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**University of Montana
University Development Linkages Project
"Institution Building and Internationalization at the University
College of Belize
and the University of Montana: Models for Sustainable Resource
Development"**

**(936-5063)
4th Annual Report FY 1995**

Cooperative Agreement No. DAN-5063-A-00-1116-00

Submitted to:
Dr. Ruth Frischer, UDLP Director
Agency Center for University Cooperation in Development
Bureau for Research and Development
Agency for International Development
Washington, D.C. 20523

October 31, 1995

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This report summarizes activities undertaken during Year 4 of the grant. We have included a description of progress toward the completion of each linkage objective as per the Year 4 Workplan. Problems and barriers affecting linkage progress, sustainability of the linkage, and quantitative outputs of the linkage are addressed. The annual report also presents assessments of the impact of the linkage on internationalization of UCB, UM, and LCNF as well as on UCB's capabilities to meet Belizean societal development needs in natural-resource management.

Objective 1: *Develop UCB's outreach capacity, including the UCB Adult and Continuing Education (ACE) Department, and certificate programs and courses offered through the Development and External Relations Office (DERO)*

Co-director Siebert completed preliminary arrangements regarding course content, location, clientele and inclusion of two field trips for the May short course on ethnopharmacology to be co-taught by Dr. Rustem Medora, UM School of Pharmacy; Dr. Kay Usher, UCB Pharmacy Program; and Dr. Arviga, Ix Chel Research Station in Cayo, Belize. Co-director Koehn met with Kay Usher regarding the short course on ethnopharmacology with UM Professor Rustem Medora. They discussed course objectives and clientele (UCB students, local pharmacists, trip participants). In May, Rustem Medora, professor of Pharmacy at UM, conducted a week-long short course in Belize on ethnopharmacology and medicinal plants -- the first of its kind at UCB. He helped initiate communication between herbal healers, pharmacists, UCB faculty and students, and Dr. Rosita Arvigo, Director of Ix Chel Tropical Research Foundation in an effort to encourage them to work together in conserving Belize's natural resources.

In March, LCNF employees Jess Secrest and Brad McBratney, and Dave Carr (The Nature Conservancy), manager of the Pine Butte Swamp Preserve near Choteau, Montana, taught the third fire-training course to FDB employees at Douglas D'Silva in the Mountain Pine

Ridge Forest Reserve, Belize. Twenty-one participants (Forest Workers from Mountain Pine Ridge Forest Reserve, and personnel from the Meteorological Service of Belize, Fire Service of Belize/Belize City, and Programme for Belize) attended the course. The course included planning and implementing prescribed burns at the Mountain Pine Ridge Forest Reserve and the Rio Bravo Nature Preserve.

The Project Advisory Committee approved the final version of the Partnership brochure.

Vincent Palacio co-instructed a proposal design and writing workshop held in April at the Rio Bravo Research Station. The workshop was co-sponsored by UCB and WWF (NARMAP). There were 26 participants, and evaluations revealed that the training was beneficial.

George Stanley, professor of Geology at UM, spent spring semester 1995 at UCB. Dr. Stanley served as a member of the UCB-Marine Research Centre Board (MRC). He attended MRC meetings and offered advice on its development. He also worked with key reef researchers from the University of the West Indies and the Smithsonian Institution to arrange for site visits that advised UCB on the MRC and on its Marine Studies program. Dr. Stanley visited the Smithsonian Institution's research station on Carrie Bow Caye and a site on Wee Wee Caye. These visits provided insights on how best to equip the MRC for teaching and research.

UCB conducted an Environmental Impact course in Toledo led by Francis Marin, Dorian Barrow, and Tim Palacio.

UCB began an outreach program with night classes in Analysis of Data. The class, offered by Dr. Perriott, should strengthen research capabilities in Belize.

In July, Vincent Palacio presented a paper on the status of environmental education in Belize at "The First World Conference on Environmental Education" in Venezuela.

Belize television covered the Library Workshop facilitated by UM's Erling Oelz. They interviewed Mr. Oelz, UCB's Library Director Mr. Vernon, and three workshop participants, and broadcast the interview that night on Belizean television.

Progress Made in Accomplishing Workplan Objectives

In his earlier evaluation of the program, Steve Cornelius (p. 12) recommended that "a simple, attractive and informative pamphlet should be developed that describes the goal, objectives, collaborators, and activities of the UDLP. This general program document should be supplemented at regular intervals with a newsletter that includes updated information on short courses, faculty attachments, news of collaborative research, and students

studying in UM." The brochure is now available and the newsletter has been introduced at UCB.

In year four, the project strengthened UCB's capacity to offer short courses, provided GOB and NGO personnel with immediate training, and helped develop UCB's long-term role in outreach and extension activities. Vincent Palacio assumed responsibility as Acting Director of DERO.

Objective 2: *Enhance capabilities of UCB faculty and staff*

Vincent Palacio assumed responsibility as UDLP Project Director and acting DERO Director. Ismail Bin Yahya assumed responsibility as UDLP Project Officer. Vincent Palacio participated in a training seminar sponsored by the Caribbean Tourism Organization and Belize Tourist Board. The training aimed to sensitize teachers regarding tourism development in Belize. Vincent Palacio has been appointed deputy chair of Belize's GEF small-grants selection committee. The committee meets once a month to review small-project proposals submitted to UNDP.

In January, Philip Morgan began his second semester of graduate studies in watershed-planning and management. At the Office of International Programs, he received training on the preparation of cost-match information. Philip Morgan met with Dr. Ward McCaughey, Research Silviculturalist with the USDA Forest Service Intermountain Research Station, in June concerning analysis of hydrologic data from the LCNF Tenderfoot Experimental Forest. Philip began analyzing hydraulic data using computer software programs similar to those that he will use in conjunction with his upcoming dissertation research in Belize. Philip Morgan worked with LCNF hydrologists in the analysis of a water runoff data set from the Tenderfoot Creek Experimental Forest, Montana. Specifically, he analyzed several years of flow data using various computer software programs/models. The exercise will be relevant to the collection, analysis, and modelling of data from the Belize River Watershed which he will undertake as part of his dissertation research. Philip Morgan prepared a detailed dissertation research proposal and reviewed it with his full committee in July. The dissertation committee also reviewed procedures and identified subject matter for Philip's Ph.D. qualifying exams this fall.

George Stanley worked closely with Gail Bradley-Miller on marine-studies curriculum and UCB's Marine Research Center (MRC).

Alexander Williams, lecturer and associate-degree coordinator at Belmopan Junior College (BJC), participated in the staff-exchange program. At UM, he was attached to the Office of

International Programs and to the College of Technology (COT). Dennis Lerum, Dean of the COT, shared ideas and procedures for running new and existing programs which will help Mr. Williams in the administration of the Natural Resource Management program at BJC. They discussed the nature and purpose of the COT, the program development and approval process, an assessment of incoming student academic-achievement levels, methods used to deliver a short-term sponsored self-support program, and bookstore operations. Steve Siebert, Philip Morgan, and Alex Williams rewrote the AA program using ideas from the COT and UM faculty members. Personnel from UM's Center for Continuing Education also suggested courses, workshops, and associate-degree programs. Co-director Koehn reviewed various project-related matters with Mr. Williams.

