



EFN News

Fishers Unite to Save Turtles and Preserve Their Livelihood

by Kama Dean, Co-Director, Pro Peninsula, EFN Conservation Workshop C. Ant, 2006

In summer 2005, Efrain de la Paz, a shark fisherman in Baja California, Mexico, asked scientist Hoyt Peckham, "How can loggerhead turtles possibly be endangered when I caught dozens this morning?" It was discovered that all but two of the turtles caught by the fisherman were dead.

In August 2006, a group of people traveled to Mexico and Hawaii to answer de la Paz's question and to brainstorm solutions. As a direct result of this meeting, de la Paz declared he would immediately stop using the longlines that killed more than 700 endangered loggerhead turtles in 2005.



De la Paz's question astonished Peckham, a conservation scientist with Pro Peninsula and a Ph.D. candidate at University of California at Santa Cruz. Peckham knew from research that fewer than 1,500 loggerheads had nested in the North Pacific the winter before. Despite conservation efforts by sea turtle conservation experts in Mexico, Japan, and the United States, nesting has declined 50 to 80 percent during the past decade.

The few loggerheads left appear to be numerous to fishers because they spend decades maturing in the rich waters of Mexico's Baja California

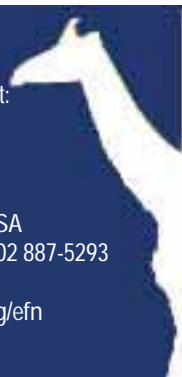
peninsula. The turtles which are highly migratory creatures, are born on the beaches of southern Japan. They then migrate across the Pacific, passing the Hawaiian Islands. Once in Baja California, they feed and mature until they reach reproductive age, and then they complete the cycle by returning to Japan to mate and nest. Loggerheads are under threat from pollution, beach erosion, development, and habitat loss. In addition, incidental bycatch from fisheries is a major threat to their survival.

As a result of collaboration between sea turtle conservation experts worldwide, a unique international program is bringing together fishers from all three countries to brainstorm solutions that will enable them to conserve turtles while maintaining their livelihoods and traditional fishing practices. The group of fishers, community leaders, and scientists is traveling along the migratory route of the loggerhead and meeting with communities to share their experiences and ideas. "By talking about what they have learned, fishermen

(Continued on page 9)

To learn more about the Russell E. Train Education for Nature Program, please contact:

Education for Nature Program
 World Wildlife Fund
 1250 24th Street, NW
 Washington, DC 20037-1132, USA
 Tel: +1 202 293 4800 Fax: +1 202 887-5293
 Email: efn@wwfus.org
 Website: www.worldwildlife.org/efn



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New Russell E. Train Fellows

In 2007, EFN awarded Russell E. Train fellowships to 33 exceptional conservationists from nine countries. Train Fellows receive financial support for education-related costs for a period of up to two years. Study can be at the master's or doctoral level and can take place anywhere in the world. Please visit the EFN Web site at www.worldwildlife.org/efn for more information on our grantees and the fellowship program.

BELIZE

Adriel Enrique Castañeda, M.S. natural resources and rural development, Colegio de la Frontera Sur, Mexico

Jorge Adrian Trejo, Ph.D. marine science, Centro de Investigación de Estudios Avanzados del Instituto Politécnico Nacional, Mexico

BOLIVIA

Luis Leonardo Arteaga Bohrt, M.S. sustainable development, Universidad Nur, Bolivia

Roberto Daza von Boeck, M.S. environmental sciences, Université Jean Moulin 3, France

Miguel Alejandro Fernández Trigos, Ph.D. environmental systems, University of California at Merced, United States



Miguel Alejandro Fernández Trigos

Maria Isabel Galarza, Ph.D. sustainable development, Universidad Bolivariana, Chile

Carlos Martín Zambrana Torrelio, M.S. ecology and systematics, University of Puerto Rico, Puerto Rico

Beatriz Zapata Ferrufino, M.S. sustainable rural development, Universidad Mayor de San Andrés de Bolivia, Bolivia

COLOMBIA

Luis Germán Gómez Bernal, Ph.D. biology, Universidad Nacional de Colombia, Colombia

Cesar Augusto Monje Carrillo, Ph.D. geography, Universidad Autónoma de Madrid, Spain



Cesar Augusto Monje Carrillo

Marco Eutimio Pardo Pardo, Ph.D. biodiversity conservation, Universidad Nacional de Colombia, Colombia

Luis Fernando Prado Castillo, Ph.D. sustainable development with a concentration in conservation, Universidad de Alcalá, Spain

ECUADOR

Ruth Irene Arias Gutiérrez, M.S. geographic information systems, Universidad San Francisco de Quito, Ecuador

Jorge Emilio Celi Sangurima, Ph.D. zoology, Michigan State University, United States

Isabela Figueroa Sabbadini, LL.M. (master's of law) natural resources, energy, and environmental law, University of Calgary, Canada

Víctor Julio López Acevedo, Ph.D. sustainable development, Universidad Bolivariana, Chile

Gonzalo Francisco Rivas Torres, M.S. environmental science, University of Missouri, United States

GUYANA

Neil Earle Henry, M.S. water resources and environmental management, International Institute for Geo-Information Science and Earth Observation, Netherlands

INDONESIA

Eddy Mangopo Angi, M.S. forestry, Universitas Mulawarman, Indonesia

Yoan Dinata, M.S. conservation biology, Durrell Institute of Conservation and Ecology at the University of Kent, United Kingdom

Lelyana Midora, M.S. natural resource management, International Institute for Geo-Information Science and Earth Observation, Netherlands

Hadiranus Andjar Rafiastanto, M.S. forest science and wildlife ecology, Yale University, United States



Ruth Irene Arias Gutiérrez

Rina Susanti, M.S. tropical forestry, Technische Universität Dresden, Germany

Suyadi, M.S. conservation biology, Durrell Institute of Conservation and Ecology at the University of Kent, United Kingdom



