

Global Environmental Studies



Godfrey Baldacchino  
Daniel Niles *Editors*

# Island Futures

Conservation and Development Across  
the Asia-Pacific Region



Research Institute  
for Humanity and Nature



Springer

# Global Environmental Studies

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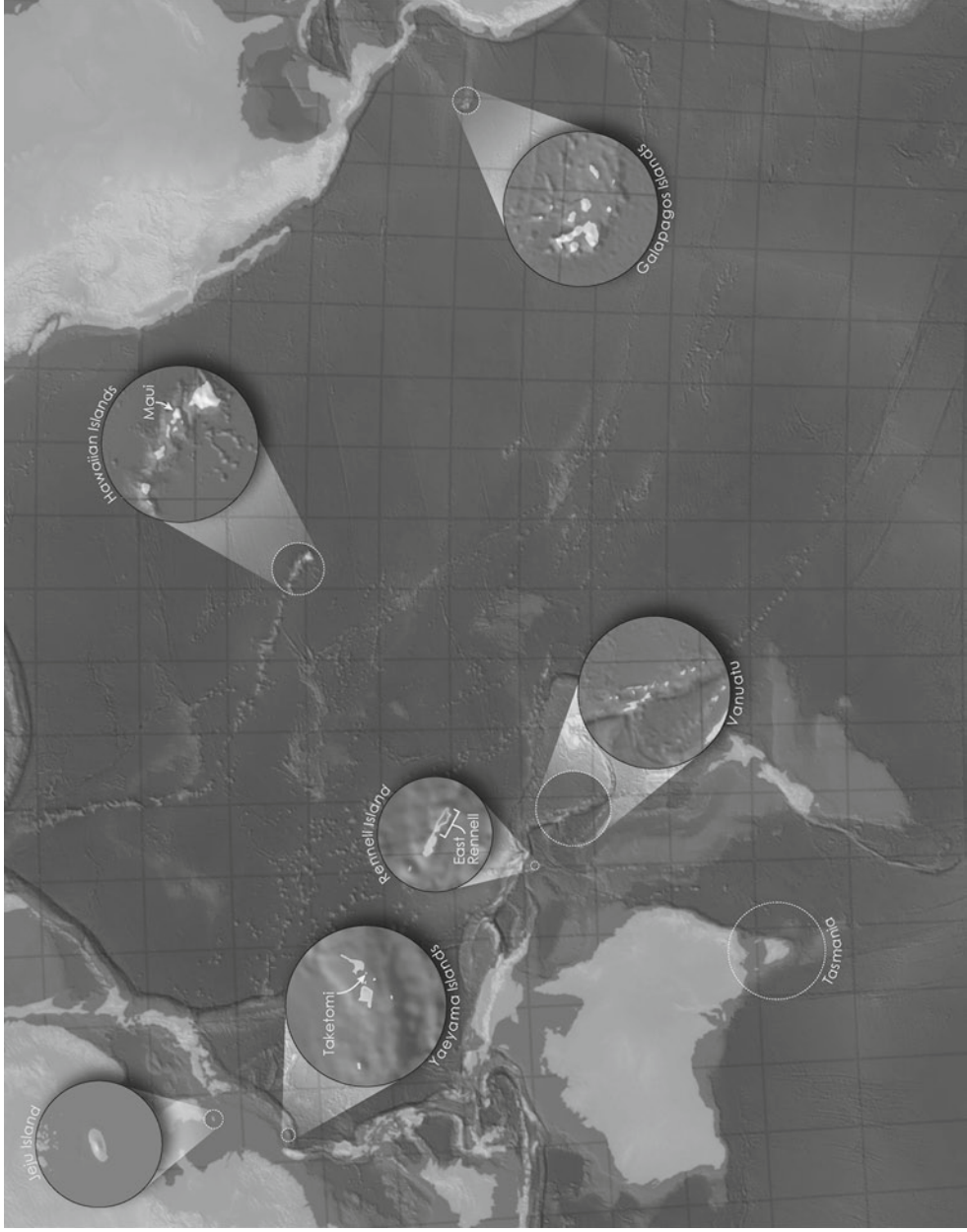
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Godfrey Baldacchino • Daniel Niles  
Editors

# Island Futures

Conservation and Development  
Across the Asia-Pacific Region

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# Global Environmental Studies: Foreword to the Series

How should human beings and societies address contemporary environmental problems?

Until recently, environmental research was largely undertaken within the separate disciplines of the natural sciences. Only recently has modern science begun to examine the *whole*: the fascinating forces and cycles that constitute the biophysical world, linking deep internal Earth phenomena with those of the surface and atmosphere. As environmental scientists, our current challenge is to describe how human action intersects with Earth processes at different spatial and temporal scales. Identifying *solutions* to environmental problems, however, will require a deeper level of analysis, one that explicates the cultural base of individual and collective practices that affect Earth processes, and that allows contemplation of what is, and what ought to be. It is with this very integrative and comprehensive intent that we at the Research Institute for Humanity and Nature have identified the need for *global environmental studies*.

This volume introduces the Global Environmental Studies book series, which was created to publish works at or affiliated with the Research Institute for Humanity and Nature (RIHN). Located in Kyoto, Japan, RIHN is a national research institute, one of six that comprise the National Institutes for the Humanities. RIHN takes a broad view of environmental studies, and the books published within this series will indicate the full breadth of its research. It is particularly appropriate that this first volume in the series address islands, for they are microcosms both fascinatingly specific and yet strikingly illustrative of the dilemmas confronting people in all places.

RIHN takes great benefit from, and pride in, collaboration with many institutes and scholars around the world. UNESCO has particular influence in this volume, and I have the special privilege to write this Foreword to the Series in my capacity as Director-General of RIHN as well as Chair of the Social and Human Science

Sector of the Japanese National Commission for UNESCO. As my colleague Miguel Clüsner-Godt notes in his Preface, UNESCO has made substantial steps in both conceptualizing and implementing the frameworks that protect islands. We must support such works, and seek to improve them, for in doing so we can improve ecological integrity and human well-being in our home places, our nations and regions, and finally, on this great island we know as the Earth.

Kyoto, Japan  
23 March 2011

Narifumi Tachimoto

# Foreword

It is my distinct pleasure to contribute the foreword to this important volume discussing the futurability of islands, which emerges from the joint efforts of the Research Institute for Humanity and Nature (RIHN) and the Japan National Commission for UNESCO.

UNESCO is a specialized agency of the United Nations, and seeks to dedicate its resources towards the building of peace, the alleviation of poverty, sustainable development, and intercultural dialogue through education, the sciences, culture, communication, and information. Within this broad mandate, islands around the world find themselves as targets of various initiatives. This is not just because islands and their populations deserve as much attention as mainlands and continental spaces in the challenges that face humankind. Indeed, a quick scan will confirm that islands occupy a relatively privileged position since they tend to attract greater attention from international agencies, including UNESCO. This is so because, in the words of former UN Secretary-General Kofi Annan, islands remain frontline sites, the miner's canary for many of humankind's challenges: look at islands and find out how sustainable development strategies could, or could not, work. This focus is especially pertinent to initiatives that seek to protect, conserve, or preserve not only sensitive wildlife habitats, fauna, or flora, but also specific cultural practices. Given their separation from mainlands over long periods of time, island geographies are natural platforms for the experimental antics of nature and culture; they have a disproportionate amount of endemic species, as well as indigenous languages, compared to their surface area. Differentiation runs riot on islands, and UNESCO is privileged to contribute to this rich and diverse legacy.

An evident case in point is UNESCO's intergovernmental Man and the Biosphere (MAB) Program, which seeks to develop a sound and proven scientific rationale for the improvement of people-environment relationships, doing so by systematically using knowledge (both scientific and traditional), information, data, and expertise as its main tools. The biosphere reserve concept, designed as a field tool for interdisciplinary MAB work, focuses on three functions: conservation (of ecosystems, species, and genes), development for a sustainable future, and scientific research.



There were, as of 2010, 562 biosphere reserves in 109 countries, 8 of which are trans-boundary. A significant number of these reserves are found on islands and in coastal zones; sometimes they are whole, or almost whole, islands. Each of these reserves is a precious learning site for sustainable development. Island biosphere reserves are especially unique in their cultural, social, and environmental context. They require a special integration and synthesis of scientific models with local cultural values and traditional knowledge and practices in biodiversity conservation programs. The experiences derived from coastal and island biosphere reserves stress the vital importance of involving local communities in such biodiversity conservation programs.

Within the MAB program, biodiversity protection and sustainable development are the key words for action. Biosphere reserves as learning sites for sustainable development are those areas in given ecosystems, which have been specifically chosen by UNESCO member states, to implement and showcase these concepts. The program is particularly focused on such ecosystems as agricultural/rural lands, dry and sub-humid zones, forests, rivers, lakes, wetlands, coastal zones and oceans, mountains, and urban areas. Islands are an additional and separate focus, but many of the other ecosystems under study can be found on islands, making them doubly special.

The MAB program is currently implementing the multi-year Madrid Action Plan (MAP), endorsed in 2008. As encouraged by this plan, MAB's research programs also seek to build important links to and with other international initiatives, developing vital synergies. These include: (1) the UN Decade for Education for Sustainable Development, (2) intersectoral platforms, particularly concerning Africa and the education sector of UNESCO, and (3) other intergovernmental scientific initiatives of UNESCO, such as the International Hydrological Program, the Intergovernmental Oceanographic Commission, the International Basic Science Program, and UNESCO's well-known World Heritage Program.

There are also various other examples of cooperation, this time between UNESCO national commissions and MAB national committees. Some initiatives worth noting include the Canadian government's support for the Canadian Network of Biosphere Reserves; the German National Commission's work with the National Commissions of Lesotho, Madagascar, Mali, Namibia, and Rwanda; the German Biosphere Reserves have created a partnership with Volvic Waters to support research on nature and water; the Vietnam and Australia MAB National Committees have developed a "learning laboratory" model; Brazil's MAB National Committee and São Paulo's Green Belt Biosphere Reserve are reviewing their own plans in the light of the MAP; and the Spanish government is providing UNESCO's Division of Ecological and Earth Sciences with funding to support cooperation with biosphere reserves in Latin America and Africa.

With respect to island biosphere reserves, aspects of their conservation management range from protection to sustainable use. Development issues focus on sustaining and diversifying options for economic, social, and cultural change intended for the long-term well-being of humans.

Island biosphere reserves as learning places for sustainable development are organized into three zones according to the Seville Strategy (1995): an inner core

area for strict protection under national law, a surrounding buffer zone with limited access and use, and an outer transition zone or development area which includes human settlements.

The establishment and management of every biosphere reserve depends on its own geographical, biological, and social realities. Island biosphere reserves have, in most cases, several terrestrial and marine core and buffer areas and one surrounding transition area. In most cases, this type of biosphere reserve can encompass a whole island and its surrounding waters.

A UNESCO/MAB Network of Island Territory Biosphere Reserves was established in 2008. This network is working to promote and coordinate biodiversity conservation and natural resource management activities and programs in island biosphere reserves, and to encourage an increased recognition and appreciation of the unique cultural, social, and environmental values and customs of island biosphere reserves among the international community. The Network is exploring with UNESCO and its partners funding opportunities for biodiversity conservation and natural resource management in island biosphere reserves.

Within the World Network of Biosphere Reserves, there are some island biosphere reserves located in archipelagos. These include the Galápagos Islands Biosphere Reserve in Ecuador, the Juan Fernández Biosphere Reserve in Chile, the Archipelago Sea Biosphere Reserve in Finland, and the Bijagós Biosphere Reserve in Guinea Bissau.

There are already four biosphere reserves in Japan, all designated in 1980: Mount Hakusan, Mount Odaigahara and Mount Omine, Shiga Highland, and Yakushima Island. There are ongoing discussions within the MAB National Committee of Japan and the local authorities to establish an additional island or archipelago biosphere reserve, this time in the Iriomote area of the Yaeyama Islands, in Okinawa Prefecture. UNESCO welcomes this initiative and is willing to provide full support for the final establishment of such a new biosphere reserve in Japan.

This book is a further testimony of the interest and commitment of Japanese scientists and policy makers in taking the lead to promote a wider awareness and celebration of the role of islands as platforms of diversity, and of the contribution of islands not just to their own “futurability” or sustainability potential, but to that of the whole planet, itself an island in space.

Miguel Clüsener-Godt  
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**Tamen Sitorus** has been Director of Komodo National Park, Indonesia, since 2006. From 2003 to 2006 he was Director for Bukit Barisan National Park, Sumatera, which is home to the largest population of Sumatran Rhino. He was Head of Section Biodiversity Convention under the Directorate General of Forest Protection and Nature Conservation, Ministry of Forestry, Jakarta in 2001–2002. From 1998 to 2000 he was Deputy Director of Tanjung Putting National Park in Borneo, well known for its population of orangutan. He received his MSc at the Durrel Institute of Conservation and Ecology (DICE), University of Kent at Canterbury, UK.

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# Chapter 1

## Introduction: On Island Futures

Daniel Niles and Godfrey Baldacchino

If the world is composed of seamless flows of matter and energy, of messy bundles and movements, of unceasing change and expansive diversity, islands can help us to perceive how this flux is resolved in particular places. Since the revealing field-work of Charles Darwin (1859) and Alfred Wallace (1880), islands have allowed and encouraged the astute observer to conceive of and describe “biogeography”: how land, climate, weather, flora and fauna exist in concert and co-partake in the struggle for life, and how the human mind has envisaged, and the human hand has affected, these features through time (e.g. Grove 1995). In this light, islands are hardly insular and ought not be studied in isolation. Rather, they exist in the open, as iterations, and offer privileged glimpses of quintessentially fluid “entanglements of life” (Ingold 2008). They invite comparative study and offer lessons of particular experience and of natural and cultural history more generally (Baldacchino 2004).

If much description has been largely concerned with how islands have come to be as they are – consequences of erosion, coralline growth or volcanic eruption; objects of colonial discovery; playful yet suggestive figments of the human imagination – this volume is primarily concerned with how islands might be in the future.

Islands and their biota – human and otherwise – face and represent one of the most pressing issues of our time: how to balance ecological integrity with economic development and collective quality of life, including the need for social and conservation space. In the contemporary world, islands are recognized as sites of rich and varied human and ecological diversity, but they are also characterized by narrow resource bases and dependency on links to the outside world, and by their limited ability to determine the actual character of those links. Island societies must recognize their perennial openness to invasion, and have no choice but to address their vulnerability

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to the uncertainties of climate change, their political dependencies, their common relative economic insignificance as price takers in the global economy, and their frequent reliance on tourism. Their exchange with the outside world requires that they adopt standardized legal and economic regimes, yet their internal organization must also correspond to the cultural needs and social justice claims of aboriginal and local populations, as well as the ecological needs of native and endemic species. In short, islands confront the full range of problems found in the larger world, but on reduced scales and with particular concentration: on islands such problems are amplified by compression (Percy et al. 2007: 193).

This volume gathers together a range of papers concerned with island development and conservation in the Asia-Pacific region. Individual papers consider the benefits, barriers, and potential pitfalls in preserving special territories and sites, managing specific biota, and attracting while controlling tourism; they describe the cultural artifacts, practices, and mentalities that have created and supported traditional cultural ecologies and economies, or that may contribute to new ones.

## **Futurability and RIHN**

Most of the papers collected in this volume were first presented as part of an international symposium sponsored by the Research Institute for Humanity and Nature (RIHN) located (somewhat suggestively) in Kyoto, Japan. RIHN was established by the government of Japan in 2001 to conduct interdisciplinary research on, and suggest solutions to, key environmental problems. The institute is engaged in the pursuit of various fixed-term research projects, of which there were 15 underway in 2010, while 11 have been completed and their results disseminated (including as several chapters in this volume).

As a group, the papers presented here are concerned with island “futurability”, or future potential. The term is not common in the English language: it emerges from a particular tradition of environmental thought and deserves some explanation. Much of the discussion of RIHN’s approach to environmental study that follows is drawn from a working paper drafted by Narifumi Tachimoto, the Director-General of the institute and a cultural anthropologist by training, and Daniel Niles, a human geographer (Tachimoto and Niles 2010). The paper is one iteration of an ongoing discussion established at RIHN by Professor Tachimoto and centered around the seminar ‘Environmental Humanics of the Earth System’.

RIHN’s research projects are diverse; they take up a range of research problems and often involve a combination of methods of the natural and social sciences and humanities ([www.chikyu.ac.jp/index\\_e.html](http://www.chikyu.ac.jp/index_e.html)). They share a common foundation, however: all investigate environmental phenomena from the point of view of the human experience of, and human impacts on, those phenomena. Essentially, RIHN is concerned with the critical description of “humanity in the midst of a dynamic, changeable nature” (RIHN 2010). This approach to environmental study calls for a respectful balance between different traditions of knowledge – those stretching back millennia as well as those of the contemporary sciences – and has little

concern for epistemological debates surrounding the superiority of either ‘objective’ or ‘subjective’ ways of knowing. There is an ever-more pressing need for truly flexible knowledge of the world in which we live, knowledge that crosses disciplinary boundaries and encompasses novel units of analysis and interactions between biotic and abiotic phenomena. Such knowledge alone is not sufficient, however. Even if it were achieved tomorrow, it would not tell us *what to do*: how should human societies act to protect and enhance ecological integrity and improve human well-being in tandem, now and in the future?

## Beyond Sustainability

RIHN research seeks knowledge that can enable transformations in the *quality* of human–environmental interactions. Such transformations will largely depend on human capability to develop knowledge frameworks that allow consistent action between our observations, capabilities, norms, and our principles or values (Max-Neef 2005). It is in this dimension that the idea of “sustainability” is most profoundly limited. Because sustainability is often described in terms of practical actions and policies, it requires no *explicit* inquiry into the inherent quality of human–environmental interactions. Indeed, the goal of “sustainability” is so broad and flexible it can be endorsed by virtually any entity (Krueger and Gibbs 2007); no contrary position exists (e.g. “anti-sustainable”, “50% sustainable”). As a consequence, in pursuing “sustainability”, individuals and societies could make an endless series of pragmatic adjustments that leave unquestioned and untouched the economic, cultural and political contexts in which the initial problems occurred, thus effectively guaranteeing their reproduction and recurrence. Sustainability is liable to sink into conservatism, and dangerously uncritical “maintenance and approbation of the status quo” (Tachimoto 2008: 7).

In short, achieving a qualitative improvement in human capacity to address environmental problems does not just depend on a set of tools and practices. There is an ideational transformation that must accompany the necessary material transitions, and such a values-based and values-driven transformation must be guided by serious discussions of the conditions for collective wellbeing, quality of life, environmental justice, and social peace. It was with the intention of engaging this kind of dialogue that the word ‘futurability’ was first proposed. A translation of a Japanese word combining the ideographs for ‘future’ and ‘potential’, it is used to express an open intellectual attitude toward the wide range of possibility in future development. Perhaps somewhat ambitiously, this is one contribution that a distinctly Japanese reflection on the harmonious coexistence of nature and humankind could make to development discourse (and as proposed by Kunio Iwatsuki in his inspiring submission to this volume).

The specific experiences described in this volume demonstrate that there are no easy transformations. Luckily, though, islands do clearly and helpfully illustrate some of the challenges communities face in balancing everyday needs with forces operating at far greater scales of human activity.

As political jurisdictions in their own right, islands have to address their delicate relationships with national and international entities. The prologue by Miguel Cluesner-Godt outlines the approach pioneered by UNESCO to establish legal protection for notable places, and the managerial obligations that come with any such inscriptions. Such protections are especially crucial in relation to World Heritage Sites, probably UNESCO's most popular and keenly sought inscriptions.

## General Papers

In a section dealing with 'big picture', thematic issues, two papers examine the special legal conditions encountered by small islands in relation to cultural and ecological heritage protection. By focusing on Chief Roi Mata's Domain in Vanuatu – since 2008 a UNESCO world heritage site – Katharina Serrano and Milena Stefanova explore options for the utilization of international and regional agreements in the appropriate development and preservation of heritage sites. The authors note that 'cultural heritage' could generate revenue, eliminate poverty and reduce economic dependency for small island developing states (SIDS); but these same states may be straddled with limited resources, strained managerial capacity, as well as a grafted legal regime that is alien to their traditional culture – issues which can exacerbate community conflict, land alienation and touristic overexploitation of cultural heritage sites. Nevertheless, the rapid expansion of international law concerned with protecting all aspects of cultural heritage provides opportunities for SIDS, and can address 'governance gaps', argues Erika Techera in her chapter.

Meanwhile, in the third contribution to this section, Godfrey Baldacchino questions the received wisdom of accepting the 'economic vulnerability' of small (often island) states as a given. Instead, he argues that there may be more promise in considering a small island strategy that navigates between economic (high-density) and ecological (low-density) criteria of development.

## Case Studies

The chapters that follow document case studies in managing contested Pacific island environments for present and future generations.

In the 'evolutionary workshop' of the Galápagos Islands, strong public governance is needed to manage diverse and often conflicting stakeholders. Mark Gardener and Christophe Grenier argue that leadership is needed to develop a 'new tourism model' designed and managed by the actors capable of taking a cautionary approach to balancing tourism and biophysical conditions. Meanwhile, on East Maui, in the Hawaiian archipelago, John Cusick documents how resistance to external stakeholders has revived indigenous pride, reconfirmed place identity and transformed resident empowerment. The result is a renewed vigor in land stewardship in accordance with traditional practices, while developing 'appropriate tourism'. Moving next to Indonesia, Tamen Sitorius outlines the linkages between

community livelihood and ecotourism activities as an alternative practical solution in protecting natural resources, with a focus on Komodo National Park, a Biosphere Reserve and UNESCO World Heritage Site. Such an approach to the management of protected areas recognizes the importance of such special places also for the communities that live and survive in and around them. This is followed by a study by Dai-Yeun Jeong which uses survey techniques to critically analyze the environmental attitudes and behavior of the residents of Jeju Island, a special autonomous province of South Korea. Consumerism, environmentalism, and environmental behavior are analyzed by means of survey data, with a view to determine dispositions towards achieving ecologically sustainable development on Jeju.

Next are two chapters that deal with ‘society–nature’ interactions on the offshore islands of southern Japan. First, Tomoya Akimichi discusses how the Japanese model of managing the local commons in the Yaeyama archipelago, part of Okinawa prefecture, may provide useful examples in resource co-management via shared empowerment amongst diverse stakeholders. The author deploys the traditional small-scale tidal stone weir fishing technique as an example of appropriate marine resource management via a ‘commons’ approach that benefits from a healthy interchange between traditional and scientific knowledge. Then, Takakazu Yumoto and Yoshinori Uesedo review the small yet resilient island community of Taketomi, also in Okinawa. Threatened by depopulation in recent decades, Taketomi Island is now the focus of a rediscovered appreciation for local heritage and indigenous practices; these in turn support a buoyant tourism industry and the returned migration of former emigrant youth and young families.

Finally, we present two contrasting narratives of environmental stewardship and which both highlight particular characteristics of small island societies, politics and geographies. The first, by John Paull, dwells on the extinction of the thylacine (*Thylacinus cynocephalus*), the largest known carnivorous marsupial of modern times, in the Australian island of Tasmania. The second, a semi-autobiographical contribution by Nils Finn Munch Petersen, considers the prevention of environmental destruction (at least for now) by the advent of low-scale tourism on East Rennell, in the Solomon Islands, now a UNESCO World Heritage Site. Endemic island species may live in fragile environments and remain vulnerable to extinction, but human action can be capricious and opportunistic encounters with the known and accessible political elites on small island states may catalyze initiatives that lead, at times serendipitously, to their protection.

## Dilemmas

The various papers in this collection describe several attempts by communities to affect the character and quality of the human–environment equation. The ability to do so has much to do with community solidarity and maintenance of community identity and cultural practices. After all, both economic stagnation and success pose threats to cultural continuity. On one hand, an island community that offers little economic opportunity to its younger generations is a community in decline: its youth will more

likely than not vote with their feet and migrate. On the other hand, of course, there are far too many examples of glaringly misguided economic development on islands leading to a deterioration of both cultural wealth and ecological integrity.

Islands are often sought out as temporary places of escape and recreation and tourism offers many island communities a clear opportunity to gain valuable foreign exchange. Yet, tourism places additional burdens on the local resource base and can lead to increased economic disparity between island inhabitants. Nature parks and reserves are intended to reduce the exposure of certain places to the full force of economic development that results from mass tourism. In some cases, protected status may, however, even magnify those effects: tourism often depends on the construction and maintenance of the allure of paradise, of 'pristine' or ideal island environments, and on providing special access to these resources. Yet, such protective measures are predicated on a Eurocentric classification which, in its modern project, delimits the world artificially between natural and social spheres (e.g. Latour 1999). In so doing, 'conservation management' can run afoul not just of the tourism industry's demands for access to what is socially constructed as exotic, but also of the livelihood needs or traditional practices of local residents.

## Only Connect

We therefore return to the essential question of linkages. On one hand, each island society faces the practical problem of negotiating the kind and quality of its exchange with the wider world. Islands provide hard evidence that, as Doreen Massey (2005: 6) reminds us, even in the age of rampant globalization, human social life occurs in local places of astonishing variety, the nexus of "home-grown, rooted authenticity of local specificity". Contemporary societies live in the space of global flows *and yet* places still matter, perhaps more than ever: the proclaimed 'end' or 'death' of geography, and the birth of the 'flat world', we contend, is mistaken. Such naïve proclamations devalue "tacit knowledge" and trust building, which are both person-embodied and context-dependent, and so need to be local, "nested-in-place," or spatially "sticky" (Morgan 2004; Baldacchino 2010: 23).

But there is also a conceptual problem: as we discuss 'islands and mainlands', 'core and periphery', 'rural and urban', 'conservation and development', and even 'humanity and nature', too frequently our key descriptive categories appear as antinomies, opposites, or at least as thoroughly separate entities (Niles 2009). In many cases, these dichotomies are naïve, or derived from disciplinary or ideological schisms. Places, contexts, and ideas are often actually *co-constitutive*: they create and describe one another, which is not to claim that they are one and the same.

Our task is therefore to think as carefully as we can of and about the real social and material flows that constitute 'places', and the real demands that these flows bring to bear on particular peoples, on other life forms, and on the environments which situate, sustain, and are defined by them.



Islands are helpful in this task; they are, as John Gillis (2007) reminds us, echoing Gilles Deleuze (2004: 9), “good to think with”. The island is a master metaphor capable of representing a multitude of things, processes, emotions: fragmentation and vulnerability, wholeness and safety, loss and recovery, paradise and purgatory, quarantine, exile and asylum, separation and continuity, isolation and connection, past and future, origins and extinctions (Gillis 2004: 3). We invite the readers of this volume to judge for themselves and, perhaps, to nourish hope for what is to come: the future of islands is also *our* future.

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## Chapter 2

# The Futurability of Islands: A Japanese Reflection on the Harmonious Coexistence of Nature and Humankind

Kunio Iwatsuki

### Introduction

Islands are usually described as ecologically fragile places. Their sustainable development requires careful and long-term design. By “long-term” I means at least 100 years, whereas most development designs and plans are set up for much shorter terms of a few years at most. Development policies are usually designed for limited terms because political and/or economic planning is based on a strict budget and strict time frame in power which, for ministers and politicians in democratic societies, averages at around 3.5 years. Although detailed budget sharing may be possible only for cycles of a few years, practical planning should be conceived for such terms within a longer perspective of centuries and on the basis of appropriate scientific estimates. Sustainability will be maintained only when such long-term estimations are successful.

Islands vary in such features as size, topography, geographical position, climate, population, and the culture and history of their residents. A detailed discussion of these variations among islands is excluded here, and only relatively small islands are considered. Japan is a country consisting of many small- and medium-sized islands and its geographical area is collectively known as the Japanese Archipelago. In this paper, the development of the Japanese Archipelago is summarized in terms of its history after the New Stone Age, in reference to traditional Japanese concepts. In discussing the futurability of the islands, focus is placed on the smaller ones, in particular in relation to the concept of harmonious coexistence between nature and humankind. The four large islands, Honshu, Shikoku, Kyushu, and Hokkaido, are not generally considered here: they are commonly understood as the Japanese ‘mainland’. However, I suggest that peninsulas, such as the Shiretoko Peninsula, have nearly the same kind of ecology as the islands: the narrow peninsular belt is

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surrounded and strongly affected by marine ecology. A number of islands are included in the Japanese Archipelago, and the conservation of these islands faces a variety of difficulties, as each island has its own problems.

Island ecology is fragile, and many of the Japanese islands are no longer in a primitive state. Artificial pressures on island ecology are critical at present, and there is an urgent need for the secure and long-term conservation of island ecology. Nevertheless, it is a pity to note here that the scientific information available on island ecology is far behind what is needed. We urgently need more detailed scientific information if we are to establish an appropriate design for the futurability of island ecology and ensure the necessary conservation planning. For sustainable development of the islands, we need an accurate road map based on long-term scientific estimations.

In this volume, the topics have been summarized with reference to the objectives expected for biosphere reserves, especially in relation to the third World Conference and Madrid Action Plan (UNESCO-Man and Biosphere Reserve Programme [MAB] 2008). Information on various conservation successes on islands has been tabled for discussion, especially in relation to biosphere reserves. In this contribution, therefore, the subjects to be focused on are: (1) Biosphere reserves as tools for the sustainable development of islands; (2) the background and futurability of biosphere reserves in Japan; (3) development of the Japanese Archipelago in accordance with the concept of harmonious coexistence between nature and humankind; and (4) critical points to discuss in regard to the possible design of island futurability.

In promoting the sustainable development of islands in accordance with the concept of biosphere reserves, it is advisable to refer to the zoning of the Japanese Archipelago. This successful development was performed in accordance with the traditional Japanese concept of harmonious coexistence between nature and humankind. This particular concept is briefly introduced hereunder, and island ecology is noted in relation to the sustainable development that has taken place on this archipelago.

## **Biosphere Reserves**

Four biosphere reserves have so far been registered in Japan. They are Mount Hakusan, Shiga Highland, Mount Odaigahara and Mount Oomine, and Yakushima Island. All were registered in 1980 and were thus included within the first generation of biosphere reserves. At that time, before the adoption of the Seville Strategy by UNESCO-MAB, the primary objective of the biosphere reserves initiative was to limited to a contribution to their conservation. In Japan at the end of the 1970s, conservation of valuable natural sites was strongly expected by opinion leaders, and these four biosphere reserves were selected by the Japanese MAB Committee and submitted to UNESCO's MAB headquarters for acceptance. The registration process was an entirely top-down affair, and local people knew little about biosphere reserves and their registration. Even though a second

generation of biosphere reserves has been registered in other countries since the adoption of the Seville Strategy in 1995, Japan's four biosphere reserves are still not well recognized, even by the Japanese themselves.

All four biosphere reserves in Japan are located in National Parks, although some parts are under private possession. National Parks in Japan have generally been fairly well conserved by the efforts made by the Ministry of the Environment with the full collaboration of the Forestry Agency. In this sense, all four locales are well conserved, as is expected in the case of first-generation biosphere reserves. Detailed information on these four Japanese sites is available in the work of Iwatsuki and Suzuki (2007).

It is a pity to note, however, that these biosphere reserves are not being fully utilized under the current objectives expected for them. The Japanese National Committee for MAB operates under the Japanese Commission for UNESCO, but it has little financial support from its parent body and meets only once every 2 or 3 years. Therefore, the Japanese Coordinating Committee for MAB is organized on a fully voluntary basis for the purpose of holding activities within Japan in connection with the MAB. The volunteer committee members are all biologists with their own heavy workloads, and they can devote only a little energy to MAB activities. Only in years when fund-raising is successful can the Coordinating Committee run activities, and no one can predict whether the fund-raising will be able to maintain committee activities beyond a particular calendar year. Thus, long-term planning for biosphere reserve activities in Japan is difficult, and despite the MAB Coordinating Committee's recent efforts to raise the public profile of these reserves, they are still not well known in Japan.

In addition to these reserves, a variety of conservation sites are registered by various organizations. UNESCO's World Natural Heritage is a system that is very popular throughout the world. The Ramsar Convention aims to conserve wetland; while Geopark, which is also affiliated to UNESCO, is aimed at the conservation of geologically valuable sites. All of these bodies have contributed greatly to the conservation of valuable natural sites. Every country has its own system of registering its valuable natural sites for conservation. In Japan, National Parks and quasi-national parks cover wide areas to conserve beautiful landscapes as natural monuments. Cultural properties are designated by the Agency for Cultural Affairs, and a variety of natural monuments have been designated as requiring better protection. Under various conservation systems, areas are either legally registered or nominated by the authorities concerned.

Among the four biosphere reserves nominated in Japan, Yakushima Island is also registered as a WNH site, and Mount Odaigahara and Mount Oomine are included in the area of the Kumano Kodo World Cultural Heritage site. Duplicate registration helps to ensure that the general public knows the high value of these sites and that local government offices realize the importance of conservation of these areas. Conservation of the biosphere reserves is guaranteed by various laws and regulations in addition to the National Parks system. It is highly expected by UNESCO that the biosphere reserves will be utilized positively, for instance for environmental and cultural education, eco-tourism, cultural exhibition, and biodiversity production.

The World Natural Heritage system is currently even more popular than biosphere reserves, and people in various places expect their beautiful sites to be registered as a World Natural Heritage site. Additional registration for World Natural Heritage is strict, and those submitting nominations have to wait many years as there are many sites to be registered. The demands by people to have their sites nominated for internationally authorized registration are expanding to include other conservation sites, and biosphere reserves are now being watched carefully by those desiring their conservation.

In Japan, there are so far three World Natural Heritage sites: Shiretoko Peninsula, Shirakami Forest, and Yakushima Island. Shirakami is in the central mountainous area of northern Honshu, and the beautiful inland *Fagus* forest is highly valued. Shiretoko is a peninsula protruding eastward on the northeastern edge of Hokkaido; its ecological features are similar to those of an island in that it is mostly surrounded by sea. Drift ice is one of the most important elements of nature at Shiretoko. Yakushima is a small island just south of Kyushu. The other location now in tentative list of World Natural Heritage sites from Japan is the Ogasawara Islands, the oceanic islands some 1,000 km south of Tokyo.

When additional World Natural Heritage registrations were discussed in 2003, the Japanese secretariat for the World Natural Heritage, under the Ministry of the Environment, along with the Forestry Agency, undertook a systematic survey of all the conservation areas nominated by central and/or local government, and a large number of documents was presented to the selection committee, which used a completely open consultation process. After a careful survey, the Shiretoko Peninsula, Ogasawara Islands, and Ryukyu Islands were placed at the top of the list of candidates from Japan. Interestingly, all of these sites are islands or island like.

As with the registration of additional World Natural Heritage sites, the choice of candidates for registration of additional biosphere reserves is under discussion. This process is also expected to use bottom-up-style screening to give regional people a more general understanding of the reserves. To maintain the sustainable use of each particular site, it is vitally important to ensure full collaboration among decision makers from both central and local government as well as scientists, businesspeople, journalists, and local people. It is natural that collaborative discussions should be held to list candidate conservation sites; this is also true in the case of biosphere reserves. Many of these conservation sites are on land owned by local people and these people should be allowed full access to information.

The first generation of biosphere reserves was registered with the expectation that the sites would receive improved conservation. After the adoption of the Seville Strategy in 1995, the concept of biosphere reserves evolved from conservation to sustainable use. This was in line with a general tendency in the 1990s to consider the human (and not just the exclusively natural, meaning non-human) environment; moreover, the UN Convention for Biological Diversity, which was adopted in 1992 and came into force in 1994, placed importance on the sustainable use of biodiversity. Conservation became the basis for the better use of conserved sites by the people concerned, and biosphere reserves are now established along these lines.

To promote activities in and around biosphere reserves, a modern conceptualization of these special spaces is needed, as is their additional registration. To register any particular site as a biosphere reserves, people need to revise the biosphere reserves concept. Biosphere reserves are utilized for a wide range of activities, including environmental education, eco-tourism, and healing through the beauty of landscape; their use is not restricted to the monetary benefits from producing materials. Any discussion on the selection of new sites will need to involve introducing the new concept of biosphere reserves adopted in Madrid Action Plan to the people who will be involved in the selection process.

## **Harmonious Coexistence Between Nature and Humankind**

I recently discussed the Japanese concept of nature in relation to the history of development of the Japanese Archipelago with a special focus on lifestyles that establish harmonious coexistence between nature and humankind (Iwatsuki 2009).

The lead organizer of the 2008 symposium, at which drafts of the chapters of this book were first presented, was the Research Institute for Humanity and Nature (RIHN) based in Kyoto; while I am now serving at the Museum of Nature and Human Activities, in Hyogo. Biosphere reserves are registered and maintained by the Man and Biosphere Programme (MAB) under UNESCO, and MAB-Japan has collaborated actively in the organization of the 2008 symposium. In themselves, these names suggest a contribution to the relationship between nature and humankind. The attitude of humans toward nature is one of the most important preoccupations of these organizations, and a variety of studies have been proposed and performed. In developing the research activities for such a subject a collective approach should be taken because of the need to synthesize data from various disciplines. An interdisciplinary approach has also been suggested and stressed in various ways. In the end, an integrated approach, based on sufficient data from a number of scientific fields, should have success in promoting research focused on the relationship between nature and humankind.

Throughout human history, there have been a variety of relationships between nature and humankind. It is evident that in recent times the human preference for using natural resources has been based on the concept of seeking wealth from materials and energy. One-sided consumption of natural resources by humans brought a variety of environmental difficulties in the twentieth century, and we now need to reconsider our profit-based use of materials and energy. An emerging consensus in this regard is that we need to achieve the sustainable use of our one and only Planet Earth. This is unlikely to be possible, however, if we consider the resources on Earth, or in our cosmos, as having only utilitarian, commercial or exchange value; existing merely for our use. We, humankind, need to embrace the concept of harmonious coexistence with nature.

The concept of harmonious coexistence between nature and humankind has in fact been applied in Japan throughout its historical development, at least before the time of the Meiji Restoration some 140 years ago. This is reflected in the scheme of development

of the whole Japanese Archipelago, which had a more or less clear zoning of its core area (*okuyama*), buffer zone (*satoyama*), and transitional and residential area (*hitozato*). This zoning coincides with the modern concept of conservation areas, such as those formally anticipated in the BR concept proposed by MAB in the 1960s. Development of the Japanese Archipelago did not occur under the direction of any great decision maker, and it was not suggested by scientists; instead, it unfolded through the local people's harmonious coexistence with nature.

This traditional Japanese concept is based on the people's sincere worship of nature, recognizing everything on Earth to be a gift from the *kami*, or deity. This general idea developed historically in harmony with the natural environment surrounding the people. The Japanese Archipelago is not abundant in mineral resources but it has a rich biodiversity, which is favored by its warm temperature and abundant precipitation under the influence of the Black Current. However, the Japanese Archipelago has been frequently attacked by a variety of natural disasters, including earthquakes, floods, lightning, and tsunamis. The Japanese people, then, had awe and respect for nature and held the traditional belief that nature gave them a variety of benefits. They also believed that eight million deities lived in the primeval forests. This belief was originally a form of animism seen in various civilizations throughout the world. As part of the animism concept, the people believed that nature itself was a deity and that, therefore, all things on Earth were themselves deities. They believed that they would be punished if they spoiled anything in vain, and they religiously utilized every substance; even waste materials, such as faeces. Today's Tokyo, which was often referred to as Yedo, was populated by a million residents during the eighteenth century, but at the time it was much cleaner than Paris or London. This was because of the lifestyle of the people of Yedo who did not throw away even sewage but used it effectively in a perfect recycling system. The people of Yedo did not think in terms of the money they could earn from the sewage; they simply respected the value of every substance.