Alex Williams also met with Dan Corti, UM's Environmental Officer and former staff exchangee to UCB. They discussed hazardous and municipal waste management. Mr. Corti suggested legislative approaches and ways to organize groups to follow those approaches. He also donated a handbook relating to the handling of hazardous and municipal waste that will be useful in incorporating this kind of material into the AA program. They made a site visit to EKO Compost in Missoula which illustrated the profitability of recycling waste.

Mr. Larry Vernon, Library Director at UCB, came to UM on staff exchange in June. He served an attachment with UM's Mansfield Library. Mr. Erling Oelz, Professor, Mansfield Library, who recently returned from a staff exchange to UCB, functioned as his principal host. The insights Mr. Vernon gained into the techniques of running the Mansfield Library during his staff exchange will assist the achievement of immediate and long-term goals at the UCB library. Of particular import was gaining hands-on experience with GrizNet, LaserNet, CD ROM, Internet, and on-line searching which will facilitate the computerization of the UCB Library that began three weeks prior to his arrival. The past president of the Montana Library Association (MLA), Sue Nissen, explained the administration, activities, and goals of the MLA to Mr. Vernon. The guides and reports she provided will assist in training the members of Belize's revived library association. Mansfield Library staff members thoroughly briefed Mr. Vernon on the library's facilities and capabilities. He can now take a leadership role in instructing UCB students in library use and in developing library cooperation and communication for the purpose of inter-library loans. Mr. Vernon also took the opportunity to spend some time at UM's Bookstore. Bookstore personnel fully apprised him of its administration, aim, and policies.

Progress Made in Accomplishing Workplan Objectives

In year four, Vincent Palacio completed his Ph.D. coursework at UM and commenced dissertation field research in Belize. Philip

Morgan commenced Ph.D. studies in watershed management at UM. UCB hired Gail Bradley-Miller as their key marine-studies resource person. UCB staff members Alex Williams and Lawrence Vernon received short-term training at UM.

Objective 3: *Curriculum and course development at UCB*

Dr. John Douglas, UM faculty exchangee for fall semester 1994, completed teaching two classes at UCB: General Social Science Research class to 45 students (a required general-purpose introduction to research methods, geared to social science research) and Introduction to Anthropology to 35 students. He left UCB a copy of the course outlines he used in these courses. Professor Douglas also gave a two-hour lecture on archaeological methods, using the origins of the Maya as an example, to an Introduction to Sociology class.

From February to May, Dr. George Stanley's faculty-exchange duties at UCB included 1) teaching, 2) outside lectures, 3) serving on the UCB-MRC committee as adviser, 4) developing a new academic program in Marine Studies, and 5) a limited amount of research:

(1) Dr. Stanley taught a UCB course entitled "Marine Biology 199 - The Marine Environment" to 15 students. This is an introductory-level course that covers some basic concepts about Belize's reef system as a natural resource, an overview of the development of coral reefs, and concepts in environmental conservation, oceanography, mangrove ecology, fish, marine vertebrates and invertebrates classification and identification. He organized two field trips to Calabash Caye on Turneffe Atoll and supervised student-research projects that investigated specific marine environments.

(2) On 20 and 21 February, Dr. Stanley gave a series of lectures and slide presentations on Belize's coral reef to the 6th Form class at St. Johns College. He also consulted with Father Deickman, staff member at St. Johns, on geology of Belize.

(3) As a member of the UCB-Marine Research Center, he attended meetings and offered advice on the development of the MRC. He also worked on a proposal that would allow UM to take part in the MRC on Calabash Caye. The proposal was presented to the President and UCB officials by Peter Koehn and Dr. Stanley on March 27.

(4) Dr. Stanley visited the Smithsonian Institution's research station on Carrie Bow Cay and the site on Wee Wee Cay which is operated by Paul Chave for student-oriented research.

These visits allowed Dr. Stanley to gain more insights on how best to equip the MRC for teaching and research. Dr. Stanley also tried to get key researchers from the University of the West Indies and the Smithsonian Institution to visit UCB and contribute their knowledge to the MRC and the Marine Studies Program.

(5) Dr. Stanley assisted UCB in the development of a new program in Marine Studies and wrote a proposal for a new undergraduate bachelor's degree program to interface with the MRC, GOB-Fisheries, and UCB's emerging natural-resource management program. The proposal included specific recommendations for development of the MRC (equipment and supplies needed, library facilities, physical plant) and how this facility should be integrated into the UCB curriculum on Marine Studies.

Dr. Angel Cal, UCB's president, wrote George Stanley a letter thanking him for his contributions to UCB during the semester. He noted that "the UCB - University of Montana project in natural resources management has been considerably strengthened by your professional advise on matters related to the development of courses, the establishment of UCB's Marine Research Centre, and last but not least, the courses you taught during the semester." He also stated that UCB considers him "part of our UCE family" and would like to be able to call upon Dr. Stanley for advice from time to time.

Vincent Palacio and Philip Morgan submitted the response to the General Guidelines for Programme Development (Summary) to UCB for review by the UCB Council for the purpose of garnering support for expanded academic programs at UCB, particularly in Natural Resource Management. In preparation for the Associate Degree program, Philip developed a list of suggested texts and identified relevant journal articles.

Alex Williams discussed UCB's planned Associate Degree program with several faculty members in the School of Forestry and solicited their ideas for program enhancement. They suggested courses and textbooks as well as a numbering system for the courses. Alex also worked on UCB's proposed associate-degree program with Steve Siebert and Philip Morgan. At the College of Technology, he discussed different courses, textbooks, a numbering system for the courses, curriculum-development methodologies, and recognition strategies for short courses, workshops, and associate-degree programs. Alex incorporated ideas gleaned from his attachment to the COT and from UM professors with expertise in natural-resource related fields into the program draft. Philip Morgan, Vincent Palacio, Gail Bradley Miller, Alexander Williams, and Mustafa Touré completed the draft of associate-degree program syllabus and circulated it for comment. UCB decided that it will be a three-year program and will begin on the Belize City campus.

Portions of the program will be moved to the Belmopan campus after the first year.