Suyadi

LAOS

Chanhom Loinheuang, M.S. biology, National University of Laos, Laos

Outhai Vongsa, M.S. biology, National University of Laos, Laos

MEXICO

Adriana Isabel Gutiérrez Castro, Ph.D. marine biology, Centro de Investigación de Estudios Avanzados del Instituto Politécnico Nacional, Mexico

PERU

Jamil Alca Castillo, Ph.D. development studies, Université de Genève, Switzerland

Alberto Martín Barandiarán Gómez, M.S. conservation biology, Universidad Peruana Cayetano Heredia, Peru



Jamil Alca Castillo

Ada Ruth Castillo Ordinola, M.S. Amazon studies, Universidad Nacional Mayor de San Marcos, Peru

Benjamín Kroll Saldaña, M.S. forest resource management, Universidad Nacional Agraria La Molina, Peru

Juan Loja Alemán, M.S. forests and forestry resource management, Universidad Nacional Agraria La Molina, Peru

Lucia Delfina Ruiz Ostoic, M.S. conservation biology, Universidad Peruana Cayetano Heredia, Peru

PROGRAMA DE BOLSAS DE ESTUDO RUSSELL E. TRAIN EFN

ORIENTAÇÕES DO PROGRAMA PARA MOÇAMBIQUE 2008-2009

Para ser elegível para receber uma bolsa de estudos “Russel E. Train” tem de reunir os seguintes requisitos:

- Ter pelo menos dois anos de experiência em actividades de “Conservação” (incluindo actividades remuneradas e voluntárias) ou estar matriculado/a durante dois anos num programa académico relacionado com a área de conservação.
- Comprometer-se a trabalhar durante pelo menos dois anos em Moçambique ou num outro país da região, depois de completar o seu programa de estudo.
- Não ter recebido assistência através do EFN para obter um outro diploma ou grau.
- Não ser actualmente trabalhador do WWF ou consultor do WWF a longo prazo. Contacte o EFN para se certificar da sua elegibilidade efn@wwfus.org.
- Os seus estudos devem enquadrar-se no nível de Pós-graduação (Mestrado ou Doutoramento) e têm de corresponder a uma das seguintes áreas prioritárias:
 1. Ciências Naturais ou Ciências Sociais relevantes na conservação de uma das seguintes ecoregiões: Ecoregião da Floresta do Miombo, Ecoregião Marinha da África Oriental, u a Ecoregião das Florestas Costeiras (ver o mapa)
 2. Espécies em risco de extinção (a nível de Moçambique)
 3. Educação Ambiental (a nível de Moçambique)
 4. Políticas ambientais, economia ambiental ou advocacia ambiental (a nível de Moçambique)

* * *

Para informações, contacte o Africa-America Institute (AAI) pelo telefone: 258-1- 305635 ou pelo endereço eletrónico aaimoz@tropical.co.mz.

O prazo de entrega dos formulários de candidatura termina a 28 de Fevereiro de 2008.



Environmental Education in Tanzania – Chumbe Island as a case study

By Frida Lanshammar, Conservation and Education Program Coordinator, Chumbe Island Coral Park

Coral reefs are among the most diverse and productive ecosystems on Earth. They are found in the warm, clear, shallow waters of tropical oceans worldwide. Reefs have functions that range from providing ecosystem services such as food and shelter to fish and invertebrates, to producing substances used in the medicinal industry, to protecting the shore from erosion, to generating income through tourism.

Corals and coral reefs are extremely sensitive. Slight changes in the surrounding environment may have detrimental effects on the health of individual coral colonies and even entire reef ecosystems. Those changes may be caused by a variety of factors, which generally fall within two categories: natural disturbances and anthropogenic disturbances (caused by human activity). Although natural disturbances may cause severe changes in coral communities, anthropogenic disturbances have been linked to the vast majority of decreases in coral cover and general colony health worldwide.



Students on Chumbe Island

The coral reefs around Zanzibar are under serious threat. Overfishing, destructive fishing practices, pollution, and sedimentation have led to a decline of fish landings and have increased biophysical destruction of formerly pristine reefs. Increasing public awareness about the need for sustainable management of these precious ecosystems is an urgent matter. Chumbe Island Coral Park's environmental education program provides an excellent opportunity for hands-on learning for both students and teachers from Zanzibar

and other parts of the world.

Lack of Environmental Education in Schools

Formal education is not yet a part of the environmental education program. As elsewhere in Tanzania, school education in Zanzibar is based on rote learning of extremely academic curricula that have little relationship with the surrounding world. Although Zanzibar is a coral island, coral reef ecology is insufficiently covered in school curricula. Also, extracurricular activities, such as field excursions, are rarely organized, and very few children have a chance to ever visit coral reefs and coral-rag forests. This problem arises in part because schoolchildren, particularly girls, do not normally learn how to swim and snorkel. Despite that fact, various projects around Tanzania aim to revolutionize the way that students learn about and relate to their local environment. Chumbe Island Coral Park (CHICOP) is one such example.

CHICOP and Environmental Education to Schools

CHICOP is a financially self-sustaining conservation initiative that is run by a company with nonprofit objectives. Income from visitors is reinvested into conservation and education programs. Since 1999, CHICOP has conducted school excursions for secondary students and their teachers to Chumbe Island. From the start of the program until August 2007, 2,436 students and 517 teachers from 57 schools have visited the Island. The excursions were in cooperation with more than 35 secondary schools in Zanzibar, as well as primary schools and local and overseas universities. The excursions consisted of a one-day school trip to Chumbe Island, where informal, hands-on environmental education for schoolchildren was provided. At the same time, the program gave accompanying teachers a firsthand account of how to teach practical field based environmental education.

Chumbe Island Excursion

Guided by park rangers on the coral reef and along nature trails created in the coral-rag forest, participating children have benefited greatly from the insight they have gained from lectures and practical experience in marine biology,



CHICOP staff and teachers on a training and evaluation seminar, August 2007

forest ecology, and environmental protection. Most of the school trips have been conducted during spring tides to give the students and teachers an opportunity to visit the "intertidal trails" and to learn more about the reef and its inhabitants by walking on the exposed and dry littoral zone at low tide. Once the tide comes in, the students have also been given the chance to snorkel on the reef and to be guided by the trained education rangers to see the diversity of coral, fish, and other marine life on the reef. An important part of the excursions included an introductory talk about the coral reef ecosystem and threats to its existence.

