time frame of this project.

SIGNIFICANCE: This activity provides journal recipients with technical information and news contained in Conservation Biology and will, it is hoped, result in better management of natural resources.

RELEVANCE: This activity relates directly to the mandate set out for BSP under the Information Networking component by

PD891

TITLE: MANRES Biodiversity Research and Conservation

COMPONENT: Pilot Demonstration Project

FUNDING: \$449,993 (PIO/T #493-0345-3-80095)

DURATION: Initiated 29 August 1989; ends 30 September 1993

IMPLEMENTOR: Kasetsart University, Royal Forest Department Herbarium; Royal Forest Department Wildlife Conservation Division; Wildlife Fund Thailand; Zoological Parks Organization; Others

CONTACT: BSP: Kathy Saterson 202-861-8330; fax 202-293-9211
AID/Bangkok: Will Knowland 662-255-3661;
fax 662-253-6318
AID/W: Molly Kux 202-663-2639; fax 202-647-4958

LOCATION: Thailand

PURPOSE: In August 1988 AID/Bangkok initiated a \$44 million program with the Royal Thai Government (RTG) on the Management of Natural Resources and Environment (MANRES). The goal of the MANRES project is to promote the economic and social development of Thailand through improved management of the environment and natural resources. The purpose of the project is to develop the capacities of Thai governmental and non-governmental institutions to define, analyze and respond effectively to current and emerging natural resource and environmental problems. The objective of MANRES Element II is to support Thai organizations in developing increased scientific understanding of Thailand's biological resources, their potential, and effective management practices for conserving biological diversity.

DESCRIPTION: In November 1989 a detailed work plan (see Activity TA892) for this buy-in was prepared by BSP, submitted to AID/Bangkok and RTG agencies, and approved by the appropriate offices. Twelve specific activities (see following activity summaries) were agreed upon:

- A. Three U.S. Study Tours
- B. Information Transfer (books, journals, videos)
- C. National Botanical Assessment
- D. NGO Seminar on Conservation and the Environment
- E. WFT Small Grants Program and Institutional Strengthening
- F. Huay Kha Khaeng/Thung Yai Flora
- G. Vegetation Survey of Western Thailand
- H. Huay Kha Khaeng/Thung Yai Research and Facilities
- I. Field Ecology Course
- J. Sustainable Development in Buffer Zones
- K. Speaker for GCC Conferences
- L. Pilot Projects To Be Determined

PD891B

TITLE: Information Transfer
COMPONENT: Pilot Demonstration Project
FUNDING: \$25,000
DURATION: Initiated August 1989; ends 30 September 1993
IMPLEMENTOR: BSP; AID/Bangkok; Sandhill Crane Press
CONTACT: BSP: Kathy Saterson 202-861-8330; fax 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958
LOCATION: Thailand

PURPOSE: To buy or facilitate publication of appropriate numbers of key scientific or technical publications and ship these to the AID/Bangkok Mission for distribution.

DESCRIPTION: The following requests have been completed: purchase and ship 450 copies of E.O. Wilson's Biodiversity book; arrange for publication and purchase of 200 copies of Endangered Animals of Thailand by Humphrey & Bain.

PRODUCTS/OUTPUTS: At the request of the Mission, 450 copies of Biodiversity were shipped to the AID/Bangkok Mission for distribution at the October 1989 workshop "Biodiversity in Thailand: Inventory and Values" organized by the Science Society of Thailand (Biology Section) and Scientific Research Society of Thailand; 175 copies of Endangered Animals of Thailand were shipped to the Mission for distribution to Thai scientists on the request of AID/W.

STATUS: Active

SIGNIFICANCE: Scientists, conservationists and managers involved with biological resources in developing countries often have limited access or means of obtaining critical scientific and technical literature. In order to improve the capability of these professionals to carry out their responsibilities, better access to the pertinent literature and other information is fundamental. The ability of BSP to expedite the publication, purchase and shipment of key scientific books has permitted the AID/Bangkok Mission to effectively meet Thai requirements for scientific literature.

RELEVANCE: The provision of key scientific and technical literature in an explicit mandate under this BSP component.

COMMENTS:

PD891C

TITLE: National Botanical Assessment

COMPONENT: Pilot Demonstration Project

FUNDING: \$40,268

DURATION: Initiated January 1990; ended July 1991

IMPLEMENTOR: Royal Forest Department (RFD) Herbarium

CONTACT: BSP: Kathy Saterson 202-861-8330; fax 202-293-9211
AID/Bangkok: Will Knowland 662-255-3661;
fax 662-253-6318
RFD: Thawatchai Santisuk 662-579-1534;
fax 662-579-8611

LOCATION: Thailand

PURPOSE: To prepare, publish and disseminate (in both English and Thai) a concise, popular and compelling statement of the current status, potential and priority needs for botanical research and conservation in Thailand. The goal is to increase awareness among both Thai decision-makers and the international research and donor communities of the needs, opportunities, priorities and general framework for supporting research and conservation of Thailand's botanical resources.

DESCRIPTION: The national assessment of botanical research and conservation needs focuses on the institutional, physical and professional staff needs for conducting field research (primarily in the specialities of ecology, systematics and economic botany) and the needs for botanical conservation activities, such as maintenance and improvement of arboreta and botanical gardens. BSP provided three internationally recognized experts to collaborate with Thai specialists on the assessment. The six-person team worked in Thailand for three weeks to review available documents, inspect herbaria, visit a few key protected areas, review appropriate national institutions, and synthesize their findings in a report.

PRODUCTS/OUTPUTS: (1) 500 copies of a comprehensive report, Plants for Our Future: Botanical Research and Conservation Needs in Thailand by T. Santisuk, T. Smitinand, W. Hoamuangkaew, P. Ashton, S.H. Sohmer, and J.R. Vincent, were published in May 1991. (2) A concise, clearly written synopsis of the assessment report was published in both Thai and English in the report.

STATUS: Completed

SIGNIFICANCE: Despite Thailand's botanical richness, strategic biogeographic location and relatively high level of advancement in the natural sciences, botanical research has been neglected by

PD891E

TITLE: WFT Small Grants Program and Institution Strengthening

COMPONENT: Pilot Demonstration Project

FUNDING: \$45,000 + \$2,000 Amendment

DURATION: Initiated 1 August 1990; ends 30 August 1992

IMPLEMENTOR: Wildlife Fund Thailand (WFT)

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
WFT: Pisit na Patalung 662-2583004; fax 662-2586003

LOCATION: Thailand/country-wide

PURPOSE: To provide strengthening of WFT for administration and support of a small grants program for research and conservation.

DESCRIPTION: This activity is designed to provide easier access to funding sources for non-English speaking individuals and organizations doing small-scale conservation work within Thailand. Through the buy-in, WFT administers funds for a small grants program allowing applications, proposals and reports to be completed in the Thai language and offers grants of \$1,000 to \$4,000. Of the \$45,000, \$35,040 or more must be used for grant awards during the two years.

PRODUCTS/OUTPUTS: As of July 1991, the first competition had been completed and five grants, ranging from \$800 to \$2,340, include: 1) Training tour guides; 2) Conserving Khao Banthad--a youth program; 3) Phu Khiew Alley Cropping and Integrated Agroforestry System; 4) Campaign for Coral Reefs Conservation; 5) Volunteer Teachers for Environmental Preservation.

STATUS: WFT submitted their first report in April, but the second tranche was not remitted until July after the Mission's wind-down plan was in place. In response to a request from WFT, the contract is being amended to add \$2,000 for travel by project coordinator in order to visit project sites and evaluate progress.

SIGNIFICANCE: Environmental NGOs are traditionally grassroots organizations without the experience or facility to handle research grants proposals. By providing an active NGO like WFT with the funds and technical assistance, it is expected that it will contribute to development of NGO capacity to peer-review grant proposals.

RELEVANCE: This activity provides the support to strengthen an important Thai NGO in its commitment to the conservation of biodiversity. The small grants fund activities include

PD891G

TITLE: Vegetation Survey of Western Thailand

COMPONENT: Pilot Demonstration Project

FUNDING: \$30,000

DURATION: Initiated March 1990; ended March 1991

IMPLEMENTOR: Royal Forest Department (RFD) Herbarium

CONTACT: BSP: Kathy Saterson 202-861-8330; fax 202-293-9211
AID/Bangkok: Will Knowland 662-255-3661;
fax 662-253-6318
RFD: Thawatchai Santisuk 662-579-1534;
fax 662-579-8611.

LOCATION: Thailand/Kanchanaburi, Tak and Uthai Thani
Provinces

PURPOSE: To conduct a field survey of the major vegetation types, their distribution and plant species composition for the relatively undisturbed natural vegetation of western Thailand.

DESCRIPTION: The field study includes a reconnaissance of major vegetation types of western Thailand and quantitative inventory of trees (>10 cm dbh) on permanent plots, each not less than 1 ha in size, in representative stands of the principal forest types in the Huay Kha Khaeng/Thung Yai Naresuan Wildlife Sanctuaries. The principal investigator will use satellite imagery, field reconnaissance and ordination techniques to classify and describe the principal vegetation types of western Thailand.

PRODUCTS/OUTPUTS: A scientific publication of approximately 100 pages illustrated with black & white photographs on the vegetation of western Thailand. The publication will be similar to "An Account of the Vegetation of Northern Thailand" by Dr. Santisuk of the RFD Herbarium.

STATUS: At the present time, this activity will not be undertaken by BSP; however, RFD will do this on its own.

SIGNIFICANCE: The western provinces of Kanchanaburi, Tak, and Uthai Thani have seven national parks and wildlife sanctuaries covering nearly a million hectares. There is strong national and international consensus that these seven conservation units should be integrated under an overall management plan that also includes buffer zones around and corridor connections among the individual protected areas. Because of a complex mosaic of vegetation types and extensive tracts of primary forests, this region of western Thailand harbors many endangered and threatened wildlife species, such as tiger, spotted leopard, gaur, banteng, Asiatic elephant, tapir, sumatran rhino, and green peafowl. Unfortunately, the information on natural vegetation and plant

PD891H

TITLE: Huay Kha Khaeng/Thung Yai Research and Facilities

COMPONENT: Pilot Demonstration Project

FUNDING: \$93,363

DURATION: Initiated August 1989; ends September 1993

IMPLEMENTOR: World Wildlife Fund (WWF) and Royal Forest Department Wildlife Conservation Division (RFD/WCD)

CONTACT: BSP: Kathy Saterson 202-861-8330; fax 202-293-9211
WWF: David Hulse 202-778-9617; fax 202-223-6971
AID/W: Molly Kux 202-663-2639; fax 202-647-4958

LOCATION: Thailand/Kanchanaburi, Tak and Uthai Thani provinces

PURPOSE: To provide technical assistance to RFD/WCD to conduct high priority research and to improve the support facilities for conducting research in the two wildlife sanctuaries.

DESCRIPTION: The RFD/WCD proposes improvement and expansion of the existing Khao Nang Rum Research Center in order to make the center a more effective facility for national training, research, and conservation efforts. Buy-in funds are identified to support improvements of facilities, equipment, and staff at Khao Nang Rum, as well as assist with the continuation or initiation of long-term ecological research in the two wildlife sanctuaries.

PRODUCTS/OUTPUTS: Semi-annual reports on research projects, improvements of physical facilities, and administration of HKK/TYN National Wildlife Sanctuaries.

STATUS: Because of the considerable uncertainty of the MANRES project WWF-International is about to support HKK directly. Proposed activities have not been initiated.

SIGNIFICANCE: The adjoining Huay Kha Khaeng and Thung Yai Naresuan Wildlife Sanctuaries (HKK/TYNWS) in western Thailand contain the country's largest remaining tracts of primary forests. IUCN calls the HKK/TYNWS the most important protected area in southeast Asia. The HKK/TYNWS complex covers 6,250 square km of outstanding wildlife habitats and critical watersheds. The three major forest types in HKK/TYNWS (dry dipterocarp, mixed deciduous, and moist evergreen) harbor an impressive number of endangered animal species such as tiger, spotted leopard, gaur, banteng, Asiatic elephant, tapir, Sumatran rhino, and green peafowl. Although some research has been conducted on large ungulates (by RFD and Kasetsart Univ.) and small cats (by Wildlife Conservation International), very little is known about population dynamics, habitat and food preferences,

PD891I

TITLE: Field Ecology Course
COMPONENT: Pilot Demonstration Project
FUNDING: \$44,570
DURATION: Initiated 29 August 1989; ends 30 September 1993
IMPLEMENTOR: Kasetsart University and Royal Forest Department
CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
AID/W: Molly Kux 202-663-2639; fax 202-647-4958
LOCATION: Thailand/Khao Nang Rum Research Ctr; other sites

PURPOSE: To design, organize and offer a six-week intensive field ecology course in Thailand.