It is difficult to introduce the traditional Japanese attitude toward nature expressed by "harmonious coexistence between nature and humankind". When the International Garden and Greenery Exposition was organized in Osaka in 1990, this concept was not correctly introduced in English. The Japanese phrase was therefore translated into English with the kind help of my colleagues at the Botanic Gardens in Kew. The original Japanese phrase was something like "humankind and nature live together", but it is very difficult to translate the true meaning of "live together" in Japanese (*kyousei*) into an appropriate English term. Most Japanese find it easy to understand the deeper meaning of the Japanese term for "living together", which, in Japanese dictionaries, is also used to mean "symbiosis", but only in a biological sense. In Japanese dictionaries, the general use of the word that means "living together" has more impact and currency than "harmonious coexistence". We therefore cannot find a suitable expression in English.

Regrettably, this difficulty in translation is not only an outcome of problems with terminology but also of a real difficulty in expressing concepts. Traditionally, the Japanese expected to have a harmonious coexistence with nature, and even now the Japanese people as a whole retain this concept. Recently, some Japanese people

seeking only their own financial gain have tried to exploit nature so as to earn more money from it. The sincere respect of everything, bestowed by the people's eight million *kami*, has been forgotten by these people, although most Japanese still love the beauty of nature. Sustainable development of our Earth may well be achieved only when all of Earth's people agree with the sustainable use of its resources, including its biodiversity (Iwatsuki 2009).

## Sustainable Development for Island Futurability

RIHN, the Museum of Nature and Human Activities, Hyogo, and MAB share the idea embodied in their names that a better relationship should be established between nature and humankind. However, the strategies for achieving this goal differ according to the organization concerned. In considering environmental issues, we need to recognize at least four basic concepts:

- Environmental issues must be supported by all of the inhabitants of Earth. We must remember that the ideal development of the Japanese Archipelago occurred through the daily lives of the people living there. I do not know of any decision makers who could have succeeded in leading the people to create the beautiful zoning of the Archipelago, any scientists who could have designed the development of the Archipelago in such an ideal way, or any journalists who could have led the common people to live in this enhanced way. To promote general understanding of sustainability, we need to have more widespread dissemination of information appropriate to our environment and nature.
- Any action on environmental issues should be promoted under the concept, "think globally, act locally". All of the Earth's people should join together to act on environmental issues, and local people should act in, and for, their own localities. However, a diffusion of responsibility and egoistic actions that consider only people's own local districts may result in harm to Earth's environment, and people should always consider Earth's environment as an entity at the same time as they are taking action at the local level.
- Sustainable science should be promoted to integrate information. Development of science has been supported by the use of analytical methods and reductionism to reach common principles through the application of facts. It is natural that such a method should be promoted further in the twenty-first century. In addition to this, however, we should turn to the establishment of integrated and pluridisciplinary investigation to develop a better understanding of such things as life, the cosmos, and the environment. Scientific research can be promoted and can succeed in each discipline, and interdisciplinary or even multidisciplinary research should be promoted collectively by researching and interpreting the available information as a whole. Integrated and holistic investigatory approaches are increasingly popular in academic and research circles, especially in the steady and rigorous establishment of the science of sustainability.



- It is a pity to note that Education for Sustainable Development is less popular today, even in Japan, which was the country that proposed this program in the first place and continues to support it. Education for Sustainable Development was proposed to the United Nations at the Johannesburg Summit in 2000, and now UNESCO is responsible for its implementation. Education for Sustainable Development may stand as a useful and pertinent tool for promoting the release of information on environmental issues, and the establishment and promotion of integrated science has been strongly suggested by the Japanese Commission to UNESCO in relation to Education for Sustainable Development. This type of international collaboration should be promoted more aggressively and systematically in order to achieve a sustainable use and appreciation of Earth.

## Discussion

In summarizing the above ideas, several points can be suggested in terms of the futurability of island ecology. The first point is the concept of conservation. It is usually noted that nature conservation is an action taken against the anthropogenic destruction of nature. For the complete protection of nature, we should avoid all actions against nature, and a reduction in anthropogenic activities should be one of the most important goals. To reduce the rate of artificial activity to zero, the best and easiest way is to make humans extinct, but no conservationists realistically expect this to happen. Conservation demands that the human race augurs a future, and a prosperous future, for itself. The development of any human activities is part of the destruction of nature, although I note respectfully that the zoning of the Japanese Archipelago was successful through the artificial actions of our ancestors. The primitive nature of the Archipelago was partly destroyed by these people, but no one can criticize the creators of the New Stone Age for their distinct influence on nature. They cut down primitive forests on the Archipelago and initiated agriculture in developed areas, but their attitude toward this development was driven by a desire to retain a harmonious coexistence with nature. In this sense, they partly modified the surface of the Earth but did not destroy the nature around them, even in cutting the forests down. This type of development with the expectation of harmonious coexistence with nature should be promoted to retain a better relationship between nature and humankind. After achieving rapid technological development based on modern science, humankind has acted as if it were the hands of the gods, and it has recklessly exploited the Earth's surface for its own benefits, without harmony with nature. As a result of such development, especially during the twentieth century, we now, in our daily lives in the twenty-first century, place a heavy load on the Earth's environment. We should keep in mind the concept of harmonious coexistence with nature and should develop a better environment for ourselves on Earth.

The second point again concerns nature conservation. Nature in its strict sense should be a term used to describe areas free of artificial influence. There is no truly authentic nature left on Earth, since human activity has covered most of the

Earth's surface; and impacted on most of the Earth's oceans. Today, "true" nature is called "primitive" nature, and the word "nature" is applied in a very broad sense. Sometimes, it is used as a term of praise for the countryside, but the countryside is an anthropogenic landscape where no sign of primitive nature is found. The countryside is rich and green – usually with beautiful landscapes – and is loved by the general public, but, still, we need to remind ourselves that the countryside is not truly natural and in a strict sense should be considered only as 'secondary nature'. (What inconsistent wording!) The countryside, its vistas, landscapes and greenery are admittedly loved, appreciated and sought for by most urban residents today, and those who live in busy cities – as do most Japanese – sometimes experience healing in their busy lives by visiting the rich green countryside. However, from this fact it is evident that modern people prefer not to protect nature in its primitive state but to modify nature to enrich their lives. The most important point is that the environment should form part of a concept of harmonious coexistence between nature and humankind; it should never be part of the concept of exploiting nature by science-based technology only to obtain resources from it for human gain and corporate profit. We learned a lot during the twentieth century: namely, that terrible destruction of the Earth's surface endangers also the lives of us humans, and not just that of other 'endangered species'.

Islands have more fragile ecosystems and are less tolerable to heavy artificial interventions. We need scientific information to enable us to correctly estimate the future of each island, and development there should occur only within long-term planning regimens. We should realize that any local action on a particular part of the Earth will influence, in various ways, the environment of the whole Earth. Development at any particular site should be done in accordance within the perspective of global development; this is particularly true in regard to development that impacts, or occurs, on islands.

It is evident that sustainable use should not be developed in accordance with the idea of conquering nature but instead in accordance with the concept of establishing harmonious coexistence and a friendly acquaintance with nature. Sustainable use of the only Earth we have can be promoted only in collaboration with all of the persons concerned, and the need for a sound scientific basis is inevitable in setting up a long-term development plan. The purpose of biosphere reserves is well in accordance with these points, and it is a good idea to consider the futurability of islands by applying such useful tools as the classification of biosphere reserves.

## Conclusion

For the futurability, or sustainable use, of islands, a shift away from the strict concept of nature protection in its strict sense to that of sustainable use of nature is necessary. The concept of sustainable development is based on harmonious coexistence with nature, not on conquering the natural environment of the islands. We need to have general consensus on the concept of maintenance of the island environment,

and such a consensus was successfully established at the 2008 RIHN symposium. Can such a consensus be extended to a wider, much wider constituency? Ideally, the environmental issue needs to be supported and championed by everyone on Earth. Sustainability of island life should be promoted in harmony with nature for the sake of a prosperous future, and perhaps even just a future, for humankind.

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# Chapter 3

## Between International Law, *Kastom* and Sustainable Development: Cultural Heritage in Vanuatu

Katharina Serrano and Milena Stefanova

### Introduction

The Pacific is well known for its cultural diversity, which is expressed through hundreds of languages, long-standing cultural traditions across largely dispersed island communities, works of Pacific art, and land sites of unique cultural importance for Pacific people. With the intensification of globalization in post-colonial times, social, economic and political transformations within Pacific societies have often resulted in economic overexploitation of cultural heritage with little tangible benefits for Pacific indigenous people (Jones 1998). Over the last couple of decades, there has been growing recognition of the economic, environmental and social importance of cultural heritage and increased attention to its protection in international, regional and national agendas.

National legal systems in the Pacific are characterized by legal pluralism, by which we mean the “coexistence and interaction of multiple legal orders” within a given social context (Meinzen-Dick and Pradhan 2002: 4). For the majority of the population, which has little contact with the state, customary governance continues to play an important role in maintaining law and order at the local level (Jowitt 2009). International law, as yet another pluralistic dimension, plays a substantial part in the attempt to overcome the lack of overt institutional support for the enactment of legislation that provides for a homogenous preservation of cultural heritage sites across the Pacific. The new legal pluralist theory has acknowledged the role

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international or regional law can play in pluralist legal systems, drawing attention to “a new body of law that emerges from various globalization processes to multiple sectors of civil society independently of the laws of nation states” (Teubner 1997: 4; see also Serrano 2010).

Much of the literature on cultural heritage takes a rights-based approach and/or seeks to determine the obligation(s) a state has towards the international community in protecting and preserving the cultural heritage situated in its geographical area (e.g. O’Keefe 2004; Thornberry 2002; Crawford 1988; Pratt 1988). Rarely is it asked how pluralist developing states with limited drafting, justice and enforcement resources can utilize international or regional law to support cultural heritage preservation and sustainable economic development. Using Vanuatu’s World Heritage site Chief Roi Mata’s Domain (CRMD) as a case study, this chapter seeks to determine whether and how international and/or regional law offers a way to support preservation of cultural heritage and provide the basis for sustainable economic development.

In order to present a comprehensive picture of cultural heritage protection in Vanuatu via the link between international/regional law and national development strategy, this chapter first defines the concept of cultural heritage while making particular reference to the cultural heritage site of Chief Roi Mata’s Domain (CRMD) in Vanuatu, as this site is emblematic of the context of heritage protection in the wider Pacific region. Such a regional focus is essential since small island developing states (SIDS) in the Pacific, for various reasons to be discussed below, must be considered a specific category of states in relation to the protection of cultural heritage. Section two examines issues of protection and preservation at the Chief Roi Mata Domain. On the basis of the CRMD case study, section three then discusses options for utilizing relevant international and regional agreements, while also describing the challenges that such options entail. This discussion leads to several conclusions as to the utility and efficacy of international and regional law in relation to cultural heritage protection in Vanuatu and the Pacific in general.

## **Cultural Heritage in the Pacific**

The concept of culture is a rather complex and steadily evolving idea in both national and international law (Barth 1989). It has developed over time to encompass what the Oxford Dictionary (2010) refers to as “the distinctive ideas, customs, social behavior, products, or way of life of a particular society, people, or period”. According to Francioni (2004: 13) “cultural heritage is linked to the human element... it represents the symbolic continuity of a society beyond its contingent biological existence”, a condition intrinsic to tangible as well as intangible cultural heritage of nations. Cultural heritage is at the core of the 1972 World Heritage Convention (UNESCO 1972, WHC, Art. 1), embracing “... the combined works of

nature and of man, and areas ... which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view". In this, Article 1 of the WHC relates cultural heritage to the wider concept of natural conservation while Article 2 is more specific in its reference to sites, monuments and groups of buildings of inter-generational value for people belonging to a particular group, community or nation.

And yet, despite the rigidity of legal clauses, the UNESCO concept of cultural heritage has considerably expanded in recent years (Melnychuk 2010). This development is not only related to the World Heritage Committee's decision in 1992 to add a cultural landscape category to its List or to extend the concept to include ethnographic or industrial heritage; it is directly related to the simultaneous evolution of the more comprehensive concept of 'cultural commons', which includes "living expressions and the traditions that countless groups and communities worldwide have inherited from their ancestors and transmit to their descendants, in most cases orally" (Buzio and Re 2010: 15). The latter characteristic has been formally recognized through the Convention for the Safeguarding of Intangible Cultural Heritage, adopted by the General Conference of UNESCO on 17 October 2003.

Pacific countries have been rather hesitant in the area of intangible heritage protection: the Convention for the Safeguarding of Intangible Cultural Heritage (UNESCO 2003) has (as of August 2010) only been ratified by three countries from the region: Tonga (2010), Fiji (2010) and Papua New Guinea (2008). At the 34th session of the World Heritage Committee meeting in Brasilia (25 June–02 August 2010), however, two new Pacific sites have been allowed to join the exclusive club of WHC protected sites of outstanding universal value: the Bikini Atoll, Nuclear Test Site in the Marshall Islands, and the Phoenix Islands Protected Area in Kiribati. For both countries these are the first WHC nominations. Together with the Kuk Early Agricultural Site in Papua New Guinea (2008), East Rennell in the Solomon Islands (1998), and Chief Roi Mata's Domain in Vanuatu (2008), there are (as of August 2010) just five officially recognized UNESCO cultural heritage sites in the Pacific. Although further sites are awaiting decisions from UNESCO Advisory Bodies regarding their inscription onto the World Heritage List,<sup>1</sup> the Pacific remains an under-represented region in terms of nominations and inscriptions of cultural heritage sites (ICOMOS 2004). There are various reasons for this, but the fact that "few of the Pacific Island countries or territories have documented their cultural heritage places or have legislation to protect them" has been pointed out in recent regional studies (Smith and Jones 2008).

In order to eliminate this imbalance, the 2009 Pacific Programme was launched in 2003 under the umbrella of the World Heritage Global Strategy (UNESCO 2009a,b). The program's key goals included raising regional awareness of WHC, enhancing regional co-operation in its ratification and implementation, as well as capacity building through government and NGO partnerships. The 2004 Action

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<sup>1</sup> See Tentative List inscriptions in Table 3.1, Annex.

Plan for Implementation of the Pacific Strategy (UNESCO 2004) resulted in the preparation of PIC's Tentative Lists and nominations of properties for inclusion in the World Heritage List (UNESCO 2010). This process was supported by a series of meetings with PICS during which state parties from the Pacific region were assisted in the identification of regional cultural themes through "the elaboration of thematic comprehensive studies of regional or global scope concerning a particular type of cultural heritage site relevant to the Pacific Region".<sup>2</sup> The three broad themes identified during the meetings were: early human expansion and innovation in the Pacific; Pacific societies; and Pasifika encounters (post European contact).

The most recent Pacific Islands World Heritage Workshop held in French Polynesia in November 2009 continued the strategy of the 2009 Programme and resulted in a Pacific World Heritage Action Plan 2010–2015 (UNESCO 2009a,b). The Plan opens with a vision statement of the Pacific people who "share a dream that our Pacific Islands' heritage is protected and enriched for future generations", but adds that conservation measures must take into account the traditions, aspirations, opportunities and challenges of Pacific people. Apart from a list of challenges common to the Pacific region – amongst which climate change, financial instability, globalization of society and economy, technological development, commercialization, energy supply and demand, natural disasters, and tourism growth figure most prominently – the Plan sets out 11 main actions which are interlinked with national level activities and the corresponding strategic objectives of each state party.

Although the Pacific 2009 Programme objective of developing tentative lists of sites from all PICs did not materialize, Vanuatu's inscription on the WHC list was certainly inspired by the processes set in motion by UNESCO's Pacific Strategy, which enabled the country to follow procedures prescribed by the WHC as well as the WHC Operational Guidelines. Having ratified the UNESCO Cultural Heritage Convention 1972 on 13 June 2002, Vanuatu lodged a successful application for inclusion of the Domain of Chief Roi Mata in the Shefa Province of Efate Island on the UNESCO tentative list in October 2004. This was followed by a Nomination Report of January 2007 and an ICOMOS technical evaluation mission to Vanuatu in September that year. On 11 March 2008, the CRMD was approved by ICOMOS and the site was included on the UNESCO List as site number 1280.

With respect to Vanuatu's cultural heritage protection framework, the Action Plan 2010–2015 foresees, on the basis of AusAID development assistance, a strengthening of the country's capacity to implement the WHC; the development of a National Heritage Action Plan for technical assistance; a comprehensive heritage and tourism training for Roi Mata site managers; and the development of the Roi Mata Cultural Tour to improve income generation for local communities (UNESCO 2009a,b).

On nomination and entry into the WHC, every state party must ensure an appropriate plan for the daily managing and organization of the heritage site is in place. Alongside the management plan, the state party must guarantee effective legal

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<sup>2</sup>Thematic Framework for World Cultural Heritage in the Pacific, 5–8 September 2005, Port Vila, Vanuatu.

protection at national, municipal and local level to safeguard the value and existence of the heritage site for the generations to come. These measures are of crucial importance; but their enactment and enforcement encounter practical and theoretical difficulties in states with pluralist legal systems. The situation is even more complex in countries with a scarcity of land, which often is simultaneously managed through conflicting state law systems and customary rules. The next section illustrates these difficulties based on the exemplifying case of Vanuatu's Chief Roi Mata Domain.

### **Vanuatu's Chief Roi Mata Domain: *Kastom* and Sustainability**

Like elsewhere in the Pacific, *kastom* forms an important part of the lives of ni-Vanuatu people. In country context, *kastom* has been described as "the word that people in Vanuatu use to characterize their own knowledge and practice in distinction to everything they identify as having come from outside their place" (Bolton 2003: xiii). Chief Roi Mata's Domain (CRMD), a cultural landscape located in Northwest Efate, Vanuatu, is certainly closely related with *kastom* as it is associated with the life and death of the paramount Chief Roi Mata, who is renowned for reshaping the social and political landscape of the central islands of Vanuatu during the sixteenth century by instituting a tribal or totem system (*naflak*). He lived in the ancient village of Mangaas, drew his last breath at Fels Cave, and was buried – along with members of his family and court – on Artok Island. These three sites, along with the seascape between them, form the official boundary of Vanuatu's 'world heritage property'. The buffer zone surrounding and protecting the World Heritage property encompasses the two main villages of the Lelema region – Mangaliliu on North Efate and Natapau on Lelepa. Customary rights to land are claimed by approximately 200 members of these communities, many of whom have leased their land to foreign investors (Kalotiti et al. 2009).

### ***Land Management and Heritage Protection Issues in CRMD***

Traditionally, decision-making within the Lelema region was vested in the chiefs. Today, the 12 principal chiefs of the Lelema region comprise the Lelema Council of Chiefs, which meets regularly to discuss a range of village issues. The chiefs and landowners of CRMD have established a committee to look after the day-to-day management of heritage and tourism at CRMD. The Committee is supported by a group of national and international advisors on a volunteer basis, facilitated by the Vanuatu Cultural Centre as the State Party representative for the CRMD. For the last few years, Australia has been funding Australian Youth Ambassadors to work with CRMD on priority actions.

Chief Roi Mata's Domain and the communities living within its Buffer Zone present a microcosm of many of the environmental, social and economic challenges



faced by Pacific communities today. Of these, the most acute problem is land, which is arguably the key asset that identifies family, clan and lineage in Vanuatu. It is an asset of great cultural value and is also the main source of subsistence and livelihood for most rural communities in the country. Following independence in 1980, Articles 73 and 74 of the new Republican Constitution restored the perpetual land rights of indigenous customary owners and their descendants, thereby re-establishing customary rules as the basis of land ownership and use in Vanuatu. While freehold titles were cancelled and land was formally restored to local populations, European planters' land titles were automatically converted into long-term leases to accommodate foreign interests. What was originally intended as an interim arrangement to secure the rights of those whose titles were abolished at independence quickly became the norm for the negotiation of new leases of customary land. As a result, long-term leasing has become the new form of land alienation in Efate and other islands in Vanuatu today (Stefanova 2008). Over 80% of coastal Efate has now been leased. While the CRMD communities held out longer than most, the last few years have seen a significant increase in lease negotiation between real estate agents and customary landholders of coastal and fertile agricultural lands, as well as those containing the few natural water sources available to the CRMD population (Wilson et al. 2007). Real estate agencies are using the World Heritage status of CRMD to attract foreign investment in the Buffer Zone surrounding the heritage. Landholders of the area are under increasing pressure to lease land quickly before having the opportunity to consider alternative land development options and make informed choices.

The land leasing boom in Vanuatu has significant implications for the preservation of the country's cultural heritage, and for CRMD in particular, as development on leased lands has led to destruction of natural resources (e.g. giant banyan trees, water springs, marine resources) and bulldozing of cultural artifacts (e.g. ancient graves, stone walls, tabu stones).<sup>3</sup> Preliminary and environmental impact assessments (inclusive of cultural impact assessment) are not carried out systematically despite legislative requirements.<sup>4</sup> This is the case even in relation to large lease areas which affect subsistence living and food security.

In addition, the local economic benefit of land development in the area is very low; expatriates reap the gains from luxury homes and resorts. The process whereby customary land owners are identified (and thus have the right to negotiate a lease) is open to abuse by individuals or small groups of people who pursue registration of leases without due consultation among holders of customary rights or the local council of chiefs. In the process of transition from customary landholding to formal lease registration, important user rights (e.g. women's rights to gardening; access to

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<sup>3</sup>The Preservation of Sites and Artifacts Act 1965 provides for the registration of such sites with the Vanuatu Cultural Center.

<sup>4</sup>These being the Environmental Management and Conservation Act 2003 and the Foreshore Development Act 1975.

coastal areas; fishing rights) are vulnerable. Women, in particular, appear to be largely excluded from any decision-making processes associated with leasing of land. Many entrepreneurs arguably take advantage of locals' limited knowledge of the law and their lack of understanding of land market value. Leases are generally granted for 75 years for a single, up-front cash payment and annual rents set far below reasonable commercial rates. Leasing tends to concentrate benefits in the hands of small numbers of senior men and cash payments are often quickly dissipated on consumables with little sustainable impact on development. Poor lease creation processes often also drive prolonged disputes between customary land claimants. Lack of monitoring and enforcement of lease conditions leads to unresolved grievances between lessors and lessees over unrealized lease benefits (e.g. unpaid annual rents; unfulfilled promises for tourism development or employment of local communities) (Moses 2009; Kalotiti et al. 2009).

If leasing of this kind continues at its current pace, the integrity of the world heritage property and its sustainable management and preservation will be seriously undermined. With disrupted connections between communities and their ancestral land, the knowledge of oral traditions, traditional conservation practices and rituals (intangible heritage), will be significantly threatened. Moreover, as the current situation demonstrates, present legal arrangements for preservation of CRMD are insufficient and do not address the actual issues at hand.

### *Cultural Heritage and Sustainable Development*

Signatories of the WHC undertake to integrate the protection of heritage into comprehensive planning programs. While the Convention does not require heritage to be part of a national development strategy, this seems to be the most appropriate place for a state party to start planning for a comprehensive policy on heritage protection (Fiji Department of National Heritage, Culture and Arts 2010). The link between national development strategy and cultural heritage has also been highlighted at the international level, as when – in light of case studies which demonstrated that “the cultural heritage of many developing nations will be sacrificed in the attempt to achieve economic well-being” (Keatinge 1982: 211) – the Durban Accord (2003) was adopted in Durban, South Africa during the World Parks Congress. In clear recognition of the interdependence of sustainable development and conservation efforts, the Accord states that “...a fresh and innovative approach [is needed] to protected areas and their role in broader conservation and development agendas.... In this way, the synergy between conservation, the maintenance of life support systems, and sustainable development is forged. ... We see protected areas as providers of benefits beyond boundaries – beyond their boundaries on a map, beyond the boundaries of nation-states, across societies, genders and generations” (The World Conservation Union 2003).

In this regard, it must be noted that Vanuatu does not have a comprehensive national development strategy within which CRMD protection and sites currently

on the tentative WHC list could be aligned. While tourism was identified as an area with the strongest potential for development in the country's Priority and Action Agenda 2006–2015 (Vanuatu Government 2006), its negative impact on cultural heritage in Vanuatu does not figure prominently in the document. Despite it mentioning a “growing support for recognising traditional skills and valuing custom and culture” (Vanuatu Government 2006: 37), the document focuses on educational issues, thereby falling short of addressing issues of sustainability in relation to land leases or conservation of identified heritage sites whose development would fit very well with the strengthening of Vanuatu's *kastom ekonomi*<sup>5</sup> (Regenvanu 2009) and its recognition and promotion as a basis for sustainability. This was a goal put forward in the Vanuatu National Self Reliance Strategy 2020 (Malvatumauri National Council of Chiefs 2005). Instead, the CRMD development and protection have been left out of the country's alternative development strategies and, by lack of other institutional support, put into the hands of the World Heritage and Tourism Committee (WHTC) with support from a group of international advisors.

To mitigate the environmental, social and economic impact of land leasing in the CRMD area, the WHTC has begun to develop innovative strategies for protection and preservation, drawing upon the traditional practices that have conserved the heritage area for centuries. In 2008, the Lelema Council of Chiefs, together with SHEFA Province and the Ministry of Lands and Natural Resources, signed a Memorandum of Understanding in recognition of the CRMD Buffer Zone Management Plan, a document complementing the broader Plan of Management for CRMD. The primary aim of the Buffer Zone Plan is to specify a series of development conditions on land leased within the Buffer Zone that would be implemented by the chiefs, with support from Provincial and National Governments (Cartling, 2008, Chief Roi Mata's domain buffer zone management plan, unpublished document), with a view to preserving cultural heritage.

The broader Plan of Management for CRMD has been relatively successful in drawing on traditional conservation measures – such as the taboo on the use of Artok Island or Mangaas in place since about 1600 AD, the seasonal taboos on reef use, occasional taboos on harvesting tree crops, and the general respect shown to traditional sacred sites – to protect the immediate area associated with the life and death of Chief Roi Mata (i.e. the ‘World Heritage property’). The Buffer Zone Management Plan has, however, proved much more difficult to implement or enforce (Kalotiti et al. 2009). This difficulty was due initially to the short period of time allowed for consultations with community members, the limited authority of the WHTC to make decisions in relation to the buffer zone, and the Buffer Zone Management Plan not being a legally enforceable document. As a result, there was

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<sup>5</sup> *Kastom ekonomi* is a form of traditional or subsistence economy. Regenvanu explains that this is “the way in which our indigenous Pacific societies are organised to look after the concerns and resources of their members, in counterpoint to the way the “‘capitalist’ or ‘cash’ economy organises itself to look after the concerns and resources of its members” (Regenvanu 2009: 1).

a need for follow-up discussions and workshops with individual landowners to ensure that diverse perspectives were taken into account and enshrined in a revised plan for land use planning and management of the Buffer Zone. The consultations resulted in the identification of key priority projects incorporated into a CRMD funding package for which donor support is being sought. Priority projects include physical planning and cultural mapping, revitalization of local *kastom*, land awareness, provision of legal advice and business skills development (Fleming 2010).

Cultural tourism has been an alternative source of income for CRMD communities since the site was nominated as a heritage site. Tourism is based on ‘*kastom*’ stories, dance and artifact restoration and production. For example, the practice of carving *napea* slit drums has been revived after a century of abandonment; the drums are played for tourists as accompaniment for the traditional dance of Mangaas. The WHTC has developed a Cultural Tourism Strategy for CRMD, the core of which is the management of a small-scale interpretative tour to the three main sites of significance for Chief Roi Mata’s life – Mangaas, Lelepa Cave and Atok Island grave, followed by a local feast and display of handcrafts (Greig 2006). The theory behind the tour is to use communal land as a cash-generating activity, the profits of which are then shared equally among the landholders of the site at the end of each year. Here, it should be noted that land issues also impact negatively on the CRMD Cultural Tour operation. At the moment, Mangaas is accessed during the tour by boat only, as the landholders of the most direct road from North Efate ring road to the site are demanding financial compensation for its use. Currently, the Roi Mata Cultural Tour does not have the financial capacity to provide such compensation (Kalotiti et al. 2009). The WHTC is hoping to secure additional funding to develop world heritage bungalows owned and managed by the community as an additional source of income from tourism development. Clarifying the land arrangements for the bungalows is yet another challenge the WHTC would need to address.

As illustrated above, sustainable management of the world heritage status of CRMD in the context of increased globalization and commercialization is expected to be an uneven and on-going process of negotiation between the chiefs, the traditional landholders, community members, the WHTC and the Cultural Centre as its national umbrella organization. In the context of weak state capacity, there should be greater emphasis on incorporation of regulated sustainable development options as part of world heritage nominations and management. The drive for a cash-oriented economy promoted by foreign investment needs to be well balanced with efforts to promote the resilience of the traditional economy, which feeds more than 80% of the population. This is a way of preserving yet another aspect of Pacific cultural heritage (Regenvanu 2009; Huffman 2007).

Success in these tasks will largely depend on the ability of the provincial and national government to increase control over unscrupulous land lease dealings and to offer greater protection to customary groups so they can better benefit from investment. International agreements are certainly not a one stop shop for solutions to all the contentious issues surrounding Vanuatu’s CRMD. However, they may prove a source of information and guidance on legislative options to be considered at

national level.<sup>6</sup> In addition, legislative drafting relying on international agreements has the potential to shape a harmonized regional level playing field for heritage protection, in which the rights and obligations of stakeholders can be enforced more systematically and effectively. The next section deals with these and other ways of utilizing international law for purposes of conservation of protected areas.

## Utilizing the International Framework

In recent years, the international framework for cultural heritage protection has contributed positively to the success of national conservation efforts. The spectrum of the ever-evolving body of international law in the area of cultural heritage and environmental protection ranges from the 1964 International Charter for the Conservation and Restoration of Monuments and Sites prohibiting any new construction, demolition or modification of monuments and sites (Art. 6); to the already mentioned World Heritage Convention 1972; to the International Cultural Tourism Charter, which prescribes that the long term protection and conservation of living cultures, heritage places and collections should be an essential component of social, economic, political, legislative, cultural and tourism development policies (art. 2.1). A selection of conventions, agreements and treaties relevant to the area of cultural heritage – either directly or indirectly through, for instance, environmental protection, or inclusion of nature conservation goals – is provided in Annex to this chapter.

According to a Legislation Options Paper produced by the Department of National Heritage, Culture and Arts in Fiji in June 2010, “the concept of shared concern and responsibility... reflects an increasing international awareness of many environmental issues – issues which transcend national and regional borders” (Fiji Department of National Heritage, Culture and Arts 2010). This gives state parties two reasons to engage with and/or utilize the international network for heritage protection for sustainable management. First, cultural heritage is about preserving culture in its broadest sense for all future generations to come, that is, for the common good of humankind. No state can achieve this goal alone and a shared responsibility must be supported by a common, global legal framework. Second, protection of culture is interlinked with protection of the natural environment of humankind – again, an issue which cannot be dealt with at national level alone, as most of today’s environmental issues are trans-boundary in nature and affect more

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<sup>6</sup> It should be remembered that by virtue of Art. 26 of the 1980 Constitution, Vanuatu is a dualist country for purposes of treaty ratification. This means that Vanuatu considers the national and international legal order as two separate legal systems. As a consequence of dualism in Vanuatu, provisions of international treaties or agreements must be transposed into national law (usually in form of Acts) by the national Parliament before the provisions enter into force and create legally binding, enforceable obligations.

than one state. Again, only reference to, and utilization of, an international framework of legal protection can be an answer to challenges posed by, for instance, climate change, degradation of biodiversity, or commercial globalization.

While a global program of nature conservation is a useful starting point, in an increasingly globalizing world, “nature conservation needs adapted tools to protect nature and to contribute to a sustainable development” (Plachter 2003: 2). With 187 states parties as of June 2010, the WHC is one of the most comprehensive and globally recognized international agreements on the topic of nature conservation. It has been described as “a politically well recognized instrument for the management of the most outstanding places on earth” (Plachter 2003: 3). The 911 sites nominated for inscription (as at August 2010) include 704 cultural, 180 natural and 27 mixed properties in 151 States Parties (UNESCO 2010). According to Plachter (2003: 13), “the world heritage status... approves the deliberate will of the States Party nominating and the World Community accepting to protect a property *by all means, techniques and strategies available* [emphasis added] and to hand it over to future generations in an unspoilt state, demonstrating thereby that they are capable and willing to safeguard the best places our planet has created”.

Protection by all means and strategies should not only include a national protection strategy but also one that is ideally tied to a complementary set of international and regional agreements. In other words, lessons learnt and best option scenarios can be drawn from legislative frameworks developed to suit the global or regional community of states as a whole. Although adaptation to local context is inevitably needed to enhance effectiveness of such legislation at national level, small countries with limited legal drafting, human and enforcement resources may perceive this technique as particularly beneficial. Such an integrated legislation package that incorporates international and regional obligations and facilitates community owned processes that protect heritage sites country-wide should constitute a preferred option for small island developing states (SIDS). The CRMD’s experience offers some valuable lessons on the importance of an inclusive and community-driven approach to cultural heritage protection and sustainable development.

## Challenges Ahead

Vanuatu is currently party to only a few relevant international or regional conventions or agreements, a condition that perhaps presents a ratification challenge in itself.<sup>7</sup> There are several challenges a country like Vanuatu may face in relation to the utilization of international and regional agreements for the protection of its recognized or tentative cultural heritage sites. The first challenge relates to the general, unspecific and vague nature of international obligations. Since many conventions have been written with as broad a coverage and as wide a membership as

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<sup>7</sup>The conventions to which Vanuatu is a party are spelled out in Annex.

possible, provisions are often watered down in the drafting process in order to achieve a statement acceptable to the various state parties interested with the area under discussion. Thus, these international instruments and programs of action need “clearer definitions and targets and should be applied strictly goal-orientated” (Plachter 2003: 1) to become meaningful tools for effective implementation and focused enforcement of international obligations at national level.

A second challenge lies in the necessity of adapting global recommendations and international regulatory provisions in the area of nature conservation to a specific legal, social, economic and cultural context. After all, no state is exactly like any other, and no two peoples are the same. As argued by Plachter (2003: 1), while “there is indeed a broad spectrum of international conventions targeting cultural heritage issues, [these international instruments are] often difficult to be understood by the public and politicians”. This argument gains weight when considering the unique context of the Pacific in which country-specific challenges in relation to cultural heritage protection arise. Such challenges, as outlined above in the context of the 2010–2015 Pacific World Heritage Action Plan, necessitate adaptation of general provisions included in international agreements so as to become effective and enforceable in Vanuatu’s pluralist legal environment. It calls for in-depth exploration and engagement with social and cultural norms and ongoing dialogue and negotiation between conflicting perceptions. Since the legitimacy of international principles at the local level depends on them being developed through a process of equitable contestation (‘good struggles’<sup>8</sup>), their adoption would need to be undertaken iteratively.

The Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO 2003), not yet signed or ratified by Vanuatu, may serve as an example of an international agreement for which adaptation in the Vanuatu context will be required. In Article 15, for instance, the Convention requires States Parties “... to ensure the widest possible participation of communities, groups and, where appropriate, individuals that create, maintain and transmit such heritage, and to involve them actively in its management”. Given the language diversity, the geographical isolation of communities within Vanuatu, and various challenges previously outlined in the context of the management of *one, largely defined* area such as the CRMD site, the unaltered adoption of this provision into national legislation might turn problematic. Such a provision must be adapted to the Vanuatu context to ensure that stakeholders as well as enforcement agencies are aware of obligations and opportunities created under the new legislation. Before adoption of a national legislation in this area, Vanuatu must also ensure that mechanisms and institutional provisions are in place to facilitate effective community participation in the management of intangible cultural heritage. Moreover, such mechanisms would need to ensure that they are legitimate in the eyes of *kastom* authorities and not seen as a threat to their decision-making power. To this end, the focus on *process* versus *form* becomes critically important. Rather than trying to externally engineer greater “compatibility”

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<sup>8</sup>On this point see Adler et al. (2009).

between state and *kastom* systems, the focus should be on facilitating spaces for dialogue wherein actors from both realms can meet – following simple, transparent, mutually agreed-upon, legitimate, and accountable rules – to craft new arrangements that all sides can own and enforce (Sage et al. 2009).

The third challenge is probably the most system-inherent one. In the process of site nomination, the nomination dossier must prove that the area to be protected under WHC is sufficiently protected on the national or local level. The Operational Guidelines for the Implementation of the Convention (OGIC) (UNESCO 1977) detail the legislative protection required to effectively protect the site. Art. 97 OCIG (2008 amended version) singles out “adequate protective legislation *at the national, provincial or municipal level* and/or traditional level for the nominated property”. (UNESCO 2008: 25). The OGIC does not, however, provide reference to the international system of agreements and conventions of relevance for cultural heritage protection<sup>9</sup> which requires states parties to set up an integrated legislative protection plan for heritage sites. In other words, no international assignment is necessary: the country on whose territory the proposed site lies does not have to be a state party to other international agreements in the area of cultural protection.

The absence of a condition making membership in relevant international agreements compulsory for state parties wishing to see their national sites included on the WHC list seems an important omission given the advantages international and/or regional agreements may provide for small island developing states in their natural conservation endeavors. If added, such an incentive would increase acceptance of relevant international documents in a country such as Vanuatu, which has signed and/or ratified only a few such agreements. It would necessitate awareness campaigns amongst government and civil society so that stakeholders in Vanuatu would be enabled to make informed decisions on the ratification of international instruments related to natural resource conservation. Such a change would clarify the grounds on which small island states engage with the international community. It may also diminish or eliminate a rather negative attitude amongst Pacific island state representatives, who often seem convinced that their small, isolated nations are un-equipped to engage with the international system and have no substantial effect on transnational politics.

## Conclusion

Vanuatu’s Chief Roi Mata Domain is one of only five UNESCO nominated cultural heritage sites in the Pacific region. It provides Pacific people and the international community with an insight into the island’s unique social and political history and its relation to that of the wider Melanesian population. The undisputable and universal value in protecting cultural heritage underscores the importance of

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<sup>9</sup>Examples of such agreements can be found in Tables 3.2 and 3.3, Annex.



institutionalizing an enforceable legal regime for the protection of cultural heritage sites, one that includes their equitable and sustainable use by local communities. This is why the WHC calls for such protection to be established prior to site nomination, in addition to UNESCO's continuing efforts to support heritage protection through various Pacific programs, action plans and regional workshops.

Nevertheless, governments of small island developing states in the Pacific face a host of difficulties in sustainably developing and simultaneously preserving heritage sites. This CRMD case study demonstrates that land issues, combined with low institutional transparency, misinformation and a mixture of state legal systems and customary rules, make appropriate site management and its sustainable development a challenging prospect. So far, Vanuatu's legal framework for the protection of cultural heritage has not been very responsive to CRMD issues and, as a result, has not been very helpful to their resolution. Moreover, cultural heritage protection has not been integrated into any of Vanuatu's alternative development strategies and the lack of a comprehensive national development framework has sidelined efforts to preserve or develop the site.

This chapter has argued that existing international and regional agreements may be utilized to fill in Vanuatu's legislative gaps or provide a basis for drafting new legislation which would incorporate provisions outlined in international agreements. The trans-boundary dimensions of issues like climate change or commercial globalization, as well as the status of heritage sites as a kind of global commons, are factors in support of the argument for more internationalist orientation. Observing relevant international and regional agreements may enable Vanuatu to take on board international obligations which – as in the case of the WHC – bind numerous states, thereby creating a level playing field for cultural heritage protection. The success, however, of applying international frameworks would largely depend on the processes put in place to make them legitimate in the eyes of local communities. This requires a deeper understanding and engagement with the underlying social norms and dynamics that establish and legitimize appropriate actions and the promotion of equitable space for dialogue where divergent views and experiences can be aired and addressed.

A peace poem by Konai Thaman reads "...when all is said and done, you'll have to give up soon the things that make you what you are, the things you think you own" (Thaman 2000). It is to be hoped that governments in the Pacific realize in time that international law *can* be utilized to effectively preserve cultural heritage sites and, by extension, the cultural heritage at the center of Pacific peoples' identity.