The teaching materials were carefully put together to suit the appropriate level of understanding. Students and teachers have provided feedback to the park rangers and the CHICOP environmental education team by participating in the activities, filling out the surveys, and participating in the specially organized evaluation seminars. The survey has been a great tool for the students and the teachers because it helps to continue their coral reef ecology learning in the classroom. Students have also been encouraged to submit artwork related to the coral reef ecology theme. The pictures are then displayed in the CHICOP education center. Since March 2007, the CHICOP environmental education team has evolved even further by developing a toolkit for continued environmental education after returning from the excursions to Chumbe Island. By following the materials in the toolkit, the schools can participate in the

Chumbe Challenge Environment Award evaluated at the end of this year.

Teachers' Feedback

An important part of environmental education is evaluating the success of the program. On Chumbe Island, while the excursions appeared to be immensely popular, it was noted that teachers did little to prepare for the excursions in the classroom and, because of limited knowledge and resources, could not fully use this valuable learning experience for the benefit of their students after the field trip. Teachers' feedback indicated that coral reef ecology was not explicitly included in school curricula and that teachers had not been trained to link classroom teaching to field excursions. The feedback proved valuable to the programs. Teacher evaluation workshops were held with the aim of evaluating the excursions and investigating the links between the Chumbe environmental education program and the current biology, geography, and civics curricula. Interestingly, during the workshops, the teachers found that there were more links between the school curricula and the Chumbe program than they had previously thought. One of the outcomes of the evaluations was the need for a teachers' manual. "The Coral Reef Module" has been developed for teachers to use in preparation for their trip to Chumbe Island. Thanks to feedback from teachers, each trip to the island now includes a "previsit" by CHICOP team members to all schools. The team gives a briefing about the trip, shows the students and the teachers the snorkeling equipment, instructs the students on the proper use of life jackets, and presents other necessary knowledge.

Incorporating Environmental Education in to the Curriculum

The environmental program on Chumbe Island has also highlighted the need for educational materials related to conservation and sustainability to be incorporated in the teacher training curriculum. Working with the Ministry of Education, CHICOP is developing modules that follow the format of "The Coral Reef Module" for subjects ranging from ecotourism and biodiversity to ecotechnology and conservation. The modules will be put together to form a teaching resource that will be available to all secondary school teachers in Zanzibar. The modules will advise and provide information about field-based education with the ultimate goal of producing a course manual. This manual will give teachers and students a concrete model on how to make

classroom teaching more relevant to the environment and to create awareness on coral reefs and coral island ecology that is badly needed in Zanzibar.

Environmental Clubs

In addition to island excursions, CHICOP has also conducted outreach work within schools, which has proven to be extremely successful. Not only have schools fully participated in the field excursions, but they have also shown great enthusiasm about undertaking more field-based, hands-on, extracurricular learning back at the schools. One school in particular, Chukwani School, located directly opposite Chumbe Island, has developed an environment and coral reef club as part of its participation in the program. The school has created an environment day which takes place every Monday. On that day, students participate in environment-related activities including picking up litter, planting trees, composing songs and poems, and designing posters.

CHICOP and the Ministry of Education have been working together to promote the development of environment and coral reef clubs in all of the schools involved in the Chumbe program. They are using Chukwani School as an excellent example, and, in the past few years, 21 new clubs have been started in secondary schools around Zanzibar. One of the aims of the clubs is to build relationships with partner schools around the world. Several schools in the United Kingdom and the British Virgin Islands have expressed interest in developing a relationship with partner schools on Zanzibar. Participating in projects in conjunction with partner schools around the world can be very rewarding and supports the environmental activities in schools.



Students on the boat returning to island after snorkelling

Environmental Education for the Community

Along with the education program for schools, CHICOP has been actively

involved with other projects to increase public awareness about the need for sustainable management of precious marine resources. Since CHICOP was created in late 1992, five former fishers from adjacent villages have been employed as park rangers and trained in marine park management and monitoring techniques for the reef and the forest. They also have learned English and gained the knowledge needed to guide both local and foreign visitors on the island.

CHICOP is also building a reputation for having great knowledge in marine environment, and in the past few years, Chumbe has been involved in training local government officials, groups of fishers from all over Zanzibar, local nongovernmental organizations (NGOs), and other groups interested in marine environment and education.

In Conclusion

In response to the urgent need to create public awareness about sustainable management of precious marine resources in Zanzibar, CHICOP, a financially self-sustaining conservation initiative, has been actively involved in several environmental education projects. First, the successfully developed education program on Chumbe Island has shown that both students and teachers are very enthusiastic about environmental education, and teachers are taking steps to incorporate more hands-on activities in their teaching methods. It is hoped that the environmental education model practiced on Chumbe Island will be adopted and used by other areas of environmental significance in Tanzania. Second, the contribution of the park rangers to creating public awareness of the importance of marine protected areas continues to play an important role in the environmental education of the Zanzibar community.

In 2002, EFN awarded a professional development grant to Helena Luvanga, the former coordinator for the education program on Chumbe Island, to attend International Partners for Study Abroad English Language Program in South Africa.

The Chumbe Project aims to build environmental awareness in Zanzibar. The Chumbe Education Program is a vital component of this work that sponsors local school visits to the island. For more information, please visit www.chumbeisland.com.

EFN Professional Development Grants

EFN awarded 29 mid-career professionals short-term training grants to attend conferences, training programs, and workshops in 11 countries around the world. The grants were used to enhance knowledge in protected area management, ecosystem health, environmental education, geographic information systems, and several other fields. For more information, visit the EFN website at www.worldwildlife.org/efn.