DESCRIPTION: The field course will be modeled after the highly successful courses run by the Organization for Tropical Studies (OTS) in Costa Rica, with the Thailand course coordinator having experience as an OTS course coordinator. Other faculty and resource persons for the Thai course will be selected from the professional ecologists in the country. After the first offering of the field course, a thorough evaluation of course schedule, content, faculty, participants, length, etc. will be used to make a decision on subsequent courses in field ecology, including funding options. Participants will be selected from university junior faculty and graduate students, mid-level managers of conservation units, and possibly from national NGOs.

PRODUCTS/OUTPUTS: One field course plus report and evaluations.

STATUS: Not yet designed nor carried out.

SIGNIFICANCE: There is broad agreement among university and Royal Thai Government agency officials that university graduates in biological sciences and natural resources need more thorough training and experience in field ecology. These educational needs cover the entire spectrum of specialities within the broad field of ecology, such as ecological methods and techniques, natural history, field identification of native fauna and flora, asking ecological questions, and writing research proposals. Ecological training of managerial-level administrators in the national system of conservation units is particularly urgent.

RELEVANCE: Training of nationals in conservation of biodiversity is an explicit mandate of the BSP terms of reference.

COMMENTS:

PD891J

TITLE: Sustainable Development in Buffer Zones
COMPONENT: Pilot Demonstration Project
FUNDING: \$162,363
DURATION: Initiated 29 August 1989; ends 30 September 1993
IMPLEMENTOR: To be determined
CONTACT: BSP: Janis Alcorn, 202-778-9697; fax 202-293-9211
LOCATION: Thailand/protected area to be determined

PURPOSE: To design and initiate sustainable development activities in the buffer zone of a conservation unit.

DESCRIPTION: Project design will bring together a team of Thai and foreign experts to review existing information on sustainable development activities in Thailand, to visit prime candidate conservation areas for this project, and the preparation of a project design proposal. After positive review of the proposal and acceptance by the appropriate agencies, Phase II will begin implementation of the proposed sustainable development activities in the selected buffer zone(s) during the remaining year(s) of this buy-in.

PRODUCTS/OUTPUTS: A project design proposal. Once implementation begins, semi-annual reports will be submitted.

STATUS: Not yet initiated.

SIGNIFICANCE: Despite an extensive national system of protected areas (national parks, wildlife sanctuaries, non-hunting areas), virtually all conservation units are affected by one or more serious problems, such as human encroachment, timber extraction, wildlife poaching, dynamite fishing, agricultural colonization by squatters, as well as scattered settlements of hill-tribes. USAID and WWF funding to Wildlife Fund Thailand has been used to develop innovative approaches involving local villagers in and around Khao Yai National Park in conservation and sustainable development projects. However, even in such an outstanding, very popular national park, these sustainable development activities are inadequate to ensure the long-term viability of the protected area. The Khao Yai and other models of sustainable development must be refined and improved for testing in the buffer zones of other protected areas.

RELEVANCE: Sustainable development in conservation buffer zones is an explicit mandate for BSP.

COMMENTS:

PD891K

TITLE: Speaker for GCC Conference

COMPONENT: Pilot Demonstration Project

FUNDING: \$2,147

DURATION: Initiated 27 August 1990; ended 24 October 1990

IMPLEMENTOR: BSP

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958
Nick Brown: 607-255-3191; fax 607-255-0349

LOCATION: Thailand/Bangkok

PURPOSE: AID/Bangkok passed on a request to BSP from The Science Society of Thailand to provide funding for and locate a speaker to address the effects of global climate change on agricultural ecosystems at their 22 to 24 October 1990, Conference.

DESCRIPTION: In response to the USAID request, BSP located and provided funding for Nick Brown, a Ph.D. candidate with David Pimentel at Cornell University, to travel to Thailand and deliver a paper on global climate change and agriculture at the Science Society of Thailand's conference on global climate change.

PRODUCTS/OUTPUTS: A manuscript to be published in the conference proceedings entitled, "Anthropogenic climate change and agriculture in Thailand."

STATUS: Completed

SIGNIFICANCE: This activity allowed the sharing of expertise in a relatively new field of scientific activity (global climate change). The world's scientists and leaders should be better informed and more reliable in their decisions and duties concerning trends in global changes.

RELEVANCE: This activity is relevant to BSP's mandate to provide technical assistance to host-country institutions.

COMMENTS:

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PD891L

TITLE: Pilot Projects to be Determined
COMPONENT: Pilot Demonstration Project
FUNDING: \$25,212
DURATION: Initiated 29 August 1989; ends 30 September 1993
IMPLEMENTOR: To be determined
CONTACT: BSP: Janis Alcorn, 202-778-9697; fax 202-293-9211
LOCATION: Thailand/To be determined

PURPOSE: To allow some flexibility in implementing the buy-in for particularly interesting projects not included in the work-plan.

DESCRIPTION: Proposals would be submitted to AID/Bangkok for preliminary screening. Those proposals of interest to the Mission would be forwarded to BSP for technical or scientific review and funding, the latter contingent on the availability of funds. Some examples of potential projects that could be developed include, but are not restricted to, a survey of wetlands (status, role in biodiversity conservation, economics of resource use and conservation), a survey of freshwater fish in protected areas, and community development activities that contribute to protection of nearby conservation units.

PRODUCTS/OUTPUTS: Reports or proposals for initiating one or more pilot projects.

STATUS: Not yet initiated

SIGNIFICANCE: It is expected that some very worthwhile proposals will be submitted to USAID for funding, hence a small portion of this buy-in will be reserved for funding project design or pilot studies.

RELEVANCE: Any pilot projects funded through this buy-in will be part of the broad mandate for BSP-supported efforts to improve local capacity to conserve biodiversity.

COMMENTS:

PD893

TITLE: Nepal ACAP and NECTARI

COMPONENT: Pilot Demonstration Project

FUNDING: \$150,000

DURATION: Initiated 1 September 1989; ends 31 December 1993

IMPLEMENTOR: King Mahendra Trust for Nature Conservation (KMTNC)

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958
KMTNC: Hemanta Mishra (977-1)526-571 or -573;
fax(977-1)526-570
WWF/Asia: Mingma Sherpa 202-778-9622

LOCATION: Nepal/Kathmandu

PURPOSE: 1) To incorporate sustainable development initiatives into the Annapurna Conservation Area Project (ACAP) by continuing USAID funding to complement funds from UK/ODA, the Netherlands, and WWF/Asia, and 2) to provide start-up funds for the Nepal Conservation Training and Research Institute (NECTARI).

DESCRIPTION: This major project with two activities (PD893A and PD893B) includes: 1) support of ACAP for training and supervision of selected core staff from the KMTNC in techniques of protected area management, financial accountability, and program administration in order to upgrade the management capability and professional administration of ACAP; and 2) providing for the initial establishment and development of NECTARI, particularly for upgrading the Sauraha field station and support of field staff in Royal Chitwan National Park.

PRODUCTS/OUTPUTS: Interim and Final Reports

STATUS: Activities at ACAP completed; funds for NECTARI still being disbursed.

SIGNIFICANCE: In support of developing countries' needs for assistance in preparing sustainable projects and management plans, this pilot demonstration project provides funds for the institutional strengthening of NECTARI and ACAP.

RELEVANCE: Among the benefits outlined in BSP's terms of reference are to educate and train host country communities and personnel; to provide administrative costs; to develop management infrastructure; and to increase economic return from preserves.

COMMENTS:

PD893A

TITLE: Annapurna Conservation Area Project (ACAP)
COMPONENT: Pilot Demonstration Project
FUNDING: \$100,000
DURATION: Initiated 1 September 1989; ended 31 December 1990
IMPLEMENTOR: WWF/Asia Program and KMTNC
CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
WWF/Asia: Mingma Sherpa 202-778-9622
LOCATION: Nepal/Annapurna and Kathmandu

PURPOSE: To strengthen the King Mahendra Trust for Nature Conservation (KMTNC) for administering ACAP, through training and supervision of selected core staff in techniques of protected area management, financial control, and program administration.

DESCRIPTION: Operated by KMTNC since 1986, ACAP offers a key NGO the opportunity to complement government conservation and development goals. The long-term aim is to secure sustainable benefits for the 40,000 inhabitants living in the 2,600 square mile conservation area. This activity provides institutional strengthening for KMTNC staff.

PRODUCTS/OUTPUTS: Interim and Final Reports

STATUS: Completed

SIGNIFICANCE: ACAP is an innovative device directly linking conservation with quality of life and basic needs of the people living in an environmentally sensitive, mountainous region of Nepal. Through local involvement in resource management, ACAP provides measurable benefits to Nepal, and serves as a globally relevant model of ecological restoration, harmonious tourism, and environmental protection. The project is expected to become sustainable in the near future with the income provided by trekker fees.

RELEVANCE: This activity helps to integrate development activities with management of biodiversity in a grassroots setting and explores options for providing conservation projects with a sustainable future.

COMMENTS:

PD893B

TITLE: Nepal NECTARI

COMPONENT: Pilot Demonstration Project

FUNDING: \$50,000

DURATION: Initiated 1 September 1989; ends 30 September 1993

IMPLEMENTOR: King Mahendra Trust for Nature Conservation (KMTNC)

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
AID: Molly Kux 202-663-2365; fax 202-647-4958
WWF/Asia: Mingma Sherpa 202-778-9622

LOCATION: Nepal/Royal Chitwan National Park & Kathmandu

PURPOSE: To provide start-up funding to implement recommendations (see TA891) to create the Nepal Conservation Research and Training Institute (NECTARI), including staff support at KMTNC headquarters, upgrading the Sauraha field station in Royal Chitwan National Park, and support of field staff.

DESCRIPTION: This activity is an outgrowth of previous efforts in Nepal to save the endangered Bengal tiger. Centered in Royal Chitwan National Park, Project Tiger eventually encompassed protection of key prey species such as chital deer. Later the joint KMTNC/WWF/SI research was broadened to include the world's tallest grasslands as part of the Nepal Terai Ecology Project. The Sauraha field station on the edge of Royal Chitwan National Park was the headquarters for all these research projects. In 1989 USAID funded a feasibility study for transforming the Nepal Terai Ecology Project into a national institute (see TA891). This buy-in is for the support of the initial establishment and development of NECTARI by helping to fund the support staff, materials, equipment and field projects including workshops, courses, reforestation and habitat management.

PRODUCTS/OUTPUTS: Progress Reports

STATUS: Active; this project was initially delayed and remains hampered by lack of a director to provide leadership and direction for NECTARI. Nevertheless, considerable progress has been made in Chitwan and Sauraha.

SIGNIFICANCE: Nepal is characterized by the United Nations as one of the least developed of the developing countries. The country straddles the central Himalayan Mountains, extending from the monsoonal tropical lowlands of the Terai (base of the Himalayas) to the world's highest peak--Mt. Everest (Sagarmatha)--an altitudinal gradient that occurs in less than 200 kms. In order to stem the environmental destruction resulting from human population growth due to the eradication of Malaria beginning in

PD894

TITLE: ANE Bureau

COMPONENT: Pilot Demonstration Project

FUNDING: \$290,717

DURATION: Initiated 1 September 1989; ends 30 September 1993

IMPLEMENTOR: Wildlife Conservation International (WCI),
International Council for Bird Preservation (ICBP),
The Nature Conservancy (TNC), and Others

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
AID/W: Molly Kux 202-663-2639; fax 202-663-2149

LOCATION: Regional/Asia and Pacific

PURPOSE: This buy-in aims to strengthen the consortium's efforts and capabilities to conserve biological diversity in the region, while contributing useful information and assistance to the ANE Bureau and A.I.D Missions in Asia and the Pacific. Together, this information and assistance will enhance the ability of host countries to address biodiversity conservation.

DESCRIPTION: The buy-in supports a careful mix of technical assistance and pilot demonstration projects whose purpose is to strengthen Missions and host-country institutions and to test new approaches to improved resource management and conservation of biodiversity. The buy-in specifically supports:

- A) a technical assistance project developed by WWF and the Government of Indonesia to strengthen the management of natural resources by the government's Ministry of Forestry, Directorate General of Forest Protection and Nature Conservation (PD894A);
- B) the creation of a South Pacific Conservation Data Center (PD894B);
- C) partial funding for ICPB's Himalayan Jungle Project (PD894C);
- D) a conservation needs assessment of Papua New Guinea (PD894D); and

PRODUCTS/OUTPUTS:

- A. Short-term adviser to PHPA Director General/Indonesia: A detailed work plan, a status report on conservation legislation and current efforts; a report reviewing options for use of conservation extension service; and in-service training program and report.
- B. Conservation Data Center established in Western Samoa and a final report.
- C. Himalayan Jungle Project interim and final reports.
- D. PNG/CNA interim and final reports.

