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NEVIS, AN ISLAND MICROCOSM: THE UNIQUE ENVIRONMENTAL CONCERNS OF SMALL ISLANDS

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In recent years, large international aid agencies and regional environmental groups have recognized the vital role that local non-governmental organizations (NGOs) play in balancing environmental and economic concerns. The Island Resources Foundation (IRF), a private, non-profit environmental organization focusing on Caribbean issues launched an ambitious NGO institution-building campaign in 1989 with a five year matching grant from the U.S. Agency for International Development (USAID).

The program aims to strengthen the NGOs’ organizational management skills, improve the planning and implementation of major projects (including grant writing, budget preparation, evaluation and monitoring) and increase the NGOs’ capacity for collecting, archiving and distributing information. As part of this program, IRF places natural resource graduate students in selected NGOs throughout the Caribbean. With a matching grant from the Mukti Fund, I travelled to the island of Nevis in the Eastern Caribbean in the summer of 1990 to work for the Nevis Historical and Conservation Society (NHCS).

Nevis, the smaller of the two islands that constitute the Federation of St. Kitts–Nevis, lies just northwest of Antigua, at the same latitude as Belize in Central America. A cloud-shrouded, 1075 m (3,000 foot) volcanic peak dominates the 93 sq. km. (36 sq. mile) island which is fringed by long coral beaches and occasional rocky headlands. Census takers estimate the population of Nevis at just under 10,000, the majority of whom are descendants of African slaves. Like many of the Caribbean islands, Nevis was colonized by European sugar planters in the early 1600s. The British and French vied for control of the island, with the British retaining final hegemony. St. Kitts–Nevis remained a Crown colony of Great Britain until 1983 when residents successfully fought for independence.

Several prominent Nevisians founded the NHCS in 1980, primarily to preserve the historical heritage of the island. In the mid-1980s the Society’s constituents and Board recognized the need to add environmental conservation to its agenda and adopted a dual natural and cultural conservation mission. Two former Peace Corps volunteers and one Nevisian currently administer the society as curators. Like similar Caribbean organizations, the NHCS must take special care to balance the concerns of its native Nevisian and expatriate constituents. The NHCS operates the two museums on the island and works actively with a group of talented primary and secondary school teachers to promote environmental education in the public school system and through programs at the public library.

While Nevis’ economy was agriculturally based for three and a half centuries, in recent years it has shifted to tourist-related service industries. Touted as the unspoiled “Queen of the Caribbees”, the island has catered to a more upscale clientele, most of whom stay in former sugar cane plantations which have since been converted into inns. The beginning of this year marked the opening of a 200 room luxury hotel operated by the Four Seasons chain and an adjacent 18-hole championship golf course — both firsts for the small island. The Four Seasons hotel is built on a three mile stretch of undeveloped beach that is among the most beautiful in the Caribbean. The Nevis Island Administration has plans for another hotel and residential development on the beachfront contiguous to the Four Seasons hotel. My original project was to evaluate the development plan and establish a baseline environmental monitoring system for the site. As often happens in small, active NGOs, however, another more pressing project arose.

USAID must develop Country Environmental Profiles (CEPs), a “state of the environment” report, for all recipients of USAID funds. The profiles help the agency prioritize projects for funding and provide a comprehensive but succinct review of environmental issues for the local governments. The Agency contracted with the Caribbean Conservation Association (CCA) to produce the CEPs for six Caribbean islands, and the CCA in turn hired IRF as the technical research and writing team for the project. IRF, recognizing this as an excellent opportunity for its NGO strengthening program, selected a local NGO on each island to serve as research and documentation centers for the project. The NGOs benefitted in three ways: they broadened their understanding of the environmental issues on their islands; they strengthened their relationships with the government agencies that provided much of the information; and they remained permanent repositories of the collected materials. IRF chose the Nevis Historical and Conservation Society to be the
NGOs, documentation center for the Nevis CEP. Unlike other NGOs, people under the NHCS umbrella actually wrote the CEP. This was an affirmation of the quality of the NHCS’s work as IRF hired off-island consultants to write the Environmental Profiles for other islands. It also gave the NHCS an excellent opportunity to involve members of the island community in the project.

The CEP for Nevis attempted to cover several central themes. It described the natural resource base of the island including flora, fauna, water, mineral, cultural and historic resources. The discussion then centered on issues related to pollution, environmental health, land use planning and development control in relation to these resources. All of this information was placed within the context of Nevis’ institutional framework. Writers identified problems in each area and proposed recommendations for mitigation and solution. My role was to research and write the chapters on water resources, agriculture, forestry and watershed protection, as well as pollution and environmental health. I also edited and contributed to several other chapters. The water resources chapter included water supply and demand projections as well as a discussion of catchment area and wellhead protection measures, water pollution problems and water management and legislation. Solid waste, sewage and liquid waste, oil pollution as well as mosquito control programs were among the topics covered in the pollution and environmental health chapter. The agriculture section contained discussions of land classification and capability, land use patterns and farming systems, land tenure, soil erosion and agro-chemical use. The extent and condition of forests and major watersheds and forest product utilization were described in the section on forest resources.

Because of time constraints and the objectives of the project, the research involved extensive review of existing information, rather than collection of new field data. I studied the reports of a seemingly endless parade of consultants and extracted the important and consistent information. My most difficult task, however, was integrating this information with the perceptions and concerns of the Nevisians working in the various sectors. To this end I conducted personal interviews with the heads of the Water, Agriculture and Public Health departments as well as officials in the Planning, Electricity and Customs offices and private industry representatives.