BOLIVIA

Erika Alandia Robles—Field Veterinarian, Wildlife Conservation Society. 2007 Envirovet Summer Institute: Terrestrial and Aquatic Wildlife and Ecosystem Health Issues and Techniques for the Developed World with Outreach to and Techniques for the Developing World, Envirovet Summer Institute, University of Illinois, United States

Marcos Enrique Uzquiano—Park guard, Parque Nacional Madidi. 17th International Short Course for Protected Area Management, Colorado State University, United States

BRAZIL

Marisete Inês Santin Catapan—Amazon Protected Area Project Manager, WWF-Brazil. 2007 International Seminar on the Management of Parks and Protected Areas, University of Montana, United States

CAMEROON

Dominique Endamana—Sociologist, WWF Northern Savannah Project. Modeling Conservation and Development Outcomes Training Course, IUCN—The World Conservation Union, Vietnam

Antoine Justin Eyebe—National Coordinator, Central African Regional Program for the Environment. Economic Tools for Conservation Training Course, Conservation Strategy Fund, United States

Désiré Foguekem—Biomonitoring Officer, WWF Central Africa Office. Principles and Applications of Remote Sensing and GIS for Various Applications Short Course, International Institute for Geo-Information Science and Earth Observation, Netherlands

CHILE

Ricardo Enrique Alvarez Pacheco—Researcher and Project Coordinator, WWF-Chile. 10th IUCN International Otter Colloquium, IUCN—The World Conservation Union, South Korea

COLOMBIA

Lorenzo Andres Vargas Gutierrez—Professor, Parques Nacionales Naturales de Colombia. XVII International Short Course for Protected Area Management, Colorado State University, United States



Marcos Enrique Uzquiano

ECUADOR

Óscar Carvajal Mora—Park guard, Galápagos National Park. Park Guard Course for Latin America and the Caribbean, Centro de Formación y Capacitación en Áreas Protegidas, Argentina

Martha Chica Moreira—Coordinator of Environmental Education, Japan International Cooperation Agency. 36th Annual Conference on Evaluating Your Education Program: A Practical Approach for Environmental Education Practitioners, North American Association for Environmental Education, United States

José Galindo Zapata—Associate Consultant, Mentefactura. Economic Tools for Conservation Training Course, Conservation Strategy Fund, United States

Liliana Rendon—Regional Program Sea Turtle Coordinator, Inter-American Tropical Tuna Commission. Fourth International Fishers Forum, Western Pacific Regional Fishery Management Council, Costa Rica

Juan Darwin Rivadeneira Rivadeneira—Director, PN Sangay,

Ministerio del Ambiente del Ecuador. 17th International Short Course for Protected Area Management, Colorado State University, United States

KENYA

David Mirera—Researcher and Project Coordinator, Kwetu Training Center. Fifth Western Indian Ocean Marine Science Association (WIOMSA) Scientific Symposium, WIOMSA, South Africa

O. L. Maurice Owili—Senior Lecturer, Moi Institute of Technology. 2007 Society for Conservation Geographic Information Systems (SCGIS) Conference, SCGIS, Kenya

MALAWI

Matias Kachepa Elisa—Assistant Parks and Wildlife Officer, Department of National Parks and Wildlife, Liwonde National Park. Geographic Information Systems Training, Southern African Wildlife College, South Africa

Andrew Kataya—Assistant Parks and Wildlife Assistant Officer, Department of National Parks and Wildlife, Nyika National Park. Geographic Information Systems Training, Southern African Wildlife College, South Africa

MEXICO

Nadia Tamara Rubio Cisneros—Scientific Field Technician, Scripps Institution of Oceanography, University of California at San Diego. 17th Biennial Conference on the Biology of Marine Mammals, Society for Marine Mammalogy, South Africa

NEPAL

Dinesh Bhujju—Chief Executive, Resources Himalaya Foundation. First Asian Dendrochronology Conference and Workshop: Environmental Change and Human Activity, Asian Dendrochronological Association, Thailand

Laxman Belbase—Program Officer, Forum for Protection of Public Interest. Economic Tools for Conservation Training Course, Conservation Strategy Fund, United States

Mandira Sharma—Conservation Officer, Resource Identification and Management Society. International Union of Forest Research Organizations (IUFRO) ALL-Division-5 Conference on Forest Products and Environment: A Productive Symbiosis, IUFRO, Taiwan

PERU

Carlos Alberto Arévalo Coba—Coordinator for Education and Cooperation, Sociedad Zoológica de Francfort. 17th International Short Course for Protected Area Management, Colorado State University, United States

Pedro Pablo Díaz Meza—Consultant, WWF-OPP. Fourth International Fishers Forum, Western Pacific Regional Fishery Management Council, Costa Rica

Jorge Luis Gálvez Roeder—Director, Instituto Nacional de Recursos Naturales. 17th International Short Course for Protected Area Management, Colorado State University, United States

REPUBLIC OF CONGO

Saturnin Regis Ibata—Researcher, Odzala Kokoua National Park. Introduction to GIS Application for Wildlife Management Training Course, Southern African Wildlife College, South Africa

SENEGAL

Arona Soumare—Program Manager, WWF–Western African Marine Ecoregion. Summer Certificate Training Course in Sustainable Environmental Management at Beahrs Environmental Leadership Program, University of California Berkeley at United States

TANZANIA

Rosena Charles Kibasa—Park Ecologist and GIS Analyst, Tanzania National Parks. First Kenya Conservation GIS Conference, SCGIS, Kenya

Christina Geoffrey Mandara—Assistant Lecturer, Institute of Rural Development Planning. 2007 SCGIS Conference, SCGIS, Kenya

Alex Muse—Veterinary Officer, Ruaha National Park. 2007 Envirovet Summer Institute: Terrestrial and Aquatic Wildlife and Ecosystem Health Issues and Techniques for the Developed World with Outreach to and Techniques for the Developing World, Envirovet Summer Institute, University of Illinois, United States

OCTOBER 2007-APRIL 2008

Effect of Community Forestry on Biodiversity Conservation in Nepal

by *Anjala Pyakurel, EFN Professional Development Grant 2000*



The government of Nepal introduced community forestry (CF) during the late 1970s as a strategy for preserving the degraded hills of Nepal and for providing basic forestry products to rural people. Nepal has demonstrated that CF is a viable strategy for rehabilitating abandoned plantations and degraded lands and for fostering the return of diverse species.