PD894A

TITLE: Senior Advisor, PHPA, Indonesia

COMPONENT: Pilot Demonstration Project

FUNDING: \$114,000

DURATION: Initiated 25 January 1990; ended 3 November 1990

IMPLEMENTOR: Alan Robinson, U.S. National Park Service (NPS)

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
 AID/Jakarta: Jerry Bisson 62-21-360-360
 fax 62-21-380-6694
 USNPS: Alan Robinson 303-987-6622;
 fax 303-969-2930

LOCATION: Indonesia/Jakarta

PURPOSE: Through an Intergovernmental Personnel Act (IPA), Alan Robinson was transferred to Indonesia to serve as the appointed senior advisor to the Director General of Forest Protection and Nature Conservation (DG/PHPA) in order to strengthen the DG/PHPA's management of natural resources under its jurisdiction. The advisor directly assisted the DG/PHPA to review current strategies and practices in management of parks and protected areas and PHPA's institutional structure, while developing a cadre of DG/PHPA staff capable of continuing the task in the longer term through training exercises and on-the-job advice.

DESCRIPTION: Nature conservation in Indonesia is administered by the Forest Protection and Nature Conservation Division within the Ministry of Forestry. There are approximately 12 million hectares of terrestrial, coastal and marine areas that are designated as protected areas for nature conservation under six categories ranging from tourist parks to strict nature reserves. Numerous management plans for national parks and protected areas have been produced with international assistance, but most of them have not been implemented. Lack of a balance between conservation and development has limited the viability of many management plans. The lack of trained manpower and insufficient funds have constituted additional constraints for the DG/PHPA.

The DG/PHPA requested assistance from AID/Jakarta to support and guide their plans to address these issues. In 1989 USAID called upon BSP to recruit a senior advisor and coordinate this activity. Alan Robinson is a specialist in park management and visitor-use planning with several years of experience in the organization and management of natural resource development and conservation programs in the developing world. He has worked in Indonesia for FAO.

PRODUCTS/OUTPUTS: Reports containing recommendation on strategy improvements and further studies: Final Report and

PD894B

TITLE: South Pacific CDC Development

COMPONENT: Pilot Demonstration Project

FUNDING: \$65,000

DURATION: Initiated 1 October 1989; ends 30 June 1991
(Amended to December 1991)

IMPLEMENTOR: The Nature Conservancy (TNC), South Pacific Office

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394
TNC: Sam Pearsall 808-948-8829; or 808-956-3521

LOCATION: South Pacific/Western Samoa and other islands

PURPOSE: To examine current biological information needs in the South Pacific, establish a pilot demonstration of a biological conservation database in Western Samoa, and prepare a tentative plan for a regional network of such databases.

DESCRIPTION: Endemism on tropical islands is higher than in any other environment. In Fiji, for example, 50% of the vascular plants are endemic. Endemism leads to vulnerability because species loss from an island usually means its extinction. Without knowing what is present on these islands, potential losses cannot be determined or prevented as development occurs. TNC, working with USAID, the East West Center (EWC), the South Pacific Regional Environment Program (SPREP), WWF, and others, is exploring methodologies for establishing conservation databases in the region. Ecosystems, species populations and habitats, biological conservation policy, land use and environmental impact decisions are to be addressed in these databases.

During the course of this project, TNC has established four objectives:

- 1) Modifying their Biological and Conservation Data Base (BCD) methodology to adapt it to a) a region of several countries; b) a region of islands; and c) a region where location data are scarce and distribution data must be substituted while location data are developed;
- 2) Developing and demonstrating a pilot project for a national conservation data center in Western Samoa including: a) data collection and processing; b) park and protection areas planning; c) data application assistance for planning and management; and d) demonstration of the potential data applications;
- 3) Developing a regional network plan: a) to sustain, coordinate, distribute and interpret data within the region and transmit the data; b) that has an administrative center and c) can interface network data with national development

PD894C

TITLE: Himalayan Jungle Project

COMPONENT: Pilot Demonstration Project

FUNDING: \$30,000

DURATION: Initiated 26 November 1990; ends June 1992

IMPLEMENTOR: International Council for Bird Preservation (ICBP)

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958
ICBP: Guy Duke 44-223-2277318; fax 44-223-277200

LOCATION: Pakistan

PURPOSE: 1) To prepare detailed, land-management plans for protected Himalayan forests to assure adequate protection for the tragopan birds; 2) to plan and promote sustainable development initiatives to reduce pressure on these forests; and 3) to create educational initiatives to raise the awareness of the need for conservation among local populations and within the Pakistani government.

DESCRIPTION: This buy-in partially funds the salary of the project coordinator in the first year of a three-year project. In addition, funds will be used to purchase equipment, including a camera and a wordprocessor, and reference and/or educational materials. ICBP is preparing detailed land-management plans for protected areas, will create socio-economic profiles of project areas in order to recommend sustainable development initiatives, will train Pakistani personnel to assure follow-on activities, will develop ecological research of the western tragopan (Tragopan melanocephalus, Galliforme), and establish long-term monitoring of threatened species.

PRODUCTS/OUTPUTS: Interim report due 30 December 1991; final report due 30 June 1992.

STATUS: Active. The government of Pakistan (GOP) has concurred on the proposal and BSP is processing the contract. Initially, the processing was delayed because of government concerns about suggested study sites and the war in the Gulf. In addition, ICBP attempted to change the scope of work in the hope of purchasing two vehicles. Final agreement on contract details is expected very soon.

SIGNIFICANCE: The buy-in will help support the preparation of a model for forest management that aims at integrating conservation and sustainable development in Pakistan's Himalayan forests.

RELEVANCE: The activity supports the creation of conservation

PD894D

TITLE: PNG Conservation Needs Assessment (CNA)

COMPONENT: Pilot Demonstration Project

FUNDING: \$200,000 (sources: ANE; S&T; APRE)

DURATION: Initiated April 1990; ends December 1992

IMPLEMENTOR: WWF Protected Area Assessment Team; BSP; AID/South Pacific; Wildlife Conservation International (WCI); Greenpeace; Conservation International (CI); Kew Gardens; Bishop Museum; AID/Center for Development Information and Evaluation (CDIE); Australian National University (ANU); World Resources Institute (WRI); and Others

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293- 9211
AID/PNG: Louis Kuhn 675-213666
or 675-213717; fax 675-212886
WCI: Mary Pearl 212-220-5123; fax 212-293-7114
AID/W: Molly Kux 202-663-2365; fax 202-647-4958

LOCATION: Papua New Guinea (PNG)

PURPOSE: A team of specialists will collect, catalog and analyze existing information about PNG's biodiversity to identify conservation priorities implementation issues/options. The assessment will serve as an information base to be used for technical assistance to the Government of Papua New Guinea (GOPNG). Proposals for the next phase of conservation action will be discussed during a workshop conducted by GOPNG's Department of the Environment and Conservation (DEC). In addition to technical assistance, the activity also supports the involvement of local NGOs in the CNA process (see Activity TA911). The final report will be used to prepare the GOPNG Global Environmental Fund (GEF) proposal to the World Bank.

DESCRIPTION: A team of consultants including internationally-known experts, will compile and analyze existing information in their specific areas of expertise in biology, human ecology and conservation planning. Team members will prepare a report assessing the quality of existing information and identify gaps in knowledge. In addition, the team will prepare an analysis of existing information that suggests first cut priorities for GOPNG conservation activities. This exercise will culminate in a planning workshop, hosted by GOPNG's DEC, that will consider both the results of the BSP-supported specialist team and that of the WWF Protected Areas Assessment.

An information specialist from AID/CDIE will develop a cataloging system on biodiversity information in PNG (as well as known references and resources outside PNG), and compile a comprehensive bibliography.

TITLE: LAC Pilot Projects

COMPONENT: Pilot Demonstration Project

FUNDING: \$500,000 (Contract Amendment #2)

DURATION: Initiated 29 August 1989; ends 30 September 1992

IMPLEMENTOR: Atlantic Center for the Environment (ACE)
Instituto Nacional de Biodiversidad (INBio)
New York Botanical Garden (NYBG)
Wildlife Conservation International (WCI)
World Wildlife Fund (WWF)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098

LOCATION: Regional/Latin America and the Caribbean

PURPOSE: To assist the A.I.D.'s Bureau for Latin America and the Caribbean (LAC) in fulfilling its legislative mandate for the protection of tropical forests and biological diversity by providing funds for the development and implementation of four to six biodiversity pilot projects in the LAC region. Through this buy-in, the LAC Bureau seeks to access the combined technical expertise and administrative capabilities of the BSP consortium as well as the wider NGO community. The Bureau also seeks to leverage a maximum amount of financial and technical support from those NGOs implementing pilot projects.

DESCRIPTION: In consultation with LAC/DR/E, a formal procedure for the solicitation and review of pilot project proposals was established. A limited call for proposals was issued in September 1989. Eleven proposals were received by the November 15 deadline. These proposals were sent out to five independent peer reviewers with considerable experience in the LAC region. The BSP Executive Committee and the LAC Bureau were consulted in determining the final ranking of proposals. Six pilot projects were wholly or partially funded as a result of this review:

- PD895A INBio Parataxonomists Course/Costa Rica
- PD895B WCI Cloud Forests/Ecuador
- PD895C Establishment of a Conservation Division and Expansion of the Protected Areas System/Belize
- PD895D Les Arcadins Marine Park/Haiti
- PD895E ACE NGO Training/Caribbean (ACE)
- PD895F NYBG Amoro Inventory/Bolivia.

(Please see project summary sheets (PD895A-F) for descriptions of each pilot project.)

PRODUCTS/OUTPUTS:

- A) Fifteen Costa Rican parataxonomists trained
- B) Research, training and ecological assessment in Ecuador's threatened cloud forests

PD895A

TITLE: INBio Parataxonomists Course/Costa Rica

COMPONENT: Pilot Demonstration Project

FUNDING: \$100,168 (supplemented with \$40,000 core funds)

DURATION: Initiated 1 January 1990; ended 30 September 1991

IMPLEMENTOR: Instituto Nacional de Biodiversidad (INBio)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester, 202-647-8093; fax 202-647-8098
INBio: Rodrigo Gámez 506-364269; fax 506-362816
Dan Janzen 506-695598 (Guanacaste)

LOCATION: Costa Rica/Guanacaste National Park and San José

PURPOSE: To train 15 "parataxonomists" (see DESCRIPTION for definition) and establish 5 more biodiversity offices within the Costa Rican URC (Unidad Regional de Conservacion) system. This activity strongly reinforces the countrywide biodiversity survey framework that has been established, strengthens INBio as an institution, and contributes concretely to the country's biodiversity inventory efforts (see TR901).

DESCRIPTION: A biodiversity survey of a conserved wildland requires year-round observation and collection of specimens and data. The collectors and observers require ecological and taxonomic training to the level of full competence in the technology and philosophy of a biodiversity survey, but they do not need the university and postgraduate training required of a professional taxonomist. To borrow a word from the medical and legal professions, these collectors and observers may be called "parataxonomists." The first 16 parataxonomists were trained under a grant from A.I.D.'s LAC Bureau in 1989. This grant funded the second parataxonomists course, held in the first half of 1990, to train 15 Costa Rican civil servants employed in the wildlife and wildlands sector as parataxonomists and will place them in the URC's around the country where they are needed. The course and biodiversity offices are primarily organized to encompass insects (and other arthropods), with a strong secondary emphasis on plants. Insects were selected as the model group because they are extremely species-rich (approximately 80% of Costa Rica's fauna and flora of 500,000 species are insects), poorly known, and easily collected and processed. The matching funds (\$300,000) obtained from the Pew Charitable Trusts will provide an endowment for the training of future parataxonomists.

PRODUCTS/OUTPUTS: Fifteen newly trained parataxonomists and five newly established biodiversity offices within the Costa Rican URC system.

STATUS: Completed

PD895B

TITLE: WCI Cloud Forests/Ecuador

COMPONENT: Pilot Demonstration Project

FUNDING: \$78,805

DURATION: Initiated November 1989; ends 31 December 1991

IMPLEMENTOR: Wildlife Conservation International (WCI)
Pontificia Universidad Catolica de Ecuador (PUCE)

CONTACTS: BSP: Meg Symington, 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
WCI: Stuart Strahl 212-220-7158; fax 212-220-7114

LOCATION: Ecuador

PURPOSE: To support a biological assessment program in mid-level cloud forests in eastern Ecuador, and to provide formal training and financial support for Ecuadorian nationals in conservation-oriented field programs. WCI will support inventory work and ecological studies on indicator species in several mid-altitude forests, with particular emphasis on key protected areas (Podocarpus National Park and Cayambe-Coca Ecological Reserve). Research will focus on measuring the impact of various forms of exploitation on forest environments.