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## Annex

**Table 3.1** UNESCO tentative list – South Pacific inscriptions (as of 08 August 2010)

Country	Site	Date of inscription
Fiji	Levuka, Ovalau (Township and Island)	(26/10/1999)
	Sigatoka Sand Dunes	(26/10/1999)
	Sovi Basin	(26/10/1999)
	Yaduatoba Crested Iguana Sanctuary	(26/10/1999)
Marshall Islands	Likiep Village Historic District	(24/10/2005)
	Mili Atoll Nature Conservancy (and Nadrikdrik)	(24/10/2005)
	Northern Marshall Islands Atolls	(24/10/2005)
Federated States of Micronesia	Yapese Disk Money Regional Sites	(29/12/2004)
Papua New Guinea	Houn Terraces – Stairway to the Past	(06/06/2006)
	Kikori River Basin/Great Papuan Plateau	(06/06/2006)
	Kokoda Track and Owen Stanley Ranges	(06/06/2006)
	Milne Bay Seascape (Pacific Jewels of Marine Biodiversity)	(06/06/2006)
	The Sublime Karsts of Papua New Guinea	(06/06/2006)
	Trans-Fly Complex	(06/06/2006)
	Upper Sepik River Basin	(06/06/2006)
Solomon Islands	Marovo – Tetepare Complex	(23/12/2008)
	Tropical Rainforest Heritage of Solomon Islands	(23/12/2008)
Tonga	Lapita Pottery Archaeological Sites (A National Serial Site for consideration as the Kingdom of Tonga's contribution to a transnational serial site listing)	(09/08/2007)
	The Ancient Capitals of the Kingdom of Tonga	(09/08/2007)
Vanuatu	Lake Letas	(01/10/2004)
	The Nowon and Votwos of Ureparapara	(05/10/2005)
	The President Coolidge	(01/10/2004)
	Vatthe Conservation Area	(01/10/2004)
	Yalo, Apialo and the sacred geography of Northwest Malakula	(01/10/2004)

**Table 3.2** List of international agreements relevant to cultural heritage protection (as of 08 August 2010)

Title of document	Date of entry into force	South Pacific state parties
Convention concerning the protection of the world cultural and natural heritage 1972	1972	Cook Islands, Fiji, Niue, Palau, PNG, Kiribati, Marshall Islands, Federated States of Micronesia, Samoa, Solomon Islands, Tonga and Vanuatu
Convention on biological diversity, 1994	21 March 1994	Cook Islands, Fiji, Niue, Palau, PNG, Kiribati, Nauru, Marshall Islands, Samoa, Solomon Islands, Tonga and Vanuatu, Tuvalu
Convention for the safeguarding of the intangible cultural heritage (UNESCO 2003)	20 April 2006	Tonga, PNG, Fiji
International charter for the conservation and restoration of monuments and sites (The Venice Charter – 1964, ICOMOS)	1964	No PICs have signed/ratified the document yet
The Florence Charter (historic gardens and landscapes) – 1981 (ICOMOS)	1981	No PICs have signed/ratified the document yet
Charter on the conservation of historic towns and urban areas – 1987 (ICOMOS)	1987	No PICs have signed/ratified the document yet
Charter for the protection and management of the archaeological heritage – 1990 (ICOMOS)	1990	No PICs have signed/ratified the document yet
International charter on cultural tourism – 1999 (ICOMOS)	1999	No PICs have signed/ratified the document yet
ICOMOS charter – principles for the analysis, conservation and structural restoration of architectural heritage – 2003	2003	No PICs have signed/ratified the document yet

**Table 3.3** List of regional agreements relevant to cultural heritage protection (as of 08 August 2010)

Title of document	Date of entry into force	South Pacific state parties
Convention for the protection of the natural resources and environment of the South Pacific Region, Noumea, 24 November 1986 (SPREP Convention)	22 August 1990	Cook Islands, FSM, Fiji, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands
Convention on the conservation of nature in the South Pacific, Apia 1976	26 June 1990 (since 2006, operation suspended until further notice)	Cook Islands, Fiji, PNG, Samoa
Convention to ban the importation into forum island countries of hazardous and radioactive wastes and to control the transboundary movement and management of hazardous wastes within the South Pacific Region, Waigani 1995	21 October 2001	Cook Islands, FSM, Fiji, Kiribati, Niue, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

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# Chapter 4

## Ensuring the Viability of Cultural Heritage: The Role of International Heritage Law for Pacific Island States

Erika J. Techera

### Introduction

The concept of ‘culture’ embodies all the characteristics of human societies. In that sense it is amorphous and inherently difficult to define. Nevertheless, the United Nations Educational, Scientific and Cultural Organization (hereinafter ‘UNESCO’) has described ‘culture’ as “the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs”.<sup>1</sup> ‘Cultural heritage’ is the expression of this living culture, embodying its “history, values and beliefs” (Wendland 2004). Cultural heritage can take many forms, including monumental built heritage, craftsmanship, artistic, linguistic and musical expression, traditional knowledge and customary practices, to name a few.

Cultural heritage is intrinsically valuable and safeguarding its diversity is “as necessary for humankind as biodiversity is for nature”.<sup>2</sup> This value is applicable to individuals and communities at all levels of society. Cultural heritage plays an important part in cultural identity, contributes to communal cohesion, and can support the fabric of society by assisting to build partnerships between the public and private sectors, and between the state and civil society.

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<sup>1</sup>This definition appears in the Preamble to the *UNESCO Universal Declaration on Cultural Diversity*, 2001: see [unesdoc.unesco.org/images/0012/001271/127160m.pdf](https://unesdoc.unesco.org/images/0012/001271/127160m.pdf). It is noted there as being in line with the conclusions of previous conferences and reports including the *World Conference on Cultural Policies*, held in Mexico City in 1982; the report of the World Commission on Culture and Development, *Our Creative Diversity*, 1995; and the *Intergovernmental Conference on Cultural Policies for Development*, held in Stockholm in 1998: see notes to Preamble, p. 12.

<sup>2</sup>Article 1, *UNESCO Universal Declaration on Cultural Diversity*, 2001.

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More recently, there has also been an acknowledgement of the economic and environmental importance of cultural heritage. Crucially, it may be key to successfully achieving sustainable development. Cultural goods and services are unique commodities and may contribute to sustainable development through the establishment of viable and competitive cultural industries. From an environmental management perspective, the inextricable link between cultural and biological diversity is well established, both in the social and natural sciences (Maffi 2007). Many parts of the world are both culturally and biologically diverse. This occurrence is not coincidental as traditional natural resource management practices have contributed to the maintenance of genetic diversity (Posey 1999). In the context of law and policy, the concept of sustainable development, involving the integration of economic, social–cultural and environmental elements, recognizes these important linkages between people and nature.

The safeguarding of cultural heritage raises important legal issues. Law can, for example, provide a framework for cultural rights, mechanisms to safeguard and protect heritage, and regulations to prevent the misappropriation and exploitation of expressions of culture. International law has an important role to play in this context. For example, human rights law establishes the legal foundation to assert rights to practice culture<sup>3</sup> and work continues on the development of a global framework for the protection of cultural expression and folklore.<sup>4</sup> While the legal issues surrounding the utilization of cultural heritage remain crucial, they presuppose its continued existence. The world is facing cultural heritage extinctions just as significant as biological ones. In particular, it was recognized several decades ago that “Indigenous cultures around the world are being disrupted and destroyed”<sup>5</sup>; and, with the added pressure placed upon many communities by climate change, anthropologists now “fear a wave of cultural extinction” (Rosenthal 2010). It is in this context that the safeguarding and preservation of existing cultural heritage is of critical importance.

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<sup>3</sup>For example, the *International Covenant on Economic, Social and Cultural Rights, 1966* (see <http://www2.ohchr.org/english/law/ceschr.htm>) refers to the freedom to pursue cultural development. In addition, indigenous collective rights in respect of culture are articulated in *ILO Convention No 169 Concerning Indigenous and Tribal Peoples in Independent Countries, 1989* (see <http://www.ilo.org/ilolex/cgi-lex/convde.pl?C169>) and in the United Nations *Declaration on the Rights of Indigenous Peoples, 2007* (see <http://www.iwgia.org/sw248.asp>) including respect for and protection of cultural values and practices and the right to practise and revitalize cultural traditions and customs.

<sup>4</sup>For example, the *World Intellectual Property Organizations (WIPO) Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* met in July 2010 to discuss draft text for an international agreement on the protection of traditional cultural expressions and expressions of folklore (WIPO 2010): see [http://wipo.int/meetings/en/topic.jsp?group\\_id=110](http://wipo.int/meetings/en/topic.jsp?group_id=110).

<sup>5</sup>*Declaration of Belém, 1988* which is also well known for being the first international instrument to note the “inextricable link between cultural and biological diversity”: see [www.ethnobiology.net/global\\_coalition/declaration.php](http://www.ethnobiology.net/global_coalition/declaration.php).

UNESCO has been the principal inter-governmental organization with responsibility for the protection of cultural heritage. Its mandate includes promoting culture and cultural diversity, acting as a forum for and taking an active role in standard setting, awareness raising and capacity building for the safeguarding of culture and cultural heritage. Maintaining cultural diversity means safeguarding different types of heritage – tangible and intangible, movable and immovable – as well as pluralities of culture within different communities. From a legal perspective UNESCO's early work focused on the tangible heritage: monumental, built heritage in particular. However, more recently, there has been greater attention given to ensuring more universal recognition of all types of heritage, including intangible elements. This has led to a rapid increase in heritage treaties as well as other legal instruments and supporting programs and initiatives. In total, seven international cultural heritage treaties have now been adopted.<sup>6</sup> The *Convention on the Safeguarding of Intangible Cultural Heritage* (hereinafter 'CSICH') is one of the most recent and an important addition to the global regime.

This chapter will focus upon the intangible cultural heritage of the Pacific island region and in particular the relevant legal frameworks for its protection. Current threats to heritage and the efforts to safeguard it will be explored. The CSICH will be described and the opportunities and barriers to its implementation analysed. The chapter concludes with recommendations to ensure that the intangible heritage of this culturally diverse region will be secured for the future.

## The Pacific Context

The Pacific Ocean covers millions of square kilometres and contains thousands of islands. There are about 22 Pacific Island nations but the focus here is upon the independent small island developing states (SIDS).<sup>7</sup> The unique biological and cultural diversity of the Pacific region has been internationally recognized and well documented by the UNESCO World Heritage Centre (UNESCO 1997), the

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<sup>6</sup>These are the *Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict* 1954; *UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property* 1970; *UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage*, 1972; *UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects* 1995; *UNESCO Convention on the Safeguarding of Intangible Cultural Heritage* 2003; *UNESCO Convention on the Protection of the Underwater Cultural Heritage* 2001; and *UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions* 2005. For access to the full text of the treaties see <http://portal.unesco.org/culture/>.

<sup>7</sup>These include the Federated States of Micronesia, Fiji Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Other island jurisdictions in the region include American Samoa, Cook Islands, French Polynesia, New Caledonia, Niue, Northern Mariana Islands, Pitcairn Islands, Tokelau and Wallis and Futuna; however, these are overseas territories of other countries, and not independent states.



International Council on Monuments and Sites (ICOMOS) (Smith and Jones 2007), the International Union for Conservation of Nature (IUCN) (Gerbeaux et al. 2007) and others. Historically the peoples of this region had no writing and the archaeological record of their cultures includes few monuments. The safeguarding of intangible heritage is therefore of particular importance. The Pacific region provides examples of many different categories of intangible cultural heritage. These include environmental ethical perspectives and belief systems, languages, customary practices and governance structures, traditional knowledge and cultural expressions. Despite the great diversity amongst the peoples and cultures, there is a common historical experience as the pattern of settlement of the Pacific islands was inter-linked and cultural heritage was shared “through common voyaging, kinship, trade and other relationships” (Smith and Jones 2007: 6). Most states in the region have had a period of colonial rule by countries that were physically and culturally remote, but their culture survived and the majority of the indigenous peoples continue to live at least a partially traditional lifestyle. Thus while each nation, and in some cases each island, may have its own specific heritage, the many cultural and historical commonalities support the regional approach taken here.

Today, the Pacific SIDS face similar social, economic and environmental concerns, including large and rapidly growing populations (following a period of outward migration), urbanization, limited land and financial resources, environmental fragility and the desire for economic development. Heritage, and particularly intangible cultural heritage, is at risk from multiple processes. Globalization and modernization have tended to have a homogenizing influence and cultural diversity is being lost as pressures to develop impact heavily on heritage. For example, modern farming and fishing techniques are replacing traditional methods, western medicine and science has replaced traditional knowledge, and formal education has tended to be mono-linguistic (mainly English or French). These impacts are compounded by environmental degradation which is likely to intensify with contemporary climate change. Environmental issues, such as pollution, waste management, over-fishing and land clearing, impact traditional lifestyles, customary lands and cultural spaces. The physical impacts are compounded by the damage to intangible heritage, as customs, traditional knowledge and practices are directly affected by the loss of cultural spaces and sacred sites and species. Extinction of species also results in loss of traditional knowledge in relation to ecology, medicine, arts and crafts. The predicted effects of climate change are likely to disrupt or displace whole communities and the ensuing assimilation may cause further loss of intangible heritage and possibly the complete disappearance of individual minority cultures.

## **Cultural Heritage Protection in the Pacific**

Pacific SIDS have long recognized the need to conserve cultural heritage. There are many national museums, organizations, government departments, programs and projects aimed specifically at protecting heritage. In addition some regional approaches have also been taken. These are explored in further detail below.

## *National Initiatives*

Many of the Pacific nations have well-established national bodies tasked with conserving cultural heritage. For example, in Fiji there are three flagship organizations: the National Trust of Fiji, the National Museum and the Fiji Arts Council. In particular, two departments of the Fiji Museum are involved in the recording of oral tradition: the Archaeology Department and the Collections Department (Buadromo and Ramos 2001). The Fiji Arts Council is also relevant as its work involves preserving traditional knowledge and facilitating cultural tourism. In Vanuatu, the National Cultural Council has responsibility for the preservation, protection and development of cultural heritage. This work is carried out by the Vanuatu Cultural Centre, which was one of the first to be established in the region and today has four Units: National Library, National Film and Sound Unit, National Museum, and the Cultural and Historic Sites Survey. In Samoa, the Ministry of Education, Sports and Culture has primary responsibility for heritage issues, including the management of the Samoa Museum and National Archives.

Many countries in the region have established heritage mapping programs. In Vanuatu the Oral Traditions Collections Project commenced in 1976 and this led to the Fieldworkers Program, whereby fieldworkers are chosen from the local community, trained, and provided with recording equipment and then take oral histories and make dictionaries and genealogies (Kartal 2001). Fiji also has a cultural mapping program which commenced in 2004. In Fiji, the fieldworker model was not considered appropriate and so the staff of the Ministry of Indigenous Affairs – Institute of Fijian Language and Culture collect information, following the traditional protocols for seeking permission. Six mappers (three men and three women) are involved and have recorded cultural heritage in nearly 400 villages,<sup>8</sup> completing mapping of five of the 14 provinces.<sup>9</sup>

There are also many examples of specific programs aimed at revitalizing traditional arts and crafts. These range from workshops to revitalise the use of traditional pottery glazes in Fiji, to established programs for the revival of traditional fine mat weaving in Samoa. Education plays a critical role in maintaining cultural diversity. In the post-colonial Pacific, the majority of countries adopted a British or Australian school curriculum. However, more recently greater local culture has been incorporated. For example, in most countries vernacular languages are now taught in school. Vanuatu has gone further: through a UNESCO-LINKS<sup>10</sup> program, and with the involvement of local communities, teachers, resource managers and culture specialists, is seeking to re-introduce traditional ecological knowledge and resource management into the school science curricula.<sup>11</sup>

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<sup>8</sup>Personal Communication Adi Meretui Ratunabuabua, Department of Culture and Heritage, Fiji, 24 May 2010.

<sup>9</sup>Personal Communication Setoki Qalubau, Ministry of Indigenous Affairs, Fiji, 26 May 2010.

<sup>10</sup>Local and Indigenous Knowledge Systems in a Global Society.

<sup>11</sup>[http://www.vanuatuculture.org/site-bm2/projects/050627\\_links.shtml](http://www.vanuatuculture.org/site-bm2/projects/050627_links.shtml).

These institutions and programs have gone a long way in safeguarding cultural heritage. Administrative fragmentation across governmental departments, however, has in some cases resulted in duplication of effort. Centralized guiding policies are needed and both Samoa and Fiji are in the process of developing these. Furthermore, situations in which cultural heritage might be a vehicle for sustainable development need to be proactively identified. Cultural tourism is one such area and there are some examples of successful enterprises in the region. As will be seen below, these examples illustrate the potential benefits of CSICH ratification at both the national level and in terms of international assistance.

### *Legal Governance*

While conservation work is undertaken at the national level, few laws protect cultural heritage. This legislative gap can have serious consequences if, for example, there are no mechanisms to list and protect specific threatened cultural heritage, laws to assess impacts of future activities, or regulations to prevent misappropriation of heritage.

Most of the countries have legislation establishing the institutions referred to above: for example, the *Vanuatu National Cultural Council Act* and the *Fiji Museum Act*. In addition, some have intellectual property laws based upon western legislative models: for example, the *Vanuatu Copyright and Related Rights Act 2000* and *Fiji Copyright Act 1999*. In Samoa, the *Copyright Act 1998* also provides for the protection of expressions of folklore and therefore offers some protection against reproduction, communication and performance beyond the customary context. Other relevant pieces of legislation, such as the *Vanuatu Preservation of Sites and Artefacts Act* and *Fijian Preservation of Objects of Archaeological and Paleontological Interest Act*, relate to the protection of tangible and moveable heritage. Many of these statutes have been in place for some time or were not designed to protect intangible heritage.

Fiji is one of the first countries in the region to be developing specific heritage law. The draft *Heritage Decree* is designed to meet the World Heritage Operational Guidelines as a lack of legislation has been seen to be a barrier to the listing of heritage sites in Fiji.<sup>12</sup> A National Heritage Register will be established and managed by a National Heritage Council, with locally significant sites to be managed at the local level. The *Fiji Environmental Management Act* includes 'heritage' values as one of its components and in this regard the Department of the Environment is required to liaise with the Fiji Museum in undertaking impact assessments. The new *Heritage Decree* will specifically provide for cultural impact assessment.

In Vanuatu, the *Environmental Management and Conservation Act 2002* provides for the registration of Community Conservation Areas which can include sites

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<sup>12</sup>For example, in Fiji, Levuka has been on the tentative list for some time; but it has not yet been nominated for inscription.

possessing “unique” cultural resources.<sup>13</sup> It also provides for environmental impact assessment where activities are likely to cause significant “custom impacts”.<sup>14</sup> Recent amendments to the *Preservation of Sites and Artefacts Act* provide for the classification of sites and objects of historical, archaeological, ethnological or artistic significance as national heritage.<sup>15</sup> It also provides that such heritage must not be altered without approval, nor exported, and that heritage inspectors will be appointed.

Again, this is an area where CSICH and UNESCO might assist the Pacific island nations. As will be explored below, initiatives such as the UNESCO–WIPO *Model Provisions for National Laws on the Protection of Expressions of Folklore against Illicit and Other Prejudicial Actions* and UNESCO Database of National Cultural Heritage Laws could build regional capacity and also provide an opportunity for individual countries to share their experiences and assist the development of law and policy in other nations. Thus national and local experiences may help shape regional and global efforts. This in itself is a form of global recognition and facilitates indigenous regional voices being heard at the international level.

## ***Regional Efforts***

At the regional level, key associations include the Pacific Islands Forum Secretariat (PIFS)<sup>16</sup> and the Secretariat of the Pacific Community (SPC).<sup>17</sup> The *Pacific Plan* is the principal document which addresses the challenges facing Pacific island nations. Its goals include strengthening regional cooperation and integration by enhancing and stimulating regional economic growth, sustainable development, good governance and security. It includes as one of its sustainable development objectives recognising and protecting “cultural values, identities and traditional knowledge”. More specifically the Plan supports the development of a “strategy to maintain and strengthen Pacific cultural identity”, and the establishment of an “institution to advocate for, and protect, traditional knowledge and intellectual property rights”. As a milestone in achieving this latter objective, reference is made to the creation of an institution and development of national heritage plans. However, no further details are provided as to how this is to be done.

SPC is a hub for youth, gender and cultural initiatives; it is developing a regional culture strategy in collaboration with the Council of Pacific Arts-Working Group

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<sup>13</sup>Section 35(a).

<sup>14</sup>Section 12(1)(a).

<sup>15</sup>Preservation of Sites and Artefacts (Amendment) Act 2008.

<sup>16</sup>The Pacific Islands Forum Secretariat (PIFS) has 16 member countries and is the intergovernmental organization that coordinates the implementation of the *Pacific Plan*: <http://www.forumsec.org.fj/>.

<sup>17</sup>The Secretariat of the Pacific Community (SPC) was founded in 1947 and provides technical, research, educational, and planning services to its 26 member states: <http://www.spc.int/>.

on Culture and Education.<sup>18</sup> In 2002 SPC also developed the *Model Law on Traditional Knowledge and Expressions of Culture*. These laws provide a framework for ownership of traditional cultural rights, prior informed consent, and utilization of traditional knowledge. Currently, PIFS is leading an inter-agency collaboration for development of national legislation based on this law.<sup>19</sup> The *Traditional Knowledge Implementation Action Plan*<sup>20</sup> was prepared in response to member countries' requests for technical assistance to advance the Model Law and develop national systems. The Action Plan addresses the protection of traditional knowledge through the development of national and regional frameworks at two levels: traditional biological resources, including the protection of plant genetic resources and knowledge; and traditional knowledge and expressions of culture, including traditional arts, songs, and dances. The Action Plan includes a pilot program aimed at developing traditional knowledge bills in six Pacific states: Cook Islands, Fiji, Kiribati, Palau, Papua New Guinea and Vanuatu.

## International Heritage Law

Contemporaneously with the development of cultural heritage initiatives at the national and regional levels, the international community has similarly worked to protect these resources, mostly through the work of UNESCO. The most well known is the *World Heritage Convention* which provides for the international listing of sites of natural and cultural heritage that have outstanding universal value. Unique and globally significant sites thus receive international recognition. While the *World Heritage Convention* is an important element in the suite of UNESCO's heritage treaties, its focus is upon built and natural heritage, with no protection of intangible heritage per se. Furthermore, many indigenous and traditional cultures have proportionately less monumental heritage than Eurocentric communities whose cultural heritage dominates the World Heritage List. This inadequacy stimulated development of international law aimed at protecting a broader range of heritage types.

### *Convention on the Safeguarding of Intangible Cultural Heritage*

UNESCO began to focus on the safeguarding of intangible cultural heritage in 1971, with the first normative instrument being the *Recommendation on the Safeguarding of Traditional Culture and Folklore* in 1989 (Aikawa 2004). This was

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<sup>18</sup><http://www.spc.int/en/our-work/social/human-development/news/196-cultural-profile-to-increase-in-the-education-sector.html>.

<sup>19</sup>Collaborators include SPC, Secretariat of the Pacific Regional Environment Program, and World Intellectual Property Organization.

<sup>20</sup><http://www.forumsec.org/resources/uploads/attachments/documents/Traditional%20Knowledge%20Action%20Plan%202009.pdf>.

followed by the *Universal Declaration on Cultural Diversity* in 2001 and the *Istanbul Declaration* in 2002. In addition, the Proclamation of the *Masterpieces of the Oral and Intangible Heritage of Humanity* commenced in 2001 to raise awareness of intangible cultural heritage. It was with this background that the CSICH was adopted in 2003 and came into force in 2006.

The CSICH recognizes the interdependence of intangible and tangible cultural heritage and natural heritage, threats to its survival, and the important role of communities (particularly indigenous communities) in the “production, safeguarding, maintenance and recreation of the intangible cultural heritage”.<sup>21</sup> The aims of the CSICH include safeguarding, ensuring respect for, and raising awareness of, the importance of intangible cultural heritage and providing international cooperation and assistance.<sup>22</sup> ‘Intangible heritage’ is defined broadly and the five domains in which it may be manifested are noted as: oral traditions and expressions, including language; performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe; and traditional craftsmanship.<sup>23</sup> The definition of ‘safeguarding’, under Article 2, focuses on ensuring the viability of the intangible cultural heritage, its transmission and, where necessary, revitalization. The role of education, both informal and formal is also emphasized. An Intergovernmental Committee is established to promote the objects of the Convention, provide guidance, make recommendations on measures for the safeguarding of intangible cultural heritage, as well as establish procedures for inscription on the CSICH lists.<sup>24</sup> The obligations of state parties are set out in Part III and include the identification of intangible heritage within their territories and the preparation of inventories. Relevant heritage is to be identified with full participation of all stakeholders, with the form of the inventories to be determined by the individual countries. Thereafter the obligations are to safeguard heritage by developing a national policy, designating a relevant body, fostering research, and adopting legal, technical, financial and administrative measures.<sup>25</sup> The treaty also provides specific guidance to facilitate protection, including education, awareness raising and capacity building and the full participation, consent and involvement of communities.<sup>26</sup> The only other state responsibilities include periodic reporting on legislative, regulatory and other measures taken.<sup>27</sup> Reciprocally, the international

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<sup>21</sup>Preamble to the *Convention on the Safeguarding of Intangible Cultural Heritage*.

<sup>22</sup>Article 1 of the *Convention on the Safeguarding of Intangible Cultural Heritage*.

<sup>23</sup>In particular noting that it must be “recognized” by a community, group or individual and is being “constantly recreated”; also that it includes associated tangible heritage such as “cultural spaces” and “instruments, objects and artefacts”: Article 2.

<sup>24</sup>Articles 5 and 7 of the *Convention on the Safeguarding of Intangible Cultural Heritage*.

<sup>25</sup>Particular reference is made to establishing training and documentation institutions and ensuring access to the intangible cultural heritage while respecting customary practices: Article 13 of the *Convention on the Safeguarding of Intangible Cultural Heritage*.

<sup>26</sup>Articles 14 and 15 respectively.

<sup>27</sup>Article 29 of the *Convention on the Safeguarding of Intangible Cultural Heritage*.

obligations include general provisions for cooperation<sup>28</sup> and assistance<sup>29</sup> as well as specific measures including the establishment of a Fund for the Safeguarding of the Intangible Cultural Heritage<sup>30</sup> a *Representative List of the Intangible Cultural Heritage of Humanity*,<sup>31</sup> and a *List of Intangible Cultural Heritage in Need of Urgent Safeguarding* to ensure the visibility of, and raise awareness about, ICH.<sup>32</sup> Importantly, under Article 18, the Committee is to select and promote programs, projects and activities for the safeguarding of ICH and include best practice means of implementing them. One such initiative is the *Living Human Treasure* program which facilitates the transmission of knowledge, skills and the meaning of ICH by encouraging member states to officially recognize persons who possess a high degree of knowledge and skills required for performing or re-creating ICH, and assisting these individuals to transmit knowledge and skills to younger generations.<sup>33</sup> Projects and activities in the Pacific region include: language revitalization projects, establishing and promoting Traditional Money Banks in Vanuatu, safeguarding of Vanuatu Sand Drawings, establishing a National Living Human Treasures system in Fiji and safeguarding of the Lakalaka Sung Speeches with Choreographed Movements in Tonga.<sup>34</sup> The UNESCO website includes a wealth of information and resources in relation to inventorying, safeguarding, transmission and protection of ICH. These include a sample of an outline for inventorying ICH, a Register of Good Practices of Language Preservation, a register of NGOs, centres and experts working on safeguarding ICH, UNESCO Database of National Cultural Heritage Laws and the Asia-Pacific Database on ICH.<sup>35</sup> In addition an online exchange platform has been established on Facebook<sup>®</sup> where communities, organizations and individuals can share information on safeguarding ICH.<sup>36</sup>

Unlike the *World Heritage Convention*, CSICH is more focused upon the process of safeguarding heritage rather than protecting its products. Two aspects in particular stand out: the emphasis on community recognition of intangible cultural heritage and community consent and co-operation in its identification and management; as well as the focus on the living nature of cultural heritage and the necessity for its continued relevance, value and practice (Kurin 2007). CSICH therefore supports the maintenance of cultural diversity both quantitatively and qualitatively by

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<sup>28</sup> Article 19.

<sup>29</sup> Articles 20–24.

<sup>30</sup> Articles 25–28.

<sup>31</sup> Such list to include items previously listed as Masterpieces of the Oral and Intangible Heritage of Humanity: Article 31.

<sup>32</sup> Articles 16 and 17 respectively.

<sup>33</sup> <http://www.unesco.org/culture/ich/index.php?lg=en&pg=00061>.

<sup>34</sup> <http://www.unesco.org/culture/ich/index.php?pg=00176&categ=04>.

<sup>35</sup> See <http://www.unesco.org/culture/ich/>, <http://www.unesco.org/culture/natlaws/index.php?&lng=en> and <http://www.accu.or.jp/ich/en/policies/policies1.html>.

<sup>36</sup> *Intangible cultural heritage and civil society* <http://www.facebook.com/pages/Intangible-cultural-heritage-and-civil-society/123664631007622?v=wall>.

encouraging all member states to identify and protect intangible heritage within their jurisdictions and safeguard it in ways which maintain its functional relevance. CSICH will likely be ratified by the Pacific SIDS, principally because it offers opportunities for safeguarding intangible heritage but imposes few additional obligations on the state. This is explored in further detail below.

### *Opportunities Offered by CSICH*

A significant benefit arising from ratification of CSICH would be the international recognition of intangible heritage. At present, regionally listed intangible heritage includes only the Vanuatu Sand Drawings and Tongan Lakalaka Dances.<sup>37</sup> Including additional items on the *Representative List* would draw international attention to Pacific heritage. This is important for two reasons: first is the wealth of intangible heritage in the Pacific representing a “significant enrichment of the global heritage catalogue” (Smith and O’Keefe 2004: 12). Second is the rather poor recognition of Pacific sites on the World Heritage List, with the Kuk Early Agricultural Site in Papua New Guinea and Vanuatu’s Chief Roi Mata’s Domain being the only cultural heritage inscriptions in the region.<sup>38</sup> To a certain extent, this lack of representation is due to the small amount of monumental heritage in the region. This leads to the second benefit of CSICH in that it complements the protection of tangible sites under the World Heritage Convention, greatly expanding the range of heritage acknowledged as globally significant.

From a more practical perspective, CSICH can play an important standard-setting role and provide normative guidance on safeguarding mechanisms. This would assist regional programs by harmonising approaches and providing guidance in circumstances where national and regional resources are poor. In terms of developing legislative frameworks, the international assistance provided by UNESCO is a further powerful advantage.

CSICH, and more particularly the programs and projects developed by UNESCO, offers safeguarding options which could be adapted by Pacific states. For example, a *Living Human Treasure* program has already been established in Fiji and may be suitable to other Pacific SIDS as well.<sup>39</sup> UNESCO provides a forum for

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<sup>37</sup> State signatories to CSICH, in the Pacific region, include Fiji, Papua New Guinea, Tonga and Vanuatu: <http://www.unesco.org/culture/ich/index.php?lg=en&pg=00024>.

<sup>38</sup> The Bikini Atoll in the Marshall Islands has also been inscribed but for its significance as a nuclear test site rather than indigenous cultural heritage. Regionally there are three other sites all of which are inscribed for natural values: East Rennell in the Solomon Islands, the Phoenix Islands in Kiribati and the Lagoons of New Caledonia. There are, however, many sites in the region on the tentative list.

<sup>39</sup> [http://www.unesco.org/culture/ich/index.php?project\\_id=00091](http://www.unesco.org/culture/ich/index.php?project_id=00091) and [http://portal.unesco.org/culture/es/ev.php-URL\\_ID=29181&URL\\_DO=DO\\_PRINTPAGE&URL\\_SECTION=201.html](http://portal.unesco.org/culture/es/ev.php-URL_ID=29181&URL_DO=DO_PRINTPAGE&URL_SECTION=201.html).



sharing best practice regionally and globally and this can be seen from the registers and database referred to above. These might also provide guidance to Pacific states. In this sense, ratification of CSICH would allow Pacific nations to share experiences with other SIDS beyond the region. This could be facilitated through the UNESCO regional office in Samoa.

Capacity building and awareness raising is also a focus for UNESCO. Ratification of CSICH would facilitate this and may also provide a focus for international aid where projects are based upon UNESCO and CSICH programs.

### ***Barriers and Challenges***

While the ratification of CSICH may provide opportunities to enhance protection of Pacific heritage, there are also some barriers. Many SIDS have limited financial and technical capacity and therefore may be reluctant to take on new obligations under international law that divert resources from other projects. Yet, in the context of CSICH, it can be seen that most of the state responsibilities are already being addressed. CSICH requires states to identify heritage, prepare an inventory, establish a national focal point and develop a national policy. The above analysis shows that these measures are either being done or planned for the near future. However, additional obligations such as treaty reporting requirements are often seen as a practical barrier to ratification of international treaties in the region (Jalal 2006).

Drafting legislation is another significant challenge to the Pacific SIDS. Difficulties in developing national legislation have obstructed World Heritage inscriptions and will likely pose a challenge in the implementation of CSICH too. Designing new laws is no simple matter. The SIDS are now independent, but have been left with a common law legal system which was imposed during colonial times on a strong tradition of customary law and practices. This situation is what commentators refer to as “legal pluralism” (Merry 1988). Customary laws and traditional practices have guided Pacific communities for generations (Colding and Folke 2000). It is clear that there were customary laws to protect heritage and cultural expression (RaoRane 2006) as well as other social norms, such as secrecy (Zagala 2004). New legislation that conflicts with customary law is unlikely to succeed, so the two frameworks must be reconciled if positive outcomes are to be achieved. This legally pluralist context complicates the development of new law and places additional pressure upon national governments. While the UNESCO databases may offer some guidance, it is clear that new laws would need to be designed on a state-by-state basis. The Pacific SIDS are in a poor position to make extensive legislative assessments and revisions as they lack financial resources and an appropriate pool of expertise. Perhaps this is an area where UNESCO could take the lead and conduct research focused on assisting legally pluralist nations. Similar work has been done in relation to legal pluralism and human rights (International Council on Human Rights 2009) and environmental law (UNEP 2009).

A further consideration, one not well addressed by CSICH, is the economic reality in the Pacific: issues of economic development remain dominant. As noted above,

cultural heritage has important economic value and could provide one avenue for sustainable development. While CSICH focuses on maintaining the functional use and relevance of intangible heritage, it does not articulate how this might be achieved in the context of development. To a certain extent the problem has been addressed through the adoption of the *Convention on the Protection and Promotion of the Diversity of Cultural Expressions*, which focuses upon, *inter alia*, the integration of culture in sustainable development.<sup>40</sup> The Convention suggests aiding the emergence of viable cultural industries, strengthening cultural activities and the production and distribution of cultural goods and services, facilitating wider access to global markets and networks, and encouraging appropriate collaborations between developed and developing countries in areas, such as music and film.<sup>41</sup> Ratification of this treaty should also be considered in tandem with CSICH.

## The Way Forward

While law alone cannot safeguard heritage, it plays an important role in protecting vulnerable heritage and creating an environment conducive to the establishment of indigenous enterprises based upon cultural goods and services. International heritage law can set global standards and catalyse normative action. It is important therefore that the Pacific SIDS consider ratification of CSICH as the above analysis confirms that the benefits far outweigh the added state responsibilities that this would entail.

In order to be effective, international law needs to be implemented at the regional and national level. Particular regional issues must be recognized and therefore action at that level must be facilitated. The UNESCO Pacific sub-regional office has a role to play, as do Pacific organizations such as SPC and PIFS. The lack of appropriate national legislation can be a barrier to both the recognition and safeguarding of cultural heritage and leave indigenous traditional knowledge and cultural expression, in particular, open to exploitation and misappropriation. There is little doubt that loss of cultural diversity is a global problem requiring international attention, but there is unlikely to be a single law and policy framework that suits every country. Indeed, even with the best of intentions, when international law is translated into national action, it may damage customary law and undermine local governance. Culturally relevant domestic legislation is therefore needed. For this to be achieved, national governments need to engage effectively with the communities and individuals who are custodians of intangible cultural heritage. In designing new laws in the Pacific, the legally pluralist context needs to be taken into account. Legislative approaches which conflict with deeply ingrained customary laws and norms are unlikely to be effective. Therefore the participation of local people is essential: not only in the implementation of laws, but also in their design.

While heritage law and policy provides a solid foundation for the recognition and safeguarding of cultural heritage, it does not operate in isolation. In order to

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<sup>40</sup>Article 13.

<sup>41</sup>Article 14.

truly safeguard intangible cultural heritage, and ensure that it continues to evolve, it is necessary to facilitate its functional use. The threats to heritage are, at least in part, a result of contemporary social and economic activities and therefore approaches to the safeguarding of intangible cultural heritage must engage with the broader pressures placed upon it. Thus, Pacific SIDS would do well to integrate heritage conservation with broader socio-economic and environmental objectives. Simultaneously, approaches to sustainable development would ideally facilitate the maintenance of cultural heritage, rather than threaten it.

## Conclusion

Pacific island states have a rich cultural heritage which has to date received limited global recognition. This cultural heritage is now under considerable threat and concerted effort is essential if it is to be safeguarded. Pacific SIDS have come a long way in establishing programs specifically aimed at protecting their intangible cultural heritage. Many are now in the process of developing specific cultural laws, policies and strategies. Lacunae still remain, however, and international law such as the CSICH offer opportunities to fill these gaps. This chapter has identified the ways in which CSICH might be utilized by the Pacific region SIDS to boost their existing programs and catalyse further action. It is clear, though, that effort is needed at all levels of governance to ensure that this region's rich culture heritage is globally recognized, viably safeguarded and sustainably utilized by and for present and future generations.

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# Chapter 5

## A Fresh Consideration of Development Strategies for Smaller Island States and Territories

Godfrey Baldacchino

### Introduction

Much of the literature on the development prospects of small, often island, jurisdictions is steeped in pessimism, driven by a serious concern as to the ability of such players to exploit the opportunities of an increasingly globalised world and its emergent liberalised trade rules (e.g. Briguglio 1995: 1615–1620; Encontre 1999: 265; UNCTAD 2004; WTO 1999). It is common to argue that small size, islandness, vulnerability, and a low governance capacity conspire to exacerbate the existing marginalisation of small economies, and is a condition which therefore justifies calls for special treatment. These arguments, however, “... are by no means uncontentious, and are part of an ongoing debate” (Horscroft 2005: 41). This paper aligns itself with a more optimistic view of the prospects for these territories and their citizens, who continue to exploit opportunities and maximise economic gains in a turbulent and dynamic external environment (e.g. Streeten 1993; Easterly and Kraay 2000; Page and Kleen 2004: 82, 89–90). Unable to reap economies of scale, they practise economies of scope. They do so also by keeping alive a portfolio of skills and revenue streams which enables these actors to migrate both inter-sectorally, as well as trans-nationally.

While recognizing the real environmental threats of being a small, open, often islanded economy – hurricanes, droughts, sea level rise, water shortages, waste mountains ... some small economies have done well and continue to do so. They are ‘developed’, or have ‘graduated’, not so much for having avoided major hazards, but for having risen up to their challenge and prospered, because – and not in spite – of their openness, perhaps becoming more resilient and nimble in the outcome.

In a globalized and interdependent world, all countries today face threats and dependencies. The USA, often referred to as the current ‘hyper-power’, has had its fair share of recent, psyche-changing disasters, including 9/11/2001, Hurricane Katrina in 2005, the Wall Street Crash of 2008. All oil and gas importing countries have

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rediscovered their dependency on fossil fuels with the recent price hikes in these resources. Autarchy is hardly a policy option, and so some measure of trade dependence is a characteristic of contemporary jurisdictions. It is the responsiveness to threats – not the existence of threats per se – that deserves kudos and analysis. The capacity to get up and move on in the face of various disasters deserves being celebrated and researched. Nor should such successes be simply dismissed as ‘special cases’ (as the Seychelles, described in Kaplinsky 1983) or ‘paradoxes’ (as is the ‘Singapore Contradiction’ in Briguglio 2002) that fly in the face of all-too-obvious vulnerabilities: they deserve critical recognition and serious scrutiny on their own terms.