Community Forestry Program

Nepalese CF has been the most successful approach used to manage fragmented, degraded, and scattered forest patches. The protection of degraded forests through CF has improved forest conditions and has had a positive influence on biodiversity conservation. Although wildlife conservation has not been a primary issue in CF, the change in forest cover has created a change in wildlife habitats that directly affects wildlife biodiversity in the area. Similarly, the increased greenery attributed to CF has had a positive effect on wildlife.

The main aim of Forest User Group (FUG) is to fulfill the basic needs of forest products on a sustainable basis. In this situation, there is ambiguity about the extent and direction to which CF supports biodiversity conservation. Therefore, it is time to understand the relationship between CF management and wildlife biodiversity.

Acharya has mentioned a lack of baseline information on biodiversity issues and has realized that it is extremely difficult to assess the change brought by CF. He has suggested performing baseline studies that address the current status, trends, and threats to biodiversity. Studying the effects of CF on wildlife biodiversity is innovative for Nepal. The country has attempted to examine the particular influence, if any, of CF on plant, mammal, avifauna, and insect biodiversity.

The start of wildlife conservation activities within the CF program has greater scope for wildlife conservation in the future. Not only is the CF program important from the perspective of involvement of people in wildlife conservation, but it also promises to have cost-effective and long-term conservation possibilities. Moreover, the study has made scientific recommendations on biodiversity issues in CF. No single scheme will cure different issues. This study has aimed at finding the effect of CF on the diversity of plants, mammals, birds, and insects.

Aim and Objectives of the Study

The general objectives of the proposed study are to understand the effect of community forest in terms of biodiversity conservation:

- To analyze role of CF in wildlife diversity (plants, mammals, birds, and insects) conservation
- To identify the pattern of change in wildlife diversity (plants, mammals, birds, and insects) through CF
- To study the vegetation composition of community forestry in correlation with management systems and livelihood standards
- To verify the existing silviculture treatment and tending operation in terms of biodiversity conservation and its influence on the soil conservation process

Participatory Land Use for Conservation in Rural Tanzania: A Case Study of Udzungwa Mountains Region

By Zakiya M. Aloyce, Russell E. Train Fellow, 1997

The Udzungwa Mountains National Park and its surrounding areas represent the largest ecosystem within the Eastern Arc Mountains, an area of global biodiversity importance. The Udzungwa Mountains contain a large number of endemic species of plants and animals, and they also have dense rainforest cover that is continuous from low to high altitude (approximately 250–2,500 meters above sea level). The mountains serve as water catchment areas for surrounding high-value agricultural land. In turn, that water feeds streams and rivers that flow into the Great Ruaha and Kilombero Rivers, which originate the Rufiji River. The water from the mountains flows into two of the Tanzania's key hydropower plants and is used for irrigation and agriculture, tourism, fisheries, and domestic water supply to hundreds of thousands of people.

Udzungwa's catchment and biodiversity values are very important for Tanzania. Unsustainable use of forest, water, and land resources in areas adjacent to the park, particularly the Vidunda hills, is increasing and alarming. If the current trends of environmental degradation around protected areas continue, people's access to forest products and ecosystem services, such as fresh-water, fertile soils, building materials, fuelwood, and nontimber forest products, will be severely compromised.

The conservation of the forests and the habitat surrounding the protected areas is an essential prerequisite to sustainable development. Sustainable catchment forest protection, management, and restoration are needed for maintenance of ecological services and for local and national economic development. With financial support from the North American Aerospace Defense Command and WWF-Norway, WWF-Tanzania is currently implementing a three-year project titled "Improving Natural Resources Management on the Eastern side of the Udzungwa Mountains National Park."

The long-term goal of the project is to ensure that the integrity of the Udzungwa Mountains catchment is preserved so that it continues to provide vital

sustainable goods and services. The project's purpose is to achieve reduced pressure and to improve the use of forest, water, and land resources on the eastern side of the park by the end of 2008. Facilitating participatory land-use planning is one of the key activities of the project, with the aim of improving land management in areas around the park so that land use becomes compatible with catchment forest protection, management, and restoration. The activity contributes to national policies and development priorities. In Tanzania, land-use planning is considered a tool for implementing a national strategy for environmental conservation. The Land Policy of 1997, the Land Act of 1999 and the Village Land Act No. 5 of 1999 state that it is mandatory for each village to have a land-use plan that helps to secure land tenure and bring sustainable development.

The National Land Use Planning Commission emphasizes that land-use plans should be developed and implemented in a participatory way. Participatory land-use planning involves evaluating and proposing alternative uses of natural resources in order to improve conservation and livelihoods of villagers. The process helps strengthen local decisionmaking by building the capacity of district- and village-level institutions. Since its inception in September 2006, the project has successfully managed to facilitate development of seven village land-use plans in the Kidodi and Vidunda wards in Kilosa district. The villages include Iwemba, Kifinga, Lumango, Msowero, Ruaha, Tundu, and Vidunda. The process was carried out by involving all villagers through village assemblies and council meetings. All land-use plan reports, maps, and bylaws were discussed and approved by people at the village assemblies.

District participatory land-use management committees and village

land use management committees were formed to collaborate with the project management team in facilitating the land-use planning process in the villages. The process involved several components: conducting adjudication procedures and socioeconomic surveys to establish baseline household livelihood information on land uses and practices, raising awareness about land and other natural resources policies and legislation, demarcating of village boundaries, zoning land for different uses, producing village land-use maps that are verified with villages, preparing village bylaws for land-use plan implementation, and facilitating approval by the district council and the Ministry of Land and Human Settlements Development.