DESCRIPTION: This project combines ecological research, training of host-country nationals, and on-the-ground conservation. Patricio Mena (M.S. Botany) and Luis Suarez (M.S. Zoology), adjunct professors at PUCE, are the project leaders in the field. At Podocarpus National Park, they have completed baseline surveys throughout the park and are now focussing their attention on the southwestern portion of the park, which is particularly threatened by hunting, artisanal gold mining and selective logging. They are overseeing research by five Ecuadorian licenciatura students on topics ranging from the natural history of the bearded guan (an important indicator species) to local attitudes toward wildlife. One student has organized an ambitious research project involving surveys of professional and subsistence hunters in the area surrounding the park. In December 1989, a team visited a region of the park that was under heavy pressure from gold mining. Mercury levels downstream from a small placer mine at the head of the San Luis watershed were measured to be 150-170 times the WHO-accepted standards for mercury. The team followed up by meeting with institutions involved with local environmental management as a first step toward organizing a campaign to confront mining conflicts in the parks of Ecuador. The project will fund the production of a video about the problem of mining in national parks. In Cayambe-Coca, research will assess the impact of hunting by indigenous and colonist communities located in the reserve.

PD895C

TITLE: Establishment of a Conservation Division and Expansion of the Protected Areas System/Belize

COMPONENT: Pilot Demonstration Project

FUNDING: \$100,414

DURATION: Initiated 1 March 1990; ends 1 March 1992

IMPLEMENTOR: World Wildlife Fund (WWF); Government of Belize (GOB); Belize Center for Environmental Studies (BCES)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
WWF: Steve Cornelius 202-778-9654; fax 202-293-9211

LOCATION: Belize

PURPOSE: To improve the capacity of the Belize Forestry Division (FD) to manage wildlife, protected areas and forest reserves in accordance with existing laws by creating a Conservation Division (CD); to provide technical assistance in staff development and programming to allow the CD to assume administrative functions normally expected of government, such as policy making and strategic planning; and to identify areas of critical importance to be included in an expanded national system of protected areas.

DESCRIPTION: Belize's institutional capacity to manage its natural resources in the face of increasing social, economic and demographic threats is largely inadequate. Furthermore, government's default to the non-governmental sector of protected area policy and management responsibilities is widely felt to be an unacceptable arrangement. At the request of the GOB, in August 1989, WWF supported a consultant to work with the FD to identify the mission, objectives, and areas of responsibility of a protected areas management authority. The consultant drafted an internal organizational structure and chain of command and a five year plan estimating budgetary needs for staffing, equipment, training of personnel and operations. This plan forms the basis for the current project.

In 1990, the GOB established and staffed the CD according to plan. The BSP grant funded the BCES to do a diagnostic study of potential additions to the protected areas system and prioritize their candidacies based on established criteria of uniqueness of the resource, feasibility of present and future management, and degree of threat. BSP funds were also applied to consultancies provided to the CD in the areas of fees and concessions and wildlands area management. WWF matching funds have been used in CD staff training and in purchasing equipment for the CD offices.

TITLE: Les Arcadins Marine Park/Haiti
COMPONENT: Pilot Demonstration Project
FUNDING: \$110,000
DURATION: Initiated 2 July 1990; ends 30 September 1992
IMPLEMENTOR: World Wildlife Fund (WWF)
CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
WWF: Evelyn Wilcox 202-778-9728; fax 202-293-9211
LOCATION: Haiti

PURPOSE: To establish a national marine park at Les Arcadins, Haiti, and to develop a community-based fisheries management program that will improve the quality of life for those living in the vicinity of Les Arcadins, while protecting the resource base.

DESCRIPTION: The rich biological diversity of the marine environment surrounding Les Arcadins, which is located off the west coast of Haiti about an hour's drive from the capital city of Port-au-Prince, is in stark contrast to the country's severely degraded terrestrial environment. The abundance of reef fishes at Les Arcadins compares favorably with some of the best developed reef systems in Puerto Rico and the Virgin Islands. In addition, the sheltered location of the reef and high water transparency encourage an unusual and abundant diversity of sponge life and coral species.

In 1989, an action plan for the establishment of a national marine park at Les Arcadins was completed following a two-year multidisciplinary study funded by the LAC Bureau. This action plan provides a solid biological, social, economic and institutional basis for establishing a marine park and fisheries program at Les Arcadins, and is the foundation for this project. WWF is working closely with the Luly Fishing Cooperative (COPELU), the Haiti Hotel Association, a local dive club and the government of Haiti to bring permanent protection to the site, while simultaneously increasing the profitability and sustainability of the local fishery. It is hoped that, in the future, the Les Arcadins Marine Park can be an important economic asset to Haiti and Luly through the development of tourism.

PRODUCTS/OUTPUTS: At the end of two years the following outputs are expected: 1) an ongoing community-based fisheries management program in Luly; 2) a formally declared national marine park at Les Arcadins, complete with necessary equipment and infrastructure; 3) an NGO established that can effectively continue the work of the first two years by managing the park and

TITLE: ACE NGO Training/Caribbean
COMPONENT: Pilot Demonstration Project
FUNDING: \$35,109 (+ \$4,891 supplemental from core)
DURATION: Initiated 1 July 1990; ends 31 December 1991
CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
 AID/W: Jim Hester 202-647-8093; fax 202-647-8098
 ACE: Jessica Brown 508-356-0038; fax 508-356-7322
IMPLEMENTOR: Atlantic Center for the Environment (ACE)
LOCATION: Caribbean

PURPOSE: To strengthen local institutions working to build public support for protected areas and wildlife habitat throughout the wider Caribbean region, thereby contributing to the conservation of biodiversity in the region.

DESCRIPTION: From 18 August to 16 September 1990, ACE offered a training program for Caribbean conservation professionals focussing on the stewardship and interpretation of natural areas. The four week program was designed to provide an opportunity for Caribbean conservation professionals to acquire practical skills, share information with their counterparts, and form professional contacts who will help them be more effective in their own work. Seven conservation professionals from the Caribbean region participated, representing national park agencies, NGOs and interpretive centers in St. Lucia, St. Vincent, Grenada, Nevis, Antigua, and Jamaica.

The format of the program incorporated a study tour and week-long individual assignments, tailored to each participant's specific area of interest and expertise. The study tour was designed to expose participants to a range of approaches to the management of national parks and protected areas, environmental education and interpretation techniques, voluntary land conservation measures, and techniques for encouraging citizen involvement in conservation.

Kate Irvine carried out the single technical assistance assignment funded under this grant. She acted as a visiting environmental educator to the Environmental Awareness Group in Antigua to assist with their recently initiated Youth Education Program.

PRODUCTS/OUTPUTS: Seven Caribbean conservation professionals trained on the stewardship and interpretation of natural areas; a single technical assistance assignments carried out in environmental education. ACE Report to BSP: Study Tour for

PD895F

TITLE: NYBG Amoro Inventory/Bolivia

COMPONENT: Pilot Demonstration Project

FUNDING: \$40,000

DURATION: Initiated 1 July 1990; ends 31 December 1991

IMPLEMENTOR: New York Botanical Garden

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
 AID/W: Jim Hester, 202-647-8093; fax 202-647-8098
 NYBG: Wayt Thomas 212-220-8642; fax 212-220-6504

LOCATION: Bolivia/Amboro National Park (ANP)

PURPOSE: To explore botanically Amboro National Park (ANP) and to use the data acquired through botanical inventory to advise and assist in the conservation of the park. The project is also designed to assist in the development of the Natural History Museum in Santa Cruz and in the education of its staff, and to stimulate the use of ANP by scientists and visitors, thus, effectively increasing its protection.

DESCRIPTION: The featureless plains of eastern Bolivia are abruptly terminated by a line of ridges, the first Andean foothills, about 30 km west of the city of Santa Cruz. One peak, Cerro Amoro, has a peculiar rounded form and has been held in awe since pre-Columbian times. The surrounding forested plains, which were a National Forest Reserve for several decades, became Parque Nacional Amoro (2000 km²) in 1984. Elevations in the park range from 300m to about 1900m on the highest peaks. The rainfall is estimated at between 2000 to 2500 mm per year, and probably varies from site to site.

Biological inventory in the park has been limited; less than 15% of the 3200 plant species thought to occur in the park have been collected to date. Dr. Michael Nee, of NYBG, will lead several botanical collecting trips to ANP over the course of the grant. These trips will be made in collaboration with the Museo de Historia Natural of the Universidad Gabriel Rene Moreno, and Dr. Nee will be accompanied by students from the University, and assisted by Mr. Robin Clarke, a scientific advisor for the park.

PRODUCTS/OUTPUTS: 1) A checklist and basic plant identification manual will be produced that can be used to train students and park service personnel, as well as be useful for visiting scientists and tourists; 2) a system of foot trails will be established within the park that will result in more effective use by the scientific community, park protection officials and tourists; and 3) 3-5 young Bolivian botanists trained in tropical botany and ecology.

PD896

TITLE: S&T/FENR Miscellaneous

COMPONENT: Pilot Demonstration Project

FUNDING: \$48,676

DURATION: Initiated September 1989; ended June 1991

IMPLEMENTOR: BSP and Others

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394

LOCATION: Various

PURPOSE: To manage various biodiversity activities in support of the objectives and goals of Science and Technology's Office of Forestry, Environment and Natural Resources (S&T/FENR).

DESCRIPTION: The following activities have been completed under this buy-in (Please see Activity Summaries that follow):

- A. Support of CITES Convention (PD896A)
- B. ISEE Symposium Participant Support (PD896B)
- C. ISEE Symposium Conference Support (PD896C)
- D. IFAR Ex Situ Report (PD896D)
- E. DAI Wetlands Report (PD896E)

PRODUCTS/OUTPUTS:

- A. Delegates from Lesser-Developed-Countries attended the CITES meeting in Lausanne, Switzerland
- B. Persons from Brazil, Costa Rica, Honduras and India attended the ISEE Symposium
- C. The ISEE Symposium support produced a document of abstracts and a book of symposium proceedings
- D. Report: "Ex Situ Conservation: Present Status and Future Priorities"
- E. Report: "A.I.D. Wetland Activities--Report to Congress"

STATUS: Completed

SIGNIFICANCE: The buy-in has funded a number of necessary activities on behalf of S&T/FENR's involvement in the conservation of biodiversity.

RELEVANCE: The activities funded by this buy-in build on existing research and development efforts; explore new approaches for protected areas, promote collaboration among donor agencies, improve methods for public education, and support policy development and dialogue.

COMMENTS:

PD896D

TITLE: IFAR Ex Situ Report

COMPONENT: Pilot Demonstration Project

FUNDING: \$20,901

DURATION: Initiated 26 July 1990; ended 1 November 1990

IMPLEMENTOR: International Fund for Agricultural Research
(IFAR)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Joel Cohen 703-875-4219; fax 202-875-4394
IFAR: Heidi Marinaccio 703-276-1611; fax 525-1744

LOCATION: Global

PURPOSE: To prepare a report providing a complete description of the state-of-the-art for ex situ conservation of plant and animal genetic resources.

DESCRIPTION: A.I.D.'s FY 1990 Appropriations Legislation mandated that the agency support an initiative called Project Noah, the purpose of which is to establish an international "genetic preserve" for endangered species. The issue of ex situ conservation is an important one in this context and thus, necessarily, a major topic of the feasibility study called for in the legislation. For this study, S&T/FENR requested assistance from BSP to draft a report that takes a quick but comprehensive look at the issue of ex situ genetic resource conservation. The IFAR served as the subcontractor to help A.I.D. produce this report, drawing upon their particular expertise in this field.

PRODUCTS/OUTPUTS: A comprehensive final report that served as the basis for A.I.D.'s report to Congress: "EX SITU Conservation: Present Status and Future Priorities", September 21, 1990. 90 p + 58 p Appendices and References.

STATUS: Completed

SIGNIFICANCE: Ex situ conservation has a critical role in global efforts to conserve biological resources; this report provided A.I.D. with an important tool in establishing priorities for supporting ex situ conservation programs.

RELEVANCE: This activity addresses BSP's mandate to assemble and evaluate information on conservation activities in the developing world; the report also collected information that can be applied to the design, modification, and implementation of ongoing and future A.I.D. efforts.

COMMENTS:

PD896E

TITLE: DAI Wetlands Report

COMPONENT: Pilot Demonstration Project

FUNDING: \$13,179

DURATION: Initiated 13 March 1991; ended 16 August 1991

IMPLEMENTOR: Development Alternatives, Inc. (DAI)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Nora Berwick 703-875-4539; fax 703-875-4394
DAI: Dennis DeSantis 301-718-8699; fax 301-718-7968

LOCATION: Worldwide

PURPOSE: To prepare a report on A.I.D.'s ongoing and planned FY 1992 activities that affect and/or conserve wetland resources in A.I.D.-assisted countries.