The time may thus be right for a research exercise that analyses the behaviour of small – or, better, smaller – ‘developed’ (mainly island) states, and its historical emergence, against a series of hypotheses. A series of patterns and conditions for development may emerge from a scrutiny of what are understood to be smaller developed states and territories today. Some of these characteristics will be peculiar and idiosyncratic to specific jurisdictions, of course; but others may lend themselves to some useful, policy relevant, comparative inquiry.

This exploratory paper proposes to trigger this discussion. It proposes to do so mainly by moving away from the vulnerability-resilience continuum that grips much of the debate on the economic viability of smaller (often island) states and territories today, replacing it with an alternative but similarly bimodal conversation: one between economic (high-density) and ecological (low-density) criteria of development. In so doing, one invites a reconsideration of the impact of physical and social geography on development, as well as the changing relationship between ‘nature’ and ‘human culture’.

## Basket Cases of Success

Which smaller countries in the world today are considered ‘successful’, and not just in orthodox economic terms? At least three sub-sets can be identified here:

1. Many would agree with the choice of the Bahamas, Barbados, Cyprus, Iceland, (in spite of the 2008 fiscal crisis) Malta and Mauritius. One could add New Zealand and Singapore as well – if we go beyond the threshold of a population of 1.5 million, and up to just over 4 million. These are all stable, prosperous, **sovereign and democratic island states**; and all except Iceland are former British colonies.
2. Then there are the **continental European micro-states** (Andorra, Liechtenstein, Luxembourg, Monaco, San Marino, Vatican) – which have fine-tuned beneficial relations with larger European states (Switzerland, Italy, Spain, France) and/or with the European Union.
3. Finally, and raising pertinent questions about the meaning of sovereignty in an increasingly globalised and inter-dependent world, are such **sub-national jurisdictions** as Åland, Bermuda, Guernsey, Jersey, Isle of Man ... again, all are islands, and most are associated with the British Crown/United Kingdom.

Note that New Zealand is the single Pacific candidate in the above lists. The inclusion of the Pacific region raises fundamental concerns about the very meaning of ‘development’ and its western ideological tenets which, among other things, discount the non-monetized and informal economy (and alerts us to the subtle Western bias lurking in our definition of ‘success’?). The Pacific is also exceptional in having indigenous populations, and their own customs and cultures, which have survived the ravages of late imperialism. A suitable additional candidate to consider including among the list of successes stories could be Samoa.

One may venture to argue that smaller size, certainly in the case of the territories identified above, has *not* been a crucial handicap to development. Nor has islandness or peripherality. Strong levels of social capital and outward facing cultural attitudes would also contribute to a dynamic economy, able to respond confidently to opportunity (Baldacchino 2005; Pitt 1980; Srebrnik 2000). Meanwhile, for most of these jurisdictions, and certainly for the smallest, high population density per unit land area comes across as a common feature. And all – except the largest identified (New Zealand) – have an insignificant agricultural sector.

Islands that are political units are also geographical enclaves that tend to have higher population densities than mainlands, since offloading people across the sea remains more problematic than offloading them onto a contiguous land mass. Moreover, around half of humankind dwells on or near coastal regions, because continental interiors are disadvantaged locations for settlement. These preferences are evinced from the much higher mean population density for islands than for continents: excluding the large but practically empty mass of Greenland, island units have a mean population density of 144 persons/km<sup>2</sup> – *three times* the mean value of 48 persons/km<sup>2</sup> that obtains for Eurasia, America, Africa and Australia combined<sup>1</sup> (see Table 5.1).

There is however another distinguishing feature of islands: and one that connects us with the inclusion of Iceland and New Zealand in our listings. These two island jurisdictions emerged as ‘settlement colonies’ in the Modern age, absorbing surplus population from the colonial homeland (King 2009; Warrington and Milne 2007); but they both remain characterized by *very low* population densities: just 3 and 15 persons/km<sup>2</sup> respectively.

If one is looking for extreme cases of population density, examples of *both ends* of the continuum are to be found on islands. In other words, island states and

**Table 5.1** Population densities on islands and continents

Land mass	Population (A)	Land area (km <sup>2</sup> ) (B)	Population density (A/B)
1. Four continents	6,550,435,000	136,071,330	48
2. As (1) above, less Australia	6,530,000,000	128,453,330	51
3. All island states and territories	588,807,050	6,263,612	94
4. As (3) above, less Greenland	588,752,050	4,088,000	144

<sup>1</sup>Idiosyncratic Antarctica is deliberately excluded from this exercise.

territories do not just provide scenarios of very high population density – with places like Bermuda, Malta and Singapore topping the list – but they also provide examples of land areas with very low population density, as well as the *only* examples of completely de/unpopulated, geographically discrete areas on the globe. “‘Uninhabited’ is a word attached only to islands” (Birkett 1997: 14). These locales are attractive and have their own value, one that exploits their often unique natural qualities and apparent ‘underdevelopment’, for the purpose of more sustainable living, exclusive retirement locales and/or niche tourism.

## Two Distinct Paradigms

Most of what are seen as successful island jurisdictions today have managed to avoid extensive resorts to industrialisation, and the environmental fall-out that such a development trajectory unwittingly implies.<sup>2</sup> Other than Malta, Fiji and Mauritius, no smaller island economies have embarked on any significant industrial programs, thus often managing to ‘leap frog’ from primary to tertiary sector production in a few decades (e.g. Baldacchino 1998).

Having said that, many of these successful smaller island jurisdictions today find themselves operating within two distinct and quite diametrically opposed development paradigms. In a variant of ‘the Triple Bottom Line’ – an approach to decision making that considers economic, social and environmental issues in a comprehensive, systematic and integrated way – this paper focuses on just the two ‘e’ terms in this configuration, relegating the status of the third, social dimension to that of an intervening variable.

The first batch is typified by dynamic, aggressive and competitive export producers who can depend on strong knowledge and finance capital pools. Such locations typically have high population densities, limited land areas, large pools of immigrant labour, considerable foreign direct investment, significant manufacturing sectors and extensive overseas investments, but poor and degraded local natural environments (if any exist) and higher per capita carbon footprints. ‘City states’ such as Hong Kong, Malta, Monaco and Singapore – as well as larger countries such as Japan – are leading examples (e.g. Debattista 2007). These would have usurped the “slowcoach of agriculture”, given the absence or low political clout of a rural hinterland (Streeten 1993: 199). This could be, in turn, an outcome of poor soils or difficult terrain unsuitable for commercial farming. This cluster of features can be labelled as the *economic development* approach.

In contrast, the second batch of examples is typified by island locales that flaunt their clean, serene and pristine natural environments, often accompanied by distinctive cultural practices associated with indigenous communities. Low populations

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<sup>2</sup>This is not to exclude the environmental degradation that can result on small islands from excessive dependence on one mineral resource – as in the case of Nauru and its phosphate.



and low population densities, perhaps supported by remittances and transfers from elsewhere, help to maintain this more environmentally sustainable lifestyle, which in turn promotes a potentially more nature friendly, more exclusive, tourism industry (*however, for a critical view, see Gössling 2003*). Iceland, New Zealand but also Dominica, Greenland, Molokai, Samoa, Seychelles, Tobago and the Faroes are apt examples, and are internationally recognized as such (e.g. National Geographic 2006). Many of these locales are associated with states that have dedicated significant portions of their land and/or sea to nature parks; or have maintained their natural forest, tundra, taiga or permafrost cover. For example, five Micronesian governments (Palau, followed by the Federated States of Micronesia, the Republic of the Marshall Islands, the US Territory of Guam and the US Commonwealth of the Northern Mariana Islands) have pledged a commitment to effectively conserve 30% of their near-shore marine resources and 20% of their terrestrial resources by 2020 (Nature Conservancy 2008). This second cluster of features can be labelled as the *ecological development* approach. The main features of, and differences between, these two approaches are schematically described in Table 5.2.

Interestingly, different parts of the same country can exhibit these sets of features: in archipelagic Japan, for example, metropolitan high density Honshu is contrasted to Yakushima Island (World Heritage Site) and the sacred island of Miyajima. Same can be said for the Bahamas, where two-third of the population lives on the island of New Providence, which has just 3% of the country's total land area; or the Maldives, with almost the whole population living on one atoll. In Indonesia, the Moluccas (or Spice Islands) have a population density of 20 persons/km<sup>2</sup>; contrast this to that of 2,070 for Java.

The contrast between these two sets of island features can also be discerned from the same geographical region. In the island rich Mediterranean, for example, population density ranges from a high of over 1,200 per km<sup>2</sup> for the Maltese Islands to 68 for Sardinia and just 32 for Corsica: in the latter two cases, a rugged topography makes settlement more challenging, and this difficulty of access conserves a rather unspoilt interior.

**Table 5.2** A comparison of the general characteristics of economic and ecological development

Economic development	Ecological development
High population density	Low population density
Entrepôt Islands	Fortress Islands
Limited, fragmented and strained natural resources	Significant, unadulterated and pristine natural resources
Aggressive exporters (mass markets)	Choosy exporters (niche markets)
Mass tourism appeal	Exclusive tourism appeal
High carbon footprint	Low carbon footprint <sup>a</sup>
High urbanization	Low urbanization

<sup>a</sup>One needs to exercise caution here. While domestic carbon footprints may be low, they may be excessively high in relation to, for example, the tourism industry. Thus, the Seychelles had a very high mean air travel emissions per tourist of 1,873 kg of carbon dioxide in 2005 (Gössling et al. 2008: Table 5.2)

It thus appears that geography and history conspire to render islands differently suited for development strategies. On the basis of the typology suggested by Warrington and Milne (2007), island *entrepôts* have acted as magnets for significant incoming and circulating population movements and diversity; they are well placed to exploit their 'in betweenity' to accumulate fiscal, human and material capital for development. They are challenged to come up with solutions to the pressing problems resulting from an acute lack of space and associated high costs of land (e.g. The Economist 2006b). This would include a brand of tourism that is more appreciative of built environments, socio-cultural townscapes and urban living. They are well honed to take upon themselves an economic approach to their development. Meanwhile, island *fortresses* appear better suited at keeping newcomers away, making access to their shores more difficult, tortuous, time-consuming, challenging or otherwise risky. These conditions suggest that an ecological approach to development may be a more natural option (pun intended). Connell and King (1999: 3), echoing Churchill Semple (1911), observe that islands which find themselves at important crossroads – in a “nodal location” – tend to attract immigrants and may thus be challenged by overpopulation; whereas those which find themselves isolated, on the periphery, may be thus better adept at sending people away and may suffer stagnant or declining populations in the outcome, risking depopulation.

That there should be at least two contrasting 'development paradigms' in the first place may belie a basic misunderstanding about the very nature and expression of development. The leading examples of *economic* development, with their significantly negative environmental impacts, may not be successful over the longer term. Their 'success' may often depend on the ability to lure value added from away, while exporting negative externalities offshore. The examples of '*ecological* development' (if any such term can be used, since the clause comes across as an oxymoron), in contrast, typically maintain much lower environmental footprints. Dahl (1996: 49) reminds us that, in spite of “the ‘eco’ as a unifying concept ... the chasm between economics and ecology is a symptom of the malfunctioning of modern society which threatens our very future”. Given the strong sense of place that they engender, islands are ideal spaces to experience the pernicious and dysfunctional chasm between these two separate 'ecos' (Depraetere 2008: 20).

If we are to posit these two sets of island candidates as success stories, then we need to be better able to critically but cogently identify what led them to assume such a status. Are there (other) discernible patterns behind either of these two, apparently diametrically opposed, trajectories of success? Which political episodes (including crisis?) and dynamics (including non-democratic processes?) have galvanized these island societies and economies towards competitive economic or ecological prosperity? What particular set of goods and services have permitted these jurisdictions to occupy and secure export markets? What human resource development policies have they pursued? What beneficial links with their respective diasporas have they fashioned? How have they exploited bilateral and multilateral agreements via shrewd (para)-diplomacy and international relations? Have higher education, tourism, financial services and niche manufacturing been important

contributors to economic growth? Is there an active concern with sustainability and visions of a future that will lower fossil fuel dependency? These are some of the questions that beckon further, island studies research.

A second set of questions is also pertinent. These questions would connect with considerations or opportunities to shift gear from one developmental approach to another. What does one do if a particular island territory wants to be successful on *both* these development fronts? Can one be both economically *and* ecologically successful, and be known globally for both? How have island states such as Ireland, Iceland and New Zealand (e.g. The Economist 2006a) managed to avoid this seeming contradiction by portraying themselves as ‘smart’ (technologically savvy), without sacrificing their representation as places where nature is bountiful, where – for example – whiskey can coexist with cloning research (as in Scotland), and where quality milk chocolate can coexist with precision watches (as in Switzerland)? Can an island be both green and clever at the same time<sup>3</sup>; or is this ‘best of both worlds’ scenario only a myth, possible only via a deliberate foray into marketing spin and camouflage? Could especially archipelagic island states – such as the Bahamas, Maldives, Seychelles, Fiji, Tonga, St Vincent and the Grenadines ... but also mainland states with outlying island units – such as the USA with Hawai’i; Greece with the Aegean Islands; Portugal with the Azores and Madeira; Malta with Gozo; or South Korea with Jeju – zone their territory in such a way that they can pursue differential development strategies via geographically delineated (that is, enclaved) policies?

## Economic Success

The *economic* road to success is the easier to chart, because it follows well-worn, conventional principles and definitions. Standardized economic statistics rank countries according to gross national/domestic product or purchasing power parity standards. Wealth is often defined in such terms as GNI/GNP/GDP per capita, with purchasing power parity. Smaller, often island, territories do exceptionally well on these counts. In their analytic critiques, Armstrong et al. (1998: 644), Easterly and Kraay (2000: 2015), and Armstrong and Read (2002) agree that smaller (and mainly island) jurisdictions actually perform economically *better* than larger (mainly continental) states. Comparative research has shown that, on average, non-sovereign island territories tend to be richer per capita than sovereign ones (Poirine 1998; Bertram 2004). The citizens of French Polynesia, Aruba, Bermuda and Iceland have been counted amongst the world’s top ten richest people, in terms of these conventional standards (The Economist 2003). Armstrong and Read (1998: 13) have also argued that many of the smaller states – most of which are island or archipelagic territories – have managed to compensate effectively for their smaller size by a high

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<sup>3</sup>The tension between “the modernizers and the traditionalists” is also explored by Grydehøj (2008) in the case of Shetland.

quality of “endogenous policy formulation and implementation”. Earlier, Katzenstein (1985) had made similar remarks in relation to smaller European states.

Island-specific literature suggests five policy areas as being critical ingredients in shaping prosperity, economic development-wise (e.g. Milne 2000). Contestation over ‘who does what’ in these economic policy areas is typically tense, especially in federal political systems, and may in itself lead to demands for more self-rule, its withdrawal or its renegotiation between the parties concerned. These powers are premised on effective governance: however, unlike other models that seek to explain the principles behind revenue flows to island economies,<sup>4</sup> these policy areas depend much more on the proactive nurturing of specific, local, jurisdictional capacities or local powers (Baldacchino 2006a). They comprise the management of external relations “... by means of domestic policies and governing institutions” (Warrington 1998: 101). These five select policy areas are: (1) powers over finance, mainly banking, insurance and taxation; (2) powers over environmental policy, particularly natural resources; (3) powers over access, particularly in relation to air and sea transportation; (4) powers over free movement of persons; and (5) powers over tourism policy (*for details, see* Baldacchino 2006b; Baldacchino and Milne 2000). Looking at these policy areas more holistically, Bertram and Poirine (2007: 362) conclude that “... the combination of offshore finance and high-quality tourism stands out as the strategy of the most successful island economies”.

## Ecological Success

The defining characteristics behind *ecological* success are much more elusive. They typically include low population levels enjoying longevity and healthy low-stress lifestyles, large proportions of undisturbed and pristine land, rich air quality, abundant local fauna and flora, low carbon footprints... but these same features may be (mis) construed as those of a primitive, late-coming, underdeveloped economy. What, for example, is Greenland/Kalaallit Nunaat? On one hand, the world’s largest island (2.16 million km<sup>2</sup>), with the world’s largest national park (Northeast Greenland National Park – 972,000 km<sup>2</sup>); a population of just 56,344 (in 2007), of whom 88% are indigenous Inuit or mixed Danish and Inuit; and – thanks to challenging climate conditions, sub-national jurisdictional status, and distance from markets – receiving relatively low but high-paying tourism visitations: around 30,000 annually. Yet, the tourism figures (via both air and cruise ship) are on a steady increase; and the official policy appears to be satisfied with expansion (e.g. Kaae 2006). And so, Greenland may be simply a very late starter on the otherwise conventional route to mass tourism. We could say the same about Madagascar, and other smaller islands. The march to conventional development grips such islands too: their populations – as their tourist

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<sup>4</sup>As do the MIRAB and SITE models (both reviewed in Bertram 2006).

visitations – may continue to grow unchecked, and impact progressively more severely on finite and fragile natural assets.<sup>5</sup>

The trajectory from ecologic towards economic development is often a victim of the sheer momentum of democratic politics. Once local residents start buying into the tourism industry, they develop an interest in increasing tourism numbers, hoping to tap into the accruing wealth by landing an additional job or contract, or else offering that one additional bed, meal, tour, or souvenir: a dynamic well explained in the ‘development phase’ by Butler (1980) in his Tourism Area Life Cycle model, or by the ‘Tragedy of the Commons’ as outlined by Hardin (1968). But more tourists does not necessarily translate into higher local value added, especially when a locale’s exclusive charm is eroded and the local environment becomes irreparably degraded with the impact of tourist invasions – diminishing returns are a real threat, especially on the smallest islands. Politicians in democracies may be loathe, or find it difficult, to adopt unpopular measures that may, or are seen to, thwart the ‘trickle down’ benefits – such as rents and employment – that may accrue from this industry.

Still, in spite of these real political challenges, there are a few examples which suggest a fairly successful brake on the normal expansion of tourism and its creeping penetration on a smaller island’s infrastructure, economy and society. To illustrate, three ‘warm water’ island cases are presented below<sup>6</sup>: they manifest, to different degrees, how they have been able to buck the trend to a mass tourism market, with its setbacks.

*The Seychelles* is one such example. This has been one of the most stable, fastest growing economies in Africa over the medium term, having made a successful transition to democracy in the last decade. The arrival of 130,000 tourists generated some €118 million (US\$112 million) in 2000, corresponding to 20% of GDP and 60% of foreign exchange earnings (Shah 2002). A similar number of visitors was reported for 2005, but generating a more substantive €222 million (US\$246 million) (Gössling et al. 2008). McElroy (2006) assigns it a penetration index of 0.107. Tourism is thus a key pillar of the economy for this 112-island archipelago with a population of around 90,000. The Seychelles has adopted a strong-arm approach to the industry. It has limited the size of hotels (beyond tourism ‘villages’) to a maximum of 200 rooms; it maintains a selective marketing approach where pricing acts as a filter for the type of tourism that the country desires. It has exploited its archipelagic nature, leading to its tourist destinations most distant from the capital and the country’s sole international airport – like Bird Island and Cousin Island – to have higher occupancy rates, even though they are costlier and both more difficult and expensive to get to. Prices per bed night per person reached €40 in 2001, even in the simplest guesthouses (e.g. Rosalie 2002); more recently, €60 is cited as the minimum for a double room (Gössling 2009). There are currently plans to attract a maximum of 250,000 tourists a year.<sup>7</sup>

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<sup>5</sup>Although, in sharp contrast to each other, Greenland’s population is basically stable; while that of Madagascar is growing at over 3% per annum, and will thus double in around 22 years.

<sup>6</sup>Material in the forthcoming section has been gleaned mainly from Baldacchino (2006c).

<sup>7</sup>Stefan Gössling, private e-mail communication, July 2008.

Environmental legislation in the Seychelles was implemented in a top-down process under the one-party state of President France Albert René in the mid-1970s. This policy continued even after the turn to democracy in the early 1990s. The institutional framework for environmental conservation was established with the implementation of the Department of the Environment in 1989. As early as 1990, this Department resented the first environmental management plan for the Seychelles (RoS 1990), followed by a plan for 2000–2010 which provides guidelines for all activities related to the environment (RoS 2001). In order to ensure environmental conservation, some 50% of the land area of the Seychelles (230 km<sup>2</sup>) was turned into protected areas (RoS 2001). These areas are of particular importance in creating the image of an eco-island, and they are part of the Seychelles' successful marketing strategy (Gössling and Wall 2007). Within the archipelago, such an island as Aldabra, a UNESCO World Heritage Site, has no permanent settlement and is only accessible to scientists and special visitors.

Another example of successful containment and high per capita value added could be that of *St Barthélemy* (or *St Barths*), a Caribbean island which is an overseas collectivity of France (and, until 2007, part of the same *department d'outre mer* as Guadeloupe). The island has an area of only about 12 km<sup>2</sup> and a residential population of about 3,500 persons. The island has long been considered a playground of the rich and famous; it is known for its beautiful pristine beaches, gourmet dining in chic bistros and high-end designer shopping. There are only some 25 hotels, most of them with 15 rooms or fewer, and the largest, the Guanahani, has just 70 rooms. Doumenge (1998: 341) describes the island as follows:

There, the airport has a very small airstrip, accessible only to small planes having not more than 20 seats (including that of the pilot). This drastically limits tourist access, and offers an efficient means of control. In St Barthélemy, you can enjoy a very quiet, traditional way of life, with a very high standard of living, and the islanders control their destiny in a more thorough manner than would otherwise be possible.

For the insatiably curious, the island's "incredibly short runway" (Insiders' Guide 2006) is 2,100 feet (646 m) long. In the Caribbean region, only Saba has as shorter runway. Flying on a scheduled flight into St Barths is only possible with small planes, like the 20-seater Hawker de Havilland Twin Otter. A total of 175,055 passengers arrived in St Barths in 2003, port and airport combined: "passengers" includes both residents and visitors alike. While there is as yet no system that allows the exact number of tourists to be counted, the number of visitors is calculated at around 50,000 (St Barths News 2004). One cannot fly direct into St Barths: the main entry point for commercial flights is via Dutch Sint Maarten, just 10-min' flying time away. Those 10 min, apparently, make a world of a difference. As Doumenge (1998) candidly continues:

Just in front of St Barthélemy lies Sint Maarten, an island with disaster written all over it, with its mafia barons, gambling racket, and crowds in excess of one million tourists a year channeled through a large international airport.

A third example, this time of how a containment policy can run into serious difficulty, even though it may have started off with the best of intentions, concerns

the *Galápagos Islands*. This island archipelago has been identified as “Evolution’s Workshop” following the pioneering work of such bio-geographers and zoologists as Charles Darwin, David Lack, and Peter and Rosemary Grant (Larson 2002). One-third of the archipelago’s vascular land plants are endemic, as are nearly all the reptiles, half the breeding land birds, and almost 30% of the marine species. This has led to an international movement to preserve the islands’ unique ecosystem, and the support of the Ecuadorian Government, to which the islands belong. The plan was for controlled tourism to help safeguard the rich flora and fauna, while sustaining livelihoods for the locals. The Charles Darwin Research Station, run by the Charles Darwin Foundation, was set up in 1959 ([www.darwin-foundation.org/](http://www.darwin-foundation.org/)); UNESCO declared the Galápagos one of its first four World Heritage Sites in 1978; a Biological Marine Resources Reserve was set up in 1986, with a zoning plan in place by 1992; and a 1998 ‘Special Law’ restricted movement of mainland Ecuadorians to the islands. It looked like the environmentalists had secured the upper hand in the context of a positive-sum game (UNEP/WCMC 2006).

But the experience has proved exasperating. Hoping to find work, and lured by the prospects of a better life, people from mainland Ecuador have literally invaded the Islands. The 1949 population was just 800. The 1990 Census reported an island population of 9,735. In 2005, the resident population was 28,000, and is growing at 6.5% per annum. Tourism has been too successful: despite high prices – the National Park charges a US\$100 entrance fee on foreign tourists – the stream of visitors has never wavered: Not surprising, considering that the average cost of a US package to the Galápagos was already around US\$3,000 in 2001 (Kerr 2006). In the 1960s, there were around 1,000 tourists annually; some 140,000 visitors turned up in 2006. A third airport has been built; and cruise ship visitations started in 2007. Tourists visiting the park are expected to total about 180,000 in 2008 (Kraul 2008).

## Tensions at Work

The Galápagos case is illustrative of the many interesting tensions at work in these island contexts: reminding us that ‘development’ is always contested since it begets both winners and losers. Although a UNESCO World Heritage Site, this archipelago is witnessing “the mixed blessings of greenery”: finding it hard to prevent invasions of mainland Ecuadoreans to settle on its territory, threatening its unique environment and species (e.g. Larson 2002; The Economist 2008). Some specific islands try to move away from the economic to the ecologic model of development, with industrial and other stakeholders doggedly defending their way of life. Tasmania, for example, continues to struggle to define itself, with a considerable lobby intent on commercially exploiting its old growth forests, while other interests, differently considerable, are just as determined to protect and preserve them (e.g. Chen and Hay 2006). In contrast, other

island jurisdictions are making an opposite move, from the ecologic to the economic logic, promoting some industrialisation especially to stave off massive regional depopulation. The job opportunities, but environmental cost, associated with building an aluminum smelter in Eastern Iceland has divided that island's public (e.g. Hollingham 2007). Similarly, the Government of Dominica – said to be the only island that navigator Christopher Columbus would recognize were he to revisit the Caribbean today – has decided to accept an offer from its Venezuelan counterpart to build an oil refinery, sparking keen debates on how this decision would compromise the country's 'sustainable development' and its credentials as the 'nature island' of the Caribbean (e.g. TheDominican.net 2007; Shillingford 2007).

### **Carving Out Islands for Ecological Sustainability**

It is much easier for sub-national, island territories and jurisdictions to adopt and maintain an ecological approach to their development than an independent state. This is because they can be zoned for such a purpose, while other economic development related activities can take place elsewhere, presumably in the metropole. Islands, especially smaller ones, can become beacons, or what Turner (2007) calls "geographies of hope". Turner is keen to present us with a scattering of islands that are making impressive advances in energy sustainability, and serve as beacons of optimism in otherwise dark and gloomy times. The trouble is that Turner uses the word 'island' as metaphor; only two of the examples from his 'archipelago' of cases are real physical islands. Nevertheless, these two islands – Samsø (a 100% renewable energy site) and AERØ – both in Denmark, are clear examples of islands boasting energy sustainability. Other 'real island' examples can be added, for good measure: Iceland, with its hydrogen powered bus fleet and the commitment to be (except for its air planes) fossil free by 2050; Islands like Mackinac (USA); Hiddensee (Germany); Sark (Channel Islands), Cheung Chau and Lama (Hong Kong, China) remain today without automobiles. The only two vehicles on Heligoland (Germany) are the fire truck and – since 2007 – a police car. Bermuda, which for some time banned the motorcar, has a strict 'one car per household' policy plus no rentable vehicles. On La Digue, the third largest island in The Seychelles, the local authority restricts the issuing of licenses for trucks, cars/taxis and buses. On Mosquito Island, British Virgin Islands, recently purchased by Sir Richard Branson, everything is designed to reduce, or eliminate dependence on fossil fuels.

There are three general ways in which islands have been thus carved out and enclaved.

The first is via *the crafting of parks or nature/culture reserves*. Park status prevents finite, prized but public resources from falling victim to the 'tragedy of the commons'. The world's largest protected marine area, until recently, has been Australia's Great Barrier Reef (which includes many islands). Since 2006, the



Papahānaumokuākea (originally Northwestern) Hawaiian Islands Marine National Monument (USA) is even larger, with an area of some 362,000 km<sup>2</sup>, more than the total area of all current U.S. national parkland (e.g. Eilperin 2006). In the Orkney Islands of Scotland, the largest land owner today is the Royal Society for the Protection of Birds.

Perhaps the most prestigious list of all is UNESCO's list of World Heritage Sites. Some national parks (like Dominica's Morne Trois Pitons) get inscribed onto this list in due course. Inscription on this high-status list identifies a locale as having cultural and/or natural features that are recognized as deservedly common heritage of humankind and therefore meriting being preserved for all, beyond the actual political borders where they may happen to be situated. Islands, singly or in groups, are the only places in the world that can find themselves *totally ensconced* as World Heritage Sites. Thus, at the latest round of additions to the list, announced on 7 July 2008, there were sites *in* Mauritius, *in* New Caledonia, *in* Vanuatu and *in* Cuba announced; but the whole island of Surtsey (Iceland) and the whole Socotra archipelago (Yemen) were also included. (They thus join such wholly endorsed islands as the Aeolian Islands, Aldabra, Baja de California Islands, Fraser Island, Galápagos, Gorée, Henderson, Isla de Cocos, Lord Howe, Mozambique Island, New Zealand Sub-Antarctic Islands, Rapa Nui/Easter Island, Robben Island, Saint-Louis, St Kilda, and Venice.) Some of these islands, especially those listed for their natural features, are totally depopulated (as is Surtsey); some are accessible to scientists (Macquarie Island, Australia); others to tourists but only after obtaining special permission (Aldabra atoll, Seychelles); some even inaccessible, in name as much as in deed: Gough and Inaccessible Islands (United Kingdom) were inscribed to the list in 1995.

The second route to ecological development is via *non-democratic control and non-pluralist governance*. (The designation of land or sea as parks, reserves or world heritage sites is in itself a form of wresting such spaces from the non-regulatory and *laissez faire* tendencies of democracy). The 'political geography' of cold water islands might partly explain why there are typically less pressures to expand tourism on these locations. Extreme island regions of larger states tend to lie on the political periphery, especially when they have small populations: un/under-represented in the corridors of power; largely forgotten by centralized policy makers suffering from 'the urban bias'; dismissed as insignificant backwaters other than, perhaps, in strategic (military and resource) terms (Butler 1993; Wilkinson 1994). A weak local political influence and a lackadaisical interest from the centre do, in turn, suggest that local elites assume significant politico-economic power. These elites also tend to be narrower, less fragmented and more concentrated in island jurisdictions with small populations (e.g. Boker 2005; May and Tupouniua 1980; Richards 1982). Moreover, in non-sovereign island territories, the concentration of local politico-economic power is more likely to rest in the hands of a small identifiable group: a religious congregation (Solovetsky), a team of scientists (Macquarie); an indigenously controlled corporation (Baffin; Nunivak); an arms-length enterprise trust (Chatham); or a municipality (Luleå)

(for individual case studies, see: Baldacchino 2006d).<sup>8</sup> Such skewed influence creates a situation where there is hardly a plurality of interest groups clamouring to benefit, and benefit fast, from the tourism bandwagon. The oligopolies in power are champions of tradition; they effuse caution and harbour a suspicion of change. They are fully aware of the environmental and economic risks of mass tourism and are immune to populist pressures that may oblige them to consider such investments in that industry. And so, there is limited discussion (at best) on whether to take the tourism industry forward. Most of those in power have no stake in tourism – which is not a key industry anyway – and so are more likely to view its intrusion with some grave, even legitimate, concerns. This is well captured in the following statement, uttered by none other than Archimandrite Josef, the head of the Monastery on the Solovetsky Islands, Russia. It leaves no room for discussion:

[O]vergrowth of tourism flows and preservation of divine spirit of the island are incompatible. Nobody even thinks of converting Solovetsky into a trendy resort where the White Sea shore is full of restaurants and ... the sky above the Monastery's towers is crossed by paragliders (International symposium, *Solovetsky: Future Insights*, 2003; quoted in Nevmerzhtskaya 2006: 162).

There is thus an uncanny similarity to the situation in the Seychelles, which developed the foundations of its tourism strategies in a top-down fashion, and during a period of one-party rule. Meanwhile, both the Seychelles and St Barths have transformed what might at first glance appear to be a brace of awesome physical obstacles (remoteness and archipelagicity on one hand; a short airport runway on the other) into tools which help to filter and control access, increasing the distinctiveness of – and maintaining a relatively high price for – the tourism experience.

A third variant, and extreme rendition of this 'governance for exclusivity', is that found on *totally private islands* – again, one island condition that cannot be found on continents. Private islands exist all round the world, and many can be bought – with potential for commercial development or private recreational use.<sup>9</sup> While even private islands operate within the purview of sovereign states, their status as the objects of lease or purchase allows the buyer considerable discretion (which varies from state to state) as to how to manage the island – but commonly with the intent to *restrict access* to a select few, typically some of the owners' relatives, the rich and the famous. They operate as gated communities where geography does much of the gating. Ironically, it is the cash and value added created in the *economically* successful 'hot spots' of the world that is often behind the financing needed to purchase, craft and conserve *ecological* island enclaves. This is another way of tapping 'the hinterland beyond' (Baldacchino 2006b). And so, the two sides of the 'eco principle' connect in a rather perverse but symbiotic relationship.

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<sup>8</sup> Antarctica has its own, unique, multi-lateral governance regime, which transcends national territorial sovereignty, and is primarily driven by scientific interests.

<sup>9</sup>For a web-site dealing in private islands, visit: <http://www.privateislandsonline.com/>.

## The State of Natural Capital

Perhaps one can modify a proposition made by Funk (2008) and schematize a relationship between economic development and ecological development based on the state of ‘natural capital’. In such a model, there are two broad, ideal-type, development trajectories. In the first, countries which have significant ‘natural assets’, would allow their natural resource endowments – sugar, banana, copra, timber, bauxite, phosphate ... – to be mined or harvested and exported, and particularly in a raw state which means that most of the value added is reaped in other economies; thus, these countries are not likely to ‘develop’ beyond ‘plantation economy’ status. They transform their land into a mono-crop economy, remain dependent on world prices, and forego the processing and technological impetus that this involves; and so, they are not necessarily much richer for what they do (in short: *Rich Land, Poor Economy*). In contrast, those countries that had no natural capital worth exploiting to start off with – because of poor soils and fishing grounds, as well as limited fresh water, exacerbated by high population densities, or because of early deforestation – would basically have no choice but to promote innovative development policies. These may include high levels of out-migration (and then remittances), attracting foreign investment, or otherwise tapping ‘rents’ from elsewhere, specializing in such services as tourism and finance; these have typically done well economically, driven by the need to tap hinterlands and markets beyond their shores (e.g. Kakazu 1994). Such success attracts immigrants and exacerbates population densities. Bar some isolated ‘pockets’ of nature – themselves the subject of intense conflict – these territories would have ruined any natural capital which they may have originally enjoyed (in short: *Poor Land, Rich Economy*).

Is there, and can there be, a middle road between these two routes? Can there be a place which enjoys development but where any ‘natural capital’ is prized and conserved, and not adulterated? Can we conceive of an island (and rather than the much heralded city) as a fully self-supporting ‘economy of place’ (e.g. Logan and Molotch 2007)? The question then becomes: how does one make such natural capital ‘pay’ for itself and its maintenance? How does one avoid “picturesque poverty”?<sup>10</sup> Low populations, apart from low population densities, may help (though this also means that there is less opportunity to reap economies of scale); sustainable management practices by indigenous people might help too. The integration of ecological principles into mainstream development practices is also commendable: for example, applications related to restoration, rehabilitation, conservation, sustainability, reconstruction and remediation of ecosystems using ecological engineering techniques are now numerous. Yet: are there other options for revenue generation, other than niche/eco-tourism, park use and access fees, international aid, and/or outright sale to private interests? (*Rich Land: but, what Economy?*) The Biosphere Reserve Management Concept, traced to the early 1970s with UNESCO and its *Man and the Biosphere* (MAB) program, has evolved to appreciate that the

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<sup>10</sup>As the Isle of Wight has been described by Councilor Harry Rees. See Arnold (2003).

conservation of sites only becomes sustainable in the longer term if a range of economically viable and sustainable options are afforded to communities contiguous to those sites (e.g. Batisse 1990). A clearer link between resource management and economic development needs to be established; this link however often remains elusive without external financial inputs. Indeed, the preservation of pristine environments often depends on the transfer of rentier income generated elsewhere.

Moreover, many of these touted ‘solutions’ themselves imply negative externalities: for example, both international eco-tourism and wind turbine construction projects generate high carbon emissions. Ensuring ecological integrity or ecosystemic health in one place may still imply degradation someplace else.

Clearly, it becomes very difficult for any jurisdiction to maintain itself on exclusively ecological principles. We have no choice but to interpret sustainability in fairly loose ways. Although *whole islands and archipelagos* have been ensconced on the UNESCO World Heritage or Biosphere Reserve Lists, no *whole country* has been, and is not likely to be.

## Conclusion

This exploratory paper has proposed to move away from the ‘vulnerability-resilience’ continuum that grips much of the debate on the economic viability of smaller (often island) jurisdictions today, replacing it with an alternative but similarly bimodal conversation: one between economic (high-density) and ecological (low-density) criteria of development. In so doing, one invites a reconsideration of the impact of physical geography on development, as well as the changing relationship between ‘nature’ and ‘human culture’.

There are various, possibly significant, policy lessons and implications lurking in this text. One of these concerns the appropriateness of a development policy predicated on population growth. The notion that population growth is good ‘in principle’ needs to be critiqued, and the Malthusian concerns with population growth re-proposed for serious discussion. Meanwhile, the export of human resources for long term sustainability is a policy more easily practised by sub-national island territories and jurisdictions, since these are locked into political relationships with larger, continental states countries willing to receive – or unable to legally thwart – this ‘surplus’, and which are themselves beyond entertaining holistic ecological development routes.

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# Chapter 6

## Linking Livelihoods and Conservation: Challenges Facing the Galápagos Islands

Mark R. Gardener and Christophe Grenier

### Introduction

The Galápagos Islands are hailed as “evolution’s workshop” (Larson 2002): they conjure up images of idyllic isolation, giant tortoises, finches and a visit by Charles Darwin. Less known is that humans have been present in the archipelago since the beginning of the nineteenth century. American whalers and Ecuadorian colonists were early arrivers there, and Darwin mentioned both when he visited the Galápagos in 1835. The immigrant population mostly lived from agriculture and fisheries until the 1970s. Since then, however, tourism has become the major economic means of survival; the tourism-driven economy has attracted many new migrants from mainland Ecuador and the resident population has grown at an amazing rate. In 1962, 3 years after the national park was established, Galápagos had 2,300 inhabitants; it had 4,000 inhabitants in 1974 when organized tours of the islands began. In 1990 there were 10,000 residents and 40,000 tourists visiting the islands annually. In 2008 the settled population is estimated at 30,000 and more than 170,000 tourists visit the islands each year. Virtually all food, fuel and consumable goods needed to support the resident, migrant and tourist populations must be imported from the mainland. Despite legislation designed to protect the environment, the sheer number of visitors pushes island resources to their limits. All of the above also increases air and sea transport between the continent and the archipelago, and so the arrival of more invasive species. Yet tourism-driven

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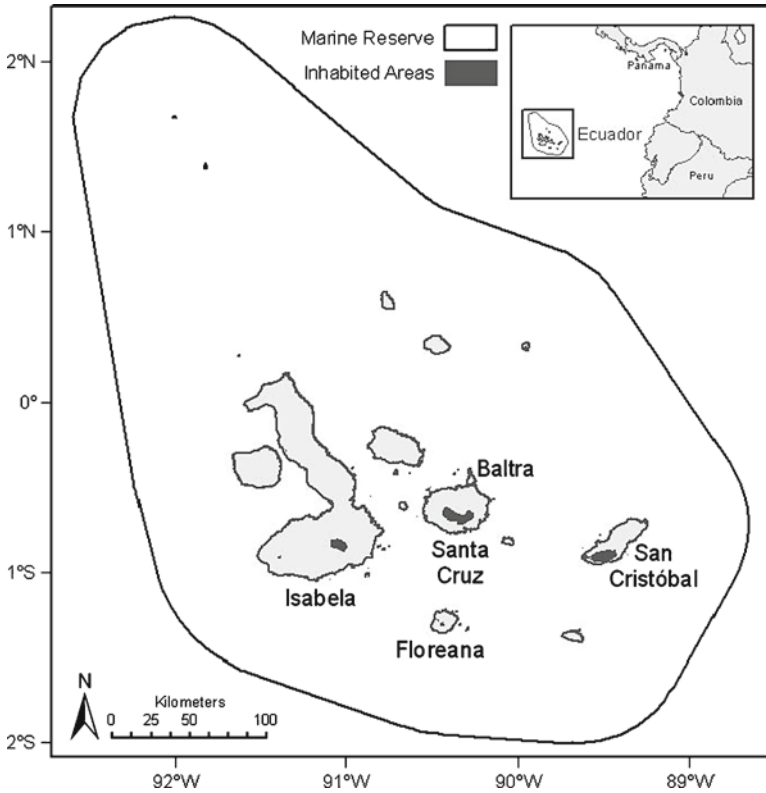
development continues, threatening both conservation goals and the underlying ecological integrity of the archipelago.