UCB produced a draft of the Associate Degree program in Natural Resources Management (NRM) with a final curriculum on July 13, 1995. This draft was the product of a task force established in 1994 under the leadership of Vincent Palacio, along with Alexander Williams, Philip Morgan, Gail Bradley, and K. Mustafa Toure. Skills and outcome objectives have been developed for three areas: Coastal/Marine Resources, Terrestrial Resources, and Recreation Resources. The primary objective of UCB's NRM program is to train national personnel in basic techniques of integrated management of terrestrial, coastal/marine, and recreation resources. The principal beneficiaries of this program will be government departments and non-governmental organizations involved with management and conservation of Belize's natural resources. The coastal/marine component of the program should directly benefit the Fisheries Department, Coastal Zone Management, and aquaculture industries by providing trained personnel for recruitment. The Water and Sewage Authority, Department of Forestry, Public Health Bureau, and the Department of Environment will benefit by having recruits trained in the terrestrial aspects of this program. The Ministry of Tourism and the Environment as well as private enterprises built around eco-tourism will benefit from training in Integrated Natural Resources Management.

Progress Made in Accomplishing Workplan Objectives

Year four showed substantial progress in this area. UM faculty members Douglas and Stanley introduced new curriculum in anthropology, research methods, and marine studies. UCB produced a final draft of the Associate Degree program in Natural Resource Management, with a final curriculum. The Associate Degree program is proceeding on schedule, although it has not yet been advertised. The program will begin on the Belize City campus in fall 1996.

Objective 4: UCB/UM library enhancement

The UM Mansfield Library confirmed a grant to OIP for 1994/95 purchases of \$500 worth of books pertaining to international development. Mike Miller processed these orders. These purchases will supplement the UDLP grant for library enhancement.

Erling Oelz, Professor and Director of Public Services, Mansfield Library, visited UCB from January 8 - 30, 1995. Professor Oelz's accomplishments from his visit included:

- (1) Presented the UCB/UM Library Workshop, January 16-18, 1995, "Library Development in the 21st Century." Twenty-six participants from 21 libraries throughout the country attended this three-day workshop. Workshop topics included processing

of library materials, automation, and reference service. In addition, the workshop directed major emphasis at improved library cooperation. These discussions resulted in the preparation of a formal Memorandum of Understanding, a nine-point document. All participants committed to pursuing the principles embodied in the Memorandum of Understanding at their own libraries and with local administrators, to activate the Belize Library Association, and to work toward enhanced library service within Belize. The documents included a calendar specifying actions to be accomplished by certain dates. Participants received certificates of attendance.

(2) Expanded the role and image of the UCB library within Belize. The University College of Belize could easily become one of the principal library operations in the country, along with National Library Service. In addition to making a commitment to expanding their print and nonprint resources, they could share their resources and expertise by automating bibliographic records through the CDS/ISIS software program. Once BELINET is implemented, UCB's role in the electronic transfer of information will be fully recognized. Establishing a direct link with the Internet will enhance these efforts. By assisting with the planned transfer of Joan Koliass, Belize Peace Corps Volunteer, to UCB's library, Professor Oelz also worked to address the staff training needed to move the automation project forward.

Responding to UCB's request to investigate the availability of the *Grove's Dictionary of Music and Musicians*, Mr. Oelz found, having researched via Internet, that Rice University had a set available to send to UCB. He arranged for Rice University to deliver the complete set to Belize, and it arrived in March. This provides one example of how UM's library can assist Belize in serving the information needs of its people.

John Douglas donated eight books on anthropology and archaeology for UCB's library.

During his faculty exchange at UCB, George Stanley helped UCB secure free books and biology literature from a variety of sources. Dr. Stanley worked out an agreement with Father Leonard Deickman of St. Johns College in who will donate his extensive library on geology and biology to UCB.

Erling Oelz, Professor and Director of Public Services, Mansfield Library, and recent staff exchangee, sent 200 books, a microfiche reader, and collections of numerous journals to Mr. Larry Vernon at the UCB library. The value of this shipment is estimated at \$3,200.

Progress Made in Accomplishing Workplan Objectives

Year four showed important progress in this area. Donations increased UCB's library holdings. Mr. Vernon ordered books through the UDLP project, which have arrived and been shelved in the UCB library. Mr. Oelz and Mr. Vernon addressed sending to UCB for their use needed books and a microfiche reader, which Mr. Vernon acquired while in Missoula, and further refined the "want list" for Belizean libraries. UCB library staff received training. UCB's library enhanced its role within Belize. Through the project, all Belize libraries agreed to establish a Belizean Library Association. UM's library established a partnership with UCB's library and other Belize libraries. A concerted effort to assist Belizean libraries with collection development is underway and will be an ongoing commitment for Professor Oelz. Instead of supplying libraries with useless, dated information, a focused program to address information needs in specific subject areas will be implemented.

Objective 5: Development of a field practicum in Belize

Vincent Palacio selected four Belizean participants in January. The field practicum included substantive field exercises, was co-taught by Vincent Palacio of UCB (to facilitate project institutionalization at UCB), and received positive course evaluations by student participants. Dr. Lisa Curran, post-doctoral scholar at Harvard University, participated as a volunteer instructor throughout the course. Her expertise in tropical forest ecology contributed to the success of the field course. The field course participants found the material covered in the field course useful and valuable for their future careers. The participants appreciated being able to interact culturally with one another. They also appreciated the learning environment, hands-on experience, and the training in critical thinking. They came away with a better understanding of environmental issues from both the social and developmental perspectives. They appreciated learning research methods, including the value and method of conducting surveys.

The 1996 field practicum will be lengthened to allow additional field work. The course will be changed to add Monkey Bay, Citrus Plantation, and Pine Savannah field work in addition to the previous year's exercises in Rio Bravo, Crooked Tree, and Calabash Caye. Steve Siebert secured reservations for Monkey Bay and Rio Bravo.

Progress Made in Accomplishing Workplan Objectives

The 1995 field practicum took place as scheduled. Steve Siebert, Jill Belsky, and Vincent Palacio successfully offered the field practicum to five UM students and four Belizean students from March 9 - 19 in Rio Bravo, Crooked Tree, and Calabash Caye.

Objective 6: Collaborative Research Projects

UM approved the research proposal that John Douglas and Mustafa Touré submitted. Their Archaeological Knowledge and Attitudes survey aimed to obtain a "snapshot" of public awareness of and interest in archaeology. The survey activities were a joint effort of Professor Douglas and his Research Methods class. They developed the survey instrument, interviewed 514 people, and designed a data base for the collected data. UCB lecturer Juanita Morales translated the survey form into Spanish. The survey measured public knowledge and attitudes toward the archaeological heritage of Belize. Professor Douglas analyzed the data and drafted the report. The survey showed that many Belizeans care deeply about archaeological materials. Over 90 per cent of the sample want to know more about archaeology. Most would like to see better access to sites, more protection of sites against looting, greater incorporation of archaeology in the primary and secondary school curriculums, and better facilities and displays for the public. The study suggests that Belizeans are mindful of the benefits that archaeology provides for tourism, but are motivated by a view that archaeology is a national heritage that must be protected and studied for future generations of Belizeans. UCB agreed to distribute the report on research results.