DESCRIPTION: In the report accompanying H.R. 5114 (Foreign Operations, Export Financing, and Related Programs Appropriations Bill, 1991), the Senate Appropriations Committee, chaired by Senator Patrick Leahy, requested that A.I.D. present the committee with a report on its activities and progress to conserve wetlands in those countries where it works. In order to assist A.I.D. with the preparation of this report, BSP contracted with Random Dubois through DAI to compile a report on A.I.D. projects and activities that impact on wetlands. A standard data sheet was employed to detail project specific data including: type of project; nature of impact on wetlands; type of wetland affected; mitigative measures employed, where relevant, to reduce adverse project-related impacts; level of funding; and project duration.

PRODUCTS/OUTPUTS: A comprehensive final report that served as the basis for A.I.D.'s report to Congress: "A.I.D. Wetland Activities--Report to Congress" April 1991. DAI (K.A. McKay, R. DuBois, L. Hughes) 90 p.

STATUS: Completed

SIGNIFICANCE: Wetlands are important habitats, from the point of view of both biodiversity and environmental services; this report provided A.I.D. with the information needed to assess its activities and plan future interventions with regard to wetlands.

RELEVANCE: This activity addresses BSP's mandate to assemble information that can be applied to the design, modification, and implementation of ongoing and future A.I.D. efforts.

COMMENTS:

PD902

TITLE: S&T Global Climate Change

COMPONENT: Pilot Demonstration Project

FUNDING: \$777,000

DURATION: Initiated September 1990; ends December 1991

IMPLEMENTOR: World Wildlife Fund, Smithsonian Institution, Woods Hole Research Center, New York Botanical Garden, Cultural Survival--all in Brazilian Amazon; BSP (in Africa)

CONTACTS: BSP: Les Whitmore 202-861-8302; fax 202-293-9211
Kate Newman 202-778-9524; fax 202-293-9211
AID/W: Twig Johnson 703-875-4022; fax 703-875-4394

LOCATION: Brazil and Central Africa

PURPOSE: In June of 1990, A.I.D.'s Science and Technology Office of Forestry, Environment and Natural Resources (S&T/FENR) asked BSP to address the effects of global warming by looking at the production of CO₂ in tropical regions in Africa and Brazil. See individual activity summaries PD902A-F.

DESCRIPTION: See also individual project descriptions.

- A. Cultural Survival report on rain forest products
- B. WWF projects on Amazon forest management and policy
- C. Smithsonian's Biological Dynamics of Forest Fragments
- D. Woods Hole for restoring degraded Amazonian lands
- E. NYBG commemorative publication
- F. BSP start-up activities on GCC in Africa

OUTPUTS/PRODUCTS: Semi-annual progress reports or technical reports

STATUS: All subcomponents well along in implementation

SIGNIFICANCE: Interest and concern in global climate change is increasing exponentially. A consequence of U.S. public concern is a congressional earmark of AID's budget obligating the agency to spend \$15 million on new initiatives addressing global climate change. Brazil is a key focal country for these new initiatives, hence S&T/FENR increased BSP's core funds to address the subcomponents described above.

RELEVANCE: The integration of global climate change initiatives with tropical forestry and the conservation of biodiversity is a particularly relevant activity for BSP.

COMMENTS:

PD902A

TITLE: Cultural Survival: Rainforest Products Report

COMPONENT: Pilot Demonstration Project

FUNDING: \$16,295

DURATION: Initiated 1 November 1990; ended 31 March 1991

IMPLEMENTOR: Cultural Survival (CS)

CONTACT: BSP: Les Whitmore 202-861-8302; fax 202-293-9211
AID/W: Twig Johnson 703-875-4106; fax 703-875-4394
CS: Jason Clay 617-495-2562; fax 617-495-1396

LOCATION: Brazil/Amazon Basin

PURPOSE: To prepare a report for USAID's Science and Technology, Office of Forestry, Environment and Natural Resources (S&T/FENR) on funding opportunities for income generation activities that could complement strategies to halt environmental degradation in the greater Amazon Basin. The report will draw on Dr. Clay's experience on the export of sustainably harvested products from the region such as rubber and Brazil nuts.

DESCRIPTION: This activity describes the types of activities that USAID could fund in the greater Amazon that will assist forest residents and their respective countries to generate increasing incomes from their forests without destroying them. This paper covers land tenure and land use zoning; resource management skills and training needs for long-term forest residents and colonists; research needs; institution building needs; identification, development and monitoring of projects; and possible financial instruments available.

This paper will be used by the AID/S&T/FENR to analyze investments they might make in the area of sustainably harvested forest products under their global climate change initiative in Brazil. Although many have theorized that the tropical forest can be made to "pay for itself" in this fashion, Cultural Survival's Marketing Program is one of the few examples of an ongoing program to market sustainably harvested rainforest products. Through this report, USAID may learn from Cultural Survival's experience, and possibly expand upon their model to benefit local people while at the same time protecting more tropical forests from conversion to agriculture.

PRODUCTS/OUTPUTS: A comprehensive report on funding opportunities for income generation activities that could complement strategies to halt environmental degradation in the greater Amazon Basin, to be used as a position paper to guide USAID project development in the areas of biodiversity, global climate change and tropical forest conservation.

PD902B

TITLE: S&T/GCC/WWF: Amazon Forest Management and Policy

COMPONENT: Pilot Demonstration Project

FUNDING: \$317,085

DURATION: Initiated 24 September 90; ends 30 September 91

IMPLEMENTOR: World Wildlife Fund/Bob Buschbacher 202-778-9511

CONTACT: BSP: Les Whitmore 202-861-8302; fax 202-293-9211
AID/W: Twig Johnson 703-875-4106; fax 703-875-4106
WWF: Garo Batmanian 202-778-9713

LOCATION: Brazil/Amazon Basin

PURPOSE: This activity is to establish forest management demonstration projects for local companies and communities so that there will be a reduction in the rate of deforestation in the Brazilian Amazon.

DESCRIPTION: This activity is funded by a BSP pass-through of \$317,085 from S&T/FENR. It is part of the WWF Tropical Forestry Program's "larger program of interrelated activity aimed at reducing deforestation in the Brazilian Amazon", and aims to reduce rates in two major ways:

A. By promoting sustainable land management systems which provide an economic incentive for maintaining forest cover and reduce pressure for continued forest clearing. Specific activities include applied research and on-the-ground demonstration of the social, economic and environmental viability of these alternative land uses.

B. By analyzing and disseminating information on these land management alternatives, to provide decision makers with the information they need to develop policies and provide incentives for sustainable land use. Specific activities include analyzing policy constraints and economic benefits of the sustainable forest management alternatives to be demonstrated under (A) above, communicating such analysis to decision makers, and strengthening NGOs to play an effective role in policy reform.

PRODUCTS/OUTPUTS: 1) The development of a sustainable timber management plan that will be implemented by a local private sawmill in Paragominas; 2) Development and implementation of several community-based forest management demonstration projects; and 3) Establishment of a working group of scientists, government officials and representatives of industry to make recommendations to the Brazilian government concerning Amazon forest policy issues.

PD902C

TITLE: Biological Dynamics of Forest Fragments (BDFF)

COMPONENT: Pilot Demonstration Project

FUNDING: \$74,183

DURATION: Initiated 1 November 1990; ends 31 October 1991

IMPLEMENTOR: Smithsonian Institution (SI)

CONTACT: BSP: Les Whitmore 202-861-8302; fax 202-293-9211
AID/W: Twig Johnson 703/875-4106; fax 703-875-4394
SI: Rob Bierregaard 202-287-3796

LOCATION: Brazil/Amazon Basin

PURPOSE: To enhance the training and outreach capacity of the Biological Dynamics of Forest Fragments Project. BDFF feels that the training of Latin American graduate students is one of the more significant contributions that the project is making toward conservation of neotropical forests. This grant will provide funds for the following: 1) three graduate research projects and one post-doctoral fellowship; and 2) will enhance BDFF's links with OTS in Costa Rica and with 3 other longterm tropical forest field stations.

DESCRIPTION: Currently in its 11th year, the Biological Dynamics of Forest Fragments (BDFF) Project is a large-scale ecological study that seeks to understand the effects of forest fragmentation in Amazonian forests on biodiversity conservation. While the accumulation of scientific data relating to reserve planning and management is essential to rational development in the Amazon, BDFF recognizes that any long-term conservation measures for Latin American forests will have to come from local initiatives. Consequently, the project has tried to involve as many Latin American graduate students as possible, in the hope that the coming generation of scientists and science policy makers in Brazil and its neighboring Amazonian countries will understand the importance of conserving intact tropical forest ecosystems.

PRODUCTS/OUTPUTS: With funds provided by BSP, the BDFF project funded two graduate student projects at the masters level, and one post-doctorate fellowship. Additional funding was obtained from the Tinker Foundation that allowed the project to offer fellowships to 12 Brazilian, Bolivian and Colombian graduate students carrying out their M. Sc. thesis research, in addition to five Brazilian students conducting doctoral studies under BDFF auspices. Three of the students are supported with BSP funds.

STATUS: Interim report and proposal for second year received.

PD902D

TITLE: WHRC: Restoring Agricultural Productivity on Degraded Amazonian Lands

COMPONENT: Pilot Demonstration Project

FUNDING: \$93,818

DURATION: Initiated 1 November 1990; ends 31 October 1991

IMPLEMENTOR: Woods Hole Research Center (WHRC)

CONTACT: BSP: Les Whitmore, 202-861-8302; fax 202-293-9211
AID/W: Twig Johnson 703-875-4106; fax 703-875-4394
WHRC: Dan Nepstad 508-540-9900; fax 508-540-9700
or 55-91-226-6622; fax 55-91-235-1124

LOCATION: Brazil/Amazon Basin: Para, Acre and Rondonia

PURPOSE: This study: a) evaluates the ecological, economic and social performance of existing agricultural systems on degraded Amazonian lands; b) expands our knowledge of promising agricultural systems for degraded lands through applied research; c) communicates the results of this evaluation to extension workers, rural unions, policy makers and NGOs; and d) trains Brazilian scientists through apprenticeships with project investigators.

DESCRIPTION: This activity will occur over a three-year period and include collaborative efforts of several individuals. Dr. Daniel Nepstad, a tropical forest ecologist based in Belem, is project coordinator. To help execute the study, he selected two full-time Brazilian fellows--one with a graduate degree in agronomy and one with a graduate degree in economics. This three-person research team comprises the core of the project. Dr. I. Foster Brown, who has studied the biogeochemical impacts of land use in Rio de Janeiro and Rondonia since 1986, is assisting in project implementation. Three Brazilian student interns per year are also a part of the project team.

The geographic focus of the project is the northeastern region of the Amazon, in the state of Para, where a great diversity of agricultural systems has been established. The project is evaluating agricultural systems on degraded lands in other regions such as Rondonia and Acre in the south of Para. The project aims to reduce Amazonian deforestation and associated releases of carbon dioxide, methane, and other heat-trapping gases by increasing the agricultural options available to residents of degraded lands.

PRODUCTS/OUTPUTS: A portable Geographic Information Systems (GIS) was acquired. The GIS database includes a satellite image map of Para with a drought index map superimposed. Database on tree flora of Para is being compiled, with 950 species included

PD902F

TITLE: Central Africa Global Climate Change Project

COMPONENT: Pilot Demonstration Project

FUNDING: \$100,000

DURATION: Initiated December 1990; ends December 1991

IMPLEMENTOR: BSP; Goddard Space Flight Center (GSFC); (WRI); U.S. Forest Service (USFS); Univ. Maryland (UM); (WWF); Wildlife Conservation International (WCI); U.S. Geological Survey (USGS); Univ. Illinois (UI).

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
AID/Africa: Tony Pryor 703-235-3832;
fax 703-235-3805

LOCATION: Central Africa Republic, Cameroon, Congo, Gabon, Equatorial Guinea, and Zaire.

PURPOSE: This buy-in enables BSP to bring together NGOs and governmental organizations with considerable field experience, scientific knowledge, and in-house capacity to conduct a series of data gathering and analytical activities necessary to develop a global climate change action plan for central Africa.

DESCRIPTION: The U.S. Congress, having acknowledged the need to mitigate gaseous emissions that contribute to global climate change, has mandated that A.I.D. identify areas with high future emissions potential. As a result, A.I.D. has decided to focus its attention in Africa on the central Africa region which contains the largest and most carbon-rich forested area on the continent. The Central Africa Global Climate Change Project has been initiated through a collaborative process between BSP and the Africa Bureau to determine the potential for future carbon emissions from the region and to provide a readily accessible source of information to those policy makers, particularly within the A.I.D. structure, responsible for deciding how best to mitigate them.