This paper discusses some of the challenges in meeting both human livelihood and conservation goals in the Galápagos Islands. We hereby propose that the key to the future conservation of the islands is to think about their connections with the rest of the world and rescue or invent lifestyles adapted to singular environments marked by a specific geographic isolation. Such a more sustainable lifestyle will require five inter-related lines of action: a substantially improved leadership in public administration and planning; a drastic change in tourism policy favoring lower tourist numbers but promoting longer visits; sustainable enterprise development; an educational and training system based on locally relevant curricula and employment prospects; and conservation solutions geared to address expanding environmental problems.

### ***Where Are the Galápagos Islands?***

The Galápagos are low-latitude tropical oceanic islands located about 1,000 km west of the South American mainland (Fig. 6.1). The islands are volcanic in origin, and young in geologic time; the older, easterly islands are 3–6 million years old (Geist et al. 1985). They are characteristically arid. Human settlements are concentrated in the few humid highlands of the larger islands, and facing the prevailing winds (the five islands with permanent settlements are indicated in Fig. 6.1). The Galápagos National Park (GNP) was created in 1959 and covers 97% of the islands' total land area (of 8,000 km<sup>2</sup>). The surrounding Galápagos Marine Reserve was created in 1999 (133,000 km<sup>2</sup>). The Galápagos is still considered to be relatively pristine, as 95% of its pre-human biodiversity remains (Bensted-Smith 2002). Until recently negative human impacts on the islands were minimized because of: (1) the area's relatively recent colonization; (2) the islands' aridity, which makes most areas unsuitable for human settlement; and (3) the early designation of the area as a National Park.

In April 2007, the President of Ecuador declared the Galápagos “at risk” and identified its conservation as a national priority. The Presidential declaration was reinforced on June 2007 when UNESCO included the Galápagos Islands in its description of *World Heritage in Danger* (UNESCO 2010). According to UNESCO, the islands' outstanding natural and cultural heritage is threatened by: (a) weak local institutions and piecemeal approach to planning; (b) economic and population growth driven by an unregulated and unsustainable expansion of tourism; (c) failure to reform the education system as previously recommended; and (d) increased threats to biodiversity from invasive species, pollution and natural resource extraction. These threats were detailed in the commentary entitled “Galápagos at risk: A socioeconomic analysis of the situation in the archipelago” (Watkins and Cruz 2007). Despite the real challenges posed, growing recognition of the dangers of ecological degradation in the Galápagos presents an opportunity for change.



**Fig. 6.1** Location of Galápagos Marine Reserve, the Galápagos National Park (in light grey) and the inhabited areas

### *Is Sustainability Possible in a Hot Spot of World Tourism?*

The Galápagos confronts in microcosm the full complexity of balancing economic growth and ecological sustainability. The ecological challenge is pronounced in an isolated archipelago whose singular environment evolved in isolation but must now accommodate 30,000 inhabitants and 170,000 visitors per year. It is impossible to supply the water, food and energy for this population from the islands' own resource endowments without huge investment and careful management. Given the profound challenges in attaining real 'sustainability' in this sense, here we address the problem of how to mitigate existing negative impacts. In essence, we advocate a policy approach that slows economic growth and the flow of people and goods and stabilizes population growth in the islands and invests in the livelihood, education and future of the existing resident community. Such an approach immediately confronts the fact that the Galápagos-related tourism brings in a large part of Ecuador's Gross Domestic Product (GDP). With the uncertain price of oil, which is Ecuador's main export commodity and source of international revenues, there will be greater pressure to develop industries such as tourism.

## Challenges and Recommendations

### *Leadership and Governance*

When the national park was created in 1959, the Galápagos Islands had the status of “territory” administrated by the Ecuadorian Navy and were governed from Quito, Ecuador’s Andean capital. In 1973, the archipelago became a province and was divided into three municipalities. National governance was gradually decentralized in the 1970s and 1980s, but the central government kept close control of local administration. Local administration in Galápagos became much more independent in 1998 through the Special Law of Galápagos. The archipelago’s administrative and political entities (Municipalities, Province Council, National Galápagos Institute) gained much power through the control of 40% of the annual amount of National Park’s entrance fee (US\$100 for every adult foreign tourist). With such incomes, political and administrative structures have been able to build more transport and urban infrastructures to support tourism and population booms, and to consolidate their clientele. Despite this, the Ecuador central government has always kept total control of education, health, tourism and conservation policies in the archipelago. Since the Special Law was enacted, though, Ecuador has been through a period of political instability: there have been 15 directors of the National Park, 10 ministers of environment and with 7 different presidents of Ecuador. Obviously, this national political instability has affected the Galápagos institutions.

The Galápagos Regional Plan (2001) described the need to more effectively coordinate leadership and governance, but little progress has been made in this area. At present, over 70 local, regional and national institutions play some role in decision-making on and about the Galápagos, including leaders of national, regional and local governments, heads of decentralized organizations such as the Galápagos National Park, high ranking military personal, business owners, workers’ unions and various non-government organisations. There is insufficient coordination of these different actors and a general lack of transparency in the decision-making process, which has been characterized by political patronage and lack of data-based analysis. The President of Ecuador began the process of clarifying administration of the archipelago in August 2007. In September of 2008, a new national constitution strengthening institutional governance in the Galápagos was approved. The new constitution gives greater administrative power to the centralized government, changes Galápagos’ status from a province to a special district, and develops a Regional Government Council. Changes in public administration structure are currently being discussed through a participatory revision of the Special Law.

### **Recommendations**

- (a) Improve institutional coordination and clearly define responsibilities and minimize duplication in the new organizational structure. The coordination process

should be led by the national government with national and not just regional, interests in mind. National institutions such as the Galápagos National Park Service (GNPS) should be better integrated with the National Reserve System and resource-sharing and exchange of expertise should be promoted.

- (b) Improve information management systems to ensure rapid availability of technical information for decision-makers.

### *A Drastic Change in Tourism Policy*

The first tourism policy in the Galápagos was designed in the mid 1960s, before the GNPS was created by biologists and experts in tourism marketing. The objective of the initial plan was to encourage a rapid turnover of tourist visits. In order to minimize the associated ecological impact, tourists were to stay on board cruise ships while they were in the Galápagos, with short stays and landings only in visitor sites of the National Park.

This model did indeed increase the number of tourists visiting Galápagos, but revenues were concentrated in few hands. Social discontent developed within the resident population, which was largely excluded from revenues generated by cruise-ship tourism, and residents pressured authorities to develop more land-based tourism that would provide economic benefits to the locals. Between 1974 (the date of the first Galápagos National Park Management Plan) and 1988, the GNPS unsuccessfully tried to limit tourism with quotas. Since the early 1990s, there has been no official restriction on the number of tourists, which quadrupled in the following years.

As a result, the archipelago has been rapidly opened to the outside world, in the form of ever-larger flows of tourists, migrants, foodstuffs, building materials, fuel, cars, and introduced species. This opening entails a “continentalization” of the Galápagos Islands, with the everyday lifestyles and landscapes ever-more similar to those of mainland Ecuador (Grenier 2007). At the same time, ecosystems are being substantially modified by invasive species and human activities such as agriculture (Watson et al. 2009). It is of paramount importance to slow the growth whilst sustaining human livelihoods. Despite high prices – the average cost of a US package deal to the Galápagos Islands was already close to US\$3,000 in 2001 (Kerr 2005) – the stream of tourist visitations has never let up. A third airport has now been opened and cruise ships started arriving in 2007.

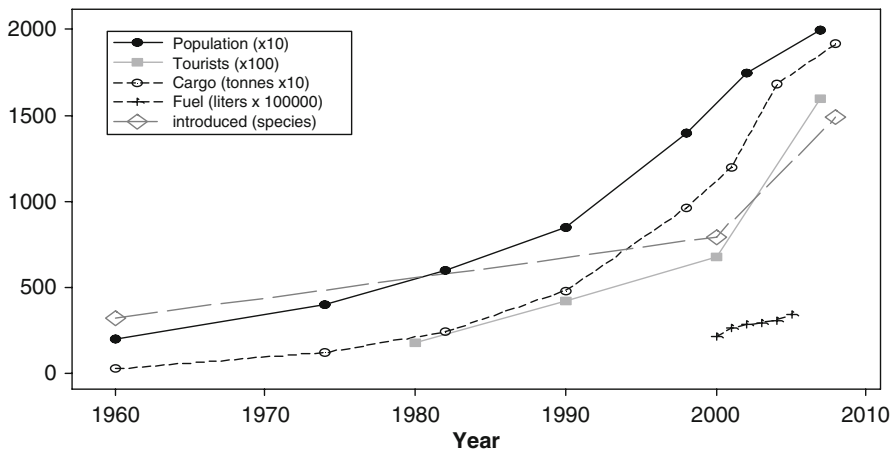
### **Recommendation**

- (a) Decrease the number of tourists that visit the islands each year, but encourage those who do to stay for longer periods of time (Grenier 2002). Short stays mean more tourists, higher consumption and limited contact with the environment or the local population. A shift to fewer tourists and longer stays could be implemented through a simple market mechanism: ‘the less you stay, the more

you pay'. For example, a 1 day stay would cost a US\$1,000 park entrance fee, a 5 day stay would cost US\$500 and 10 days or more would cost US\$100. If carefully managed, fewer tourists staying longer in the islands could bring more benefits to local population, reduce movement of goods and invasive species between the continent and islands and favor a slower-paced and therefore less consumptive tourism. The tourism tax could be more specifically directed to support national and local public projects, such as the whole Ecuadorian protected areas network or Galápagos education initiatives.

### *Sustainable Enterprise Development*

In the Galápagos, water availability, soil quality and dense plant invasions present biophysical constraints to agricultural development. The high cost of labor also presents an economic constraint. In a globalized world, however, these constraints can be overcome, even if it is to the detriment of the local natural environment. Presently, in the Galápagos, nearly all food is imported and water shortages have been resolved using the expensive technique of reverse osmosis. All indicators show that population, economic growth and damage to the environment have been increasing in an unsustainable fashion (Fig. 6.2). This damage has been enabled by highly subsidized fossil fuels (e.g. the price of gasoline is fixed at \$0.35/liter in the whole of Ecuador including the Galápagos). In 2005, the archipelago imported 34 million liters of fuel for energy production and transport and this amount is increasing at a rate of over 10% per annum (Jacome 2008). Growth also has less obvious,



**Fig. 6.2** Growth of resident population, tourists, cargo, introduced species and fossil fuel consumption: 1960–2007. (Data adapted from Jacome 2008; Watkins and Cruz 2007; Charles Darwin Foundation, Galápagos National Park). Note the acceleration of growth rates after the Special Law of Galápagos, 1998

but very serious, indirect impacts: increased contact with the mainland, and within and between islands, provides improved vectors for species introduction and a greater risk of pollution.

The rapid growth has also brought, at times, social discontent. In 1974, the first Galápagos National Park Management Plan distributed tourism concessions between one big mainland Ecuadorian company and several Galápagos residents. As tourism increased, these tourism concessions became very attractive to Ecuadorian and foreign tourism companies, who bought them from local residents who were unable to compete in the race for bigger and more comfortable boats. Since the 1980s local people have complained that they were robbed of their concessions by outside business people. The situation became explosive in the mid 1990s when an important fishery (sea cucumbers) was prohibited by the National Park; it had previously been an important source of income for local residents. Many locals felt then that their islands were reserved for foreign interests and turned somewhat violently against conservation institutions. The Special Law of 1998 restricted the movement of mainland Ecuadoreans to the islands, softened the social tensions while according many privileges to local politicians and institutions, generously distributing fisheries permits and proclaiming that the new tourism investments should be kept for the locals (e.g. UNEP/WCMC 2006). But the 1998 law has never really been applied in the field of tourism, and the domination of the Galápagos market by continental and foreign investors has continued, so the present situation is again quite delicate (Epler 2007; Grenier 2007).

We propose an enlightened public intervention in the economic field of island development. Outdated and insufficient policies should be reformed, and new regulations should be centralized, clear and consistent. In the past, administration and development policy were complicated by government intervention in the economy. For strategic reasons, the national government sought to populate the islands in the course of their development. The local economy has been supported with huge subsidies on energy and very low taxes for tourism enterprises. Development has been wasteful as a result: Santa Cruz Island, for example, has about 100 km of roads but more than 260 taxis. Motocross is now practiced as a sport there (El Colono no. 179, February 2009). Such developments can be controlled through the political process. Obvious externalities such as fuel, transport and energy should be included in the cost of doing business in Galápagos and subsidies on these should be removed. Furthermore, enterprises selling “the pristine nature of the National Park” should drastically increase financial contributions to the conservation of the protected areas.

At the same time, government should consider adopting a new model for tourism, one that would help local businesspersons to access green credits, support the training of local professionals, and promote a better distribution of tourism benefits between foreign and local companies. From a business perspective, this last point could be reached by looking at specific and appropriate models of tourism proposed in various developed countries, such as “true” ecotourism and “slow tourism” (e.g. Cater 1993; Matos 2004; Wallace and Pierce 1996). These models privilege ‘quality’ of tourism – its contribution to the features of a place that make it attractive

to tourists in the first place – over simple promotion of the quantity of visitors. In the same way, businesses can add value to local products by adopting best practice principles, and linking into international “eco consumer” networks. Finally, government should encourage local successful entrepreneurs to invest part of their benefits in continental Ecuador. This would slow the economic growth in the archipelago and contribute to development in the rest of the country.

### **Recommendations**

- (a) Implement policy changes that increase the flow of economic benefits of tourism to the resident population.
- (b) Employ concessionary management techniques based on social, economic and ecological criteria, codes of conduct to regulate tourism growth, market focus and local equity.
- (c) Support small and medium scale enterprises through alliances with micro-finance, market, training and capacity-building institutions. Encourage high quality products and best practices to develop niche markets.
- (d) Encourage Galápagos private investment in mainland Ecuador to slow the islands’ unsustainable economic growth and help to develop the rest of the country.

### ***Educational Reform***

Education is of very low quality in the Galápagos; school programs tend to be mediocre and ill-adapted to the particularities of the archipelago. Teachers receive poor salaries and have inadequate professional qualification. All of this despite the fact that education was recognized as a key to a sustainable society when the Special Law of Galápagos was developed in 1998. The Special Law included a framework for an integral reform of the Galápagos educational system. This framework promoted an overhaul of the primary and secondary education system, including: modernizing infrastructure; ensuring teachers are relevantly trained; a customized curriculum drawing primarily on specific examples from the Galápagos; a focus on human and environmental relations (such as the importance of biodiversity to livelihoods); and a consideration of living with limits (such as energy consumption and waste management). Unfortunately, 10 years on, this educational reform has not yet been implemented because of failure of institutional capacity and leadership as well as a lack of resources.

Additionally, there are few opportunities for vocational and tertiary education in Galápagos. As a consequence, the local population has little opportunity to gain the skills that would prepare them for employment in the tourism and conservation sectors, and skilled workers are often drawn from outside the islands. Furthermore, many of the managerial jobs in these sectors are often occupied by “Galápagueños”



(permanent residents) who, in most cases, lack professional qualifications because of this poor education system. Local residents with sufficient financial resources often leave Galápagos to seek better quality education elsewhere, and then find employment off the islands. Lack of quality education and appropriate vocational training thus results in a drain of qualified residents from Galápagos.

A renewed educational system could also contribute to a new “island culture”: one that takes inspiration from the earliest Galápagos residents. Galápagos needs a society that understands limits, conserves energy, water and other essential resources, and builds a constituency for long-term sustainability. This island culture must prevail over the “continental culture” that views Galápagos as a place of unlimited resources and potential for seemingly endless economic expansion. The continental culture is rooted in a colonialist mentality and a perpetual sense of impermanence; it has imported ‘fixed ideas’, traditions and cultural expressions from its original lands, and a poor identification with the special qualities of the island environment. It promotes the kind of consumption typical of the continent, has increased demand for importation of locally unavailable products, and has recreated continental architecture and ways of urban life. The amazing rise of automobile transport in the three towns of the archipelago (according to the 2009 census, there are some 2,300 motorized vehicles in the Galápagos) illustrates this continentalization of lifestyle of the Galápagos population. An island culture, in contrast, would accept that Galápagos is a special place where some limitations to the provision of goods and services are necessary, and support cultural traditions developed locally (even as they are a product of both island reality and place of origin), and a resident mentality with a marked sense of place. Critically, island culture would promote a system of natural resources management deeply rooted in the island environments, as well as the creation and supply of local resources and an architecture based on climate and the use of local materials (González et al. 2008).

## Recommendations

- (a) Implement educational reform as soon as possible, possibly funded by increased park entrance fees.
- (b) Establish a vocational education unit in Galápagos. This should suit the employment market in Galápagos. The system should ensure that residents are trained, qualified and competitive in areas such as tourism and support industries, natural resource management and public sector planning. Such training has the secondary benefit of reducing the number of people being brought in from the exterior to fill skilled positions. Training should focus on adding value to local, Galápagos products.
- (c) Promote an informed culture that encourages low impact living. For example, Galápagos temporary residents are given a compulsory induction on the limits of living in the archipelago. Such initiatives should be expanded to whole community.

## *Expanding Environmental Problems*

In the Galápagos, the direct impacts of a growing economy based on tourism are still limited. Tourism is tightly regulated in the National Park with a restricted number of visitor sites and inter island quarantine. The indirect effects of growth have had the greatest impact on the archipelago's biodiversity. Negative indirect impacts include the introduction of invasive species, including diseases (Fig. 6.2) and pollution. Table 6.1 gives a summary of the origins of various taxonomic groups. To date, nearly 1,500 new species are known to have been introduced into the Galápagos, many in the last 40 years. Earlier on, many introductions, such as of edible species, were deliberate; but now, most species arrive unintentionally as a result of increasing human traffic. Recently detected introductions include the Mediterranean fruit fly and the big headed ant. Bird malaria has been found in penguins, and dengue fever and its host mosquito are both now present.

Although the total number of species in Galápagos is relatively low, endemism is high (Table 6.1). High endemism is related to the archipelago's isolation; historically, new species arrived infrequently and irregularly. Species that did arrive and survived have had the opportunity to evolve to suit the new environment without much competition. For this reason, such island systems are less resilient to invasions than continental systems (Lonsdale 1999). Furthermore, naturalization rates of introduced species in Galápagos also appear to be exceptionally high. Of the 888 plants introduced to Galápagos, approximately 34% have become naturalized, that is, are able to reproduce without cultivation (Trueman et al. 2010). This is a very high rate of naturalization even among islands.

Once new species are naturalized, it has proved almost impossible to eradicate them. Preventing negative impacts on both human and biological systems involves expensive and perennial control programs. It is much more cost effective to prevent new arrivals than to control existing ones. As part of the Galápagos Special Law, an Inspection and Quarantine service was set up in 1999. Its aims are: (1) to intercept new species before they arrive in the Galápagos in mainland ports or airports; (2) to detect introduced species on the islands before they become naturalized; and (3) to

**Table 6.1** Number of known endemic, native and introduced Galápagos species in main taxonomic groups (*Source:* Charles Darwin Foundation databases, September 2008)

Taxonomic group	Native species	Of which endemic	Introduced species
Vertebrates except fish	117	69	55
Fish	396	51	2?
Terrestrial invertebrates	3,000	1,560	543
Marine invertebrates	1,384	362	?
Vascular plants	378	238	888
Non vascular plants (lichens, bryophytes, algae), but excluding fungi	986	184	?

educate the community. The Total Control Plan in support of these objectives was approved by the Government in 2006. However, the species control system lacks continuous funding and, hence, like many other Galápagos institutions, lacks the stability to demonstrate strong leadership. On a more positive note, some eradication and restoration projects have been successful, such as the eradication of goats from many islands (e.g. Cruz et al. 2009). However, these programs are costly and require innovation and excellent coordination between stakeholders for success.

Pollution creates another indirect impact on biodiversity and human health in the archipelago. The importation of over 30 million liters of fossil fuel into shallow-water rocky ports poses a disastrous risk to coastal ecosystems. In 2001, the fuel tanker *Jessica* sank off San Cristobal Island. Luckily favorable winds dispersed the oil out to sea. Tourist boats regularly sink, spilling their fuels into the sea, yet there is still no oil spill mitigation plan in place. Other pollution sources are luckily highly localized. The sewerage of the towns goes directly into the highly permeable water tables which discharge daily into the adjacent bays, and damages biodiversity. Inadequate treatment and disposal of human waste also impacts on human health as tap water is drawn from the same water table. Solid wastes from human enterprises also require careful management. Many of the landfill sites in the Galápagos are located within the National Park and these are under pressure from increasing quantities of rubbish. The municipal governments on the three most inhabited islands have recently taken some excellent initiatives for recycling waste. Such recycling depends on returning waste materials to the continent, a practice that in itself perpetuates the cycle of unsustainability.

## Recommendations

- (a) The key to future biological invasions is prevention and early detection. Strengthening and optimizing the existing quarantine framework is essential.
- (b) Progressively reduce the number and frequency of planes and cargo boats between the mainland and archipelago through a tourism policy geared towards decreasing number of visitors (see above).
- (c) Implement restoration programs in priority areas, particularly among highly threatened communities on inhabited islands. Restoration models should include all aspects of the social ecological system and the provision of environmental services.
- (d) Improve planning for urban and rural development.
- (e) Minimize pollution through the use of alternative energy, reduced consumption, efficient recycling, and improved sewerage treatment.

## Conclusions

The Galápagos authorities are at a crossroads: either they let the process of continentalization continue, and accept its consequences for the archipelago's unique natural history, or they shift to a new, more sustainable model of tourism-based

development. If the Ecuadorian authorities choose the latter path, our first suggestion is that they should strengthen and clarify governance of the islands. In the Galápagos, as in many parts of the world, strong public governance is needed to manage diverse and often conflictive stakeholders. Whilst this reform is primarily an Ecuadorian responsibility, the international community also has a stake as the islands are a designated UNESCO World Heritage Site.

Secondly, a new development model is desperately needed. Tourism is the economic lifeblood of the archipelago; it has also been the main driver of the socio-ecological degradation in the Galápagos to date. Tourism development has been primarily determined by the big travel companies. A new model should be designed and managed by the actors capable of taking a more cautious approach to balancing tourism and biophysical conditions. Following from our discussion above, we believe the Ecuadorian government should assume primary responsibility for this task. We suggest that the new model of tourism development should center on reducing the number of tourists visiting the islands, and so the impact of tourism on ecological resources of the islands, but encouraging longer visits, more eco-touristic practices, and more equitable distribution of revenues between tourism companies and local residents.

Thirdly, local lifestyles should become more local again. We do not advocate isolationism, but instead efforts to slow continentalization and strengthen the island culture. Eliminating subsidies on fuel, for example, will decrease the amount of goods imported to the archipelago, increase their cost, and discourage frivolous use of fuel. Together with the reform of the educational system to strengthen awareness of the rich yet vulnerable quality of the islands, such measures may foster a new way of life in these islands, one less dependent on the outside world and more respectful of the place in which it is located. The present environmental problems in the Galápagos, and especially the problem of invasive species, should be seen comprehensively; in this area, as in many others, the key is to prevent species invasions, reduce their number, and to change the quality of connections between the archipelago and the continent. In the Galápagos, this could only be achieved through a new system of tourism, a new lifestyle, and strong governance. To be effective, the three components should be grounded on a common vision, one that sees oceanic islands as characterized by a certain isolation, in which natural and/or cultural peculiarities can evolve from within. It is worth conserving such places in an increasingly homogeneous world.

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# Chapter 7

## Managing Environmental Diversity for Sustainable Human Communities: Lessons from East Maui, Hawai‘i, USA

John Cusick

### Introducing Biological and Cultural Resilience

*Kipuka* are the isolated pockets of biological diversity that remain after lava flow events engulf surrounding vegetation from which ecological succession is initiated by the fauna and flora seed bank. McGregor (1995:196) suggests that rural communities “may be regarded as cultural *kipuka* from which native Hawaiian culture can be regenerated and revitalized in the contemporary setting”. East Maui is a location that has survived the “onslaught of post-statehood [1959] development” and is considered one of the remaining cultural *kipuka* in the Hawaiian Islands. As such, conservation of biological diversity and preservation of cultural practices and lifestyles are essential for maintaining and reestablishing the unique aspects of environmental diversity in the Hawaiian Islands.

*Kipuka* reveal “the strongest and most resilient aspects of the Hawaiian culture and way of life” (McGregor 1995:198). Similar to other cultural *kipuka* in the State of Hawai‘i, East Maui is home to significant concentrations of both biological diversity and indigenous people. Physical isolation and difficult accessibility are among the traits shared with other *kipuka*, which include the islands of Molokai and Ni‘ihau; the windward districts of Kaua‘i, O‘ahu, Maui, and Hawai‘i; and leeward sections on the coasts of these same islands.

Cultural *kipuka* persist as centers of environmental diversity largely because plantation agriculture – whether sugar or pineapple in the case of East Maui – was not economical in the late nineteenth and early twentieth centuries. The failure, in part, had to do with the fact that Hana Bay’s small size and exposure to rough seas made it an unsuitable harbor for reliable export of agricultural products. In addition to the topographic obstacles, commercial activities and Christian missionaries arrived in East Maui later than in more accessible places in Central and West Maui; this delayed arrival enabled the continuation of many traditional cultural and land use practices in East Maui.

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## This Chapter

This chapter outlines the environmental history of Kipahulu Valley, thus proposing to explain its protected area status and to discuss the significance of this place in terms of the conservation of biological diversity and the perpetuation of cultural identity. An environmental profile describing the biophysical conditions in the Valley indicates the basis for its national and international protected area designation. As socioeconomic conditions have changed over the past century to accommodate the conservation ideal and global environmental agenda, the case of East Maui has illuminated the roles of protected areas in contemporary societies.

The roles of protected areas are multiple and subject to debate and contestation within different national and local settings. The establishment of protected areas in East Maui provides a historical understanding of the relationships among the various stakeholders. History also suggests that the roles have not always been the same and that accommodations have been made and will likely continue to be made. The experiences demonstrate the involvement of a variety of interests, and because stakeholders are not always equally represented, resistance is evident. The complexities of competing and cooperating interests in East Maui suggest both differences and similarities in how the place is represented by various groups.

## Protection as Contested Process

The tradition of “writing the earth” (*geo*, meaning earth; and *graphien*, meaning to write) is still prevalent in geographic research, but a fundamental shift has generated interest in the representations of both the writer and the subject. “Doing geography is no simple exercise in just explaining the truth ... cultural geographers should try to explain the worlds they are part of ... Therefore, the context of explanation is essential” (Mitchell 2000:16). The context for this study involved the collection of information from and about three principal interest groups: resident, research, and recreation.

Protected area research documents the struggles among interest groups. However, the identification of interests with particular discourses associated with resident, research, and recreation – let alone government – is problematic. Nonetheless, it does provide an organizing framework to understand how places, in general, and protected areas, specifically, are represented.

Conservation of environmental diversity – a significant concern of the natural sciences community – involves more than the identification and monitoring of such diversity. Concentrations of diversity recognized as globally significant are situated amid residential communities that manage and re-create changing landscapes now considered too valuable to be left unprotected. Protection is a contested process involving a number of factors, ecological as much as socioeconomic.

Benton and Short (1999) wrote of the greening of contemporary societies as part of an ecological meta-discourse. The numerous actors involved are critical in

recruiting the members and finances necessary for the environmental cause to succeed. Some suggest that success has been achieved in light of the proposition that “we are all environmentalists now.” The discourse is not always uniform, “but at the core of their ideological framework is a concern for the environment and for transforming the ways in which people interact with and value the environment” (Benton and Short 1999:132).

“Discourse” refers to social frameworks of ideas, concepts, and practices and can involve the exercise of power to influence and direct social perceptions and the understanding of phenomena. The production of discourse is a means of dominating representation. Investigations reveal relationships between power and knowledge that control, organize, and redistribute the knowledge of place and solidify relationships of power (Escobar 1995). Issues associated with the social relations of power are intricately woven into the fabric of discourse, and the processes of identification, designation, and management of protected areas clearly privilege particular interests and disempower others. Places once marginalized by political or economic forces, or both, “carry the image, and stigma, of their marginality” (Shields 1991:3). Many of these same marginalized places hold significant concentrations of environmental diversity that are the focus of a global environmental agenda. One such place is East Maui, the subject of this chapter.

## **The Environmental Diversity of East Maui**

The slopes of East Maui support one of four unique ecological zones which are found only on Mauna Kea (with a height of 4,205 m above sea level), Mauna Loa (4,170 m), Hualalai (2,521 m) on the island of Hawai‘i, and Haleakala (3,055 m) on the island of Maui. These are the highest mountains in the Hawaiian Islands. Climatic variation is due primarily to extreme elevational changes and increases in cloud cover upslope. Dense vegetation across the windward slopes of Haleakala makes the mid-elevation area one of the most impenetrable areas in the State of Hawai‘i. The annual rainfall gradient varies from 1,500 mm near sea level to 7,000 mm at 3,000 m (Juvik and Juvik 1998).

### ***Coastal Zone (Sea Level – ~30 m)***

The coastal zone is characterized by hot and sunny conditions, strong winds, and salt spray. Boulder-strewn shorelines at the bases of steep cliffs, as well as tidal pools and offshore rocks, make up much of the coastline. Disruption of native ecosystems below 500 m by human activities, as well as disturbance by cattle and feral pigs, has degraded native biotic communities. Vegetation and topography were altered first by Polynesian settlers, and monocultural land use practices in the post-contact period explain the absence of most Polynesian-introduced plant species.



Stones used by Hawaiians to construct agricultural terraces, waterways, and building foundations were cleared starting in the mid-nineteenth century for sugar cane and pineapple plantations and in the mid-twentieth century for commercial ranching. Pasture and woodlands have replaced most of the Polynesian cultural landscape in this zone.

Alien tree species introduced in the modern period dominate coastal and lowland woodlands as high as 500 m and pose a serious threat to the native montane rainforest. Disturbance of native vegetation and introduction of alien species, both intentionally and accidentally, have created conditions that favor aggressive alien species.

### ***Lowland Zone (Sea Level – ~1,000 m)***

The lowland zone poses major problems for the long-term preservation of native rainforest habitat above 1,200 m. Habitat destruction and regular disturbances for agriculture and settlement since the pre-contact period have created conditions for the contemporary domination of alien species, which thrive in the wet and warm conditions of the lower montane rainforests in this zone. Feral pigs and alien birds disperse many of the common alien species introduced since the nineteenth century, the most invasive of which is strawberry guava (*Psidium cattleianum*). Dispersion of strawberry guava has led to native habitat loss and the extirpation of several indigenous and endemic plant and animal species. In addition to strawberry guava, introduced grasses form thick mats under native forests and inhibit the growth of native seedlings, posing a threat to the native forest.

### ***Montane Zone (~1,000 – ~2,000 m)***

The influence of Haleakala on local climate is dramatic and is particularly apparent in the montane rainforest. The lower range of the forest receives abundant precipitation from rain and fog drip in a cloud forest, conditions that support 35 m-tall trees and a thick undergrowth of shrubs and ferns. At the base of the inversion layer, at approximately 1,900 m, where cold air encounters rising warm air, trade winds condense moisture and form a band of clouds on the windward slopes.

In contrast to the alien-dominated lower montane forests, the montane rainforest is a refuge for indigenous and endemic species of plants and animals, including more than 89 known species of ferns, 290 species of flowering plants, and four endangered forest birds (National Park Service 1989). Tropical montane rainforests are wet and cool, and the 1,000 m lower elevational boundary coincides with the average lifting condensation level caused by the orographic effect. The multi-layered forest is dominated by an upper canopy of koa (*Acacia koa*) toward a dominant ohī'a (*Metrosideros polymorpha*) forest as elevation increases. An understory of tree ferns and epiphytic ferns grows on moss-laden tree branches, and the forest floor is vegetated with mosses, sedges, and ferns.

The montane rainforest between 1,250 and 2,000 m on East Maui is among the least disturbed in Hawai‘i. Feral pig rooting and trampling causes the least disturbance of native plant communities in this zone, and, partly as a result, these upper-elevation slopes have the lowest frequencies of alien species. Montane rainforest plant communities support critical habitat for endangered forest birds.

### *Subalpine Zone (~2,000 – ~3,000 m)*

The subalpine zone occurs on Maui and Hawai‘i above 1,800 m as a band encircling the windward and leeward summits of Haleakala, Mauna Kea, Mauna Loa, and Hualalai. Median annual rainfall at the head of Kipahulu Valley is still comparatively high for this zone (1,500–2,000 mm), with temperatures ranging between 3°C in winter and 21°C in summer. Extreme diurnal temperature fluctuations of over 10°C affect soil temperature and plant growth and restrict vegetation to low-lying bunchgrass or tussock-forming grasses. The subalpine grassland community is considered the least disturbed tussock ecosystem in the State of Hawai‘i (National Park Service 1989).

## **The Context of East Maui Before European Contact**

Despite the size and sociopolitical importance of Maui, and the Polynesian population concentration and political development centered in Hana District, archeological research in East Maui is quite limited. Regardless of the paucity of information, researchers agree that Kipahulu and its neighbors (Hana to the northeast and Kaupo to the southwest) were important relative to other districts in the islands because of their abundant environmental and human resources (Krauss 1980; Lueras 1983; Kirch 1985; Smith et al. 1985; National Park Service 1989; Kornbacher 1993). According to Soehren (1963; cited in Kornbacher 1993), “They were coveted lands, prized by the *ali‘i* [hereditary chiefly or noble rank in society] for their abundance of foodstuffs and all the valued products of the land and sea. Plentiful food and resources made possible a large population, and many followers meant power to the chief controlling the land. Small wonder, then, that Hana and Kipahulu were often the cause of contention among ambitious chiefs. A few miles south, across the Alenuihaha Channel lay Hawai‘i, also endowed with wealth and powerful chiefs. As might be expected, warfare was not infrequent”.

The Polynesian-transported landscape included the introduction of tropical root, tuber, and tree crops; pigs; dogs; and chickens, along with the skills to modify the landscape. Construction of agricultural systems based on designs developed over centuries of practice on other Pacific Islands included *lo‘i* (irrigated terraces), retaining walls, *‘auwai* (irrigation ditches), and dams and were the basis of the *ahupua‘a* (Hawaiian land use units). An ethnobotanical survey of several *ahupua‘a* in the lower Kipahulu Valley found signs of extensive terracing for wet and dry

farming and naturalized populations of certain plants brought to the Hawaiian Islands by Polynesians (Krauss 1980).

The distribution of wild populations of Polynesian-introduced plants used for food, some in very inaccessible areas, indicates the extent of Hawaiian agricultural practices and supports the theory that Kipahulu Valley below 1,000 m elevation was under intensive cultivation at the time of European contact in 1778. Water delivery systems in Kipahulu Valley provided high crop yields for the labor invested and permitted the expansion of the entire agricultural production system. Terraces, irrigation systems, stone retaining walls, ditches, and earthen dams for sources of fresh water required a great deal of labor and management, but once land was cleared and prepared for crops, communities prospered materially and pursued arts, crafts, religious ceremonies, rituals, and other forms of cultural expression.

As a center of population and cultural development, the East Maui landscape plays an important role in the interpretation of Hawaiian history. Evidence of pre-European contact settlement and land use practices include Piilanihale *heiau*, (sacred site) the largest in the state, an extensive trail network linking East Maui communities along the coast and to Central Maui and the summit of Haleakala, and at least 20 additional identified sites, many of which were disturbed during development of plantation agriculture and ranching operations (Sterling 1998).

The area's relative isolation delayed the disruption of traditional land use practices until the mid-1800s, when commercial sugar production was unsuccessfully attempted in several East Maui locations. As a result of the small scale of operations and relatively brief period of plantation agriculture compared with those in other areas in the Hawaiian Islands, the landscape remained much the same as when French navigator La Perouse made the first recorded pass of East Maui by a European ship in May 1786. From the sea, he observed what appeared to be a single village spanning between 15 and 20 km along the coastline (Dondo 1959).

## Post-Contact Land Use Changes

The rapid conversion from subsistence to commercial-based economies in many Hawaiian communities was caused partly by the California Gold Rush in 1849. Lands released to commercial agricultural interests were prepared for sugar cane production. George Wilfong established Hana's first sugar plantation in 1849, and the first Chinese laborers arrived in January 1852 (Webster 1988). Ironically, few Americans in the sugar industry saw any contradiction between supporting the Union effort against slavery in the Civil War while importing Chinese laborers to work the cane fields under similar conditions prevalent in the South (Daws 1968). Imported labor was the only means to insure increased production, and, as a result, Japanese laborers comprised a second wave of immigrants to Hana in 1868.

The Hana Sugar Plantation was formed in 1864 and gradually increased production by expanding toward Kipahulu from Hana. Many Hawaiian traditional subsistence agricultural fields were destroyed to increase acreage for sugar cane and to

make space for growing communities in Hana, Kipahulu, and Kaupo. At the end of the nineteenth century, the building of a sugar mill in the coastal community of Kipahulu increased employment opportunities and diversified the socioeconomic situation somewhat by supporting stores and churches. Nevertheless, sugar cane plantations on the fertile isthmus between Haleakala and the West Maui mountains had far more arable land and greater access to port facilities in Kahului and Lahaina, and these plantations eventually came to dominate the industry on Maui.

The Kipahulu sugar mill closed in 1922 because of its geographic isolation and unreliable transportation networks by land and sea. The Haiku Fruit and Packing Company attempted a conversion from sugar cane to pineapples in an operation that lasted only 3 years. Most of the wage jobs that supported rural communities between Hana and Kaupo were lost with the end of commercial agriculture. The population in the East Maui communities fell from a high of several thousand residents during the period of growth in the sugar industry to fewer than 500 as the economy declined and urban centers on Maui and Oahu absorbed immigrant labor from rural areas.

Large tracts of land in East Maui were put up for sale after the decline of commercial agriculture, and the first to take advantage of the opportunity was Paul Fagan. His purchase of 5,700 ha in the early 1940s was the start of Hana Ranch, which is still operational today after having had a series of owners. Fagan, considered somewhat of a local hero today by some residents for providing economic development, had much of the land cleared of sugar cane and planted with alien rattail grass and Kikuyu grass before importing Hereford cattle. In 1946 he built the Hotel Hana Maui and put Hana on the route of adventurous and privacy-seeking travelers at the start of the post-war tourism boom in Hawai'i.

Fagan's ambition was to provide luxury accommodations in a remote and isolated setting far from Waikiki where wealthy travelers could relax in a tropical rural environment. His success in attracting guests to the hotel led some of them to buy land and build vacation homes along the Hana coast, including at Kipahulu. Spectacular landscapes and seascapes were the primary driving forces behind the growth of tourism in East Maui, and beginning in the 1960s Kipahulu was to become mythologized in travel literature as representative of the "old Hawai'i" that was quickly being lost on O'ahu.

## **The Cultural *Kipuka*: An Emergent Stakeholder**

Dozens of generations of residents cared for, and fought for, East Maui. Although their struggles continue, the adversary is no longer a powerful chief from the island of Hawai'i or the other side of Maui, but the onslaught of post-statehood economic development. The island of Maui has now become a major tourist destination, with nearly 2.5 million visitors and more than \$3 billion in expenditures annually (Blackford 2001; DBEDT 2006). Tourism development in East Maui in the post-statehood period did not have the visible impact that it did in Central and West Maui.