Dr. Rustem Medora, UM Professor of Pharmacy, explored collaborative research possibilities with Dr. Kay Usher of UCB in the area of ethnopharmacology. They are considering collaborative research on the use and medicinal properties of traditional Belizean plant medicines and means by which traditional medicines might be integrated into contemporary health-care programs. The harvesting of non-timber forest products, including medicinal plants, has been advocated as a means of sustainable utilization of tropical forests. Research has been conducted in western Belize by the New York Botanical Garden and Ix Chel farm in Cayo.

Philip Morgan (UCB faculty member and UM Ph.D. student) and William Woessner (UM Professor of Hydrogeology) reviewed opportunities to conduct collaborative research on groundwater pollution and sampling in Belize.

The co-directors and Vincent Palacio met with Lewis and Clark National Forest Service resource professionals involved in the Sister Forest relationship with the Belize Forestry Department regarding future collaborative-research possibilities. The group

identified the development of a comparative watershed- management research project in the Mountain Pine Ridge of Belize and the Tenderfoot Creek Experimental Forest of the Lewis and Clark National Forest of Montana as a key area of future research. Co-director Siebert drafted a research prospectus that proposes assessing and comparing the hydrologic and edaphic responses of a variety of forest-management practices in sub-watershed study areas of the two research areas. The prospectus is under review by LCNF personnel. Following revisions, it will be included in funding proposals to continue some of the activities initiated under the USAID-funded UDLP grant.

George Stanley submitted a successful research project with UCB faculty member Gail Bradley-Miller to study coral diversity on the Belizean reef ecosystem. This proposal secured all the necessary approvals and work began during this period. The project supported two Belizean biology students who assisted in identification and labeling of corals and other marine organisms. The project includes an exhibit of corals collected by Father Deickman of St. Johns College. The two students also helped Dr. Stanley set up the new exhibit for UCB on the Belize Reef and Belize corals. The public exhibit features underwater photography of corals and is expected to educate and enlighten visitors to UCB. The exhibit also is designed to attract prospective students to the new UCB program in Marine Studies.

Progress Made in Accomplishing Workplan Objectives

During year four, John Douglas and Mustafa Toure completed a joint research project. George Stanley and Gail Bradley-Miller completed their joint research project. UM and UCB also approved a collaborative research grant on "Development of a Management Plan for Turneffe Atoll," under the direction of Mustafa Touré in collaboration with Dr. Steve Siebert.

Objective 7: Professional development of UM faculty and staff

Pat Hettinger, a project research assistant, interviewed five University of Montana faculty members involved in teaching and/or research in Belize to determine the effect of their experiences on teaching and research at the University of Montana. The five participating faculty members were: Jill Belsky, Department of Sociology; Kevin O'Hara, School of Forestry; Steve McCool, School of Forestry; Don Potts, School of Forestry; George Stanley, Department of Geology. In conducting the evaluation, Ms. Hettinger prepared an interview form to guide the line of questioning and conversation. She also asked faculty to provide a sample of class materials, such as a syllabus, that contained readings, discussion materials, or research products resulting from work in Belize.

Jill Belsky's research has been broadened through the USAID Belize Project. She has spent three to four weeks in Belize for the last three years working on community studies and teaching sociological field research methods to University of Montana and Belizean students. To fund her Belizean research, Jill developed a research project and received funding (\$7,150) from the "U.S. Man in Biosphere" program. Her research has focused on community-development and equity issues at Gales' Point, Manatee, where the formation of Bed and Breakfast and craft cooperatives have been initiated to encourage ecotourism. Her work is valuable in evaluating the viability of tourism development as a means of reducing exploitation of natural resources, particularly subsistence hunting of wildlife. Jill's research always has been international, primarily in Asia. Her work in Belize has broadened this perspective. She has directed a student research intern in Gales' Point. She also chairs the committee of a Master's Degree candidate who is researching the issues of property rights in conjunction with the design of conservation areas in Belize. Jill is planning to publish the findings of her Belizean research and reports that her circle of international contacts and professional peers has grown due to her work in Belize.

Kevin O'Hara's research interests have broadened as a result of his experience in Belize and he has developed a potential research prospectus for graduate students interested in pursuing graduate research in Belize.

New research directions have opened up for Steve McCool as a result of his experience in Belize and subsequent participation in the Second and Third Congresses on Tourism and Environment. In 1992, he travelled to Venezuela, and in 1993, to Puerto Rico to present a workshop on "Limits of Acceptable Change." Steve has developed a workbook for course participants. People from eight Latin and South American countries participated in Steve's 1993 workshop. Steve also has worked with Vincent Palacio to develop a method for categorizing "ecotourists," which has helped to expose some of the myths about ecotourists. These concepts have been expanded into other papers as well. This research has helped him gain new perspectives with regard to tourism in Montana, specifically, the cultural and structural constraints in which tourism must operate. Steve has increased the peer professional network in which he works as a result of (1) his expanding interests and (2) meeting other national leaders in tourism. He has gained insight into the structure of tourism departments in other countries and how they compare to Montana's programs. Steve would like to continue his professional relationships in Belize even though he has found the research climate difficult.

Don Potts' research directions have broadened as a result of his experience in Belize. He serves as graduate committee chair for Philip Morgan, a UCB faculty member working on a Ph.D. in watershed sciences. Don feels he is in the process of changing the

direction of his research, moving toward more international work.

George Stanley's research interests continue to expand and develop in Belize. He has completed experiments on the Belize reef and his research has led to new perspectives on modern reefs. George is now applying these new concepts to paleo-reefs in Canada and Oregon. His future plans involve researching bio-erosion and how reefs are broken down. The faculty exchange with UCB provided Professor George Stanley with an opportunity to acquire skills and knowledge on reef-management techniques, to expand current research, and to enhance teaching programs for UM students.

Co-director Siebert attended the 2nd Interdisciplinary Conference on Belize in Jacksonville, Florida, March 3-4. He presented a paper entitled "Resource Conservation and Development Education: Interdisciplinary and Multi-Cultural Field Courses." Dr. Siebert received three requests to share the practicum syllabi and course activities with other academics who direct field courses in Belize and is exploring the possibility of offering future field practicums in collaboration with these individuals and institutions. He disseminated information about the project and shared ideas and explored potential collaborative opportunities with other individuals and institutions active in Belize.

During his staff exchange, Erling Oelz found it professionally rewarding to contribute through his workshop presentations and his work with the library at UCB and bring about a series of positive changes while working within an environment previously unknown to him. He became a catalyst to change. At every meeting, Mr. Oelz raised issues, asked questions, and offered potential solutions. The capacity to adapt to any situation took on new meaning for everyone within the working group. Mr. Oelz found that through perseverance, collaboration, understanding, and cooperation, much can be achieved. He attained a new respect for everyday human interaction. Mr. Oelz plans to do what he can to further library cooperation and assistance for libraries in Belize. He has developed research interests which will focus on Caribbean libraries and information centers. He will explore the possibility of securing a foundation grant that would enable him to address collection-development needs in specific Belizean libraries. This staff exchange provided him the incentive to commit himself to setting and achieving new educational goals which might not otherwise be explored.