This activity: (a) establishes a baseline estimate of the extent of forest resources; (b) establishes estimated rates of forest depletion; (c) identifies the modes and dynamics involved in forest modification; and (d) estimates present and future carbon emissions in central Africa. This information will be used to develop a climate change action plan for the Bureau.

PRODUCTS/OUTPUTS:

- A. A remote sensing analysis, supported by ground-truthing efforts, to produce a map of the region that estimates the extent of forest cover and rates of change.
- B. Desk studies of central Africa's bio-geophysical setting, policy and macroeconomic framework, population

PD903

TITLE: Mexico Ecodevelopment Program

COMPONENT: Pilot Demonstration Project

FUNDING: \$650,000

DURATION: Initiated 1 January 1991; ends 31 March 1992

IMPLEMENTOR: WWF Wildlands and Human Needs & Mexico Programs

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mario Ramos 202-778-9501; fax 202-293-9211

LOCATION: Southern Mexico

PURPOSE: To design and implement projects to promote environmentally sound community development around biologically important, threatened wildland areas in southern Mexico. The overall goal of the program is to decrease the rate of deforestation in these wildland areas, and to protect them as healthy diverse ecosystems, while achieving sustainable methods and levels of resource use for the people living in and around them.

DESCRIPTION: As the second largest producer of greenhouse gases in Latin America, Mexico has been designated as a "key" country for special attention under A.I.D.'s Global Climate Change (GCC) Initiative. Beginning in July 1990, AID/Mexico, WWF, and BSP designed an integrated conservation and development program that would decrease emissions of greenhouse gases due to deforestation in southern Mexico, while simultaneously conserving the region's rich biological diversity and improving the quality of life for the region's rural poor. The result of these design efforts is a program that will focus on environmentally-sound community development in the buffer zones of four priority wildland areas:

- A. the Chimalapas region of Oaxaca (PD903A)
- B. the Calakmul Biosphere Reserve in Campeche (PD903B)
- C. the El Ocote Ecological Reserve and (PD903C)
- D. the El Triunfo Biosphere Reserve in Chiapas (PD903D)

Each subproject will be implemented by a Mexican environmental NGO with experience in and commitment to its particular wildland area. Technical assistance, oversight, and coordination will be provided by the WWF Wildlands and Human Needs and Mexico Programs. Initial efforts focus on trying to identify alternative agricultural technologies that will result in increased productivity for local farmers without leading to further degradation of the surrounding forest. Alternative technologies will be identified using state-of-the-art participatory rural appraisal techniques and then disseminated

PD903A

TITLE: Community Development in Chimalapas, Oaxaca

COMPONENT: Pilot Demonstration Project

FUNDING: \$86,000

DURATION: Initiated 1 January 1991; ends 31 March 1992

IMPLEMENTOR: Maderas del Pueblo, A.C. and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mario Ramos 202-778-9501; fax 202-293-9211

LOCATION: Mexico/Oaxaca

PURPOSE: To design and implement an environmentally-sound community development project in the biologically important and threatened Chimalapas region of Oaxaca. The goal is to decrease the rate of deforestation in the Chimalapas region, and to protect it as a healthy diverse ecosystem, while achieving sustainable methods and levels of resource use for the people living in the region.

DESCRIPTION: The Chimalapas region of eastern Oaxaca comprises some 640,000 ha and is one of the five largest tracts of tropical forest left in Mexico. The vegetation is varied and includes tropical dry, tropical humid, cloud, pine-oak, and elfin forests, as well as riparian ecosystems. It is an important watershed for the Gulf of Mexico to the north and for the Pacific coast of the Isthmus of Tehuantepec.

WWF has supported Maderas del Pueblo, A.C., a Mexican NGO, since October 1989 to carry out field-level conservation/development efforts in the region. This activity supports Maderas del Pueblo in a continuation of their initial efforts. In 1990, they completed a comprehensive assessment of the causes and magnitude of forest destruction in the Chimalapas. They collected detailed information on the area and its environmental problems through 60 community surveys, some 200 personal interviews with representatives of diverse interest groups in the area, and on-the-ground investigation of environmental degradation.

From this work, a program to address critical environmental and economic problems in the Chimalapas region has been designed. This project initiates a community extension program to provide technical and organizational assistance to local residents. The project begins in two of six delineated zones in the Chimalapas, with an initial focus on promoting alternative technologies in basic grain production to curtail the widespread slash-and-burn practices, and to improve the production of coffee, a principal

PD903B

TITLE: Calakmul Buffer Zone Development

COMPONENT: Pilot Demonstration Project

FUNDING: \$78,000

DURATION: Initiated 1 April 1991; ends 31 March 1992

IMPLEMENTOR: Pronatura Peninsula de Yucatan, A.C. and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mario Ramos 202-778-9501; fax 202-293-9211

LOCATION: Mexico/Campeche, Calakmul Biosphere Reserve

PURPOSE: To design and promote environmentally sound community development around the biologically important, threatened Calakmul Biosphere Reserve in Campeche, Mexico. The goal is to decrease the rate of deforestation in and around Calakmul, and to protect it as a healthy diverse ecosystem, while achieving sustainable methods and levels of resource use for the people living in the buffer zone around the reserve.

DESCRIPTION: Located in central and southern Campeche, near the borders with Guatemala and Belize, the Calakmul Biosphere Reserve is one of the 15 most important sites for biodiversity conservation in Mexico, according to government and private sources. Calakmul has one of the five largest tracts of tropical forest remaining in the country. The site was declared a biosphere reserve (723,185 ha) in May 1989. Reserve management plans are still being developed.

To complement to the ongoing planning process, programs are being designed to improve resources management in the local communities. The viability of the Calakmul ecosystem is pressured by human populations that are competing for the same space and resources. Major threats include: uncontrolled and unsound timber extraction, extremely poor agricultural practices, excessive commercial hunting, road construction in sensitive areas and archeological looting. Addressing the most pressing of these threats will be the long-term focus of this project.

PRODUCTS/OUTPUTS: Information that will lead to situating, designing and initiating a community-based extension program that will have appropriate agriculture and forest management techniques at the end of the first year. Over time, successes should be modeled in other areas around the reserve until the buffer zone becomes a viable multiple-use area for the communities who will also protect the reserve.

PD903C

TITLE: El Ocote Sustainable Development, Chiapas

COMPONENT: Pilot Demonstration Project

FUNDING: \$60,560

DURATION: Initiated 1 April 1991; ends 31 March 1992

IMPLEMENTOR: Centro de Estudios para la Conservación de los Recursos Naturales (ECOSFERA, A.C.) and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mario Ramos 202-778-9501 fax 202-293-9211

LOCATION: Mexico/Chiapas, El Ocote Ecological Reserve

PURPOSE: To design and promote environmentally sound community development around the biologically important, threatened El Ocote Ecological Reserve in Chiapas, Mexico. The goal is to decrease the rate of deforestation in and around El Ocote, and to protect it as a healthy diverse ecosystem, while achieving sustainable methods and levels of resource use for the people living there.

DESCRIPTION: El Ocote Ecological Reserve is an area of approximately 30,000 ha of humid tropical forest in the state of Chiapas, neighboring the Chimalapas region of Oaxaca. Both areas are in the same mountain range and share a number of characteristics, including habitat types, species and culturally similar residents. El Ocote has been considered a priority for protection since the 1950s and was formally included in the Chiapas state system of protected areas in 1972. In 1986, WWF supported the Instituto Historia Natural of Chiapas (IHN) to evaluate conservation needs for El Ocote and El Triunfo reserves; IHN found major deterioration in El Ocote's surrounding areas, with deforestation, unplanned and inappropriate land use, expansion of human settlements, slash and burn agriculture, cattle ranching and illegal timber extraction all posing threats to the area.

In 1989, WWF supported ECOSFERA, A.C. for an updated diagnostic study and evaluation of the El Ocote reserve; ECOSFERA found increased planned and unplanned colonization in the region in the intervening years. Legal boundaries of the reserve have not been completely respected, and 11 settlements partially or completely within the reserve. Slash-and-burn agriculture provides the main source of income for the communities in the area, with maize, beans, chili peppers, and coffee being the chief crops.

PD903D

TITLE: Community Development in the Buffer Zone of the El Triunfo Biosphere Reserve, Chiapas

COMPONENT: Pilot Demonstration Project

FUNDING: \$70,000

DURATION: Initiated 1 April 1991; ends 31 March 1992

IMPLEMENTOR: Instituto Historia Natural (IHN) and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mario Ramos 202-778-9501; fax 202-293-9211

LOCATION: Mexico/Chiapas, El Triunfo Biosphere Reserve

PURPOSE: To design and promote environmentally sound community development around the biologically important, threatened El Triunfo Biosphere Reserve in Chiapas, Mexico. The goal is to decrease the rate of deforestation in and around El Triunfo, and to protect it as a healthy diverse ecosystem, while achieving sustainable methods and levels of resource use for the people living there.

DESCRIPTION: El Triunfo Biosphere Reserve, located in the Sierra Madre del Sur, is one of the richest tropical forest areas in Mexico in terms of species endemism and presence of endangered species. The reserve has a legal extension of 119,177 ha with an altitudinal variation of 500-2800 m. It contains a variety of forest types, including pine-oak, riverine, tropical montane, and evergreen. Most importantly, the reserve includes some of the last cloud forest in Mexico.

WWF has supported planning and management activities by IHN at El Triunfo since 1985. When the reserve was enlarged from its 10,000 ha in 1990, more than 100 communities were incorporated into the buffer zone. Land use in and around the reserve is dominated by shifting agriculture, coffee production and cattle ranching with some commercial extraction of timber, and firewood and local construction material collected throughout the year. Hunting is common along the peaks and some wild plants and animals are collected for the wildlife trade.

The first phase of this project fielded a team to begin working in three strategically located communities. Following training, the team carried out participatory rural appraisal exercises in these communities that focus on subsistence agriculture and coffee production.

PD903E

TITLE: Participatory Rural Appraisal Training Program

COMPONENT: Pilot Demonstration Project

FUNDING: \$29,400

DURATION: Initiated 1 April 1991; ends 31 March 1992

IMPLEMENTOR: World Resources Institute (WRI) Participatory Rural Appraisal (PRA) Training Program and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
WRI: Aaron Zazueta 202-638-6300

LOCATION: Mexico

PURPOSE: To design and implement a training program in Participatory Rural Appraisal (PRA) oriented to those organizations participating in the Mexico Ecodevelopment Program.

DESCRIPTION: PRA is a set of flexible information gathering methods used at the community level to articulate problems and opportunities for local natural resources management. The PRA package brings together simple, yet powerful techniques, that have been designed to help semi-literate populations analyze and articulate their needs in ways that lead them to group action. The method uses many techniques for analysis: 1) diagrams and drawings (transect, farm sketches and Venn diagrams) to help assess ecosystems, land use patterns and local organizations; 2) line and bar graphs to document trends; and 3) brief analytical tables to assess and rank problems and opportunities.

PRA is a particularly useful method in developing integrated conservation and development projects. It can help environmental NGOs and local people reach consensus on priority actions by providing a forum to jointly articulate problems and opportunities. PRA is generally conducted by interdisciplinary teams that include technicians, project managers and representatives of the local community. This mixed team configuration is an important element of PRA that helps integrate technical and local knowledge in project planning.

WRI's Center for International Development and Environment (CIDE) will train and provide technical support to those NGOs participating in the Mexico Ecodevelopment Program. CIDE will focus on training and providing financial support to one additional NGO, that will, in turn, provide training and technical backstopping to other NGOs in Mexico. In collaboration with these organizations, CIDE will adapt and translate the new PRA Trainers Manual for use by Spanish-speaking NGOs.

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PD903F

TITLE: El Ocote Environmental Education, Chiapas

COMPONENT: Pilot Demonstration Project

FUNDING: \$30,000

DURATION: Initiated 1 April 1991; ends 31 March 1992

IMPLEMENTOR: PRONATURA Chiapas, A.C. and WWF

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/Mexico: Frank Zadroga 525-211-0042;
fax 525-511-9980
WWF: Brad Ack 202-778-9652; fax 202-293-9211
Mário Ramos 202-778-9501; fax 202-293-9211

LOCATION: Mexico/Chiapas, El Ocote Ecological Reserve

PURPOSE: To design and implement an environmental education program that will be complementary to the ECOSFERA (see Activity PD903C) community development project in El Ocote Ecological Reserve in Chiapas, Mexico.