Through that process, each village managed to set aside an area for a village forest reserve. Three reserves—Vidunda (392 hectares), Ruaha (525 hectares), and Tundu (111 hectares)—have already been surveyed and mapped by the Forestry and Beekeeping Division. Management plans and bylaws for managing those forest reserves have been developed. The reserves are strictly controlled by village governments, and all cultivation activities have been stopped. Village natural resources committees in collaboration with village land-use planning committees patrol and monitor each reserve. Although it is forecast that forest recovery and regeneration will take place, one of the biggest challenges faced by the project is compensating the people who have relinquished their land for the establishment of the reserves. The Village Land Regulations of 2002 state that whoever is affected by this process should be compensated with alternative land of the same value, including all other associated costs. This challenge is important, and all key stakeholders must work together to make the community forestry management plans successful and productive.



Fishers Unite to Save Turtles

(continued from page 1)

are enabling and inspiring their peers to develop workable, effective solutions,” says Peckham. According to Peckham, fishing communities can play a crucial role in loggerhead turtle conservation. He explains, “The fishermen discuss the full costs of bycatch, such as time and resources lost to disentangling turtles and repairing damaged nets. We find that once they appreciate the Pacific-wide impact and true costs of their local actions, they usually strive to reduce and eliminate their bycatch.”

The delegation includes Hawaiian fishers who have successfully reduced their bycatch through gear modifications. “Fishermen must take the initiative to solve sea turtle bycatch in their fisheries before the government steps in to do it for them—an alternative that no fisherman wants,” states Leland Oldenburg, a Hawaii Longline Association member. According to Juan Ignacio Romero, a fisherman from San Juanico, Baja California Sur, Hawaiian fishermen are setting the example. “The world needs to hear about their achievements and the fact that they are still making a living from fishing,” says Romero.

Because of his participation in the exchange, de la Paz, the patron of a Mexican shark fishing fleet, will no longer use the deadly bottom-set longlines that are such a menace to loggerheads. De la Paz’s announcement represents a monumental breakthrough in loggerhead conservation, because his fleet of six skiffs was killing more loggerheads than any other fishery or fleet on record. “Prior to this program, we didn’t realize the global impact of our local bycatch,” says de

la Paz. “Once we understood, we saw that our bycatch was an embarrassment and a grave problem.” De la Paz is working with fishers from Hawaii and Japan to adapt other fishing techniques that will enable him to maintain his catch levels.

The exchange program is the brainchild of Pro Peninsula, a nonprofit organization that offers support to conservation groups on the Baja California peninsula. One of the program’s cofounders is Dr. Wallace Nichols, a scientific advisor to Pro Peninsula and a senior scientist with Ocean Conservancy. Nichols emphasizes that social networking is a key part of the conservation program. “Science alone isn’t enough to save sea turtles and other species,” explains Nichols. “Hope lies with local communities working together internationally and sharing real-world ideas.” Nichols and Peckham have found that the conservation message is more credible coming from peers than from conservationists offering one-sided education. “The real solutions will come from local fishermen,” explains Peckham. “Pro Peninsula is here to facilitate the process.”

Pro Peninsula received a conservation workshop grant in 2006 to conduct the program Connecting Cultures to Save a Transpacific Ambassador Program—The Loggerhead Turtle. This nonprofit organization is dedicated to building strong communities for long-term conservation on the Baja California peninsula. They work directly with individuals, locally based organizations, and community conservation efforts throughout the peninsula to support environmental protection. For more information, visit www.propeninsula.org.

Recent Conservation Workshop Grants

Birdlife International—Cambodia Program, Cambodia—Strengthen and Implement Conservation Management in Lomphat Wildlife Sanctuary

Center for Social and Economic Development, Nepal—Snow Leopard Conservation Training

Community Forestry International, Cambodia—Community Forestry Training in Cambodia

Institute of Forestry at Tribhuvan University, Nepal—Program to establish a timber exhibit room at the Forest Products Museum in Pokhara

Institute of Geographic Science and Natural Resources at the Chinese Academy of Sciences, China—Wetland Management and Wise Use Training Workshop in Honghu Lake, Hubei Province

International Crane Foundation, Vietnam—Fifth Training Course on Wetland Ecology and Management in the Lower Mekong Basin

Joint Environment and Development Management Action, Tanzania—Environment Conservation Awareness Workshop

Pacific Environment, China—Follow-up market research and public outreach for the Reducing Trade of Endangered Species Workshop

Kelompok Kerja Pengelolaan Sumber Daya Alam, Indonesia—Workshop for stakeholders to support decentralization of natural resource management and conservation area management in the Bengkulu Province

Save Cambodia’s Wildlife, Cambodia—Workshops to support the Environmental Education Project in the Central Cardamom Protected Forest

Southern African Wildlife College, South Africa—Mozambique Training Course on natural resource protection

Village Focus International, Laos—Program to support the Land and Livelihoods Project by training protected area managers and local authorities on

improved methods for conservation management in and around XeSap National Protected Area

Wildlife Conservation Society—Cambodia—Eight training workshops to educate communities on management and regulation techniques in the integrated farming and biodiversity areas in the Tonle Sap Region

Wildlife Conservation Society—Laos—Four training modules in Luang Prabang and Champasak Provinces under the Biodiversity Cooperation Project

WWF—Chile—Workshop on Identification and Implementation of High Conservation Value Forest Landscapes

WWF—Cambodia—Training for the Lower Mekong Dry Forest Ecoregion Program

WWF—Laos—Workshop on the implementation of nongovernmental organization environmental guidelines throughout Laos

Making Ecobusiness a Successful Strategy for Nature Conservation: An EFN Grantee's Story

By Augusto José Mulanovich Diez-Caseco, EFN Fellow 2005

Between 1996 and 2002, my business partner, Alfredo Rios, and I started a company dedicated to the sustainable use of Amazonian butterflies. The idea was to initiate a business exporting dry butterflies for the handicraft industry and live butterfly pupa for butterfly exhibitions and zoos in Europe and the United States. Although this business has been well established since the 1980s in Asia and Central America (Costa Rica mainly), there has been only basic information available on the potential for the sustainable use of Peruvian butterfly species. Between 1996 and 2000, for the first time in Peru, we developed the appropriate breeding techniques to rear, in captivity, approximately 30 different species of Peruvian Amazonian butterflies.