George Stanley had a successful faculty exchange at UCB during spring semester 1995. He initiated a project on reefs and coral diversity with his collaborator, Gail Bradley Miller. He also worked on the development of a new Marine Research Center and used this facility as a centerpiece for a proposal he prepared on a marine-science curriculum at UCB. In terms of his professional development, the most meaningful aspect of the exchange was the knowledge acquired on the marine environment and on the reef. He

also made personal contacts outside UCB that will be valuable in his future teaching and research endeavors. From details and knowledge acquired, Dr. Stanley plans to write a research proposal dealing with the geology and biology of the reef ecosystem.

Dennis Lerum, Dean of the COT, found the explanation of the Belize system of education by Alex Williams to be both informative and instructive. Some of the information that Mr. Williams provided will be helpful in program development at the COT.

During his field trip in Belize, Rustem Medora made contacts with the director of Ix Chel Farm, an ethnobotanist at the USDA, the Executive Director of the American Botanical Council, local pharmacists, local herbal healers, and naturopaths. The trip generated new ideas which will be helpful in planning future research projects.

A memorandum distributed throughout the University of Montana invited proposals for 1996-97 faculty exchange, in Belize, contingent on a no-cost extension of the grant. Several faculty members expressed an interest and began preparing proposals in consultation with Co-Director Koehn. OIP received two complete proposals from interested faculty.

Progress Made in Accomplishing Workplan Objectives

Year four showed major progress in this area. Two UM faculty members taught at UCB under the exchange program. Six UM faculty reported long-term professional-development benefits in terms of their scholarship and course content. UM Associate Library Dean Erling Oelz benefitted professionally from his staff exchange. The Office of International Programs experienced the highest level of interest to date in participating in future faculty and staff exchanges with UCB.

Objective 8: Enhance UM's international and cross-cultural curriculum

Professor Dougals visited six Maya archaeological sites in Belize and took a 3-day field trip to Tikal in the Petén, Guatemala. He gained first-hand knowledge of these sites and took hundreds of slides, many of which will be used in the Mesoamerican Prehistory class he teaches on a regular rotation at The University of Montana.

For Jill Belsky, rural sociologist in the Department of Sociology, the UDLP in Belize has provided the opportunity to co-develop a course on Belize and incorporate new materials into

existing sociology classes. The Belize Project has had a strong impact on her work. Working in conjunction with Steve Siebert, Jill co-developed a course dealing with relationships between Belize's sociological conditions and the country's natural-resource issues. This class (SOC/FOR 495.1 Belize: Conservation and Development) is taught jointly by Jill and Steve. She also co-teaches the annual two-week field course in Belize (FOR/SOC 495.2) each year. Both of these courses focus exclusively on Belize and include extensive readings from primary sources. Dr. Belsky also has incorporated Belizean materials into SOC 370: Sociology of International Development. Case studies from Belize are used to illustrate concepts of ecotourism development, environmental issues in community development, colonialism in the Caribbean, the theory of underdevelopment, village structure, social class, and local politics. Students are encouraged to write research papers in which Belize is compared with other countries in Central America. Both SOC 495 and SOC 370 are open to undergraduate and graduate students.

Kevin O'Hara, silviculturalist with the School of Forestry, along with a forester from the U.S. Forest Service and a UM School of Forestry graduate, conducted a short course for the employees of the Ministry of Forestry in Belize. Kevin currently teaches three forestry classes and has incorporated Belizean materials into each. These are: FOR 347: Multiple Resource Silviculture; FOR 447: Advanced Silviculture; and FOR 547: Forest Stand Dynamics. Although no specific readings about Belize are assigned in the classes, Belizean examples are used to describe tropical-forestry topics. Slides are used to illustrate tropical-forest types, and lectures include a discussion of forest-management practices employed by the Belize Ministry of Forestry. To assist students in understanding growth patterns associated with tropical forests, students are provided with cross-sections of several species of Belizean trees. From these samples, students can observe the differences in the patterns of trees' growth rings associated with tropical rainy seasons.

Steve McCool, professor in the School of Forestry's Recreation program, included case studies regarding ecotourism growth in Belize in three courses: REC MGMT 110: Introduction to Recreation; REC MGMT 485: Recreation Planning; REC MGMT 584: Advanced Wildlands Recreation Management. Belizean examples have proved to be valuable in teaching key recreation concepts such as management, planning, limits of acceptable change, and understanding what tourists want and expect. Steve uses specific case studies from Belize to emphasize these concepts. Community involvement in ecotourism is illustrated, using the example of the Community Baboon Sanctuary. Students discuss issues such as the use of local guides and interpreters versus a natural or cultural area where no guides are available, including benefits and impacts to tourists and the local people. The Hol Chan Marine Reserve is another case study used in these classes. Students also have been assigned

research topics in recreation and tourism in Belize. The reports have been compiled into a single volume.

Don Potts teaches forest hydrology in the School of Forestry. Don taught a short course on Watershed Management and Planning for the employees of the Ministry of Forestry. Don has incorporated case study examples from Belize into his FOR 385: Introduction to Watershed Management class. Topics discussed in this class include tropical climates and their influence on forested watersheds and soil conservation. In addition, Don uses examples from Belize to describe the treatment of tropical riparian forests, land-stewardship programs, water quality, and best management practices. Some of the teaching materials developed for the Belize short course on Watersheds have also been used at the University of Montana. Additional class materials currently are being developed by Don and Ricardo Thompson of the Belize Agricultural College. His Belizean experience was positive and he would like to return to teach an advanced watershed-management course.

George Stanley, professor in Paleontology in the Geology Department, has been involved in research efforts in Belize with the University of Montana since 1984. George uses examples and case studies from Belize in several classes, including: GEOL 106: History of Life; GEOL 311: Paleobiology; GEOL 582: Advanced Topics in Paleontology and Biology; and Geology of Coral Reefs, a field course taught in Belize several times over the past ten years. Key topics discussed in UM classes that use Belizean examples include: the evolution and ecology of reefs, the Belizean barrier reef, the superior ecological condition of the Belize reef in comparison to other Caribbean reefs, reef degradation (including poor sewage disposal methods and surface water runoff of pesticides from citrus farms). George also presented this material while on a national lecture tour for the Paleontological Society.

Dr. Rita Sommers-Flanagan, Associate Professor of Education Leadership and Counselling, worked on syllabus preparation and met with Dave Jackson, Professor of Forestry. They co-taught a Resource Management and Policy Administration course at UM during the spring 1995 semester. Dr. Sommers-Flanagan plans to offer this course during her faculty exchange in Belize next year.