DESCRIPTION: The objective of this activity is to introduce environmental knowledge to El Ocote communities in a way that is useful to them. The focus is largely on the indigenous population in and around El Ocote. These residents belong to the Tzotzil and Tzeltal ethnic groups, who have little or no understanding of Spanish. Likewise, only a few have had any formal education and their culture must be understood in order to work with them.

Pronatura-Chiapas will carry out in-depth research and analysis of the target populations, including their sociocultural habits, education, understandings and beliefs regarding the natural environment, forms of organization and communication, and perceived environmental problems. Information will be gathered through informal interviews, formal surveys, focal group discussion and other participatory techniques. With this information, conservation education materials will be designed and tested in selected communities. After analyzing native population acceptance of the conservation education materials, project leaders will produce a strategy for program implementation that will be followed by design and production of educational materials.

PRODUCTS/OUTPUTS: The first year of this project is focussed on defining needs and communication channels, designing and testing materials, and putting together a specific program strategy for the longer term.

STATUS: Project implementation is on schedule.

TITLE: LAC/GCC Macroeconomics

COMPONENT: Pilot Demonstration Project

FUNDING: \$100,000 (Contract Amendment #4)

DURATION: Initiated 24 September 1990; ends 30 September 1991

IMPLEMENTOR: WWF Tropical Forestry Program (TFP)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
WWF/TFP: Garo Batmanian 202-778-9713

LOCATION: Brazil

PURPOSE: To develop and implement a training program in natural resources economics for Brazilian policymakers. Focus of the course is on policies affecting the emission of greenhouse gases.

DESCRIPTION: Sustainable development in Brazil requires the implementation of national economic policies to support the citizenry in generating income from natural resources; the key is to conserve and enhance, rather than destroy, the productive potential of the resource base. This activity works with and assists the government of Brazil to design and implement these environmentally sound macroeconomic policies.

In June 1991, a WWF/TFP consultant compiled a list of institutions and individuals in the U.S. that could be used as trainers and consultants for the natural resource economics program in Brazil. A Brazilian professor at the Federal University of Rio Grande was contracted to compile a similar data set for Brazilian institutions and individuals. A working group has been established within the Brazilian government to develop applications for national income accounting within their jurisdictions. WWF/TFP Program Officer Garo Batmanian has met twice with this group to discuss WWF's collaboration in the process.

The workshop scheduled for October will bring the working group together with international experts to discuss national income accounting and how it applies to the Amazon. WWF plans to co-organize, with Brazilian Congressman Fabio Feldman, a workshop to discuss natural resources economics in general, that will bring together leading Brazilian macroeconomists and international experts in the field.

PRODUCTS/OUTPUTS: One or more workshops involving Brazilian economists and policymakers and international experts in the field of natural resources economics and national income accounting. Case study background papers will be prepared for

PD905

TITLE: S&T/FENR Miscellaneous

COMPONENT: Pilot Demonstration Project

FUNDING: \$80,000

DURATION: Initiated September 1990; ends June 1993

IMPLEMENTOR: BSP and Various

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394

LOCATION: Various

PURPOSE: To manage various biodiversity activities in support of the objectives and goals of the Science & Technology's Office of Forestry, Environment and Natural Resources (S&T/FENR).

DESCRIPTION: The following activities are proposed or completed under this buy-in (please see activity summaries that follow):

- A. Women in Development Proposal
- B. Pacific Science Congress Biodiversity Symposium

PRODUCTS/OUTPUTS:

- A. Semi-annual progress reports
- B. Participation in Congress and publication of papers

STATUS: A not yet initiated; B partially completed.

SIGNIFICANCE: This buy-in offers S&T/FENR flexibility in funding unanticipated opportunities to aid in the conservation of biodiversity.

RELEVANCE: The availability of modest funds through this buy-in enable BSP to respond positively to requests from our home office within A.I.D.

COMMENTS:

PD905B

TITLE: Pacific Science Biodiversity Symposium

COMPONENT: Pilot Demonstration Project

FUNDING: \$19,000

DURATION: Initiated December 1990; ends December 1991

IMPLEMENTOR: WWF/BSP

CONTACT: BSP: Janis Alcorn 202-778-9697, fax 202-293-9211

LOCATION: Hawaii/Honolulu

PURPOSE: This activity enabled five LDC scientists to attend the XVII Pacific Science Congress, 27 May to 2 June 1991, and to present technical papers in a symposium on Biodiversity & Sustainable Development. The symposium provided the opportunity for the scholars not only to present their research, but interact with other international participants concerned with issues in the Pacific region.

DESCRIPTION: Through the buy-in, three persons from LDCs: Pisit na Patalung of Wildlife Fund Thailand; Simon Saulei of University of Papua New Guinea; and Jorge Orejuela of Cali, Columbia; were able to travel to the Congress. BSP also provided travel for WWF's Celso Roque and Jito Sugardjito to attend the Congress and present papers at the symposium. Each person presented a paper reviewing the status of conservation efforts in his country in the symposium on Biodiversity and Sustainable Development, organized by Sy Sohmer, AID/S&T/FENR and Janis Alcorn of BSP.

PRODUCTS/OUTPUTS: Symposium Proceedings (when published) will include the following:

Jorge Orejuela:	"Advances in Conservation and Development in Columbia"
Simon Saulei:	"Forestry and Biodiversity Conservation in Papua New Guinea"
Pisit na Patalung:	"Conservation and Development in Thailand"
Jito Sugardjito:	"Conservation and Management of Biodiversity in Indonesia: Priorities and Strategies"
Celso Roque:	"The Prospects for Sustainable Development in the Philippines"
Janis Alcorn:	"Biodiversity Conservation and Sustainable Development: Summing Up and Looking Forward"

STATUS: Completed. Symposium papers are being edited with plans for publication.

PD906

TITLE: South Pacific Profitable Environmental Protection
(PEP) Project

COMPONENT: Pilot Demonstration Project

FUNDING: \$145,000

DURATION: Initiated June 1990; ends September 1993

IMPLEMENTOR: WWF/BSP; Foundation for the Peoples of the South
Pacific (FSP)

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
FSP: Bruce Grogan 619-279-9820; fax 619-694-0294

LOCATION: A.I.D. assisted South Pacific countries

PURPOSE: To be determined.

DESCRIPTION: To be determined.

PRODUCTS/OUTPUTS: To be determined.

STATUS: BSP has been working in close consultation with FSP to assure that their PEP project for the South Pacific has a strong conservation component. The design of the first phase of the project is underway and WWF's Peter Hunnan is participating in the design of the project. BSP has suggested the project include a monitoring and evaluation element that could be designed by WWF's Barbara Wyckoff-Baird. FSP has informally approached USAID about a possible buy-in, but no formal request has been made.

SIGNIFICANCE: To be determined.

RELEVANCE: To be determined.

COMMENTS:

TR905E

TITLE: ODP Training Guides
COMPONENT: Training
FUNDING: \$11,029
DURATION: Initiated 25 October 1990; ends January 1992
IMPLEMENTOR: WWF/Organizational Development Program (ODP)
CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394
ODP: Laura Campobasso 202-778-9508
LOCATION: Washington, DC

PURPOSE: To produce two guides for participants attending the Strategic Proposal Design Workshop or the Financial Resource Development Workshop. The workbooks/courses answer the requests, "How can we write effective proposals?" and "How can we diversify our funding sources and gain long-term financial stability?"

DESCRIPTION: Draft guides were prepared to use in BSP-supported workshops (TR902, TR905B) and other WWF/ODP training workshops. Participant feedback from interviews and evaluations was incorporated into the guide. The guide contents for the Proposal Design workshop include the following objectives: 1) Understanding your role and your organization's goals and capabilities; 2) Understanding the proposal development framework and translating your organization's aspirations, capabilities, and plans into proposals; 3) Building collaborative relationships with your organization; and 4) Bringing the lessons back home.

PRODUCTS/OUTPUTS: A Guide to Designing Effective Proposals (WWF/Organizational Development Program, 1991, 114 p.) has been published, and A Guide to Financial Resources Development will be available January 1992.

STATUS: One guide completed, one due January 1992.

SIGNIFICANCE: In the interest of providing environmental organizations with the opportunity to achieve self-reliance and sustainability, these workbooks provide the hands-on materials for the NGO staff to carry out the goals of their organizations.

RELEVANCE: A.I.D. not only supplies funds to organizations to help them plan and carry out their goals, but to set them on the route of self-management and support. This activity addresses BSP's mandate to provide host-country training.

COMMENTS: The first guide is now available, and in great demand.

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TITLE: APRE Bureau/Asia

COMPONENT: Pilot Demonstration Project

FUNDING: \$456,000

DURATION: Approval pending

IMPLEMENTOR: WWF, Wildlife Conservation International (WCI) and others

CONTACT: BSP: Janis Alcorn 202-778-9697; fax 202-293-9211
AID/W: Molly Kux 202-663-2639; fax 202-663-2149

LOCATION: Regional/Asia and the Pacific

PURPOSE: Working in consultation with the APRE Bureau, BSP is developing a program under this buy-in that strengthens the consortium's efforts and capabilities to conserve biological diversity in the region, while contributing useful information and assistance to the Bureau and A.I.D. Missions in Asia and the Pacific. Together, this information and assistance will enhance the ability of host-countries to address biodiversity conservation.

DESCRIPTION: This buy-in has three major components: planning and analysis, short-term technical assistance and a regional NGO workshop with specific activities proposed. (See activity summaries). These activities include:

- A. An A.I.D. Regional Conference/Sri Lanka;
- B. Strategy and Analysis for Asia;
- C. Support for a South Pacific Program Officer;
- D. Environmental NGO Conference; and
- E. Small Grants Program

PRODUCTS/OUTPUTS:

- A. A Conference including Environment and Agriculture Officers and Workshop in Sri Lanka, September 1991.
- B. Contribute to the Bureau's new environmental support project, Phase II (ESP II).
- C. South Pacific Program Officer participation in PNG CNA and implementation of PEP.
- D. Published proceedings and publicity from meeting in 1992.
- E. Might produce research documents, workshops, ICOPs, others.

STATUS: Active.

SIGNIFICANCE: This set of activities provides the opportunity for BSP to assist the AID/Asia Bureau in its conservation of biodiversity.

TITLE: A.I.D. Regional Conference/Sri Lanka

COMPONENT: Pilot Demonstration Project

FUNDING: \$70,000

DURATION: Initiated 1 January 1991; ends 30 September 1993

IMPLEMENTOR: WWF and BSP

CONTACT: BSP: Janis Alcorn 202-778-9697; 202-293-9211
AID/W: Molly Kux 202-663-2365; fax 202-647-4958

LOCATION: Sri Lanka/Colombo

PURPOSE: AID/APRE Bureau is developing initiatives in the areas of environment and agriculture. This conference in Sri Lanka (Environment and Agriculture Officer's Conference) addresses the Bureau's Environment/Natural Resources Strategy (ENRS) to more fully integrate Bureau initiatives and Mission programs. Following the conference, a workshop will address the design of a long-term technical assistance program under the new regional Environmental Support Project (ESP) II. ESP II will include pollution monitoring and control, natural resources, economics, and management, environmental education, and conservation of biological diversity.

DESCRIPTION: BSP was asked to provide technical assistance for the conference and workshop, and contribute expertise in the area of conservation of biological diversity. This buy-in allows BSP to provide assistance to AID/APRE/DR/TR staff in preparation and coordination of the Regional Conference and ESP II workshop in Sri Lanka 9-17 September 1991. Technical assistance includes: 1) conference management; 2) management of contractual agreements with speakers and authors of technical documents; 3) technical review of documents; 4) travel and other logistic arrangements for speakers; 5) liaison between conference coordinators; and 6) participation of BSP Regional Officer as member of planning committee. Additional assistance includes revisions to the draft AID/APRE ENRS and preparation of the draft project paper for the ESP II.

PRODUCTS/OUTPUTS: 1) Information networking among AID/APRE personnel and technical experts, including BSP personnel; 2) a conference participants' notebook including executive summaries from all speakers; and 3) conference proceedings incorporating commissioned documents--

Russell Betts: "Environmental Awareness and Education in Indonesia"

Michael Brown and Barbara Wycoff-Baird: "Integrated Conservation and Development Projects to Conserve Biodiversity"

PD912

TITLE: AFR Bureau

COMPONENT: Pilot Demonstration Project

FUNDING: \$1,440,000

DURATION: Initiated 8 August 1991; ends 30 September 1993

IMPLEMENTORS: BSP; Goddard Space Flight Center; WRI; U.S. Forest Service; University of Maryland; WWF; WCI; U.S. Geological Survey; University of Illinois; and as yet unidentified NGOs and African government agencies.