Unlike Kihei, Lahaina, Ka'anapali, and Kapalua, where tourism has systematically transformed communities and landscapes over the past half century, the cultural *kipuka* of East Maui, including the communities of Ke'anae, Nahiku, Hana, Kipahulu, Kaupo, and Kanaio, have been spared from mass tourism development. Nonetheless, tourist traffic in rental cars and tour vans through these communities is a daily reminder of the dominance of the tourist industry on the island.

East Maui, and particularly Kipahulu, is a place where residents simultaneously resist assimilation and re-create cultural landscapes that offer residents and visitors a glimpse into the past and an emerging future (Farrell 1992). A group of East Maui residents negotiated an agreement with Haleakala National Park to reclaim ancestral lands for agriculture, forestry, arts, crafts, and house construction. The objective of the nonprofit Kipahulu 'Ohana is to restore and nurture what has not been completely erased from the cultural landscape, with the goal of a viable working agricultural community. The challenge is to do this, in part, within national park boundaries. Resurrected in 1995, the group continues work initiated in the 1970s to reopen the pre-existing agricultural fields that lay dormant for over a century.

Kapahu Living Farm occupies approximately 1 ha of land in Haleakala National Park less than an hour's hike from the visitor center in the lowland zone of the valley. Currently, more than a dozen *lo'i* produce taro, the staple of the Hawaiian diet. In addition, many of the principal crops brought to the Hawaiian Islands by Polynesian voyagers are cultivated, including *uwala* (sweet potato), *ulu* (breadfruit), *ma'ia* (banana), *ko* (sugar cane), and *'awa* (a plant used in ceremonies and as a medicinal). The farm also has an enclosed pen where captured feral pigs have been raised for food.

The collaborative efforts and combined facilities of the Kipahulu 'Ohana and the national park serve as gathering sites for demonstrations and discussions for educational purposes and provide a "living history program to share with park visitors" as well as community school groups (Monson 2002:1). One outcome of collaborative management has been the perpetuation of culture through involvement of community youth. The practice of shared work among families and neighbors helps to sustain East Maui communities despite the shared challenges associated with an unpredictable service economy. East Maui residents, community organizations and their supporters and advocates have reconstituted the identity of Kipahulu with a Hawaiian sense of place, more firmly constituting the cultural *kipuka*. In this case, reclamation of access to and restoration of cultural landscapes contributes to the reaffirmation of a community's place identity.

## Resistance to Mass Tourism Development

The island of Maui became a major tourism destination through conversion of sugar and pineapple plantation landscapes and infrastructure to tourist resorts, destinations, and infrastructure, including resort properties with golf courses and luxury second homes, commercial retail spaces, water resources redirected from agricultural to

urban uses, and road improvements. *Time* magazine ran a six-page story in the Living section titled “Maui: America’s Magic Isle”. “They do not come to Maui for the Don Ho-hula-grass-skirt-sarong-muumuu-mai tai-lei-and-luau scenario that, in mainlanders’ eyes at least, has become to Hawai‘i what Mickey Mouse is to Disney World or the one-armed bandit to Las Vegas. They come for some of the world’s most spectacular scenery and a variety of activities unmatched by any comparable area on earth” (Demarest 1979).

Dramatic increases in resident and visitor populations, total number of hotel rooms, employment opportunities, state tax collections, and business receipts from the 1970s to the end of the twentieth century indicate that the development strategy was an economic success (Blackford 2001). By 2006, 63% of Maui’s visitors had averaged 4.6 visits to the island, evidence of the enduring allure to those travelers who desire a “largely pristine and un-Waikikied” destination (DBEDT 2006; Demarest 1979).

East Maui retains an identity independent of Central and West Maui, due in part to its physical isolation and limited infrastructure. Most visitors are day-trippers on small group excursions or in rental cars as overnight accommodations are limited. This cultural *kipuka* reflects a Hawaiian sense of place that enables the region to distinguish itself from the rest of Maui.

Resistance to a status quo of mass tourism development coalesced in response to an 18-hole golf course proposed by Hana Ranch owners, who also own the Hotel Hana-Maui, and approved by the County of Maui (Fujimoto 1991). Supporters claimed that the golf course would increase visitors while providing job opportunities for residents. Opponents, who recalled the rapid transformation of South and West Maui into exclusive resort enclaves, did not consider a golf course as the means to gain a competitive advantage. “Everything we have seen so far indicates they are not going to be able to make it economically viable” (Fujimoto 1991). The plan was not to become like other destinations, but to retain the qualities that maintain and restore the cultural *kipuka*. Opponents also suggested that visitors would be attracted for its differences and not similarities to the rest of the island, particularly given the assumption that “some families return to Hana as faithfully as Maui’s whales” (Demarest 1979).

East Maui, along with other places with concentrations of environmental diversity, increasingly realized that they could target “hordes of nature-loving tourists” that were fueling interest in ecotourism and sustainable development in such places as Costa Rica and Kenya (Conrow 1997; Honey 1999). In fact, state land managers continue to worry that overused resources will be further degraded and require facility improvements. The assumption is that nature tourists are less interested in a round of golf or sitting on a beach and are willing to pay for authentic experiences that are compatible with a Hawaiian sense of place.

Opposition to a golf course in East Maui based on concerns over water quality, disruption of rural lifestyles, and imposing luxury homes along fairways interrupted the development plans. Hana Ranch has tabled the golf course plan and instead, successive owners have promoted a development approach considered appropriate to the place and host community. However, the ranch’s 2,000 ha are

currently on the market for \$65 million, while their Hotel Hana-Maui struggles with years of declining visitation and unstable employment.

An underlying theme of community activism is preservation of cultural landscapes. Elder residents want younger generations to identify with East Maui's sense of place by recognizing that cultural practices and environmental conservation are interconnected. It shouldn't be a trade off of one for the other, but that the loss of one will degrade the other, as has been exemplified in other island communities throughout the State of Hawai'i and elsewhere. "Understanding this provides a more sensitive and richer framework for future land use planning and government policies. Without such understanding, our actions may be blunt and clumsy, and our vision incomplete" (Atta 1995).

Maui has appeared in media over the decades as a place that has managed to develop tourism appropriately. The island routinely earns the Readers' Choice Award as the best island destination in the Pacific by *Condé Nast Traveler*, and 2009 was no different with three resorts, including the Hotel Hana-Maui, in the top ten and the island receiving the highest score of all islands worldwide for best island destination (Condé Nast Traveler 2009). As portrayed in a local media editorial, East Maui "not only represents a priceless resource in culture, history, agricultural richness and human dignity; even more important, Hana is everyone's reigning symbol that the wild spirit of this land has not yet fallen under the orderliness of concrete and the tidiness of leaf blowers" (Maui News 1997).

Yet, not all headlines indicate that all is smooth sailing: The *Wall Street Journal* reported from Hana just months after the September 11, 2001 attacks when tourism was already struggling under the banner "Maui's outbreak of Dengue fever is test of system" (Zimmerman 2001) even though the *Maui News* ran an editorial under the headline "Fact: It's safe to go to Hana" (Maui News 2001); "Dawn at Haleakala? Think again" reported the *Washington Post* regarding sunrise congestion on the summit (Rosenthal 2005). A line from another *Maui News* editorial speaks for many, "None of us wants to belong to the generation that lost Hana. If that's so, however, we have a lot of work to do, and now" (Maui News 1997).

## Conclusion: Inspired by Place

Among the lessons learned in East Maui is that resistance to external stakeholders has reconfirmed place identity and transformed resident empowerment. The bold actions of a few have ignited the passion of many in this community and elsewhere in the Hawaiian Islands. One example is the community grassroots organization Protect Kaho'olawe 'Ohana that faced an even more intimidating opponent than the National Park Service and emerged victorious. Efforts to reclaim the military target island of Kaho'olawe from the U.S. Navy were once deemed impossible by observers. Yet, nonviolent action in pursuit of an end to military training operations on the island proved a potent strategy (Aiu 1997). The island of Kaho'olawe, long recognized in oral histories and archaeological evidence as a center of learning, has taught contemporary generations what it means to *malama 'aina*: to steward the land.

East Maui is a similar catalyst for the reconfiguration of modern Hawaiian identity and significance of place. Resistance fractures persistent beliefs in what can be accomplished, wherein initial adversaries emerge as eventual allies and an imagined place becomes an actual living landscape. The strategy enabled interests once assumed to be outside the decision-making process to appropriate their place: their place in terms of the land and their place alongside other stakeholders as equal partners.

The Hawaiian Islands have experienced centuries of environmental degradation and cultural transformation. Whether on Kaho‘olawe or East Maui, the seeds, spores, and migration of plants and animals are regenerating and revitalizing these contemporary places. The Polynesian-transported landscape, which accompanied purposeful migrations to islands throughout the Pacific Ocean, provides not only the material aspects of a people but the skills acquired over generations to construct and cultivate cultural landscapes that continue to sustain human communities and inspire human imaginations.

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# Chapter 8

## Linking Conservation of Biodiversity and Community Livelihood in Komodo National Park, Indonesia

Tamen Sitorus

### Introduction

The management of protected areas around the world is today an established strategy for the protection of biodiversity. Today, this activity is supported by national legislation and international regulation, suggesting that it may have only a young history; and yet, the management of scarce and prized resources has been a millenary challenge to humankind, and various techniques have been devised for this purpose through time. Indigenous peoples all over the world have been behaving as custodians of valuable assets, on land and in the sea, using a variety of techniques. What distinguishes these traditional practices from those in force today is largely an outcome of the existence of one particular, recent industry which has cast prized resources into a totally different light.

Protected area tourism is today promoted as an ecologically friendly way of generating revenues at both national and local scales. It is increasingly looked upon as a technique for offsetting, even if partially, the operational expenses of protected areas and providing employment and other financial and commercial opportunities to surrounding local communities (Boo 1992; Giannecchini 1993; Goodwin 1996; Walpole et al. 2001).

Of course, pressures on the environment caused by economic development and other human activities make it increasingly difficult to protect natural areas that are large enough to accommodate entire ecosystems. Indigenous peoples would, over the centuries, have somehow managed and maintained the natural resources they held in common trust; however, increasing competition for the use of these natural resources has resulted from population growth and the pursuit of rising material standards of living. Economic tensions tend to raise conflicts. Destructive practices within protected areas have severely threatened natural resources. One particular approach to the management of protected areas is that they are isolated repositories

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for natural heritage; as such, any indigenous and local communities are ignored, or even evicted, for the sake of biotic preservation.

A different approach, one celebrated in this chapter, recognizes the importance of protected areas also for the communities that live and survive in and around them, and for the economic benefits that they generate for the same. This chapter outlines the linkages between community livelihood and ecotourism activities as an alternative practical solution in protecting natural resources, with a focus on Komodo National Park (119°30'E; 8°35'S), a Biosphere Reserve and World Heritage Site, located in the lesser Sunda Islands of Indonesia.

### ***Komodo National Park***

Komodo National Park (KNP) is located in central Indonesia between the islands of Sumbawa and Flores, at the border of the provinces of Nusa Tenggara Timur and Nusa Tenggara Barat. The Park was established in 1980 and designated as a Man and Biosphere Reserve by UNESCO in 1986 and as a World Heritage Site in 1991. KNP was primarily established to conserve the unique Komodo dragon (*Varanus komodensis*) – a large carnivorous lizard – and its habitat.

KNP includes three major islands – Komodo, Rinca, and Padar – along with numerous small islands that together total 1,800 km<sup>2</sup>. Of these, 35% is terrestrial and 65% is marine. This area of Indonesia is part of the Wallacea Region, an area known to scientists and conservationists as the Coral Triangle. This area, where the Pacific and Indian Oceans converge, is the only equatorial region in the world where there is an exchange of flora and fauna between oceans. It is the heart of the world's marine biodiversity, containing the richest coral diversity in the world and is home to many highly diverse and threatened marine habitats, including fringing and patch coral reefs, mangrove forests, sea grass beds, sea mounts, semi-enclosed bays and deep-water habitats. The park encompasses 510 square miles (1,320 km<sup>2</sup>) and harbors more than 1,000 species of fish, some 385 species of reef-building coral, and 70 species of sponges, and endangered marine species such as Dugong (*Dugong dugon*), dolphins (10 species), whales (6 species) – including the blue whale (*Balaenoptera musculus*) and sperm whale (*Physeter macrocephalus*) – and marine turtles such as the hawksbill turtle (*Eretmochelys imbricate*) and green turtle (*Chelonia mydas*) (Sumardja 1981; Robinson and Bari 1982; Walpole 1997).

There are approximately 4,000 people inhabiting four settlements (Komodo, Papagaran, Rinca and Kerora) within the Park. An estimated 15,000 people live in fishing villages directly surrounding the Park. Park inhabitants derive their income mainly from a pelagic lift net (*bagan*) fishery, which targets squid and small schooling pelagic fish. This fishing method does not affect the sedentary marine ecosystem in the park and therefore does not conflict with the park's conservation objectives. Additional income and food is derived from hook and line fishing, trap fishing, reef

gleaning, and other fishing methods. Non-inhabitant fishermen also use pelagic lift nets and a variety of other methods such as compressor fishing, hook and line fishing, and gillnetting in park waters.

These traditional communities in and around the Park have been increasingly subjected to external influences. Mobility, mass communications and immigration have brought considerable social and economic change. The majority of fishers in and surrounding the Park are Moslems, with a strong informal institution of Koran recitation. Hajjis, or annual pilgrimages to Mecca, have a strong influence on community dynamics. Most communities can speak Bahasa Indonesian, but mainly use the Bajo and Manggarai languages for daily communication (Singleton and Sulaiman 2002).

## **Pressure and Threats to KNP**

Though the most commonly used fishing technique in the KNP is the lift-net, several destructive fishing practices, including the use of dynamite, cyanide, and compressors (which are mostly used by non-Park inhabitants), as well as reef gleaning and plain over-fishing, severely threaten the Park's marine resources. Terrestrial ecosystems are also under increasing pressure from a human population that has increased 800% in the last 60 years. The collection of firewood degrades the mangroves and surrounding forests, and diminishes or eliminates breeding grounds, shelter, and food sources for marine and terrestrial species, reduces wind-breaks, and increases erosion/siltation. Water resources are limited, and increased extraction and diversion of water reduces that available for dependent fauna, changes the water table, and will affect plant distribution patterns (Pet 1999). In addition, the population of Timor deer, preferred prey of the endangered Komodo dragon, is still often Poaching. Pollution, from raw sewage to chemicals, is increasing and may pose a major threat in the future. In total, human resource demands are leading to a systematic degradation of both the terrestrial and marine resource base.

The understanding of the natural ecosystems found in the KNP, and of the process of their change, has improved considerably in the last few decades. But human conditions in the park have changed dramatically too. A cash economy has developed and the standard of living in the area has increased significantly since the Park was declared in 1980. This observation is based on the increasing number of local inhabitants who have been able to afford the considerable expense involved in making the pilgrimage to Mecca, as well as the growing number of locally-owned boats, owner occupied buildings, and television sets in the area. The use of destructive fishing practices, such as bombs and poisons, has become more common with the increasing need for cash, and has had a negative impact on the Park's quality as a source of replenishment for the species that pass through its borders to the surrounding ecosystems. Law enforcement is not the simple solution to such problems.

## Management System

Park management is based on a single zoning system that includes both terrestrial and marine areas. Seven types of zones are identified, including Core Zones, Wilderness Zone with Limited Tourism, Tourism Use Zone, Traditional Use Zone, Pelagic Use Zone, Special Research and Training Zone, and Traditional Settlement Zone. In two of these – the Settlement Zone and the Traditional Use Zone – the communities living inside the Park have exclusive rights to pursue their daily activities, including traditional extractive activities, as long as these are done in a sustainable manner (Law No. 5 of 1990 concerning Conservation Natural Resources and their Ecosystem).

The Komodo National Park Authority has its focused conservation management practices on the protection of the Komodo dragon and its habitat (Auffenberg 1981). In 2005, the Park began a formal collaboration with PT Putri Naga Komodo, a private company, to set up a tourism concession whose profits are channeled back to fund park management and operational costs. This sustainable financing scheme is implemented through the Komodo Collaborative Management Initiative (KCMI), which is intended to address the dynamic challenges and opportunities facing KNP. The KCMI involves a comprehensive program of investment, policy reform, management intervention, community development projects and institutional strengthening. KCMI enhances stakeholder involvement in the management of KNP, and involves all important stakeholder groups, including the Park authority, local government, the private–public joint venture with PT Putri Naga Komodo, and local communities (Mous et al. 2004; The Nature Conservancy 2000).

## Towards Harmonization with the Local Community

Within the KCMI, the Forum for Community Communication (FCC) has greatly facilitated and institutionalized community involvement. The FCC was established to address complaints, concerns, and to solicit input from the community about any issues that may arise from the Park's management. In some protected areas around the world, state-run protected areas suffer from ineffective management, inadequate allocation of resources, lack of local support, and incursion from local communities (Lockwood et al. 2006). The KNP management strategy, however, includes integrated socio-economic development programs as a means to enlist local communities in the overall goal of nature conservation. Development programs create alternative (and non-destructive) sources of income for the local people and seek private sector-oriented and self-regulating measures for park protection. Such measures are more durable, effective and sustainable; nor do they depend on fear, sanctions or policing for their implementation.

The Park's Incentives for Sustainable Livelihoods (ISL) program, for example, was formed to help local people derive economic benefits from the conservation of natural resources, to stop destructive practices such as cyanide and blast fishing,

and to assist local people in gaining biodiversity-sensitive livelihoods (KCMJ Project Document 2006). To achieve these goals, ISL assesses alternative livelihood schemes based on the sustainable use of marine resources, provides community development grants, and stimulates the local economy through the development of sustainable micro-enterprises.

A series of community development activities have been conducted in line with these three elements. Such activities have included education and training sessions in seaweed farming, sewing and weaving, and a fish culture project (Mous et al. 2004). A community-based Financial Management Unit (FMU) was established as one of the key programs for community development. Its purpose is to manage the micro-credit programs established through the Sustainable Enterprise Fund (SEF), set up to support viable and sustainable alternative livelihoods via profitable and environmentally friendly micro-enterprises. This fund is administered locally by a committee of community leaders which reviews funding proposals from villages within the Park and its buffer zone. Enterprises that receive funding are selected based on their perceived ability to generate economic returns and their contribution to the conservation of natural resources.

The Park has been successfully generating more employment and revenue opportunities linked to conservation. Villagers from Komodo have been rearing goats that are then sold to the Park and offered to the dragons for food (Walpole 2001). They have been involved in carving Komodo dragons which are then sold to tourists as souvenirs. The Park has made spaces available in one of the concession sites in Loh Liang, Komodo Island, where locals can sell their crafts. The Park has also provided a series of training workshops to improve wood carving skills and has helped in providing suitable carving tools.

The sustainable financing scheme in Komodo National Park has set up a new fee system to support conservation. Visitors coming to the park now pay a Tourism Fee for Conservation. A 1–3 day foreign visitor fee is US\$15 (Komodo National Park web-site 2010). The fee is channeled back to support management and community development in the Park. The fee has also supported handicraft training programs for women's groups in the local villages, whose craft products are then sold to tourists. The Park also conducts a naturalist guide training program that has attracted young people from the villages who wish to become professional guides in the park area. The overall goal of all these activities is to link the local communities into the conservation goals of the Park and to establish communities as the park's best guardians.

## Conclusion

Tourism has the potential to contribute significantly to local employment and revenues and thus stimulate local socio-economic development (Walpole and Goodwin 2000). Ecotourism has become a prominent approach for addressing socio-economic concerns in a conservation context. Ideally, ecotourism contributes to conservation and rural development goals by generating revenue for park

management and by providing local communities with sustainable livelihood alternatives and both direct and indirect economic benefits (Borchers 2004).

In spite of its remoteness and rather underdeveloped facilities, KNP receives more than 27,000 international visitors each year. The park's unique biodiversity makes KNP one of the most visited nature reserves in Indonesia. The famous Komodo dragon attracts foreigners (tourists, researchers, documentation film makers) to come and spend some of their money in the region to enjoy the uniqueness of the surrounding nature (savannah, coral reef, fish and other sea creatures) in the Park.

Of course, a strategy of complete financial autonomy that permits protected areas to become self-funding may be attractive but is unlikely for most of these. Tourism, for all its benefits, is no development panacea: it can, for example, prove to be an unstable source of revenue, particularly when based on international visitations. Moreover, there is danger in correlating the value of a protected area solely to the revenue it can generate: protected areas have considerable non-market values that justify state funding (Walpole et al. 2001).

Moreover, ecotourism is not a magic cure-all either: it may only be a politically attractive slogan that provides conservation agencies with the political and economic justification for an exclusionary, protected area management approach. Instead of taking into account the (amongst themselves diverse and at times conflicting) economic, social, and cultural concerns of local residents, a management regime that adopts ecotourism as a conservation strategy may still ultimately leave local people struggling to meet their present needs (Borchers 2004).

Conservation zones, such as the Komodo National Park, face the difficulties of balancing conservation goals, the livelihood needs of local communities, and the prospects of touristic development. In KNP, the most effective and proven approach is to protect natural resources in protected areas by actively involving the local communities in park management, and by training and supporting them in seeking sustainable employment from the tourist traffic generated by the same park. Once local people directly experience the benefits of conservation, they are much more likely to support conservation goals and actively participate in park management. Park managers would do well to look at local communities as important stakeholders with whom cooperation and co-management of the park area is an essential, desirable, and worthwhile component.

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# Chapter 9

## Environmental Attitudes and Behaviors Among Jeju Islanders, South Korea

Dai-Yeun Jeong

### Introduction

Industrialization has brought about material and cultural affluence and many of the conveniences modern societies now enjoy. Such benefits have been achieved at the expense of the environment, however, resulting in worldwide environmental problems that may even threaten the very existence of human beings.

The World Commission on Environment and Development (WCED) suggested the concept of sustainable development in 1987, describing it as: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 43). Sustainable development has emerged as a critical reflection on the established concept of industrial development, seeking a harmonization between industrialization and environmental preservation. The concept of sustainable development was expanded to include the ideas of a sustainable society in the mid-1990s (e.g., Ekins 1994; Turner 1998) and ecological modernization in the 2000s (e.g., Gibbs 2000; Mol and Sonnenfeld 2000; Hills et al. 2003; Harper 2007: 211–212).

The original arguments for a sustainable society and ecological modernization maintained that sustainable development as intended by the WCED is a uni-dimensional concept that includes two factors: the economy and the environment. There are, however, many social factors that also determine economic and ecological sustainability, including technology, human behavior, population size, land-use planning, and energy use. Economic and ecological sustainability are not possible if these other factors are not also managed sustainably. In other words, social factors must also be considered for sustainable development to be entirely realized. In this sense, the concepts of sustainable development and ecological modernization are both multi-dimensional ones.

In the sustainable society concept, multi-dimensional components have the same impact on the determination of sustainable development. Ecological modernization,

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however, is hierarchical and necessitates that ecosystem sustainability be considered as the most important component.

Currently, sustainable development may be achieved in a country largely through environmental policy pursued by government, green management pursued by business corporations, environmental activities pursued by non-governmental organizations, and environmentally friendly behavior pursued by citizens in the course of their everyday lives.

Individual people's level of environmentally friendly behavior depends on whether consumerism or environmentalism is the dominant ideology. *Consumerism* is a cultural imperative that demands we appropriate as many goods and services as possible essentially for material happiness. The quality of life is thus measured by the quantities of life: purchasing power, status goods, conspicuous consumption. *Environmentalism* is a cultural imperative that demands we act in an environmentally sustainable manner for the quality of life in a broad sense including the amenity of environment. From this perspective, consumerism is a cultural factor that causes environmental problems, whereas environmentalism contributes to sustainable development. In this sense, consumerism and environmentalism represent people's attitude toward consumption and the environment, respectively. Environmental behavior, however, represents actual behavior, not just attitudes.

The objective of this study was to analyze the environmental attitudes and behavior of people on Jeju Island, South Korea, using survey data. Three research themes (consumerism, environmentalism, and environmental behavior) are analyzed in terms of their level, structure, pattern, and mutual relationships. The information drawn from the sample survey is then examined in terms of the possibilities of achieving ecologically sustainable development on Jeju Island.

## Jeju Island

South Korea is composed of nine provinces and six large cities. Jeju Island (hereafter called Jeju) is a special self-governing province located south of the mainland. It has a mild oceanic climate throughout the year and the lowest annual temperature range in South Korea. Relatively isolated from the rest of the world, Jeju has been well preserved, and its natural attractions make the island a domestic and international tourist destination. UNESCO designated Jeju Island a Biosphere Reserve in 2002 and Mt. Halla, Geomunoreum Lava Tube, and Seongsan Ilchulbong as World Natural Heritage sites in 2007.

People on Jeju were primarily engaged in agriculture before the 1970s when the South Korean government launched the first 5-year economic development plan, which targeted Jeju for tourism development. Since the 1970s, Jeju has been transformed into a modern, industrial society, and primarily as a choice, domestic tourism destination.

As is shown in Table 9.1, Jeju has experienced a remarkable socio-economic structural transformation from 1985 to 2007. During that period, the population

**Table 9.1** Aspects of the changing socio-economic structure on Jeju

Sectors	Year				
	1985	1990	2000	2007	
Population	462,755	514,608	543,323	563,388	
Tourists	669,000	2,992,000	4,111,000	5,429,000	
GRDP at current prices (million USD)	892.7	2,416.1	4,849.2	7,967.4	
Industryorigin of GRDP	Primary industry	40.7%	34.0%	16.1%	12.9%
	Secondary industry	17.6%	20.5%	16.8%	15.5%
	Tertiary industry	41.7%	45.5%	67.1%	71.6%
	Total	100.0%	100.0%	100.0%	100.0%
GRDP per capita at current prices (USD)	1,929	4,695	8,925	14,142	

Source: Jeju Province. *Statistical Yearbook* published in each year

increased by 21.7%, gross regional domestic product (GRDP) by 792.5%, and the number of tourists by 711.6%. In terms of the industrial origin of GRDP, the implementation of a highly industrialized economic structure took place, and there was a remarkable increase in tertiary industries. GRDP per capita also rose rapidly, increasing by 633.1% from 1985 to 2007.

Jeju has a wide range of environmental problems, but these problems converge in three arenas (Jeong 2002: 163): depletion of natural resources, pollution or destruction of natural areas, and destruction of self-regulating systems.

## Consumerism, Environmentalism, and Environmental Behavior

The main goals of industrial development are to improve material affluence and convenience. These goals have created the cultural ethos known as consumerism. Scholars (e.g. Sklair 1991; Miles 1998) define consumerism as a cultural imperative that demands we appropriate as many goods and services as possible essentially for fun, prestige and enjoyment, rather than out of simply necessity.

Consumerism has been conceptualized from two primary sources: developmental sociology and cultural sociology. The former is most clearly enunciated by Sklair (1991), who placed consumerism centrally within the development of the global system and maintained that consumerism is the core component of contemporary culture, enveloping all people in all parts of the world. Sklair (1991: 41) stated, “The culture-ideology of consumerism proclaims, literally, that the meaning of life is to be found in the things that we possess. To consume, therefore, is to be fully alive, and to remain fully alive we must continuously consume”.

Cultural sociology’s interest in consumerism is captured in postmodernity theories (e.g., Bauman 1998; Miles 1998; Bennett et al. 1999; Lyon 1999), although consumerism is also linked to a wider body of topics, including political economy (e.g., Fine and Leopold 1993), anthropology (e.g., Miller 1995; Howes 1996), and mainstream sociology (Ritzer 1999). As with the sociology of development, cultural sociology locates consumerism and consumption centrally within the global system

(Miles 1998; Lyon 1999), but it emphasizes the symbolic power of consumption such as “The accumulation of an increasing array of goods and services defines people socially and culturally, with a recognition that consumption is more significant for its sign-value or symbolic qualities than for its use-value” (Miles 1998: 23).

The frenzied hyper-consumption (Ritzer 1999) demanded by consumerism today threatens the environment through a wide variety of production, distribution, and consumption activities. Fundamental changes in values, attitudes, and beliefs have occurred following perceived negative impacts on the environment by science and technology, which are the major instruments of improving affluence and convenience (Giddens 1991; Beck 1992; Lash et al. 1996). Technological disasters, such as oil spills and nuclear accidents, identify a society at risk, and people’s growing fears about these risks lead them to question the promise that science and technology will continue to bring widespread benefits.

While the perceived negative impacts of consumerism on the environment have increased, environmentalism has emerged as another cultural ethos. Environmentalism is the cultural imperative that demands we act in an environmentally sustainable way and, most particularly, do this by cutting back on consumption.

Environmentalism has been theorized and conceptualized in two main ways: Inglehart’s work on materialist and postmaterialist values (Abramson and Inglehart 1995) and the New Environmental Paradigm (Dunlap and Van Liere 1978, 1984). Inglehart and his colleagues maintained that a fundamental cultural shift occurred in the more developed world over the last part of the twentieth century. People are now less concerned with material issues, such as housing and food, because these are now readily satisfied. Instead, they focus on quality-of-life issues, such as environmental sustainability. Inglehart uses the term materialist values to refer to the former and postmaterialist values to refer to the latter. The shift from materialist to postmaterialist values began in about 1950 but gained momentum in the 1970s. This socio-cultural transformation occurred after material needs were more easily satisfied in the more developed world during the economic booms from 1945 to 1973.

The New Environmental Paradigm covers the environmental component of Inglehart’s postmaterialist values thesis. Formulated in the 1970s by Dunlap and Van Liere (see also Dunlap et al. 2000), it contrasts with the Dominant Social Paradigm, which states that humans have the right to freely exploit the environment.

In the West, environmentalism is most strongly held by young adults, women, the politically active, urban residents, the new middle class, professionals, the more educated, and those with higher incomes. In contrast, older people, the less educated, the welfare dependent, and religious fundamentalists are least supportive of this cultural imperative, and working-class males are more likely to hold anti-environmentalist views (Buttel 1978; Cotgrove and Duff 1980; Eckersley 1989; Papadakis 1993; Scott and Willits 1994; Kanji and Nevitte 1997; Skogen 1999; Tranter 1999). Similar findings were recorded for Australia and Korea in a comparison of environmental views in a developed and a developing country (Mullins et al. 2004).

Those espousing environmentalism do not necessarily act in environmentally sensitive ways, however (Scott and Willits 1994). Young adults and women, for example, may hold environmentalist values most strongly; but it is older people, a generation

defined by materialist values, who have been shown to be more predisposed to demonstrate and practice environmentally sensitive behavior (Woodrum and Wolkomir 1997). These actions seem to have less to do with a value commitment and more to do with the need to be frugal, a stance emanating from both their materialist values and their relatively low incomes.

In this context, the concept of environmentalism is different from environmental behavior. The former is an attitude toward the environment, whereas the latter represents real actions and behavior that impact the environment. Environmental behavior includes both environmentally friendly and detrimental activities. Environmentally friendly behavior is termed sustainable environmental behavior (Schultz and Zelezny 1998).

Consumerism, environmentalism, and environmental behavior have implications in terms of sustainability. Consumerism is a cause of unsustainable development, whereas environmentalism contributes to sustainable development. In this sense, postmodern society is faced with the dilemma of these two conflicting cultures' coexistence. Recently, Merz et al. (2008) argued that consumerism is still globalizing, glocalizing, and localizing. Some scholars (e.g., Dove 2008) have argued that new environmentalist concerns emphasize that all social organizations (e.g., governments, non-governmental organizations, and the mass media) should play a crucial role in enhancing the culture of environmentalism.

Because both consumerism and environmentalism are attitudes, environmental behavior is a more significant indicator and determinant of sustainable development than either of the former two concepts. Environmentally friendly behavior encompasses actions leading to the protection of the environment through changes in a consumption-oriented lifestyle (Goodwin et al. 1997), the ultimate goal being to achieve sustainable development. Recently, such an environmentally friendly behavior has been termed *consumer non-purchasing ecological behavior* (Tilikidou and Delistavrou 2008).

These three concepts interact and of their significance for sustainable development, including their impact on sustainable development policies (Spaargaren and Van Vliet 2000; Lafferty and Meadowcroft 2001). However, This chapter reports on a study that empirically analyzed the level, structure, and relationship of these three concepts – consumerism, environmentalism and environmental behavior – but ignoring their interaction and their significance in relation to sustainable development (Lafferty and Meadowcroft 2001; Spaargaren and Van Vliet 2000).

## Data Collection and Methodology

### *Survey*

The data were collected by means of a survey of 500 people over the age of 20 among the total population of 550,000 in Jeju. This sample size includes a sampling error of  $\pm 5.0\%$  at a significance level of 99%. Interviewees were selected

using a quota sampling method based on gender, age, and residential area in proportion to the size of population. The 2007 Statistical Yearbook published by Jeju Provincial Government was used for selecting the 500 quota samples. Ten sociology students conducted the fieldwork in June 2007 using a face-to-face interview with a structured questionnaire covering independent variables and scales for measuring consumerism, environmentalism, and environmental behavior as described below.

### ***Independent Variables***

Six independent variables covering demographic and socio-economic backgrounds were used: gender, age, educational attainment, residential area, monthly income, religion, and level of civic engagement. Age was categorized into five groups: 20–29, 30–39, 40–49, 50–59, and 60 and over. Residential area was categorized into urban and rural areas. Educational attainment had four categories: primary school, middle school, high school, and university. Monthly income was measured on a four-point scale in US dollars: <USD 999, USD 1,000–1,999 dollars, USD 2,000–2,999 dollars, and >USD 3,000. Religion was categorized as none, Buddhism, Christianity, and other.

Civic engagement was defined as people's involvement in civic society (Chang 2004: 71). Civic engagement was operationalized from civic activities in which the respondent engaged in the previous 5 years. Five items were used for measuring the level of civic engagement on the basis of a "yes–no" scale (Chang 2004: 71): writing about any issue to a newspaper, contacting members of parliament about any issue, signing a petition on any issue, joining a specific campaign or organization concerning environmental or social issues, and attending a meeting about an issue in the local area. The total number of activities in which interviewees were engaged was calculated, and two groups were created: the uninvolved and the involved. The involved group was subdivided into passive and active involvement on the basis of the average number of activities in which the interviewee had been engaged. Civic engagement was then categorized as none, passive involvement, and active involvement.

### ***Measurement of Consumerism, Environmentalism, and Environmental Behavior***

Consumerism was measured by using a system developed by Mullins et al. (2004). In this system, consumerism is measured by 18 question items, using a five-point Likert scale, ranging from 'Strongly agree' (5) to 'Strongly disagree' (1).

As identified in Table 9.2, for some question items, a higher score indicates a higher level of consumerism; while for others, a higher score indicates a lower level of consumerism.

**Table 9.2** Question items for measuring consumerism (Mullins et al. 2004)

- 
1. A good life is one in which you can spend money freely without worrying too much about the consequences
  2. Koreans are going to have to reduce their consumption of material goods over the next few years
  3. I am concerned about the impact of my own buying habits on the environment
  4. I like to try out new products that come on to the market
  5. I like to upgrade most major appliances in my home (e.g., TV, stereo, computer) every two or 3 years
  6. I often buy things that I don't really need
  7. I spend money to have fun
  8. Many of the products we buy are over-packaged
  9. I am addicted to shopping
  10. Material wealth is a part of what makes this a good country in which to live
  11. Most of us buy and consume far more than we need – it's wasteful
  12. The "buy now, pay later" attitude caused many of us to consume more than we need
  13. The ready availability of a wide range of consumer goods makes for a good life
  14. The way we live consumes too much
  15. The world's population is growing too fast
  16. We focus too much on getting what we want now and not enough on the needs of future generations
  17. If everybody in China, India, and Latin America consumed as much as Koreans do, it would damage the environment
  18. The amount of energy I use does not affect the environment to any significant degree
- 

Catton and Dunlap (1978) played a critical role in defining today's unprecedented ecological crisis by proposing the New Environmental Paradigm (NEP). Dunlap and Van Liere (1978) developed a set of empirical question items to represent the theoretical notion of the NEP, and the 1978 NEP question items were updated in 2000 (Dunlap et al. 2000).

The original question items consisted of 12 items, again with a five-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1). The revised questionnaire contains 15 items. They were revised for two reasons. First, the environmental situation changed in the intervening period, particularly because of the appearance of global environmental problems (such as global warming and sea level rise) and the rise of the concept of 'human exceptionalism', that is, that humans are such a uniquely superior species that they are exempt from environmental forces. The second reason was primarily methodological and involved modifying outmoded terminology (e.g., references to 'mankind') and now including an "unsure" category as the midpoint to reduce the number of items for which there was no response (Dunlap et al. 2000). The revised questionnaire was used to measure environmentalism in this study (see Table 9.3).

Environmental behavior was measured by looking at the respondent's preparedness to change behavior as the conative aspect of environmental concern; in other words, how willing or ready respondents are to perform the environmental behaviors suggested. Therefore, behavioral intention – verbally claimed commitment – was

**Table 9.3** Question items for measuring environmentalism (Dunlap et al. 2000)

- 
1. We are approaching the limit of the number of people the earth can support
  2. Humans have the right to modify the natural environment to suit their needs
  3. When humans interfere with nature it often produces disastrous consequences
  4. Human ingenuity will insure that we do not make the earth unlivable
  5. Humans are severely abusing the environment
  6. The earth has plenty of natural resources if we just learn how to develop them
  7. Plants and animals have as much right as humans to exist
  8. The balance of nature is strong enough to cope with the impacts of modern industrial nations
  9. Despite our special abilities humans are still subject to the laws of nature
  10. The so-called ecological crisis facing humankind has been greatly exaggerated
  11. The earth is like a spaceship with very limited room and resources
  12. Humans were meant to rule over the rest of nature
  13. The balance of nature is very delicate and easily upset
  14. Humans will eventually learn enough about how nature works to be able to control it
  15. If things continue on their present course, we will soon experience a major ecological catastrophe
- 

**Table 9.4** Question items for measuring environmental behavior (Mullins et al. 2004)

- 
1. Reduce use of a car
  2. Drive a smaller car
  3. Reduce use of electronic goods
  4. Reduce water consumption
  5. Reduce purchases of luxuries
  6. Reduce use of electricity
  7. Repair household goods rather than buy new ones
  8. Recycle household goods
  9. Avoid the use of air-conditioner and/or heaters
  10. Take holidays closer to home
  11. Reduce household waste
  12. Move to a smaller house
- 

considered to be a direct reflection of environmental behavior (Chang 2004: 64). The correlation between intentions and behavior has been shown to be higher than between other aspects of attitude and behavior (e.g., Chan and Yam 1995). Furthermore, the relationship is stronger if the intention and behavior are in the same settings (e.g., Wall 1995).

Environmental behavior was measured by using the questionnaire developed by Mullins et al. (2004). This consists of 12 items (see Table 9.4), which were measured on a six-point Likert scale, ranging from ‘already in practice’ (6) to ‘absolutely impossible to practice’ (1).

The data collected from the 500 respondents were analyzed using SPSS (Statistical Package for the Social Sciences) computer program.



## Findings

### *Levels of Consumerism, Environmentalism, and Environmental Behavior*

The response scores for the three scales ranged from 18 to 90 for consumerism, from 15 to 75 for environmentalism, and from 12 to 72 for environmental behavior. A higher score indicates a higher level of consumerism, environmentalism, and environmentally friendly behavior. Mean scores of the seven independent variables were calculated by their each category for convenient comparison, and then the mean scores were adjusted on the basis of a maximum score of 100 for all three scales. Analysis of variance (ANOVA) was used for examining the statistical significance of difference in the mean score among the categories of each independent variable (see Table 9.5).

The mean level of consumerism was the lowest overall at 48.6 (out of 100). The mean level of environmentalism was relatively high at 70.3, and environmentally friendly behavior was the highest at 79.5. The difference in the overall mean level of the three scales was statistically significant at 0.1%.