Despite our efforts to make it profitable, the butterfly business was not going as expected. In 2001, we opened the first live butterfly exhibit in Puerto Maldonado, Peru to increase our chances of success. Puerto Maldonado is the gateway to the Madre de Dios region. It is one of the most biodiverse and pristine rainforest areas of the world, with several vast protected areas, such as Manu National Park, Bahuaja Sonene National Park, and Tambopata National Reserve. Our idea was to show some of the largest butterfly diversity to the thousands of tourists who visit those parks each year. By 2000, our farm produced more than 20,000 butterflies, and we received around 2,000 foreign and local visitors, including schoolchildren who were part of our environmental educational program.

To create a butterfly business we had to develop the techniques to rear the butterflies in captivity. For example, we had to find the specific food plants on which the butterflies lay their eggs and on which the caterpillars feed. We needed to develop specific breeding equipment, disinfecting methods to fight butterfly diseases, plant reproduction techniques, and so on. In addition to the biological aspect of the business, we also had to deal with challenges common to any business. Although our project provided conservation outputs, our goal was to be profitable without having to depend on traditional

conservation financial sources. Knowing that similar enterprises had proven to be profitable, we believed it was possible to achieve economic sustainability through the sales of our products. We had to form relationships with butterfly dealers around the world to prepare and monitor butterfly shipments, to create a merchandising strategy, and to train local workers.

We knew that we would have to confront all of those challenges, but we were surprised by the reaction from the local and national government. We thought that because our business combined economic development with conservation, we would receive the support of our government, which had signed every international treaty that promoted sustainable development and conservation, including the Convention on Biological Diversity. Furthermore, in the 1980s, the Peruvian government created the National Institute of Natural Resources (INRENA), whose main purpose is to promote the conservation and sustainable use of biodiversity. Unfortunately, although the Peruvian government had made great strides in the area of environmental conservation, its bureaucracy, laws, and regulations still created barriers to creating sustainable business ventures in conservation. The first obstacle we faced was the general distrust and suspicion that surrounded our business idea. We were immediately seen as potential illegal wildlife traders. To dispel this idea, we requested that government officials look into our business, but we were told us that an inspection would not be possible because we were located too far away from the central administration in Lima and because there were no resources to send inspectors. Finally, a local inspector visited us, but his favorable report on our activity immediately made him suspect. INRENA had no experts on butterfly farming and no technical advisers were available. They did not understand the butterfly breeding techniques we used. Laws and regulations to promote wildlife farming were created for an institution far better prepared and financed than INRENA. In 2002, despite our efforts to keep our business running, we had to close. As a result, the seven technicians, who had been involved in the illegal cutting of endangered big-leaf mahogany



trees before joining our company, were now unemployed and unable to use the skills that they had spent years refining.

Bureaucracy, laws, and regulations were not the only problems. We were scientists doing business—and that's not the best combination. We did not have the proper knowledge and experience in merchandizing. We realized that we needed to add value to our butterflies by making handicrafts and jewelry with butterfly wings. Wholesale prices of dry butterflies compete directly with butterflies collected from the forest with a much lower cost and final price. Our products lacked certification, such as the Forest Stewardship Council certification created by World Wildlife Fund for timber products. We learned that "ecobusinesses" need special preconditions to be successful and that laws and regulation governing our type of business were far from optimal. The government, instead of helping us create a sustainable business, became an impediment to our success and, therefore, an opponent to a nature conservation strategy through private entrepreneurship. That opposition was something that contradicted the international treaties and laws, signed by the state, that promote the establishment and participation of civil society in conservation projects.

Was Our Case Unique?

We wondered if other businesses had encountered the same obstacles when working with the government. In 2005, after three years of consulting work in the Peruvian rainforest, I received a Russell E. Train fellowship supported by the Moore Foundation that allowed me to pursue a master's degree in forest and nature conservation at Wageningen University in the Netherlands. I decided to specialize in policy and

management. My thesis, "Analysis of the Influence of Bureaucracy, Laws, and Regulations in Wildlife Management and Conservation: The Case of Peru," found empirical evidence that the state has a negative effect on businesses in wildlife management and does not promote them as the law and the international treaties mandate.

If nature conservation through a market approach is going to be an effective tool, several preconditions need to be met. It is necessary to add value to the products obtained and to create certification schemes for products to attract the most

educated and wealthy consumers (among other preconditions described in my thesis). However, it is also necessary to have laws and regulations that promote a market approach to conservation and that work to encourage that kind of enterprise.

What Now?

Currently, the Peruvian ecotourism company Inkaterra runs our butterfly farm, but only for exhibition purposes. Recently the Peruvian Export Promotion Agency, the institution created to promote the exportation of nontraditional products, has finally published the

manual for butterfly farming in Peru that I wrote several years ago. After finishing my master's degree in the Netherlands, I recently moved to Puerto Maldonado. Once again, this warm and dusty city has become my home. I plan to promote new types of ecobusiness—butterfly farming and others—as my contribution to sustainable development and nature conservation. I hope that the Peruvian government will become aware of the problems described in my thesis and make efforts to transform the institutions needed to make ecobusiness a successful strategy for nature conservation.

2008 International Conferences

Community Development and Ecology: Engaging Ecological Sustainability through Community Development

*Melbourne, Australia * 26–28 March 2008*

www.deakin.edu.au/arts/cchr/eco-cd-conf08/index.php

Deakin University's Centre for Citizenship and Human Rights with Borderlands Cooperative and the International Association of Community Development (IACD) is hosting the Third Community Development Conference. The conference will have academic papers and community workshops and forums. The academic section of the conference will explore the contemporary contexts of community development, including conceptual and theoretical advances and social, cultural, political, and economic settings. The workshops will provide an opportunity for exchanging theories, ideas, and actions relating to community development.

Eighth International Conference on Environmental Compliance and Enforcement

*Cape Town, South Africa * 5–11 April 2008*

www.inece.org/conference/8/

This conference will open with two days dedicated to local capacity-building and networking events. The next five days will feature action-oriented thematic workshops, distinguished keynote speakers, and networking opportunities for more than 150 invited participants. It will also include a day for site visits to innovative environmental enforcement initiatives in South Africa. The central themes of the conference will include strategic management of environmental compliance and enforcement programs, noncompliance detection, transboundary compliance, biodiversity and compliance, climate change and compliance, and compliance promotion and social aspects.