Professor Jeff Gritzner taught the Cultural Geography course on the UM campus during spring semester 1995.

Professor Steve Greymorning taught the course "Comparative Issues of Indigenous Peoples" during spring semester 1995.

Professor Medora gathered first-hand information from his visits to the tropical forests of Belize which he will pass on to his students. It is now possible for him to plan a field trip to Belize with UM students.

Victor Montejo arrived at UM and began instruction in Native American Studies.

Professor Olatunde Ojo began teaching a course on Human Rights and Development for the Department of Political Science.

Progress Made in Accomplishing Workplan Objectives

Year four showed major progress in this area. UM faculty, including several new hires, taught new courses related to sustainable development and resource management that enhance the University's international and cross-cultural curriculum. Based upon their participation in project activities, many UM faculty members added Belize material to existing courses.

Objective 9: Provide internship opportunities for UM students

Co-director Siebert arranged a three month internship for Gaston Magrinat (UM School of Forestry undergraduate) with Earl Green, Chief of Belize Forestry Department. Mr. Magrinat worked on forest-inventory and management projects involving regeneration of Caribbean Pine in the Mountain Pine Ridge under the supervision of the Belize Forestry Department.

Eve Malo of Western Montana College (WMC) of the University of Montana, visited Belize in February and met with Cecil Reneau, Director of the Belize Technical School. They agreed that in-Belize internships for tourism majors from WMC, who might be interested in focusing on catering and hotel management, could be effectively developed. She also visited with Veronica Gonzalez of the Belize Department of Tourism, who informed her that if interns wished to work in Belize, her department would welcome them. A visit with Cynthia Thompson of the Belize Normal School involved discussions about arranging student teaching for WMC students. Since WMC has a 15-week student teaching instructional block, often in two settings of ten and five weeks each, an appropriate culmination for students would be to finish the first ten weeks at WMC, followed by five weeks of international experience in Belize.

Steve Siebert initiated arrangements for two interns during 1996: one at Monkey Bay Wildlife Sanctuary and one at Crooked Tree Wildlife Sanctuary.

Former intern Charles Clark (intern with the Ministry of Economic Development in collaboration with the Forestry Department) completed his M.S. thesis on Property Rights and Forest Conservation in San Antonio, Cayo, Belize. As a result of his Belize experience, he applied for and was awarded a Fulbright Grant

to conduct research on the same topic in Guatemala commencing in late 1995.

The winter 1995 issue of Monkey Business, the bi-annual newsletter for the activities of the Monkey Bay Wildlife Sanctuary, included an article on permaculture at Monkey Bay. The article highlighted the work performed by Denis Carel, a graduate student in the School of Forestry at The University of Montana. He introduced permaculture to Monkey Bay in the summer of 1994 during his internship there. Denis identified opportunities and constraints and integrated these factors into the permaculture plan for Monkey Bay. The implementation of the plan is estimated to span a 3-year schedule of tasks to be performed by Monkey Bay staff and future interns.

Progress Made in Accomplishing Workplan Objectives

UM placed an intern with the Belize Forestry Department who contributed to the management of Belize's natural resources.

Objective 10: *Develop internal advisory group for on-going project planning, monitoring, and evaluation*

The Project Advisory Committee held a lengthy and well-attended meeting in March, 1995.

Progress Made in Accomplishing Workplan Objectives

The PAC continued to review project activities and assess on-going needs.

Problems Encountered and Responses Adopted

The uncertainty surrounding UDLP funding and the future of USAID makes effective long-term project planning difficult. UM President George Dennison, with input from co-director Koehn, submitted a strong letter concerning the importance of USAID and the UDLP to NASULGC, and shared his perspective with members of the Montana Congressional delegation.

In spite of positive developments at UCB, Government of Belize funding for UCB is limited and the college is likely to continue to confront serious financial constraints in the near and mid-term future. Thus, it is imperative that supplemental funding be secured to continue the initiatives and progress begun through the UM/UCB UDLP efforts.

UM took action during this period to solidify its participation in COBEC. First, Eve Malo, faculty member at WMC of The University of Montana, attended the February COBEC meeting at Muffles College in Orange Walk, Belize. UM also paid two years' worth of outstanding COBEC dues. Finally, faculty/ administrators from UM and Western Montana College have committed to attend future COBEC meetings and to sustain the payment of COBEC dues. WMC is exploring student-teaching opportunities, faculty-exchange prospects, and cooperation with their Bureau of Tourism through COBEC. Dave Beier, Dean of Faculty at WMC, attended the August COBEC conference in Fort Collins, Colorado. Dean Jim Flightner, College of Arts and Sciences, remains committed to COBEC. Based on Erling Oelz's experience on staff exchange working with librarians across Belize, Dean Karen Hatcher has committed to working cooperatively with Belizean institutions and to sending a library representative to COBEC meetings on a periodic basis. President Cal commended UM as a COBEC member who has done something for Belize. He sees UM's participation in COBEC as a plus.

Co-Directors Koehn and Siebert discussed financial and quarterly/annual reporting by UCB with Vincent Palacio. Dr. Koehn met with Mr. Albert Hoy regarding UCB accounting. He also reviewed accounting for expenditures and the need to secure approval for subcontract transfers. Mr. Hoy will send UM debit advices - i.e., bank charges for past wire transfers.

UM reviewed and approved all the allowable direct-cost expenditures that UCB sent to UM. Upon receipt of adequate documentation on past expenditures from UCB, UM authorized two more installment checks and sent them to UCB. UCB received both payments.

Co-Directors Koehn and Siebert discussed project truck maintenance with Mr. Palacio and Mr. Hoy in an effort to have needed maintenance performed.

Delays in preparing the minutes of PAC meetings need to be addressed at UCB.

The U.S. House of Representatives passed legislation which would rescind \$2 million from the appropriation for International Forestry in FY 1995. LCNF's Sister Forest Program is funded out of International Forestry. Participants in the Sister Forest program are not allowed to make expenditures against the dollars allotted for this year's activities. This situation threatens the future of LCNF's partnership with Belize. LCNF remains committed, however, and will seek future funding from other sources if it should become necessary.

Professor Stanley reported that UCB needs to develop a campus climate that is more supportive of scientific research. UCB needs to provide incentives that will increase faculty interest in

conducting research.

UCB retained the project house in Belize City for another year.

UM continues to await a reply from UCB regarding its Marine Research Center proposal.

All parties involved in the project agreed on the importance of a no-cost extension for achieving project objectives.