Consumerism did not significantly differ by gender, residential area, or religion, whereas environmentalism did not significantly vary by gender, residential area, or monthly income. Gender was the only independent variable that did not make difference in the level of the three scales.

Consumerism generally decreased as age increased and level of civic activity decreased, but it increased with higher educational attainment and monthly income.

Environmentalism increased as age, educational attainment, and amount of civic engagement increased. Those who professed no religion had the highest level of environmentalism, followed by Christians, others, and Buddhists.

Environmentally friendly behavior generally increased with age and level of civic engagement but decreased with level of educational attainment. Rural residents exhibited more environmentally friendly behavior than urban residents. Members of all three religious categories had higher levels of environmentally friendly behavior than interviewees who had no religion.

### *The Structure of Consumerism, Environmentalism, and Environmental Behavior*

Table 9.5 shows the overall adjusted mean levels of consumerism, environmentalism, and environmental behavior. The response to each scale item is supposed to be correlated with the other scale items within each scale. For example, the responses to the 18 question items of consumerism are supposed to be structured as a set of clusters in terms of high correlation.

The structure of consumerism, environmentalism, and environmental behavior in terms of their correlations can thus be extracted. A cluster of highly correlated

**Table 9.5** Adjusted mean scores for consumerism, environmentalism, and environmental behavior (maximum=100)

IV	DV		
	Consumerism	Environmentalism	Environmental behavior
<i>Gender</i>			
Male (253)	NS	NS	NS
Female (247)			
<i>Age (years)</i>			
20–29 (156)	51.4	72.1	73.6
30–39 (132)	47.9	70.8	79.4
40–49 (80)	48.4	68.9	81.5
50–59 (67)	46.2	67.7	86.4
60+ (65)	45.7	69.5	84.7
<i>Educational attainment</i>			
Primary (39)	44.7	67.3	85.3
Middle (42)	45.7	66.7	83.3
High (180)	47.8	69.6	82.7
University (239)	50.3	71.9	75.6
<i>Residential area</i>			
Rural (149)	NS	NS	82.2
Urban (351)			78.4
<i>Religion</i>			
None (164)	NS	70.5	75.8
Buddhism (179)		68.6	82.0
Christianity (122)		72.7	80.4
Other (35)		69.9	81.5
<i>Monthly income (USD)</i>			
Less than 999 (49)	45.7	NS	85.9
1,000–1,999 (209)	49.0		79.6
2,000–2,999 (147)	48.5		80.8
3000+ (95)	49.0		74.3
<i>Civic engagement</i>			
None (202)	50.3	68.8	77.2
Passive (216)	47.8	71.2	80.7
Active (82)	46.2	71.7	82.2
Total (500)	48.6	70.3	79.5

*Note:* DV dependent variable, IV independent variable; number of interviewees in parentheses; NS no significant difference at the 0.100 significance level

scale items is termed underlying factor, and this cluster can be extracted by a factorial analytic technique (for details of the technique, see Rummel 1979: 323–348). I used the principal components method for extracting the factor structure of consumerism, environmentalism, and environmental behavior, respectively (for the advantages and functions of the principal components method, see Jeong 2004: 347–349), using a varimax rotation such that each defines a separate cluster of highly inter-related variables and is as specific to this cluster as possible (Rummel 1979: 170–171).

**Table 9.6** Factor structure of consumerism

Factor extracted	Factor 1	Factor 2	Factor 3
Scale items loaded on	8, 11, 12, 14, 15, 16	1, 2, 3, 10, 13, 18	4, 5, 6, 7, 9
Eigenvalue	3.16	2.61	1.28
Factor name (on the basis of scale items loaded on each factor)	Structural consumerism	Pleasure-seeking consumerism	Voluntary consumerism
Significant variables making difference	Age Civic engagement	Age Religion Monthly income	Civic engagement

*Note:* The numbers of the scale items correlate with those used in Table 9.2

**Table 9.7** Factor structure of environmentalism

Factor extracted	Factor 1	Factor 2	Factor 3
Scale items loaded on	2, 4, 6, 8, 10, 12	1, 5, 7, 15	9, 11, 13, 14
Eigenvalue	2.83	2.10	1.24
Factor name (on the basis of scale items loaded on each factor)	Human dominance of nature	Destruction of natural balance	Limits of economic growth
Significant variables making difference	Age Monthly income	Monthly income Civic engagement	Residential area

*Note:* The numbers of the scale items correlate with those used in Table 9.3

**Table 9.8** Factor structure of environmental behavior

Factor extracted	Factor 1	Factor 2
Scale items loaded on	4, 5, 7, 8, 10, 11, 12	1, 2, 3, 6, 9
Eigenvalue	3.79	1.70
Factor name (on the basis of scale items loaded on each factor)	General control of consumption	Energy-saving behavior
Significant variables making difference	Age Religion Monthly income	Age Religion Monthly income

*Note:* The numbers of the scale items correlate with those used in Table 9.4

Tables 9.6–9.8 show the results of the principal components analysis for consumerism, environmentalism, and environmental behavior, respectively.

As is shown in Table 9.6, three factors were extracted from the 18 scale items of consumerism. Six scale items were loaded on the first and second factor, respectively, and five scale items on the third factor. Although each scale item loaded on each factor connotes a different meaning, when the scale items loaded on each factor are synthesized, their overall meaning are specified to represent Structural Consumerism (factor 1), Pleasure-Seeking Consumerism (factor 2), and Voluntary Consumerism (factor 3). Structural Consumerism is meant by a consumerism caused by a structured cultural ethos, while Voluntary Consumerism is meant

by a consumerism caused by a personal decision. Meanwhile, Pleasure-Seeking Consumerism is defined as a consumerism for enjoying the consumption itself as a pleasure.

For environmentalism, the scale items loaded on the three factors were those related to anxiety about excessive human involvement in the environment, the possibility of the natural balance being destroyed by human involvement, and the perception that humans must recognize that economic development should be limited to a natural carrying capacity. Thus, the three factors were named Human Dominance of Nature, Destruction of Natural Balance, and Limits of Economic Growth.

For environmental behavior, the scale items loaded on the first factor imply the voluntary endeavor to reduce consumption covering a wide range of areas, whereas those loaded on the second factor were related to saving energy. Thus, the two factors were named General Control of Consumption and Energy-Saving Behavior.

The eigenvalues of the three factors presented in Table 9.6 show that Structural Consumerism is the prevailing factor, followed by Pleasure-Seeking and Voluntary Consumerism. This lends support to the theory that consumerism is a cultural imperative in postmodern society rather than an attitude formed by individuals. Age and civic engagement are the significant variables making the difference in Structural Consumerism. Age, religion, and monthly income are the significant variables making the difference in Pleasure-Seeking Consumerism. Only civic engagement is a significant variable making the difference in Voluntary Consumerism. The general trend is that the younger the age, the higher the level of Structural Consumerism and Pleasure-Seeking Consumerism. Lower levels of civic engagement were correlated with higher levels of Structural Consumerism and Pleasure-Seeking Consumerism. Those who professed no religion had higher levels of Pleasure-Seeking Consumerism than those who professed a religion. No significant differences were found in Pleasure-Seeking Consumerism among Christians, Buddhists, and others.

The eigenvalues of the three factors presented in Table 9.7 show that Human Dominance of Nature is the prevailing factor in Environmentalism, followed by Destruction of Natural Balance and Limits of Economic Growth. This suggests that people worry most about excessive human involvement in nature. Age is the significant variable making the difference in Human Structural Consumerism. Monthly income is the significant variable making the difference in Human Dominance on Nature and Destruction of Natural Balance. Residential area is the significant variable making the difference in Limit of Economic Growth. The general trend is that the older the age, the higher the level of Human Dominance on Nature. Higher monthly incomes were correlated with higher levels of Human Dominance of Nature and Destruction of Natural Balance, and higher levels of civic engagement also were correlated with higher levels of Destruction of Natural Balance. Rural residents scored higher in Limits of Economic Growth than urban residents.

The eigenvalues presented in Table 9.8 show that Control of Consumption in General is the prevailing factor in Environmental Behavior. Age, religion, and monthly income are significant variables making the difference in General Control of Consumption and in Energy-Saving Behavior. The general trend is that, the older the age, the higher the levels of both General Control of Consumption and Energy-Saving Behavior. Those who professed a religion scored higher in both General Control of

Consumption and in Energy-Saving Behavior. Lower monthly income was correlated with higher levels of General Control of Consumption and Energy-Saving Behavior.

### *The Dominant Cultural Value System*

As explained earlier, consumerism and environmentalism are in conflict in relation to sustainable development. Each person, however, has a different balance between the two cultural imperatives. The dominant cultural value system of the interviewees was analyzed by comparing each person’s mean score of all their responses to the scale items for consumerism and environmentalism with the respective group means.

As shown in Table 9.9, *environmentalists* were defined as those who had a higher individual mean environmentalism score compared to the group mean but a lower individual mean consumerism score compared to the group mean. In contrast, *consumerists* had a higher individual mean consumerism score but a lower individual mean environmentalism score than the corresponding group scores. The individual mean scores of *contradictionists*, who have strong beliefs in both environmentalism and consumerism, were higher than both of the group mean scores, and the individual mean scores of *marginalists*, who do not adopt either of the dominant cultural imperatives in postmodern society, were both lower. Thus, contradictionists and marginalists can be thought of as in anomie in terms of the dominant cultural value systems. Of the 500 interviewees, 34.0% were environmentalists, 30.3% were consumerists, 15.4% were contradictionists, and 20.8% were marginalists.

Analysis of variance enables us to find the following to be significant. Age, religion, and civic engagement were significant factors in determining the four categories ( $P < 0.1$ ). Environmentalists were more likely to be 60 and over and actively engaged in civic society. Consumerists tended to be younger, more passively engaged in civic activities, and less likely to profess a religion. Contradictionists tended to be younger (20–29), Christian, and passively engaged in civic society. Marginalists tended to be older, passively engaged in civic society, and Buddhist.

### *Relationship Among Consumerism, Environmentalism, and Environmental Behavior*

Consumerism, environmentalism, and environmental behavior do not exist independently, rather they are interrelated. Correlation coefficients were estimated to identify the relationships among them, with the expectation of exploring to what

**Table 9.9** Dominant cultural value system pattern

	Environmentalism	
	Higher than mean score	Lower than mean score
Consumerism	Contradictionist	Consumerist
Higher than mean score	Contradictionist	Consumerist
Lower than mean score	Environmentalist	Marginalist

**Table 9.10** Partial correlation coefficient matrix among consumerism, environmentalism, and environmental behavior

	Consumerism	Environmentalism	Environmental behavior
Consumerism	1.000	-0.369**	-0.414**
Environmentalism		1.000	0.202*
Environmental behavior			1.000

\* $P < 0.05$ \*\* $P < 0.01$ 

extent values and behavior are consistent. The second-order partial correlation technique (Jeong 2004: 319–328) was employed to identify pure relationships by controlling the indirect impacts of other variables on the relationship between two variables. The mutual relationships among the three are presented in Table 9.10.

As expected from the theoretical background of this study, consumerism is negatively correlated with both environmentalism and environmental behavior, while environmentalism and environmental behavior are positively correlated. The findings from Table 9.10 moreover suggest the following two implications.

First, it would seem likely that those most committed to consumerism would be different from those most committed to environmentalism. The division between those most strongly committed to consumerism and those most committed to environmentalism is not so emphatic, however, and the relatively low negative correlation between the two suggests that these contradictory values can co-exist to varying degrees within the same person.

Second, major consumerists are different from those who exhibit environmentally friendly behavior, and only a small group were heavily involved in both types of activity as contradictionists in Table 9.9. This sharp demarcation between major consumerists and those involved in environmentally friendly behavior seems to have been influenced by the large number of low-income households in this study, who are, by necessity, involved in environmentally friendly behavior because their low income is a clear deterrent to widespread consumption. Overall, therefore, there is a considerable degree of behavioral consistency with regard to consumption and environmentally friendly behavior. Major consumerists are essentially a different group of people from those most involved in environmentally friendly behavior.

## Conclusion

The results of this research of a sample of people living on Jeju should not be interpreted as being representative of global values and behavior. However, no previous empirical or theoretical research has been done on this issue, and the results may be useful in capturing an overall trend.

Consumerism and environmentalism are likely to be global values since the sampled Jeju islanders had high mean scores for both, even though the profiles of

those holding values were different. Equally significantly, environmentalism was found to be a stronger value than consumerism. This is surprisingly because it is generally thought that consumerism is the more dominant of the two values. That environmentalism is the stronger of the two values augurs well for efforts that focus on ecologically sustainable development.

In terms of previous observations on the level of consistency with regard to values and behavior, findings from past research are partially confirmed (e.g., Pierce et al. 1987; Eckersley 1989; Wall 1995; Kanji and Nevitte 1997; Tranter 1999). Moreover, a clear link is apparent between consumerism and environmentalism and their environmental behaviors, confirming the relationship between culture and behavior. Environmentalism was a clear determinant of environmentally friendly behavior.

As mentioned above, previous research has identified young adults, women, and politically active people as being most committed to environmentalism. A surprising result from this study questions the significance of the materialist–postmaterialist values thesis (e.g. Dunlap and Van Liere 1978, 1984; Abramson and Inglehart 1995) for explaining the link between environmentalism and environmental behavior. Consumerism has only been empirically measured by Mullins et al. (2004), and the consumerism scale constructed here showed this cultural imperative to be most strongly held by the young, a finding that coincides with the postmaterialist values thesis.

These values and behaviors provide grounds for both optimism and pessimism in the achievement of ecologically sustainable development. The fact that environmentalism was found to be the stronger of the two values augurs well for the achievement of sustainable development. There was also a significant level of behavioral consistency for those most involved in environmentally friendly behavior. However, a significant group of those actively involved in environmentally friendly behavior was older adults who had low monthly incomes, which necessarily restricted consumption. With higher incomes, they most likely would increase consumption.

The explanatory powers of the predictor variables (environmentalism, consumerism, environmental behavior) were not high. Even though there were statistically significant relationships between the issues, the strength of the relationships was not high. This means that the entire sustainable development mechanism is directly and indirectly determined by many other variables in addition to the concepts of environmentalism and consumerism. Thus, further research is necessary to empirically identify those variables and to improve the level of empirical generalization on these issues.

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# Chapter 10

## Changing Coastal Commons in a Sub-Tropical Island Ecosystem, Yaeyama Islands, Japan

Tomoya Akimichi

### Introduction

This chapter explores community-based marine resource management (CBRM) in a coral reef system in the Yaeyama Islands, part of Okinawa prefecture, located at the southwestern-most region of Japan. Particular attention is paid to the traditional small-scale tidal stone weir (TSW) fishing technique used over the past several hundred years. Although the technique was largely abandoned in the 1970s, and has been absent from the islands by 2007, one particular community on Ishigaki Island in Yaeyama has recently recovered the technique as part of a program to enhance community-based coral reef conservation and resource management. This chapter seeks to examine the significance of this recent revitalization of traditional TSW fishing in light of the notion of local commons.

Local commons have recently been acknowledged as an important institution and a key contributor to collective social capital (Uzawa 2008). The co-management of important public resources serves to sustain these community based assets while also contributing to social equity and integration. The Japanese concept which corresponds to local commons is that of *sato-umi*, literally translated as “the sea of the village community”. It is defined as the evolving set of environmental and cultural features – the human ecology – that have traditionally supported Japanese coastal life. Along with the concept of *sato-yama* (the traditional Japanese inland human ecology centering on forest, agriculture and grassland production), *sato-umi* has been singled out for special attention in the United Nations’ recent millennium ecosystem sub-global assessment (United Nations University, Institute of Advanced Studies 2010).

The concept of *sato-umi* is unusual in that it refers to what is a de facto human engineered marine environment, one that is repeatedly used and managed by local community members, and whose productivity also depends on a continuing flow of substances between forest, river and sea via water. In this regard, it provides a way

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to connect both land and sea-based human behavior with coastal marine ecologies; coastal peoples can therefore be considered as participants in coastal marine productivity, for better and for worse, and not just its exploiters.

## Background

Marine resources – especially those of in-shore areas – are often heavily used by coastal communities and their management is an urgent and challenging concern. As appropriate coastal resource management regimes must be suited to local ecological and socio-economic conditions, it is not easy to define or implement nation-wide measures. In particular, integrating local economic and social needs with national environmental conservation policies can prove problematic. A top-down approach often fails to obtain local support and participation, eliciting suspicion and perhaps even resentment from grass roots organizations and affected individuals and their families. For this reason, collaborative approaches are vital in linking government policy with local and other supporting agencies, including non-governmental organizations (NGOs) and marine scientists, thus considerably improving on their likelihoods of successful acceptance and implementation.

Marine resources can be sustainably managed in a number of different ways. Strong conservation measures, such as the establishment of total allowable catch (TAC) quotas, and the banning of destructive practices, such as blast fishing and cyanide fishing, require local, national and international agreements for their proper enforcement. In practice, however, such bans or regulations cannot be easily enforced. Furthermore, such measures often depend on a fragile consensus between quite disparate groups and communities of stakeholders.

The process of dialogue and debate between various stakeholders – including groups of fishers, marine scientists, local and prefecture government officers, owners of scuba diving outlets – with regards to the location and number of conservation spots of Lethrinidae (breams) during the spawning season in the Yaeyama Islands has been analyzed (Akimichi 2001). This research suggests that, while marine conservationists and government officers claimed strict geographical and temporal catch restrictions, local fisher groups had various interpretations of the regulations, even in regard to such alleged ‘facts’ as the number of conservation spots and duration of catch-restrictions. Stakeholder dialogues were often tense, heated and complicated, as every fisher sought to increase his or her own catch. In a context in which the total fish yield was unpredictable, the long-term sustainable management emerged as an element of critical importance, even if it could not be clearly defined.

The concept of the ‘commons’ may facilitate integration of local conditions, interests and practices into national and international regulations. Local fishers invoked the idea of the local commons, especially in order to claim the right to access traditional fishing areas, and to establish their long term responsibility and entitlement for their use and management. Local fishers in particular defined the need for the protection of the ‘commons’, as they blamed the high technology

methods of recreational anglers, equipped with sonar and high-speed boats, for overfishing. The professional local fishers have insisted on the value of their long-term experience and time-proven expertise as the ideal bases for developing the sustainable management of local marine resources.

Such discussions regarding marine conservation in the Yaeyama Islands highlight the need to clearly recognize just which peoples may lay claim to a local common resource; what kind of uses are envisaged and considered legitimate; and how outsiders are (or ought to be) allowed, if at all, to make use of such precious resources. There are many diverse local institutions guiding the use of natural resources, and these may help avoid the “tragedy of the commons”, whereby the pursuit of individual self-interest maximizes short-term exploitation and destroys the commonly held and managed resource (Feeny et al. 1990; Ostrom 1990; Akimichi 2004b, 2007). These ideas are explored in this chapter with particular reference to the tidal stone weir fishing technique as practiced in Yaeyama.

### Fisheries in the Yaeyama Islands

The Yaeyama group consist of eight major islands: Ishigaki, Iriomote, Taketomi, Kuroshima, Kohama, Uechi-Shimochi (or Aragusuku), Hatoma and Yonaguni. They are located at the southwestern extremity of Japan (Fig. 10.1). Their environment

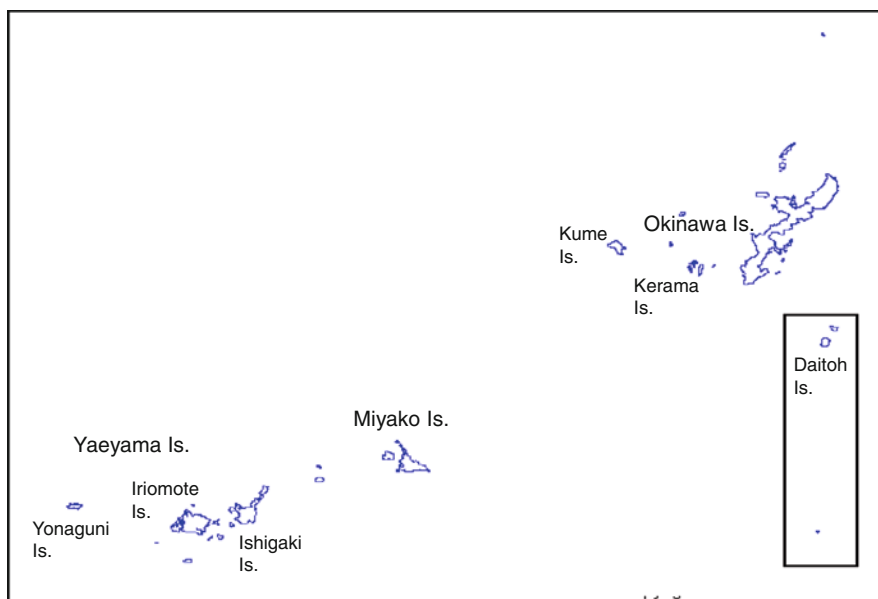


Fig. 10.1 Location of Yaeyama Islands

and climate is sub-tropical, although the surrounding sea is tropical, with an annual mean surface temperature of 24.7°C around Ishigaki, the largest island of the Yaeyama group. Most of the islands are fringed by coral reefs. The Sekisei Lagoon, located between the two largest islands (Ishigaki and Iriomote), contains coral reefs extending over an area of about 13,000 ha, the outer margin of which is barrier reef. The lagoon is a rich coral habitat supporting considerable species diversity; it consists of numerous patch reefs, coral rocks, passages, sandy grounds and other coral formations that provide the principal fishing grounds for local small-scale fisheries. Mangroves develop along the lower reaches of rivers, some of which reach over 10 km in length, especially on Ishigaki and Iriomote. Mudflats and beds of sea grasses are also to be found. Reef-sustaining nutrients flow into the sea through these rivers and artificial waterways.

With the great biodiversity of coral reef environments, fishing activities undertaken in them tend to be highly specialized and therefore relatively small in scale. They may take place at day- or night-time, and employ diurnal and nocturnal fishing strategies, depending on the species sought or whether one is fishing for individual specimens or aggregations.

Ethnographic and historical documents show that fishing methods can vary considerably, according to the place and time of fishing, and according to age-groups (Kuchikura 1977). More than 30 fishing methods can be identified, including fish drive, basketry trapping using bamboo or wire-made cylindrical traps, underwater shell-collecting and spearing, turtle hunting, the use of tidal stone weirs, coastal gleaning, use of gill-, stake-, set-, and lift-nets, or line fishing by bottom line, trolling, long-line, drop line, or pole line. Each fishing method can be further subdivided depending on target species and fishing gear employed. Some methods have persisted over a long period of time while others date to the past decade or so. Methods are always changing as technologies evolve and economic demands fluctuate: for example, more recently, the use of *payao* (underwater buoys used to aggregate fish) to catch large surface swimmers such as tuna, wahoo and marlin has become common in deep waters (Kakuma 2002). Coastal aquaculture operations for seaweed, pearl shell, giant clam, and grouper have been launched.

Certain fishing techniques have been banned due to their destructive nature. Once Okinawa prefecture was restored to mainland Japan in 1972, following various decades of administration by the United States, Japanese laws were brought into force. These included the Japanese Fisheries Cooperative Association Law, which, amongst other things, prohibited indiscriminate blasting and cyanide fishing, which had been earlier employed by some fishers (Ruddle and Akimichi 1984, 1989).

Moreover, various customary practices and rules that had existed prior to adoption of the Japanese fisheries laws fell into disuse and were no longer recognized after 1972. One of the most prevalent local practices facing total disappearance was the use of tidal stone weirs to catch fish.

## **Fisheries Law and Local Rule**

The Yaeyama Fisheries Cooperative Association (YFCA) generally claims use of the coastal island waters to a depth of nearly 200 m; access to these waters is granted only to qualified fishers. Certain coastal waters are only open to members of the YFCA. In particular, the rights to harvest benthic (sea bed) plants and animals, to utilize small-scale set nets, and for aquaculture are all restricted in accordance with national fisheries legislation. According to this law, coastal residents are not formally authorized to exploit coastal resources unless they are members of YFCA. In practice, however, these coastal dwellers have long done so, especially through the use of tidal stone weirs. At the same time, non-YFCA anglers and scuba divers have been using the Yaeyama Island waters for recreational purposes since Okinawa was restored to mainland Japan.

## **Dispute of a New Airport and Local Rule in Shiraho**

The Yaeyama Islands have become an increasingly popular tourist destination and capital investment in the Yaeyama tourism product has expanded rapidly. Most investors are based in the Japanese mainland, and are therefore not considered local. Tension around the preferred path of development came to a head over the proposed construction of a new airport at Shiraho on Ishigaki's Pacific coast. The new airport was designed around a 2,000 m (about 6,500 ft.) runway that can accommodate the take-off and landing of larger planes associated with mass tourism. The proposed runway, however, would encroach upon traditional fishing grounds around the Shiraho reef area, the rights to which belonged to the YFCA. Approval of the airport plan therefore depended on a majority vote in favor of selling this portion of their fishing grounds, which did occur, and airport construction was given final approval. The local inhabitants of Shiraho, meanwhile, while supportive of the whole airport plan in principle, strongly rejected the location of construction as proposed. They claimed that, although they did not have voting rights as YFCA members since they were not professional fishers, they were still entitled to exercise their local use rights to the reefs that have historically sustained their community life.

The Shiraho airport controversy has thus broadened the discussion of just what is meant by a "commons", and to which people does it exactly correspond (Kumamoto 1999). Early discussions of the use and sustainable management of the fishery commons were restricted and focused around the activities of professional fishers, and did not take in the wide variety of small-scale marine harvesting commonly undertaken by coastal inhabitants. Non-professional fisher folk have historically made extensive use of reefs for subsistence and small commodity production, harvesting seaweeds, gastropods, clam shells, octopus, and seasonal reef fish. Small-scale gill net, cast net, night-time spear fishing with flashlights, stone weirs, and coastal gleaning are the principal techniques employed by non-professional fishers, both men and women.

According to the local inhabitants, coastal resources have appreciably decreased after professional fishers from Ishigaki started to exploit Shiraho waters. No independent research has been conducted to verify this claim to date. At any rate, the claims of the Shiraho people deserve to be considered as they pose the key questions of how local marine resources are used, by whom, and what historical precedent may guide contemporary claims.

## The Tidal Stone Weir

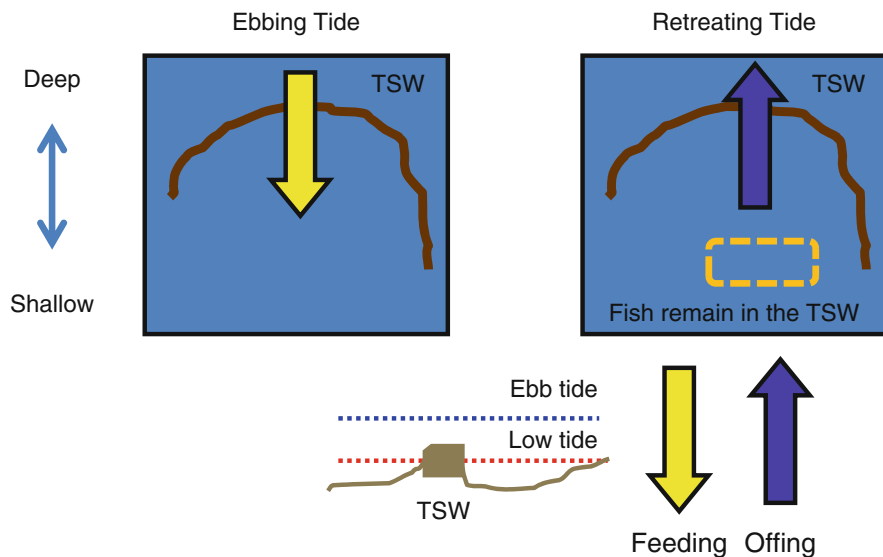
The tidal stone weir (TSW) is an installed passive fish harvesting technique; it does not involve the pursuit of free swimming fish in the open water. As constructing tidal stone weirs requires substantial investments of labor, they are often built by means of voluntary collective effort and, once complete, owned and maintained by either a group of households or by an entire community.

Among the fishing techniques utilized in Yaeyama, tidal stone weir fishing seems to have one of the longest histories (Nishimura 1975). Stone weirs are widely distributed not only in southern Japan but also in Korea, Taiwan and other parts of Southeast Asia, Oceania, and even in Europe (Tawa 2002). Their extensive use is probably related to the fact that they are primarily employed by coastal inhabitants, rather than professional fishers. Despite such a base in folk culture, in the last 50 years stone weir fishing has become much less prevalent in the Yaeyama Islands. The last operating tidal stone weir survived until 2007. However, more recently, the Shiraho community has begun to reconstruct tidal stone weirs in its sea area.

Why were TSWs abandoned, and why is the technique being revived? Inquiries into these questions may provide interesting insights into how local commons can be lost and how they are now being revived and regained in relation to the ecological and cultural history of *sato-umi*.

A tidal stone weir is a semi-circular or U-shaped stone structure that is constructed in the shallow waters along the shore. As a generalized Japanese technical term, a tidal stone weir is described as *ishihimi* (literally, stone + drytime + to witness) or *uogaki* (literally, fish wall); although in the Yaeyama group, each island calls the TSW differently (Kishaba 1977). When the tide ebbs, fish move to shallow waters for feeding; at this time they pass in and out of the weir freely. As the tide retreats, most fish swim to deeper waters; fish that fail to move into deeper waters remain inside the weir – the walls of which may now break the surface of the water – and can be easily harvested (Fig. 10.2). This technique dates back to ancient times (Nishimura 1987). Tidal stone weirs are stationary and apparently non-destructive, as they are made of natural rocks, and can only capture a limited number of fish.

A TSW typically extends between a few hundred to several hundred feet in length. Its height ranges between 25 and 80 cm, the width is 40–150 cm. Available coral stones and/or rocks are used to create the structure. Generally, stone weirs are not uniform, because their central part passes through a tidal pool where fish tend to aggregate. Both sides of the center play a role as a sort of wing net to induce fish



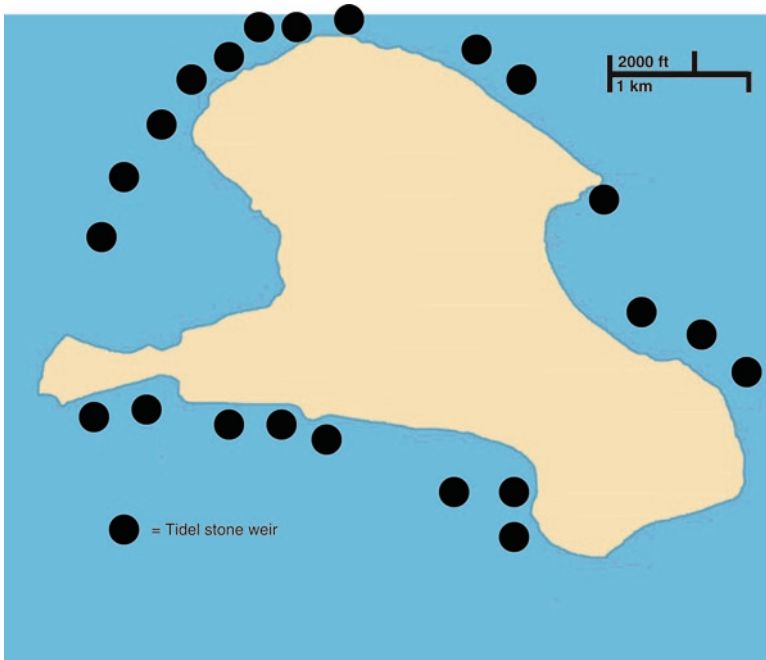
**Fig. 10.2** The principle of tidal stone weirs in relation to fish movement patterns

towards the center which is deeper than the wing sides. In some cases, a TSW had an entrance/exit in the central part. Fish coming from deeper waters through this gate in ebbing tide are enclosed and shut in, and then later caught during low tide. The gate is locally termed as *futikakii* (literally, mouth wall). In any event, fishers can easily harvest fish around the central part of TSW by using a small gill net, four diagonal net or hand net.

Tidal stone weirs were quite widely distributed throughout the Yaeyama Islands. Before the Second World War, there were at least 23 TSWs reported on Ishigaki (Editorial Committee of History of Ishigaki City 1994). Another source describes tidal stone weirs at Kabira Bay, in Ishigaki, of 200–300 m in length (650–1,000 ft.), with a height of 0.6–1 m (2–3 ft.) (History of Kabira Village Editorial Committee 1976). Another 27 TSWs have been counted on Kohama, of which six were still in use in 1972 (Yano 2008) (Fig. 10.3). Evidence of the existence of other TSWs on these and other islands in the Yaeyama group is available from other literary sources (e.g. Editorial Committee of History of Shiraho Village 2009; Editorial Committee of History of Ohama Village 2001; Editorial Committee of History of Ishigaki City 1999). Each TSW often carries its own particular name, the meaning of which is mainly derived either from its geographical location or from its owner’s kin-group name (Yano 2008; Editorial Committee of History of Shiraho Village 2009).

It is evident that TSWs have played an important role in facilitating the provision of regular fresh fish and other marine animal resources, especially as daily food for the sustenance of coastal communities. More significantly, the first catch of the year used to be offered to the community’s sacred shrine (*utaki* or *ugan*). Fish were





**Fig. 10.3** TSW distribution around Kohama Island

buried underground and people prayed for a good catch for the year. In some cases, dugong would be captured in a particular TSW. During the feudal times (between 1602 and 1848), dugong meat was an important item and was used as tribute to the king of the Ryukyu Kingdom (to which Okinawa belonged) and the local government.

## Decline of Tidal Stone Weir Fishing

Most of the TSWs in Yaeyama have now fallen into disuse. The last stone weir to be in operation was reportedly the one owned and used by Komi villagers on Iriomote. Although it is now abandoned, according to our observations in summer 2009, the structure was still in fairly good condition (Fig. 10.4). The reason for its abandonment was the death of the owner, after which it is said that no one would assume responsibility for regular maintenance. Since the walls of stone weirs could be damaged by wave action during the annual typhoon season or by the strong northerly winds prevalent in early spring, repair was a seasonal activity requiring much effort. Without cooperative work, tidal stone weirs cannot be properly maintained.

Several other factors have been identified as possible causes of stone weir abandonment. These include: (1) the decline of catch due to expanding Ishigaki fishing activities in many parts of Yaeyama coastal waters (Akimichi and Ruddle



**Fig. 10.4** Stone weir at Komi, Iriomote Island. It was abandoned in 2007

1984); (2) the out-migration of village people to urban regions, and from Okinawa prefecture to mainland Japan; (3) the development of net fishing; (4) changes in traditional fishing techniques to more modern practices; and (5) the decline of communal labor practices for the maintenance of weir walls. Although there is no known direct evidence to document the decline of tidal stone weir fishing in Yaeyama, development of fishing gear and active fishing activities by Itoman fishermen have likely contributed to a decline of yields from tidal stone weirs.

## Revitalization and Local Commons

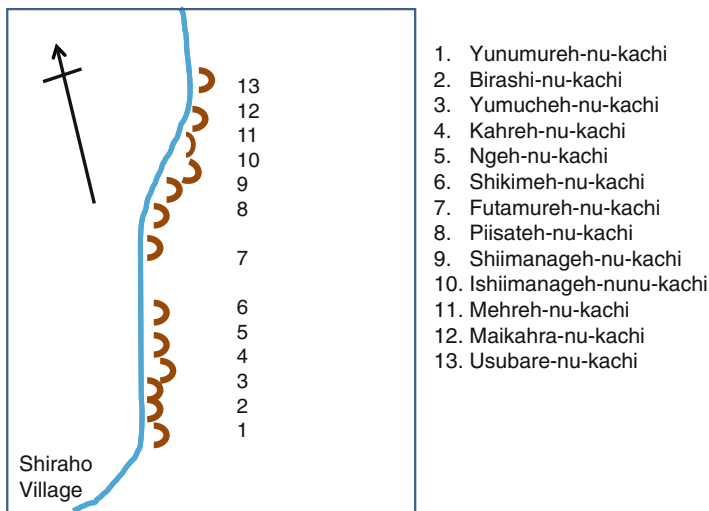
Reasons associated with the decline of traditional culture and strong impacts of modernization and external forces appear to be common in other cases, apart from the present case study. Yet, it is evident that small-scale traditional tidal stone weir fishing has persisted over several hundreds of years, at least in Yaeyama Islands. In line with recent trends of over-fishing and degradation of marine environment, sustainable fishing has come to be re-evaluated.

In Shiraho, TSW fishing was revived in 2006 after an absence of almost 40 years (Kamimura 2007) (Fig. 10.5). Following the tense debate on the construction of the new Ishigaki airport since 1979, the people of Shiraho were urged to choose between the positive economic developments highlighted by the airport developers and the environmental threats faced by the coral reef and its biota, particularly the rich *Acrophora* corals (e.g. Moyer 1989), as highlighted by those opposed to the development. The new airport site has now been decided: it has been moved from the place it was to be located to a less controversial inland site. It has been under construction since 2006, and is scheduled for completion in 2012.

In the course of these tumultuous debates, the Shiraho people have become much more aware of the importance of coral reefs both for the marine environment



**Fig. 10.5** Spear fishing in a tidal stone weir near Shiraho (photo by M. Kamimura)



**Fig. 10.6** Location of active TSWs along the Shiraho coast

and for their own livelihood. Their coral lagoon is referred to as “The Sea of Treasure” and it boasts a biodiversity similar to Australia’s Great Barrier Reef, in an area that covers only a 7.5-mile radius. This triggered the reconstruction of TSW as one of the community-based measures to conserve and use of marine resources (Fig. 10.6). Indeed, the TSW may be emerging as a symbol for the conservation of the marine environment into the twenty-first century.

From information collected so far, TSWs are either community owned or managed by particular individuals and kin groups. In the former case, TSW used to be treated as local commons, and any catch was distributed among community members. In the latter case, each TSW structure has been maintained by extended family groups. It is however amply evident that, in both cases, the maintenance and repair of TSWs requires considerable joint effort. How to integrate people's participation toward the goals of resource management and sustainable livelihood remains a pressing challenge, and would benefit from successful examples of "good practice". Shiraho could provide an important example and model for a promising future of responsible resource co-management, both ecologically and culturally.

The fringing reef has been the important location providing sustenance to the local population. In spite of the existence of legal claims to coastal waters authorized by national fishery legislation, local people should not lose complete entitlement and be excluded from access and the sustainable use of shallow reefs for their own livelihood.

As it turns out, local perceptions and practices about how to use the reef system for local sustenance are quite widespread. Claims to *inoh* (reef flats inside the surf break) have historically been maintained in succession over many centuries, as evidenced from local knowledge on Iriomote. According to a local leader, the sea inside the reef is generally called *sunah*. Deep sea beyond the surf break is termed *ubutuh*. Local community members recognize that *sunah* is the zone where community members have what they consider to be an equal right to access marine resources; whereas *ubutuh* is the zone where full-time fishers are entitled to harvest (Ishigaki, 2009, personal communication). In the coral reef environments of the Yaeyama Islands, such a recognition to divide the land and sea into local commons and another commons allowed for outsider access provides a valuable insight into the use of coastal waters as *sato-umi* commons in the future.

## Discussion

### *Formal and Informal Fishing Rights*

As mentioned earlier in this paper, *sato-umi* as a new concept explaining the local commons in Japan becomes a key to understanding local engagement in marine resource management at the community basis.

Modern Japanese fisheries law distinguishes between several different coastal areas. The first category of communal fishery rights concerns fishing grounds that serve for harvesting benthos such as sea-weeds, sea-urchins and shellfish. Fishing rights are exclusively given to members belonging to relevant FCA. The area for aquaculture of sea-weeds, shellfish and fish is the second category of demarcated fisheries rights. The third category deals in those fishing rights given to the small-scale and large-scale set net fisheries as described above (Akimichi and Ruddle

1984). Beyond these demarcated sea areas under these three categories, fishing by hook and line, trapping and net are generally open access.