Over the years the NHCS has built a cooperative working relationship with the government of Nevis. The Island Administration now solicits the Society’s review of development projects for environmental and historical impacts. The CEP project, by highlighting environmental problems, had the potential to seriously strain this relationship. The challenge for me was to work closely with the department heads to identify and define the environmental problems facing the island without losing the objectivity of an outside observer. This challenge was confounded by the problem that the department heads reported to elected ministers who did not always share their views.

Edward Towle, the president of IRF, wrote an intriguing paper in 1985 ("The Island Microcosm") in which he outlined the issues and institutional arrangements characteristic of small island systems. Nevis’ environmental problems and opportunities are greatly influenced by this "island effect." Nevis developed as an export-oriented monocrop plantation. Every inch of the island to within 300 m (1,000 feet) of its central peak produced sugarcane. A few vegetables were grown to support the population, but most food and commodities were imported. Three centuries later, after periods of high agricultural exports, the island has once again become a net importer of food items, and today is only self-sufficient in eggs. Years of sugarcane and cotton production along with livestock overgrazing have eroded much of the topsoil. Opportunities in the construction and service sector have also wooed Nevisians away from agricultural labor. Small islands like Nevis are caught between the need to maintain an equitable balance of exports and imports, and the rapidity with which their very limited and spatially bounded resource bases can be overtaxed. Islands, like small towns, feel the exaggerated effects of the boom-bust cycles which often result from this tension.

The natural resource base of Nevis remains largely unstudied and unquantified. Science education in the public school system does not inspire or prepare students for work in this field, and opportunities are extremely limited. Due to its size, Nevis has not attracted many foreign scientists to its shores and forests although interest is increasing. With so little known about the biophysical characteristics of the island, management decisions are difficult to make. On the other hand, Nevis is fortunate that it has not yet experienced some of the serious pollution problems facing many of its neighboring islands. Cash monocrops like sugarcane and bananas usually require high fertilizer and biocide inputs. Since sugarcane and cotton became unprofitable on Nevis long before many of the other Caribbean islands, the agricultural sector diversified and Nevisian farmers now use comparatively low amounts of these substances.

Industrial pollution is not a serious threat as there is no heavy industry and very little light industry on the island. The effects of what little pollution does exist are not carefully monitored so potential problems could easily go
undetected. A growing problem is the disposal of solid and liquid wastes, particularly automotive parts, waste oil and derelict vehicles. Space and money for proper land disposal is limited so open burning and ocean dumping are commonly practiced. Treatment or proper disposal of waste oil on-island is often prohibited by economies of scale, yet high transportation costs constrain the development of a regional facility to serve all the Caribbean islands.

The problems mentioned above are not atypical of those found in many parts of the world today. Small size, however, has a marked and confounding effect on the biological and physical functioning of island ecosystems. Watersheds are much shorter so that any contaminants are likely to reach coastal waters in less time and in more concentrated form than on larger land bodies. Tolerances to biocides can develop more rapidly in the smaller target populations found on islands. Nevisian farmers already note a sharp decline in the effectiveness of a pesticide brought into wide use only a decade ago.

Equally profound are the effects of size on the socio-economic and political institutions of islands. A population of fewer than 10,000 within a 93 square km area leads to a peculiar brand of politics characterized by "intense face-to-face personalism and kinship ties that reduce objective decision-making, inhibit confronting serious (polarizing) issues, and reinforce the status quo" (McElroy et al., 1987). Leaders often wear many hats and travel in convergent professional and social circles. Bureaucracies become disproportionately large. Boom-bust cycles spawn parallel cycles of emigration and immigration. The Caribbean islands have a long history of inter-island migration and Nevis is no exception. Well-educated, ambitious Nevisians continue to emigrate to the United States, Canada and Great Britain and send money and consumer goods back to relatives on Nevis. These remittances constitute a major portion of the island’s economy, but their exact contribution is next to impossible to quantify. Construction and farm laborers from other Caribbean islands immigrate and fill jobs on Nevis creating cultural tensions.

The CEP project confirmed many of these previously held beliefs about the social, political and environmental milieu of islands in general, and Nevis in particular. It also served to point out discrepancies between the accepted opinions and recommendations of consultants and realities on Nevis. For example, consultants recommended that Nevis operate one sanitary landfill, but the topography of the island limits transportation to a ring

*Nevis, the smaller of the two islands that constitute the Federation of St. Kitts-Nevis.*
road encircling the central peak. Safety and logistical problems probably make two or three small facilities a better option. Similarly, several agricultural assessments of Nevis identify land tenure as a major constraint when in fact an extremely high proportion of the population owns enough land to provide for their family, but not enough for commercial production. The CEP also identified gaps in government record keeping such as biocide imports, the amount of charcoal produced from the forests, and basic health statistics. Other environmental factors such as the amount of waste oil improperly disposed of from the two generator plants (3,000 gallons a year) were quantified for the first time.

Islands may have simple, undisputed borders, but patterns of social interaction, institutional structure and resource dependence are very complex. Natural resource managers must be sensitive to these patterns and to the ways in which they differ from continental societies. Incremental changes can have an exaggerated effect on the social and natural environments of small islands. Fortunately, local NGOs are forming throughout the Caribbean, with the support of active regional groups like IRF, and are working towards positive changes in the quality of life and the quality of the environment for Caribbean islanders.

LITERATURE CITED