Progress Toward Ensuring the Sustainability of the Linkage

Co-director Koehn worked closely with Professor George Stanley and other UM faculty on a proposal to raise funds that would support UCB's Marine Research Center (MRC) on Calabash Caye and afford UM faculty and students access to a joint Tropical Resource Center on the Caye on a long-term basis. Participation by UM in this joint venture would sustain several of the key linkages established under the UDLP, including opportunities for UM/UCB students to engage in shared practical training and opportunities for collaborative faculty research and curriculum building at both institutions. Participation by The University of Montana in the MRC would involve benefits for UCB as well. First, UM faculty (both study-abroad group leaders and individual researchers) would make valuable in-kind contributions to UCB's mission. For instance, they would be available to teach UCB students and staff on a formal and informal basis. UM experts would advise regarding the development of MRC facilities and a usable long-term data-base management system. UM's Jack Stanford, for instance, has valuable expertise in coastal-zone management and George Stanley already has worked on an EIA for Calabash Caye. UM faculty also would contribute to the development of a Belizean marine-research agenda and, building on the emerging Natural Resource Management/Sustainable Development Associate Degree program supported by the linkage project, assist UCB in the establishment of a Marine Studies Program which will include social factors and human impacts. Finally, UM faculty would work closely with UCB counterparts on research proposals designed to attract external funding in support of MRC projects and development of the Center.

Co-director Koehn met with Steve Cornelius, Director for the Greater Caribbean, World Wildlife Fund, in Washington, D.C. They discussed WWF's new Education for Nature program, which will support training needs in the developing world -- including scholarships to study at U.S. institutions and direct assistance to training institutions in the South for the modification and expansion of existing programs. Steve also noted that the Protected Areas Conservation Trust (PACT) is back on track again in Belize. If successful, PACT (which would provide a reasonably reliable and substantial source of revenue from a user tax on incoming tourists) offers a way for Belize to ensure that the

activities begun by the UDLP and by NARMAP continue after 1996. It is possible that USAID and British ODA might make some commitment toward an endowment as part of PACT. PACT would allow for continued institutional strengthening beyond 1996, including support for on-going in-country training by UCB. As noted in Steve's consultancy report (p. 29), UCB "should stay informed on development of the PACT and lobby in support of in-service and academic training as suitable beneficiary sectors."

Peter Koehn discussed sustainability through faculty exchange, student exchange, and staff exchange with UCB's Executive Committee and PAC. UM students are likely to be interested in UCB's new marine studies curriculum. President Dennison reaffirmed UM's commitment to continuing faculty and staff exchanges beyond the UDLP period.

President Angel Cal has designated Vincent Palacio, Philip Morgan and Gail Bradley-Miller as UCB's three faculty members for the natural-resource associate degree program. The number of faculty can be expanded later if these three are able to generate activity and income for the program. The fact that UCB has committed to support these three members of its regular faculty indicates that the goals of the project will be sustained in terms of establishing UCB's capacity to provide natural-resource education at the community level.

Professor Erling Oelz established a UM library partnership with UCB and other Belize libraries. A concerted effort to assist Belizean libraries with collection development is underway and will be an ongoing commitment for Professor Oelz. Working with other dedicated Montana libraries will be Mr. Oelz' first approach.

The new country-wide Belize library association met twice after Erling Oelz left in January. This provides an early indication of sustainability.

Dr. Siebert worked with UCB counterparts and developed a draft proposal outline which he reviewed with the Department of Forestry and Programme for Belize. The proposal explores opportunities for future (post-USAID grant) collaboration in the areas of collaborative research, education, and extension activities with a terrestrial resource management emphasis. The planned activities build upon the UDLP grant and will strengthen UCB faculty research and extension capabilities. The parties will develop these ideas into formal proposals for submission to private foundations during 1995.

The MacArthur Foundation responded favorably to Siebert's letter of inquiry regarding funding for the continuation of activities initiated under the UDLP. Siebert prepared and submitted a detailed preproposal to the Foundation in late July.

In February, individuals from LCNF, UM, and the Rocky Mountain Research Station met to discuss opportunities for collaborative research between the Tenderfoot Creek Experimental Forest (Tenderfoot), UM and the Mountain Pine Ridge, Belize. Co-director Siebert drafted a research prospectus which was reviewed by UCB & LCNF officials and subsequently revised for submission to private foundation funding sources (research prospectus attached).

UCB is demonstrating a growing capacity and role in natural-resource management and development issues. The Natural Resource Management program at UCB is being developed as a direct outgrowth of the UDLP grant and from the advanced education of UCB faculty at UM. UCB is now recognized as an important player nationally and internationally in the resource-management arena and the institution is pursuing a number of major initiatives in the natural-resource sector. In addition to the Associate Degree Program in Natural Resources, UCB is developing a Marine Research Center at Calabash Caye in collaboration with the government of Belize and Coral Caye Conservation. UM is participating in this effort, primarily through the work of Dr. George Stanley. In January, Dr. Koehn and Dr. Stanley held a series of meetings at UM in connection with participation in the MRC, and Dr. Stanley gave a presentation on this subject to Division of Biological Sciences faculty. Dr. Koehn identified long-term interest and faculty support for UM participation from the Flathead Lake Biological Station, the President's Office, the Department of Geology, and the Division of Biological Sciences. In March, Peter Koehn and George Stanley presented a proposal to President Angel Cal and other UCB officials that would allow UM to participate in the MRC on Calabash Caye. This proposal is under consideration by UCB. UCB President Cal reported in May that he remains optimistic about UM's proposal to become an active partner in UCB's MRC. The MRC will become Belize's first nationally owned and managed marine-research facility. Calabash Caye provides an ideal site for such a research station. The central mission of the MRC is to enhance national capacity for the sustainable management of the country's marine resources, a focal part of which is the development of a cadre of Belizean marine scientists able to carry out research and management work. The MRC will provide a base for short training courses and workshops on a wide range of topics for students, teachers, and others, both from Belize and overseas. Facilities will be available for a range of marine-science courses, as well as for training in basic technical skills such as boat handling and navigation. The MRC has the potential to become a model for other countries faced with similar problems of a lack of national capacity to manage vital marine resources. Cooperative activities involving the MRC are encouraging. They demonstrate the positive effects of the UDLP project and the emerging consensus on institutionalization of natural-resource management educational, research, and extension activities at UCB. Moreover, a PAC member reported that USAID's regional office in Guatemala plans to support coastal-zone management in the area and intends for Belize to be

part of this upcoming project.

Western Montana College of The University of Montana has developed serious interest in establishing long-term faculty and student linkages with Belizean higher-education institutions.

Both UM and LCNF have been able to advise and assist UCB in its leveraging of additional funding from other sources (including NARMAP) to strengthen UCB's natural-resource-education capacity.

Peter Koehn submitted a proposal to the Sasakawa Peace Foundation jointly with the Association of Medical Doctors of Asia (AMDA) that would fund international internships in developing countries for UM students and a training program for NGO staff.

For project sustainability, it is necessary that "sophisticated management practices and incentive schemes that cannot be sustained after the life of the project are avoided right from the inception stage" (see The Courier, No. 141, Sept/Oct 1993, pp. 80-81). The Montana-Belize Partnership continues to be sensitive to this insight.