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
AID/W: Tony Pryor 703-235-3832; fax 703-235-3805
Tim Resch 703-235-3786; fax 703-235-3805

LOCATION: Africa

PURPOSE: This buy-in enables BSP to bring together NGOs and governmental organizations with considerable field experience, scientific knowledge and in-house capacity to develop some common understanding of and approaches for the conservation of biological diversity and the mitigation of global climate change. The technical reviews and pilot projects included in this buy-in lay the foundation for future Africa Bureau initiatives to conserve biodiversity. The global climate change efforts provide information to policy makers, particularly within the A.I.D. structure, to help them determine how best to mitigate future carbon emissions from central Africa.

DESCRIPTION: The buy-in was developed through a collaborative process between BSP and A.I.D.'s Africa Bureau, and consists of several biodiversity and global climate change activities.

To address global climate change (see Activity PD912A), the buy-in supports a series of data gathering and analytical activities in central Africa necessary to (a) establish a baseline estimate of the extent of forest resources, (b) establish estimated rates of forest depletion, (c) identify the modes and dynamics involved in forest modification, and (d) estimate present and future carbon emissions from central Africa. The information compiled from this activity will help A.I.D. produce an action plan delineating their role in the mitigation of future gaseous emissions from the central Africa region.

Within the biodiversity activity, BSP is a) conducting a technical review of the Bureau's current Biodiversity project portfolio, and a technical review of the Bureau's biodiversity strategy (see Activity PD912B), and b) developing and financing a series of analytical pilot projects to promote the conservation of biological diversity in the region (see Activity PD912C).

PD912A

TITLE: Central Africa Global Climate Change Project

COMPONENT: Pilot Demonstration Project

FUNDING: \$400,000

DURATION: Initiated December 1990; ends June 1992

IMPLEMENTOR: BSP; Goddard Space Flight Center (GSFC); (WRI);
U.S. Forest Service (USFS); Univ. Maryland (UM);
(WWF); Wildlife Conservation International (WCI);
U.S. Geological Survey (USGS); Univ. Illinois (UI).

CONTACT: BSP: Kate Newman 202-778-9524; fax 202-293-9211
AID/Africa: Tony Pryor 703-235-3832;
fax 703-235-3805

LOCATION: Central Africa Republic, Cameroon, Congo, Gabon,
Equatorial Guinea, and Zaire.

PURPOSE: This buy-in enables BSP to bring together NGOs and governmental organizations with considerable field experience, scientific knowledge, and in-house capacity to conduct a series of data gathering and analytical activities necessary to develop a global climate change action plan for central Africa.

DESCRIPTION: The U.S. Congress, having acknowledged the need to mitigate gaseous emissions that contribute to global climate change, has mandated that A.I.D. identify areas with high future emissions potential. As a result, A.I.D. has decided to focus its attention in Africa on the central Africa region which contains the largest and most carbon-rich forested area on the continent. The Central Africa Global Climate Change Project has been initiated through a collaborative process between BSP and the Africa Bureau to determine the potential for future carbon emissions from the region and to provide a readily accessible source of information to those policy makers, particularly within the A.I.D. structure, responsible for deciding how best to mitigate them.

This activity: (a) establishes a baseline estimate of the extent of forest resources; (b) establishes estimated rates of forest depletion; (c) identifies the modes and dynamics involved in forest modification; and (d) estimates present and future carbon emissions in central Africa. This information will be used to develop a climate change action plan for the Bureau.

PRODUCTS/OUTPUTS:

- A. A remote sensing analysis, supported by ground-truthing efforts, to produce a map of the region that estimates the extent of forest cover and rates of change.
- B. Desk studies of central Africa's bio-geophysical setting, policy and macroeconomic framework, population

TR901

TITLE: Parataxonomists Course/Costa Rica

COMPONENT: Training

FUNDING: \$40,000 core funds (supplemental to \$100,168 from LAC)

DURATION: Initiated 1 January 1990; ended 30 September 1991

IMPLEMENTOR: Instituto Nacional de Biodiversidad (INBio)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
INBio: Rodrigo Gamez 506-364269; fax 506-362816
Dan Janzen 506-695598

LOCATION: Costa Rica

PURPOSE: To train 15 "parataxonomists" (see DESCRIPTION for definition) and establish 5 more biodiversity offices within the Costa Rican URC (Unidad Regional de Conservacion) system. This activity will strongly reinforce the countrywide biodiversity survey framework that has been established, strengthen INBio as an institution, and contribute concretely to the country's biodiversity inventory efforts (see PD895A).

DESCRIPTION: A biodiversity survey of any area requires year-round observation and collection of specimens and data. The collectors and observers require ecological and taxonomic training to the level of full competence in the technology and philosophy of a biodiversity survey, but they do not need the university and postgraduate training required of a professional taxonomist. To borrow a word from the medical and legal professions, these collectors and observers may be called "parataxonomists." The first 16 parataxonomists were trained under a grant from A.I.D.'s LAC Bureau in 1989. This grant supports the second parataxonomists course, held in the first half of 1990, to train 15 Costa Ricans employed in the wildlife and wildlands sector as parataxonomists and places them in the URCs around the country where they are needed. The course and biodiversity offices are primarily organized to encompass insects (and other arthropods), with a strong secondary emphasis on plants. Insects were selected as the model group because they are extremely species-rich (approximately 80% of Costa Rica's fauna and flora of 500,000 species are insects), poorly known, and easily collected and processed. The matching funds (\$300,000) from the Pew Charitable Trusts provides an endowment for the training future parataxonomists.

PRODUCTS/OUTPUTS: Fifteen newly trained parataxonomists and five newly established biodiversity offices within the Costa Rican URC system.

TR903

TITLE: ACE NGO Manager Training

COMPONENT: Training

FUNDING: \$4,891 (supplemental to \$35,109 from LAC)

DURATION: Initiated 1 July 1990; ends 31 December 1991

IMPLEMENTOR: Atlantic Center for the Environment (ACE)

CONTACTS: BSP: Meg Symington 202-778-9727; fax 202-293-9211
AID/W: Jim Hester 202-647-8093; fax 202-647-8098
ACE: Jessica Brown 508-356-0038; fax 508-356-7322

LOCATION: Northeast U.S.A.

PURPOSE: To strengthen local institutions working to build public support for protected areas and wildlife habitat throughout the wider Caribbean region, thereby contributing to the conservation of biodiversity in the region.

DESCRIPTION: From 18 August to 16 September 1990, the Atlantic Center for the Environment offered a training program for Caribbean conservation professionals focussing on the stewardship and interpretation of natural areas. The four week program was designed to provide an opportunity for Caribbean conservation professionals to acquire practical skills, share information with their counterparts and form professional contacts which will help them be more effective in their own work. Seven conservation professionals from the Caribbean region participated, representing national park agencies, NGOs and interpretive centers in St. Lucia, St. Vincent, Grenada, Nevis, Antigua, and Jamaica.

The format of the program incorporated a study tour and week-long individual assignments, tailored to each participant's specific area of interest and expertise. The study tour was designed to expose participants to a range of approaches to the management of national parks and protected areas, environmental education and interpretation techniques, voluntary land conservation measures, and techniques for encouraging citizen involvement in conservation.

Kate Irvine carried out the single technical assistance assignment funded under this grant. She acted as a visiting environmental educator to the Environmental Awareness Group in Antigua to meet with their recently initiated Youth Education Program.

PRODUCTS/OUTPUTS: Seven Caribbean conservation professionals trained on the stewardship and interpretation of natural areas; a single technical assistance assignment carried out by Kate

TR905

TITLE: ODP/WWF Training Workshops

COMPONENT: Training

FUNDING: \$116,376

DURATION: Initiated 25 October 1990; ends 30 October 1991

IMPLEMENTOR: WWF/Organizational Development Program (ODP)

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394
ODP: Laura Campobasso 202-778-9508

LOCATION: Mexico (TR905A), Indonesia (TR905B), Jamaica (TR905C), Costa Rica (TR905D)

PURPOSE: To provide training programs in Participatory Leadership, Financial Resources Development, and Proposal Design to enhance an organization's capability in conservation work, and to contribute to an organization's self-reliance and viability. Workbooks developed during these and other ODP activities are field tested and printed for future workshops.

DESCRIPTION: Courses designed and carried out by WWF's ODP stress self-reliance and sustainability by preparing participants for the tasks of managing their organizations. Topical areas for the workshops were chosen on the basis of interviews and surveys of NGOs to identify their most pressing areas of concern which were identified as leadership and strategic planning, financial planning, development, management, and fundraising and proposal design. These topical areas have been incorporated into the design of pilot workshops for field testing. Based on the results of field testing, modifications are made to ensure the effectiveness and replicability of the workshops as training tools. Workbooks and associated materials are developed and field-tested for future workshops. (See Activity Summaries TR905A-E)

PRODUCTS/OUTPUTS: Four workshops and 58 participants have returned to their organizations to transfer their experiences to their colleagues. One of the two workbooks has been printed and the second will be available in January 1992.

STATUS: Workshops completed; one workbook is available.

SIGNIFICANCE: As more NGOs and PVOs work on conservation of biodiversity issues, they must become self-reliant and strategy oriented. As these WWF/ODP, BSP-sponsored workshops reach more of the individuals responsible for project planning and proposal design, implementation and evaluation, their increased capability should allow them to achieve their goals.

TR905A

TITLE: Participatory Leadership Workshop/Mexico

COMPONENT: Training

FUNDING: \$26,847

DURATION: 4 to 10 November 1990

IMPLEMENTOR: WWF/Organizational Development Program (ODP)
Institute for Conservation Leadership

CONTACT: BSP: Bruce Leighty, 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394
ODP: Laura Campobasso 202-778-9508

LOCATION: Mexico/Oaxtepec

PURPOSE: To provide participants with an understanding of leadership development within organizations and the practice of individual self-reliance; increase each participant's awareness of his behavior that contradicts these dynamics and the self-reliance of others; and allow participants to identify, and make commitments to, specific measures that will 1) open up decision-making processes; 2) include others in implementation; 3) help new leaders to be self-reliant; and 4) provide positive feedback and reinforcement.

DESCRIPTION: Using the methods of laboratory education for participative leadership, individuals come together to explore, practice and develop new behavioral patterns that are needed to function in pluralistic and democratic environments. This workshop includes: 1) awareness that leadership is the interdependent outcome of a leader-follower relationship that requires clarity regarding both the leader's and follower's needs, wants and desires; and 2) understanding that participative leadership is not compelled by the need for power but compelled by the wish to empower others. Providing others with self-reliance frees a leader to fulfill his/her own visions.

PRODUCTS/OUTPUTS: Nine participants, all presidents or executive directors of Mexican non-profit conservation organizations were brought to this workshop to help them understand their roles as leaders within their organizations and analyze different forms of leadership as well as prepare them for leadership transfer.

STATUS: Completed

SIGNIFICANCE: ODP and BSP believe that these training workshops provide self-reliance as a goal to bring about "self-management" capabilities; self management also relates to an organization's ability to manage growth. Becoming self-reliant through self-management implies developing an overall capability to run an organization.

TR905B

TITLE: Financial Resource Development/Indonesia

COMPONENT: Training

FUNDING: \$28,500

DURATION: 20 to 25 March 1991

IMPLEMENTOR: WWF/Organizational Development Program (ODP)
Management Development, Inc. (New York)

CONTACT: BSP: Bruce Leighty 202-778-9685; fax 202-293-9211
AID/W: Sy Sohmer 703-875-4669; fax 703-875-4394
ODP: Laura Campobasso 202-778-9508

LOCATION: Indonesia/Jakarta

PURPOSE: To assist Directors of Development of Asian environmental organizations (NGOs) to become more self-sufficient--that is, to diversify their funding sources and to gain long-range financial stability.

DESCRIPTION: The methodology of the workshop involves case studies, small groups working together, and panel discussions. Participants have a facilitator who helps them: 1) feel good about themselves in the context of the organization; 2) be enthusiastic; 3) gain confidence in their ability to manage the financial components of their job responsibilities; 4) gain specific skills, especially a) resource development strategy; b) calculation and defense of indirect cost rate; c) project budgets and d) the "selling" of the organization and its programs. Within this context participants learn how to calculate indirect costs and generate revenues from alternative funding sources.

PRODUCTS/OUTPUTS: Seventeen representatives from 10 countries attended the workshop. (See file TR905B for their individual course evaluations.) It is expected that the transfer of information within and between conservation organizations will help to stimulate confidence and program growth.

STATUS: Completed

SIGNIFICANCE: As grassroots activities within the conservation community grow, and new NGOs attend to the needs of their constituents, projects and plans may await needed funding. With the possibility that fundraisers have guidance to creatively research and review possible funding sources, project implementation can become a reality and the goals of these organizations can be met.

RELEVANCE: BSP addresses its mandate to build on the capacity of host-country scientists, government and NGO environmentalists to