Fourth Global Conference on Oceans, Coasts, and Islands: Advancing Ecosystem Management and Integrated Coastal and Ocean Management by 2010 in the Context of Climate Change

*Hanoi, Vietnam * 7–11 April 2008*

www.globaloceans.org/globalconferences/2008/index.html

The global conference will bring carefully crafted analyses and

high-level perspectives from all ocean sectors and areas of the world to focus on tangible next steps in advancing ecosystem management by 2010. It will also examine the current trends in integrated coastal and ocean management. The conference will focus on major themes related to achieving ecosystem management and integrated coastal and ocean management at national and regional levels. It will maximize opportunities for meaningful dialogue among the expert participants through concurrent dialogue sessions and discussions in special workshops and side events.

Effects of Climate Change on the World Oceans

*Gijon, Spain * 19–23 May 2008*

www.pices.int/meetings/international_symposia/2008_symposia/Climate_change/climate_background_3.aspx

The symposium will focus on the major issues of climate change that affect the oceans: oceanic circulation, climate modeling, cycling of carbon and other elements, acidification, oligotrophy, changes in species distributions and migratory routes, sea-level rise, coastal erosion, and more. The symposium will bring together results from observations, analyses, and model simulations—at a global scale—and it will include discussions of the climate change scenarios and the possibilities for mitigating and protecting the marine environment and living marine resources.

2008 Pathways to Success Conference & Training: Integrating Human Dimensions into Fisheries and Wildlife Management

*Fort Collins, Colorado, United States * 28 September–2 October 2008*

www.warnercnr.colostate.edu/nrrt/hdfw/

This conference and training program is designed to address the myriad issues that arise as people and wildlife struggle to coexist in a sustainable and healthy manner. Its mission is to increase professionalism and effectiveness in the human dimensions of fisheries and wildlife management field. Ten to 14 training sessions will be integrated throughout the conference schedule including capacity building, public involvement in management strategies, and implications of social, economic, and demographic changes in a region. The conference will be held at the YMCA of the Rockies in Estes Park, Colorado.

Notes from the Field

Rajan Prasad Acharya, Nepal, Russell E. Train Scholarship (2002)

In 2002, Rajan received a Russell E. Train scholarship to pursue a bachelor's degree in environmental management at the School of Environmental Management and Sustainable Development in Nepal. After completing his degree, he began working with CARE International, and he is currently a program officer working on development issues in Nepal. He hopes to begin work on his master's degree in environmental management to advance his training in the field.

Gustavo Andrés Zurita, Argentina, Russell E. Train Fellowship (2003)

Gustavo received a fellowship to pursue a doctoral degree in biology at the Universidad de Buenos Aires in Argentina. His thesis research focused on the consequences of fragmentation and forest replacement on bird diversity and ecological processes at the local and ecoregional scale in the Atlantic forest. He is currently using his research and other studies to improve local management and landscape planning of human-modified habitats. The improvement will help increase the connectivity between forest remnants and preserve populations of native species in those habitats. He has recently published two articles on his research in *Bird Conservation International* and *Forest Ecology and Management*.

Ladislaus William Kahana, Tanzania, EFN Professional Development Grant (2004)

In 2004, Ladislaus received a professional development grant from EFN to attend a course on forestry and environmental management at Galilee College in Israel. After completing the course, he entered a doctoral degree program at Tshwane University of Technology in South Africa. He intends to complete his study on the role of biodiversity in the forest glades in Mount Meru Game Reserve in Tanzania. He plans to continue his work with the College of African Wildlife Management after completing his degree.

Rita Dhakal, Nepal, Russell E. Train Scholarship (1998)

Rita received a Russell E. Train scholarship to complete her bachelor's degree in forestry at the Institute of Forestry at Tribhuvan University in

Nepal. Since 2006, she has been working with CARE International in Nepal as a program officer. Her work focuses on implementing community-based disaster risk management projects and educating local communities on how to prevent natural disasters through sustainable use of the natural environment.



Gustavo Andrés Zurita

Rajesh Rai, Nepal, Russell E. Train Scholarship (1997)

In 1997, Rajesh received a scholarship to complete a bachelor's degree in forestry at the Institute of Forestry in Nepal. During his studies, he was awarded the Mahendra Vidhyabhusan, an educational award from the King of Nepal, for his outstanding academic achievement. After completing his degree, he worked as a program officer in the Natural Resource Management Sector Assistance Program. He was also a program coordinator for the Resource and Environmental Conservation Society. In 2006, he received a Erasmus Mundus scholarship from the European Union to pursue his master's degree in forestry at the University of Freiburg in Germany. He will complete his degree in 2008, and he hopes to continue his work in conservation in Nepal.

Paston Simkoko, Malawi, EFN Professional Development Grant (2006)

Paston Simkoko received a professional development grant to attend a geographic information systems (GIS) training course at the Southern African Wildlife College in South Africa. After the course, he was promoted to assistant park manager and he currently manages the northern section of Nyika National Park in Malawi. He is working on the Peace Parks Foundation Transfrontier Project, a coordinated effort of Nyika National Park in Malawi and Nyika

National Park in Zambia. He is using the training he gained during the GIS course in South Africa to compile data and map information on inappropriate activity in the park.

Nita Irawati Murjani, Indonesia, Russell E. Train Fellowship (2003)

In 2003, Nita received a fellowship to complete a master's degree in environmental communications at Ohio University in the United States. Since completing her degree, she has worked with the Asia Forest Partnership to create a new development strategy. She is currently working for the Center for International Forestry Research as a consultant on environmental communications. She is also a communications lecturer at the London School of Public Relations in Jakarta, and she is a board of trustee member for the Christian Education Fund for which she coordinates the core education program. The Leuser International Foundation has also been selected Nita as a trainer to help local teachers integrate conservation books into school curricula in northern Sumatra.

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