Assessment of the Impact of the Linkage on Internationalization of UM and LCNF

The University of Montana has moved to hire specialist faculty in cultural- and natural-resource management and in international development and has added new courses in project-related areas (including the co-taught resource management and conflict-resolution seminar) to its curriculum. These new courses, along with the additional material incorporated by returning faculty into numerous existing courses (see above), have enhanced awareness among the University of Montana students regarding issues related to tropical-resource development.

The University of Montana has become an active participant in the Consortium for International Development. Experience on the linkage project allows UM faculty to be more competitive for assignments on large-scale CID international development projects.

Participation in the MRC offers the prospect of on-going tropical-environment educational and research opportunities for UM students and faculty.

The University of Montana library has become more aware of the utility of international linkages as a result of Associate Dean Erling Oelz's staff exchange.

Western Montana College of The University of Montana has been able to initiate contacts that promote internationalization of the Dillon campus through participation in COBEC.

LCNF continues to play a leadership role nationally in the USFS Partner Forest program as a result of its experience in Belize. Its new brochure is an excellent example.

Assessment of the Impact of the Linkage on Strengthening Linkage Partner's Institutional Capabilities to Meet its Societal Needs

UCB incorporated the UCB Foundation as a company. The Foundation has, as patrons, the Governor General - Sir Colville Young; the Prime Minister - Rt. Hon. Manuel Esquivel; the Leader of the Opposition - Mr. George Cadle Price; and the Chief Justice - Sir George Brown. It has raised about B\$70,000.

The project has strengthened UCB's capabilities to meet societal needs in Belize in five areas: (1) course and curriculum development; including the development of a natural-resource management Associate Degree program; (2) outreach to NGOs and the public; (3) establishment of a Marine Research Center devoted to studying and protecting Belize's marine resources; (4) enhancing UCB's expertise in ecotourism management; and (5) enhancing UCB's capacity in watershed management.

Quantitative Outputs of the Linkage Activities

- o Short courses - UM 1, UCB 1
 - Ethnopharmacology and medicinal plants course
 - Environmental Impact course in Toledo
- o Third LCNF Firefighting Training Course
 - 3 LCNF fire specialists taught in Belize
- o Staff exchanges - UM 1, UCB 2
- o Faculty exchanges - UM 2, UCB 2
- o Collaborative research projects - 2
 - George Stanley/Gail Miller
 - Steve Siebert/Mustafa Toure (draft management plan for Turneffe Atoll)
- o UM professional development - 9
 - 2 through faculty exchanges
 - 6 through scholarship and course-content advances
 - 1 through staff exchange
- o Field practicum - 10 days - 5 UM participants, 4 Belizean participants
- o UM internships - 2, successfully completed
- o International/cross-cultural curriculum - UM 2 faculty

hired, 3 classes added, 14 courses with additional Belize material

11.6.(a) and (b) Requirement

This annual report outlines the objectives and activities of the UM-UCB linkage and the results achieved after four full workplan years. During the fourth year, funds to meet project expenses have been used wisely and conservatively to accomplish the goals and objectives set out in the Year 4 Workplan. Purchases for the purpose of the linkage for UM and under subcontract with UCB were based on and made according to USAID guidelines for project purchases. All travel to Belize was made under U.S. flagship carriers whenever available. Supply purchases at UM were made from U.S. corporations.

The recipient did not utilize funds provided by A.I.D. for any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training in connection with the growth or production in countries other than the United States of an agricultural commodity for export which would compete with a similar commodity grown or produced in the United States.

Spin-off Benefits

We have added this section in order to highlight spin-off developments that have benefitted Belize and Belizeans and have been professionally meaningful to members of the UM community as a direct result of the UDLP project.

Professor John Douglas met with the UCB administration and Cynthia Robin (University of Pennsylvania Anthropology graduate student with considerable Belize experience) concerning offering a summer course on Mayan archaeology at UCB.

Linda Brown, John Douglas' wife, performed volunteer work at BIB/WINS (Breast Is Best/Women and Infant Nutrition Services) in Belize. She worked with this group from September through November and helped in writing and editing proposals for funding from national and international organizations.

Project staff, including Vincent Palacio, met with Rod Miner of the Center for Renewable Building Technology located in Darby, Montana. They discussed several possible projects of potential value to Belize, including training on building technologies that reduce resource (wood) intensities, land fills, and solar photo tags used in village-scale electrification. Vincent agreed to follow-up on Rod's willingness to contribute his expertise with interested parties in Belize.

Dr. Koehn met with UNHCR's Roy Hermann, Chargé de Mission, in

Belize. They discussed Belize's refugee situation, related environmental problems, and possible solutions.

Dr. Koehn also met with Moises Cal, UNDP's National Officer in Belize. They discussed the problems and contributions of Belize's refugee population. UNDP sees UCB as an important actor in the area of environmental education.

Dr. Stanley delivered a series of lectures and slide presentations on the coral reef to the 6th Form class at St. Johns College. He also consulted with Father Deickman, staff member at St. Johns, on the geology of Belize.

Dr. Stanley spent a week on Calabash Atoll where he had the opportunity to interact with student volunteers of the Coral Caye Conservation and to assist in training the British volunteers.

During his staff exchange at UM, Mr. Vernon observed the hospital library at St. Patrick's Hospital and the Missoula Public Library. He will be able to share information on library organization and functioning with Belize's medical and public libraries.

Lewis and Clark National Forest (LCNF) sponsored Robert Pott, a volunteer from Belize, to conduct neotropical migratory bird surveys with LCNF forest biologist Don Godtel. Both the print and television new media reported on the neotropical program and highlighted the work Mr. Pott has been doing.

Charlene Nelson of LCNF wrote and designed a brochure on the Sister Forest Program that will serve as an informational and promotional tool. The brochure highlights, among others, the LCNF-Belize partnership. It has been widely distributed among U.S. National Forests.

ACRONYMS

BELINET Belize Information and Distance Learning Network
BJC Belmopan Junior College
COBEC Consortium for Belize Educational Cooperation
COT College of Technology
DERO Development and External Relations Office
EIA Environmental Impact Assessment
FDB Forestry Department of Belize
GEF Global Environmental Facility
GOB Government of Belize
LCNF Lewis and Clark National Forest
MLA Montana Library Association
MRC Marine Research Center
NARMAP Natural Resource Management Project (USAID-sponsored)
NASULGC National Association of State Universities and Land Grant
Colleges
ODA Overseas Development Agency
OIP Office of International Programs
PAC Project Advisory Committee
UCB University College of Belize
UDLP University Development Linkage Project
UM The University of Montana
UNDP United Nations Development Programme
UNHCR United Nations High Commission for Refugees
USDA United States Department of Agriculture
WMC Western Montana College
WWF World Wildlife Fund

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