In addition, detailed rules regarding fishing gear, season and daily access apply to specific fisheries. Furthermore, entry rights to particular fishing grounds are not always open access, but limited to some extent. Lotteries are often used to determine entry rights. In Yaeyama Islands, a lottery has been adopted in lift net fishery to distribute exclusive rights to use coral rocks (Akimichi 2004a). Informal territoriality is recognized among small-scale set net fishing in coral reefs in Itoman, Okinawa (Akimichi 1984). In other cases, fishing grounds are freely used, although competition and conflicts over their use potentially exist. It is likely that there is a bundle of fishing rights, whose details, especially regarding enforcement, require close examination.

## Conclusion

The notion that local inhabitants have rights to harvest local marine resources within the territory of the community is often ignored. However, fisheries rights under the Fisheries Law can be contested. Indeed, rights and entitlements to harvest marine resources for one's own livelihood of local coastal communities should be acknowledged as local commons within community based marine resource management.

Although territorial waters are generally claimed as the nation's property and fall within national jurisdiction, in the sub-tropical and tropical waters of Asia and the Pacific, the sea effectively belongs to everyone. Therefore, local people are allowed to harvest marine resources both for daily subsistence and commodity production. Yet, many conflicts have been witnessed among neighboring communities as well as between local fishing communities and outside fishers over the use of marine resources (Akimichi 2004a). In this chapter, we have proposed that the unfolding Japanese model of managing the local commons in the Yaeyama archipelago may provide useful examples in resource co-management via shared empowerment amongst diverse stakeholders.

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# Chapter 11

## A Future for Tradition: Cultural Preservation and Transmission on Taketomi Island, Okinawa, Japan

Takakazu Yumoto and Yoshinori Uesedo

### Introduction

An island's natural and cultural features also develop in relation to its degree of separation from a mainland. Until very recently, many islands were separated from centers of development, and their natural and cultural features were well conserved. On the other hand, island inhabitants often have to depend on the limited supplies of water and other natural resources available within the narrow confines of their island. With today's increased mobility of people, information and goods around the world, many islands are facing severe depopulation and the accompanying problem of loss of indigenous culture as well as a degradation of island ecosystems. In designated islands – such as a UNESCO Biosphere Reserve or World Heritage Site, where the value of the indigenous nature and culture are recognized externally – population decline may be halted and even reversed by a rise in tourism, and associated employment opportunities; but this may trigger other problems, including uncontrolled development of tourism, problems of garbage disposal, and impacts of epidemic pests and invasive organisms, while increased migration of newcomers to an island may threaten the transmission of the indigenous culture. Solution of such problems requires a consensus between the native islanders and the resident immigrants, but in many cases their perceptions are clearly different. This paper describes several internal and external factors associated with the present success of Taketomi Island, Okinawa, Japan, especially as it is related to the preservation and transmission of traditional culture.

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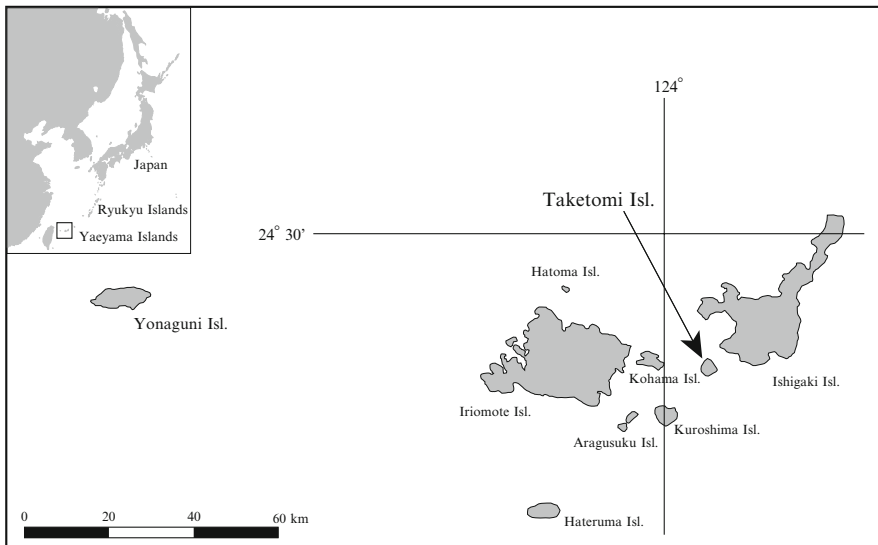
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## Taketomi Island

Taketomi (24.19°N; 124.05°E) is an island with a land area of just 5.42 km<sup>2</sup> in the Yaeyama Islands, part of the Okinawa Prefecture, in Japan. The island is located 6 km to the southwest of Ishigaki Island (a central island of Yaeyama District) (Fig. 11.1). The climate is subtropical: the average monthly temperature is 24.6°C (19.6°C at minimum in January and 29.3°C at maximum in August). The annual rainfall is ca. 2,000 mm, and the number of days with 1 mm or more precipitation is 125 (average of 61–80 years). Situated in the largest coral reefs in Japan between Iriomote Island and Ishigaki Island, the whole area of Taketomi Island was designated in 1972 as a national park, the Iriomote-Ishigaki, by Japan's Environmental Agency.

The population of the island was 351 (153 families) in 2008, a number that has been growing since 1992. Then, the resident population had decreased to just 251. Today, young people, former emigrants from the Island, are choosing to return and raise their families there. As a consequence, and in sharp contrast to the rest of Japan, the ratio of elderly inhabitants of Taketomi is decreasing. Tourism is now the main economic lifeblood of the island. The number of tourists to the island has increased up to 467,740 in 2008 (in 1989 the number of tourists was only 86,721). The younger generation, which had earlier left the island in search of regular jobs on the Japanese mainland, has returned to start businesses associated with tourism; these jobs have also attracted newcomers who are enchanted by Taketomi Island life. Descendents of the proprietors of all nine traditional tourist inns on the island have returned from their periods of emigration, and have become locals again.



**Fig. 11.1** Taketomi Island and the Yaeyama Islands



Taketomi is very flat (the highest point is just 24 m above sea level); it is made of coral reef and so has no large river. The island's three villages, Hazama-higashi, Hazama-nishi, and Nahji, are situated in the central and northern part of the island, and people depended on rainwater and well-water until water began to be supplied from Ishigaki Island by pipe. As the island soil is very sterile and water is always limited, there is no real hope or promise for agricultural development (such as of cash crops of rice, sugar cane, or pineapple) as on other islands in Okinawa. The residents of Taketomi Island earlier owned paddy fields on Iriomote Island situated about 20 km away to the west: until the 1960s, Taketomi people commuted to Iriomote by boat to cultivate rice (Ankei 2007). People on Taketomi have cultivated sweet potato, beans, *awa* (millet; *Setaria italica*) and wheat for family consumption (Kano 2007).

The southern part of Taketomi is covered by pasture (ca. 140 ha) for cattle. In 2008, 14 farmers kept 419 beef cattle, whose meat is sold as local "Ishigaki-beef", a registered trademark (Yaeyama Livestock Hygiene Service 2009). There is no family of professional fishermen on the island. The sole fishery is that of cultured prawns, a company that was established in 1984. The prawn culture pond is situated beside the pasture. Tamotsu Uesedo, the company founder, said that he started the company to maintain the Tanadhui Festival (described below) by providing employment for young people in the island (by interview).

## Cultural Landscape and the Charter of Taketomi Island

The villages of Taketomi consist of traditional red tile-roofed houses and streets laid with white coral sands (Fig. 11.2a,b). This cultural landscape was designated as an Important Cultural Buildings Preservation District in 1987. Tourists are surprised to see the beautiful contrast of blue sea and red tiled roofs, as well as clean white sands in the uncluttered streets. The villagers sweep the streets clean, early every morning.

There was a popular movement to preserve this landscape in the face of development. Several pieces of land on Taketomi Island were sold when Okinawa Prefecture was returned to Japan from US Army occupation in 1972. At that time, many available lands in Yaeyama District were bought up by non-local capital. Some Okinawa islanders began to worry that the nature and culture of the islands would be lost along with the land. In 1986, after much community discussion, "The Charter of Taketomi Island" was approved at the general meeting of all islanders in the Taketomi *Kominkan*, the civic hall of the village community. The charter designated the Important Cultural Buildings Preservation District, and also adopted guidelines for the maintenance of the traditional cultural landscape. A provision in the charter contains four "Do Nots" and one "Do": Do not sell (our land), Do not destroy (our houses and streets), Do not pollute (our air, fresh water and sea), Do not disturb (our daily lives), but Do use (our assets to advantage). This charter was partly adopted from "the Charter of Tsumago-shuku" in Nagano Prefecture established in 1971, which also includes three Do Nots: Do not sell, Do not rent,



**Fig. 11.2** (a) Cultural landscape in Taketomi Island. Traditional houses roofed in red tiles; (b) Streets laid with white coral sands

and Do not destroy. On Taketomi, when islanders plan to build and restore their house, they have to submit their plans to the Committee of Cultural Building Preservation. This consists of 12 islanders, who review the submitted plans, a procedure based on the idea that “houses are owned by persons, but the island is owned by all the islanders” (Tokyo Sorbonne Juku 1996).

Designations or evaluations that are adopted from national practices are always a source of argument among islanders, as local ways of being are suddenly evaluated by outsiders, and their terms. There are various examples of negative attitudes: a lack of concern or a perception that national designations are a nuisance, a restriction on development, a burden, and a cause of unnecessary expenditure. But, after long discussions, Taketomi people have accepted the limits accompanying preservation quite positively as a demonstration of island pride. People believe that their positive attitude in the past has determined their successful adaptation to a tourism-based economy in the present.

The *Kominkan* in Okinawa play quite important roles in the islands’ self-governance (Kobayashi 2000). Heads of *Kominkan* are selected by local vote and have responsibility for most community affairs. In Taketomi, for example, in an attempt to reduce conflict between island residents who engage in tourism business and those who do not, the *Kominkan* decided in 1986 that tourist agents have to pay a “tourism tax” or “cooperative money” to the island community. The Taketomi *Kominkan* evaluates each tourist agent and taxes it according to its business earnings. In total the tourism tax amounts up to about 650,000 yen (about US \$7,200) annually, and accounts for a fourth of the total annual budget of Taketomi *Kominkan*. The tourism tax reduces the burden of people in non-tourism business for maintaining the Taketomi community.

## Yaeyama *Minsaa* Textile and Traditional Household Goods

In 1989, the Japan’s Ministry of International Trade and Industry designated the Yaeyama *Minsaa* textile, the traditional textile art of Okinawa, as a Traditional Handwork. Archival records confirm that cotton clothes brought to Okinawa from China were in use at the beginning of the sixteenth century at the Ryukyu Dynasty court. The name *minsaa* is derived from *min* (which means cotton) and *saa* (which means a narrow band). Both warp and weft threads of the *minsaa* are cotton and the ikat threads are tied by hand. The dye is usually indigo, producing a sea-blue-like background on which the white pattern is picked out in beautiful contrast. The main garments produced are *obi* sashes for men and women and ties. With three state-recognized Master Crafts persons leading the work, there are now 241 people and 162 firms involved in *minsaa* production in Yaeyama District.

In the past, a woman would give a *minsaa* with the four (*yotsu*) and five (*itsutsu*) patterns woven into the cloth to the man she loved (Fig. 11.3). A pun on similarity



**Fig. 11.3** Minsaa obi sashes with the four and five pattern

between the words *itsutsu* (the five stitch pattern) and *itsu* (whenever) transforms the *minsaa* into a sign of unflinching affection:

*Itsu no yo mademo*  
 (I love you) for ever.

This design originated in Taketomi Island, and is still used today. It has been adapted to everyday items, such as the straps for mobile phones available in souvenir shops in Yaeyama District (Fig. 11.4a). A couple from Tokyo who visited Taketomi Island before marriage was so touched by the story of *minsaa* that the two decided to order their wedding rings with this pattern (Fig. 11.4b).

There is a private museum of folklore in Taketomi Island located beside Kihoin Temple, which was established in 1949 as the southernmost temple in Japan. The former chief priest, Toru Uesedo, who was a serious researcher of local history as well, built the museum in 1960. The museum now accommodates more than 4,000 items of traditional handcrafts and household goods, of which 842 traditional household goods were designated as Tangible Folk Culture Properties in 2007. Toru Uesedo was thus a spiritual and community leader in several senses, not least in his understanding of the essence and utility of Taketomi culture.

## Tanadhui Festival

The islands extending south of Japan now known as Okinawa were once the home of the Ryukyu Dynasty. Its distinct culture, including the myth, legend and song of both court inhabitants and commoners, has been passed down through the generations to the people of the present day. Taketomi in particular is a treasure island of the festival arts, in which the influence of Ryukyu, Chinese and Japanese performance



**Fig. 11.4** (a) Minsaa pattern in the straps of amobile phone. (b) Minsaa pattern in a pair of wedding rings

art is discernable. People in Taketomi Island have maintained their festivals with loving care, and treated them as spiritual nourishment for their daily lives.

Of the many festivals celebrated, the most significant is the Tanadhui Festival celebrating the sowing of *awa* (millet; *S. italica*) (Fig. 11.5), which was designated as a National Important Intangible Cultural Asset by Japan's Culture Agency in 1977. There is no clear record of the festival's origins, but it is thought to have started around 900 years ago, in the twelfth century, when the island inhabitants became dependent on agriculture (Karimata 2003). One cannot simply assume that the beginning of agriculture led directly to the Tanadhui Festival, however.



**Fig. 11.5** Hazama Honja (the elderly) prays for a good harvest of rice, awa millet, sweet potato, and other crops

‘*Tanadhui*’ is a Yaeyama word and can be translated literally as ‘collecting crop seeds’ (not sowing); its etymological similarity to the Okinawan term with the same meaning, ‘*tanthui*’, indicates that the festival origins could date back to the sixth century, when millet initially arrived in the southernmost group of islands from Okinawa. In this case, the festival would originally have celebrated the ‘harvest’ or collection of millet before a formal agricultural cycle had been established.

Unfortunately, it is impossible to describe the original style of *Tanadhui* Festival in detail, but it is said that at the beginning it took place in each of the island’s six *on*, or sacred forests (Uesedo 1976). The custom of a unified festival celebrated by the entire island population may have been established after the seventeenth century, when the Chinese zodiac signs became widespread through Yaeyama as the festival days are associated with the Chinese zodiac calendar.

More certainly, the modern *Tanadhui* Festival can be divided into three periods (Karimata 2003). The first period is 1903–1945, beginning with the abolition of the poll tax and ending with the conclusion of the Second World War. The abolition of the poll tax ended the obligation of common people to support the noble *samurai* class, and so signified the end of the sovereignty of the *samurai*. Even though the people of Taketomi were freed from their previous burden, the *Tanadhui* Festival was still quite simple in this first period. It consisted of group and court dancing. Later some popular dramas from Japan, such as “*Nioh*” and “*Soga Brothers*” (Fig. 11.6), were adopted, but the costumes were unaffected and there was no role for women in the performing arts.



**Fig. 11.6** A Soga Brothers dedication performance

The Tanadhui Festival experienced a second period of change in the 30 years following the war's end (1946) until 1976, when it was first performed in the National Theater in Naha, the capital city of Okinawa. During this period, people were recovering from the upheaval of the war; many former inhabitants of the island established their post-war livelihoods elsewhere in Japan, and the island was struck by a sudden depopulation. The cultural value of the Tanadhui Festival was recognized neither among islanders, nor in outside audiences. A group of young men from the war organized a theatrical troupe called the *Subaru* (the Pleiades), and they created a brand-new style of theater (Fig. 11.7). In the context of unpredictable social and cultural change of the 1960s, the motto of the festival changed to protect it and keep the festival from dying out. People began to recognize the Tanadhui Festival as a major cultural event on the island. In addition, due to population decline on the islands people living in nearby Ishigaki Island were invited to join the festival's dedication performance in this period.

The third period commenced in 1977 and continues to the present. With the performances at the National Theater in Naha as a turning point, both the drama and costumes have been refined. Several kinds of stage direction were introduced. The lull between the dedication performances has been eliminated to entertain the audiences without pauses. While popular interest in conserving traditional Taketomi culture has increased, the festival has also come to emphasize and celebrate the health and prosperity of the island, rather than the original agricultural rituals. Now, the Taketomi born living on the main islands of Japan return to their home each spring to join in the Tanadhui Festival.



Fig. 11.7 A Subaru dedication performance

The Tanadhui Festival involves a good deal of competition between Hazama and Nahji villages, and this lends an additional stimulation and tension to the performances. The competition was such that even in the midst of the depopulation years, the two villages never asked one another for help in mounting the festival, even though (as mentioned earlier) they did request the assistance of people from Ishigaki Island. This rivalry must be the reason why the entertainment has been kept at a very high level. This competition can be witnessed more clearly in preparations than during the actual festival (Karimata 2003).

## Transmission of Performing Arts

The Tanadhui Festival starts on the day of *Kinoesaru* in the zodiac calendar, which is also the first day of rehearsals for the dedication performance. Gathered in front of each family shrine at Kuniyoshi, the original house in Hazama village, and at Seimori, the original house in Nahji village, the performers decide who should make up the official cast. The second through the fourth day are for the practice of the performance and preparation of food. On the fifth day, each family sows seeds in a section of their fields. The islanders begin to set up the stage and to pitch a large tent at a square of *Yomochi Otake* (the most sacred place in the island)





**Fig. 11.8** *Yukui* parade visits each house to celebrate

for the performance. The sixth day is called *Ngasoji*, which means a day of reverence; on this day villagers should not make any noise, and rehearsal for the dedication performance at each village is held at midnight (Karimata 2005). The seventh day is the day for the performance in Hazama village. During the night, the *Yukui* parade visits each family in Hazama village (Fig. 11.8). On the eighth day is the day for the performance in Nahji village. The ninth day is a celebration for villagers and their reunion with others who used to live on the island. They clean up the stage and settle any outstanding accounts associated with the festival preparations.

Rehearsals are essential for transmitting the dedication performance and music. The eldest men sit down alongside, and the newcomers are trained and mentored by experienced persons. There is no written textbook, so that each action is learnt by following the example of experienced persons. Rehearsals usually begin after supper and end at midnight. During these days, young people who have had emigrated from the island often return to join the rehearsal and learn the dedication performances. Children are welcome throughout the festival preparations and celebrations: indeed, their presence is considered essential for the sake of intergenerational cultural transfer (Fig. 11.9). Many children attend the performance of the elders and take them very seriously (Fig. 11.10). From an early age, they experience the particular rhythm, tune and dance in a friendly and exciting atmosphere. The importance of this early experience in their acoustic education has also been



Fig. 11.9 Children commonly observe all activities in the festival



Fig. 11.10 Children learn the performance rhythms, tunes and dances at a very early age

suggested (Oohashi 2003). The future participants of the dedication performances begin to learn Yaeyama rhythm and Okinawan scale (which is a hemitonic pentatonic scale) in their childhood.

More than 80 performing arts are practiced during the seventh and eighth days of Tanadhui Festival. Nowadays, many islanders depend on tourism for their economic livelihoods, but almost all tourism activities stop during this 2-day festival. Every islander is quite occupied because he or she has to play several different roles in the festival, as a member of a ceremony, a manager, an art-performer, a watch, a cook, or in some other role.

People who were born on Taketomi Island but now live away from the island return to play some essential roles in the festivals according to their cohort, especially on the anniversary of their zodiac sign (that is, every 12th year). The responsibility for celebrating the festival is accepted gradually, from childhood into adulthood, whether resident on the island or living elsewhere, and establishes and confirms their strong identification as Taketomi Islanders. Those who join the Tanadhui Festival experience the soul-stirring passion and the sense of solidarity amongst the participants. The energy, which has passed down from generation to generation, holds them all in the circle of humanity, local solidarity and collective identity. Taketomi Islanders believe that, even if they have left Taketomi to study or work, those who learned the dances and dramas in their childhood will return to the islands as surely as salmon return to the river where they born.

## Preservation Associations

This small community of islanders is without dispute a main actor in cultural preservation and transmission, but not the only one. The National Association for the Preservation of the Culture of Taketomi Island (NAPCOTI) was established in 1997, linking islanders with outside communities of writers, researchers and administrators. Its doors are open not only to islanders and specialists, but also to anyone interested in the Taketomi Island culture. NAPCOTI also established the Non-Profit Organization *Takidhuon* in 2002 to help Taketomi islanders in several direct ways. In collaboration with tourists and tourism companies, they work together to secure a thriving and dynamic island community that can pass on its invaluable cultural heritage to future generations.

The spiritual basis of Taketomi Islanders is called *utsugumi*, meaning perfect harmony. In the words of Nishitou, a politician and administrator who was born in Taketomi Island in the late fifteenth Century:

*Kashikusaya Utsugumi dhou Masaru*

Cooperation is superior to wisdom.

*Utsugumi* sets high expectations and calls for the islanders to maintain high public spirits in order to support and retain their beautiful cultural landscape and their continuing dedication to the performing arts (Karimata 2005).

## Conclusion

This chapter has documented a successful example of a small but resilient island community in one of Japan's most peripheral locations. Threatened by depopulation in recent decades, Taketomi Island is now riding a wave of rediscovered appreciation for local heritage and indigenous practices: an appreciation that supports a buoyant tourism industry as well as the returned migration of its own, former emigrant youth and young families.

The challenges however do not disappear; they only change in the face of changing fortunes. While the Taketomi born – whether living on the island or elsewhere – may welcome this opportunity to reconnect with their cultural roots; it may be difficult or impossible to offer such a vibrant and meaningful linkage to newcomers who do not have a Taketomi genealogy. Just like tourists who may visit the island but have no historical or relational connection to it, these newcomers may still enjoy the *Tanadhui* festival but differently, as a spectacle event, with limited or no association to their own cultural identity. In this respect, Taketomi shares a challenge that is faced by the whole of Japan: celebrating indigeneity and historical traditions makes it more difficult to embrace newcomers as residents and members of communities. Newcomers fit best as temporary sojourners; tourists on brief visits.

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# Chapter 12

## Environmental Management in Tasmania: Better Off Dead?

John Paull

### Introduction

My only love sprung from my only hate!  
Too early seen unknown, and known too late!  
Prodigious birth it is to me  
That I must love a loathed enemy (Shakespeare 1597:34).

To be loathed too early and loved too late is a tragedy. For the thylacine, in modern-day Tasmania, it has come to this, you cannot walk out of your front door without being confronted by the thylacine. Any trip to the CBD of Tasmania's capital city, Hobart, is witness to a procession of thylacines. This endemic carnivorous marsupial, persecuted in life, once at the top of the Tasmanian food chain, has made the successful transition from loathed and living, to loved and iconic.

The thylacine has trodden the path from millennia of co-existence with humans, to European 'discovery', to colonial and state government-sponsored persecution and ultimately extermination, to the ubiquitous graphic icon that it is today, emblazoned on the forward and rear number-plates of Tasmanian-registered vehicles, and on a plethora of government, private and tourist artifacts.

According to Beresford and Bailey (1981:6), the Premier of Tasmania, Eric Reece, proposed in 1968 that "Tasmania would probably benefit more" from the thylacine:

... if it was extinct and joins such departed species as dinosaurs, moa birds, and kiwis. The now almost legendary Tasmanian Tiger has done much to create an awareness about Tasmania abroad. In recent years this elusive animal has had the same effect on anthropologists as flying saucers have had upon those who scan the skies (Reece quoted in Beresford and Bailey 1981:6).

Tasmanian environmental management practices have witnessed the thylacine despatched to the grave. Now, an image of a thylacine is the state government's symbol, presenting and projecting the quintessential Tasmania to local and visitors. Is this imagery a statement of triumphalism or tragedy?

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## Island

The island of Tasmania first appeared on a European map of 1644 as “Anthonio Van Diemens Landt” (Jones 1948:24). Dutchman Abel Janszoon Tasman was the first to circumnavigate Australia, and “The Tasman Map of 1644” was a tangible fruit of his achievement. The southern half of Tasmania was mapped in detail but separation from the Australian mainland remained unreported on Tasman’s Map.

Tasman was more than a century ahead of subsequent visitors. Tasmania was visited at the end of the eighteenth century by French and English expeditions; the former largely with a view to scholarship, or at least that was the outcome, and the latter with a view to conquest and the expansion of empire.

Unlike the generally happy interchanges between the French and the indigenous Tasmanians (e.g. Labillardière’s account in Duyker 2003; *Le Jar du Clesmeur* 1772), the English settlement-cum-invasion of Tasmania out of Sydney beginning in 1803 was an unhappy clash of cultures (Ryan 2004).

The name ‘Tasmania’ was adopted in 1856. The island is Australia’s most southerly state and is the only non-mainland state. Tasmania sits at a latitude is 42° South, a longitude of 146° East. It is 360 km from north to south and 310 km from east to west. The population is 500,000. The capital city of Hobart has a population of 210,000. Tasmania is comparable in size to Sri Lanka, and is slightly smaller than Ireland (UN 2008). Contemporary industries are tourism, mining, agriculture and manufacturing – the world’s largest catamarans are designed and manufactured in Hobart and exported to the world (Incat 2010).

Tasmania is marketed as ‘Pure Tasmania’ ([www.puretasmania.com](http://www.puretasmania.com)) promoting the green credentials of the state, its natural beauty, its wilderness, its wildness, and its distinctive marsupial and monotreme fauna. One fifth of the state, 1.38 million ha in the south west, is designated as the Wilderness World Heritage Area (PWS 2008). Tasmania spawned the world’s first green political party, the United Tasmania Group, in 1972 (UTG 1972), and one of the world’s earliest associations to promote organic agriculture, the Living Soil Association of Tasmania, which was founded in 1946 (Paull 2009).

## Endemism

Tasmania was once connected to the Australian mainland by a ‘land bridge’, but rising sea level created a 200 km stretch of rough water, Bass Strait, that marooned the flora, fauna, and people of Tasmania, for a period of isolation of perhaps 10,000 years. When he encountered it, Abel Tasman retreated in fear from this living museum. Montanus relates that: “From the forest he [Tasman] heard a shrill sound from singing people. He took fright and went back on board” (Montanus 1671:18). In contrast, the French expeditions, particularly those of Marion Dufresne of 1792,

Bruni d'Entrecasteaux of 1792–1793, and Nicholas Baudin of 1802, recorded important early contact observations of the island and the islanders.

The first encounter was described: “One of the old Diemenlanders advanced towards them, and presented them with a torch – which is really a sign of peace for these people. Our people accepted it and presented a mirror to the old man ... after staring hard at them [the French sailors] they threw away their hatchets and began to dance. This reception made M. Marion very optimistic and he ordered a landing at once” (Le Jar du Clesmeur 1771:20). This encounter was not however without cost to the Tasmanians: “one of the natives who had just expired ... had been pierced with three bullets” (Le Jar du Clesmeur 1771:21). This expedition was also unaware of Bass Strait: “New Holland ... there is hardly any doubt that what is known as [Van] Diemen's Land is part of it” (Le Jar du Clesmeur 1771:22).

Jacques-Julien Houtou de Labillardière was the principal naturalist on board Bruni d'Entrecasteaux's expedition. Labillardière's interest was especially in novelty, and in new species.

Endemism is the difference of place. Newcomers could not, and indeed did not, fail to recognize that here was difference. The value and significance of that difference was interpreted differently. For Labillardière, and naturalists that followed, here was a treasure trove of novelties. Montanus (1671:22) however commented that: “Greenery would abound more if the natives did not burn the areas where they wander”, without at all appreciating the pyroculture that had been practiced by the Tasmanians for millennia as an innovative and successful environmental management strategy (Bird et al. 2008).

Félix Delahaye, a member of the d'Entrecasteaux expedition, brought a distinctive perspective – the eye and skills of a gardener. His attitude was to collect and contribute. He had embarked with “gardener's clothes”, four cases of vegetable seeds, one case of nuts of fruit trees, and one case of gardening tools (Duyker 2005:5). Instructions for the voyage included: “It will be good to leave in this place the seeds of all our species of vegetables that the gardener takes with him, as well as the nuts and seedlings of our fruit trees” (cited by Duyker 2005:8).

It was with goodwill that saw Delahaye equipped for the dual tasks of contributing and collecting. Delahaye diarized that: “I sowed plants suitable for the season, which are celery, chervil, chicory, cabbages, grey romaine lettuce, different kinds of turnips, white onion, radishes, sorrel, peas, black salsify and potatoes” in a tilled plot “28 feet square” (1792:36). This was at Geographe Bay, south-eastern Tasmania. Delahaye's account continues: “I had large quantities sown everywhere in the woods, in the more open spaces and where the soil was more friable ... I sowed mixed seeds everywhere, thrown at random, where I believed they would succeed” (1792:36).

The following year, Delahaye wrote that he: “... discovered a small garden which had been started by the English. There was an inscription on a tree stating that Captain Bligh had been there, and that he had planted 7 fruit trees in the region. We looked around and recognized all the species, and one that had died. There were

two pomegranate trees, a quince tree and 3 fig trees that had started to grow. They were very small and I pruned them and tilled the ground” (1793:42). This was at Adventure Bay, Bruny Island, off the south-east coast of Tasmania; the ‘Captain Bligh’ was William Bligh of *Mutiny on the Bounty* renown.

These earliest European responses to the endemism of Van Diemen’s Land were non-destructive, to harvest and sow, to collect and contribute. With a view to utility and imagined futures, Delahaye identified a salad vegetable, a black fruit that, when cooked, produced “something like ink; it could be used as a dye” (1792:35), and observed “plains that could be cultivated and which I believe could produce very good wheat” (1792:36).

This benign approach to the endemism of Van Diemen’s Land was superseded by the settlement/invasion of the English from 1803.

## Tiger

Tasman (1642:13) reported that: “the footprints of certain animals observed on the ground were not unlike the paws of a tiger; they also brought on board some excrement”. An officer with Marion Dufresne’s 1772 expedition, Roux (1772:42), appears to be the first European to report a tiger sighting: “We have not seen any quadrupeds other than a little tiger [*qu’un petit Tigre*] which ran away when we pursued the savages in the woods”. Another expeditioner reported that: “our people ...noticed the traces of quadrupeds in different places, some of which resembled deer and others dogs” (Le Jar du Clesmeur 1772:21).

The thylacine, (*Thylacinus cynocephalus*), popularly known as the Tasmanian or ‘Tassie’ tiger is a marsupial and the last surviving member of the genus *Thylacinus*. Its range once extended through Tasmania, mainland Australia, and New Guinea. On all but the island of Tasmania it became extinct some thousands of years ago, perhaps due to competition from the dingo which was introduced to the Australian mainland 3,500–4,000 years ago (Corbett 2001). Tasmania had been isolated from the Australian mainland, due to rising sea level, some thousands of years prior.

Irish zoologist Eric Guiler (c. 1923–2008) spent much of his professional life at the University of Tasmania. He was devoted to investigating the thylacine. He interviewed the aging cohort of thylacine trappers, and published papers (e.g. 1986) and several books on the subject (1985, 1990, 1998), but despite his strenuous efforts, all without ever sighting a living thylacine.

The dust jacket of *Thylacine: The Tragedy of the Tasmanian Tiger* (Guiler 1985:dj) declares that: “The tragedy of the Tasmanian tiger is that no one bothered to study it properly when it was plentiful, or to investigate whether it was in fact a menace to pastoralists, and nowadays we know so little about the animal and its ecology that there is little we can do to help rehabilitate the species”. Guiler’s tone reveals that he was not convinced that the thylacine was, at that time, extinct. Driven by reported sightings and the hope that it was merely elusive, rather than extinct, Guiler mounted several search expeditions, to flush out the thylacine, but without success.



What can be said, is that the thylacine was the largest marsupial predator, the apex-predator in the Tasmanian landscape, a predator at the 'top' of the food-chain and without threat other than from humans. Guiler (1985) described the thylacine as a marsupial with a backward opening pouch, an average total length of 1.62 m (5 ft 4 in.) [head and body length of 1.09 m (5 ft 7 in.) plus a tail length of 0.53 m (1 ft 9 in.)], a weight of 25 kg (55 lbs), a stiff kangaroo-like tail, and 13–19 stripes across the back of the body, extending from the thorax onto the tail. The thylacine was nocturnal. The female, with four nipples, bore between one and four young per litter. Thylacines exhibited "an extraordinarily wide gape which could be used to seize the neck or chest of a wallaby and so crush it" (Guiler 1985:81). According to trapper accounts: "Thylacines were very persistent runners and could lope after their prey until the animal finally collapsed with exhaustion" (Guiler 1985:80). Guiler reported that: "I never heard the old-timers refer to the animal as anything but 'tiger' or 'hyaena', or more rarely 'wolf'" (1985:36).

The native Tasmanians co-existed with thylacines for 50,000 years (Guiler 1985). Plomley states that: "The thylacine, commonly known as the Tasmanian Tiger and sometimes as the Hyaena, was formerly common in Tasmania, but is now extinct. The wide distribution of the thylacine in Tasmania is shown by the spread of names for it through the tribes" (1976:312). From a variety of early sources, Plomley reported, along with multiple variations, nine distinct indigenous Tasmanian words for 'thylacine': cabberonenener; kannenner; kulener; larnter; longerner; marmener; poidrerwunne; roun; and warternounener. Guiler and Godard (1998) reported 'corinna' as another Tasmanian Aboriginal name for the thylacine. None of these names appear to have gained any currency amongst the white newcomers.

Whether the Tasmanian management of thylacines over past millennia was active, passive or non-existent, the result was that Tasmania served as a safe refuge for this curiously odd and distinctive animal, until the white settlement of 1803. It was not only the thylacine that fared poorly under the new regime. The Tasmanian aboriginal population and along with it, the languages, culture and knowledge of place, were decimated by misguided or malignant government action, and, in some cases, inaction (Plomley 1966, 1987).

What of the thylacine under the new Anglo-regime? It is reported that: "1908 was the last year of real thylacine abundance" (Guiler and Godard 1998:143). The Tasmanian state coat of arms appeared in 1917, the dominant graphic elements of which are two thylacines standing on their rear legs supporting a shield decorated with elements including a wheat sheaf and a sheep (Long 1917). In 1930 the last thylacine killed in the wild was a large male shot at Mawbanna, in the north west of Tasmania by Wilf Batty. On 7 September 1936 the last known living thylacine died in Beaumaris Zoo in Hobart (Guiler 1985). There have been numerous reported sightings since that 1936 day, but none authenticated.

The Tasmanian government, under advice from the Fauna Board, declared on 10 July 1936 the thylacine to be 'wholly protected'; this was less than 2 months before the last known thylacine died. On 4 April 1937 the Fauna Board declared that no further permits were to be granted to the Zoo for the capture of thylacines (Guiler 1985; Guiler and Godard 1998; Paddle 2000). It was a triumph of the post-cautionary

principle, of ‘closing the gate after the horse has bolted’; administratively the thylacine paperwork was in order, but ecologically the thylacine was stuffed, in both senses of the word. How did it come to this?

## Bounty

Sheep were introduced to Tasmania with the 1803 white settlers. Twenty three sheep arrived at Risdon Cove (a present-day suburb of Hobart and across the Derwent River from the Hobart CBD). The population of sheep reached one million in the 1830s, and 1.9 million by 1854 (Kirkpatrick 2007).

Despite this wonder of colonial economic growth, carried on the back of sheep, Tasmania was not then, and is not now, some agrarian or ovine utopia. Land that had been managed by the indigenous population was appropriated as grazing land for this introduced species by an invasive class of ‘land owner’. The Tasmanian aboriginal occupation, dating through tens of millennia was, it seems, invisible to this new class: “This country for the short time it has been inhabited far surpasses Sydney and in the course of a few years will be a place of consequence” (Robert Dixon 1821, cited in Abbott and Nairn 1969:327).

Extensive land clearance and management had been undertaken by the indigenous people, over millennia; what remained for the appropriation of these labours, and the lands themselves, was the clearance of these people from their lands. “Martial law was proclaimed, as far as regarded the Aborigines, and those engaged against them. But in conformity with the humane intentions evinced all along by Sir George Arthur towards the Blacks, certain lines of demarcation were marked out, beyond which it was not permitted to molest or injure the Aborigines” (Jorgen Jorgensen 1830s edited writings: Plomley 1991:96). The native Tasmanians who survived these early encounters with settlers and government were systematically removed to Flinders Island (off the north east tip of Tasmania) in 1835 where efforts to clothe, Christianize, and devalue their culture, proved mostly fatal (Plomley 1966, 1987).

The Van Diemen’s Land Company, based in London, owned extensive land holdings in the north west of Tasmania, including Woolnorth, 100,000 acres (40,500 ha) of the north west tip of the island. The Van Diemen’s Land Company introduced a bounty on the thylacine in 1830, apparently the first of such bounties. The terms were generous: “five shillings for every male hyaena, seven shillings for every female hyaena (with or without young) ... When 20 hyaenas have been destroyed the reward for the next 20 will be six shillings and eight shillings respectively and afterwards an additional shilling per head will be made after every seven killed until the reward makes 10 shillings for every male and 12 shillings for every female” (Curr 1830, in Guiler 1985:16).

The thylacine bounty of the Van Diemen’s Land Company’s persisted into the twentieth century. Although the Woolnorth data set is incomplete, the number killed peaked at 19 in 1900, declined to one in 1906, and then none until a final three thylacines were killed in 1914 (Guiler 1985).

Other bounty schemes were instated. The name of the Buckland and Spring Bay Tiger Exterminating Association (in eastern Tasmania) left no doubt as to its mission. The Hamilton Council (central Tasmania) operated a bounty scheme. The Glamorgan Stock Protection Association (eastern Tasmania) negotiated a bounty scheme in association with the government (Guiler 1985).

Eric Guiler sought out ‘old-timer’ trappers and concluded that the claims of stock predation were exaggerated. He reported that one trapper “was emphatic that many thylacines ignored sheep and would pass through a flock without paying any attention to them” (1985:18). Guiler was assured that “losses by sheep stealing were much greater than those sustained from thylacine killings” (Guiler 1985:19). Of farmer claims of predation, Guiler (1985:20) concluded, that: “There is no doubt that sheep were killed by thylacines but these claims were grossly exaggerated and losses from other causes were inclined to be attributed to the thylacine”. Freeman (2005) argues that a 1921 photograph of a thylacine bearing a chicken in its jaws, the sole photograph purporting to be of a thylacine with prey, was fabricated using a stuffed thylacine, and it thus served not to inform, but rather to demonize the thylacine.

Nevertheless, “As a direct result of the sheep losses, real or imaginary ... a petition signed by twenty-six residents of the east coast was presented to state parliament on 28 October 1884 requesting that a bounty be paid on thylacine carcasses ... the matter appeared before parliament again on 4 November 1886 when the claim of 50,000 sheep lost per annum was made. At the time the rural group was very powerful and the Lyne motion to pay £1 bounty ... was carried by twelve votes to eleven” (Guiler 1985:20–21).

Putting moral, ethical and ecological considerations aside, in achieving its objective, the government’s thylacine bounty scheme was an undoubted success story of island environmental management. The outcome was that an endemic species was totally and permanently exterminated, and at a modest cost of thereabouts of £2,112 (2,040 adults at £1, plus 144 juveniles at 10/- each). Whether the ‘final straw that broke the camel’s back’ was, in the case of the thylacine, the size of the residual breeding population, loss of habitat, wild dog predation, human predation, or distemper (Guiler 1985; Paddle 2000), the government’s thylacine bounty scheme finally ran out of customers with the last two bounties being paid in 1909. There are no known living thylacines in Tasmania, and there may have been none since 1936, the year that it was declared a protected species.

## Icon

In 1913 Mary Grant Roberts’ husband presented her with a solid gold brooch of a thylacine to mark their golden wedding anniversary (Guiler 1986). This love-trinket was an early adoption of the image of the thylacine for an ornamental purpose. In this case, it was perhaps a trophy celebrating Roberts’ successes in exporting live thylacines to zoos including the London Zoo and Sydney’s Taronga Park Zoo.

The last such thylacine transaction was valued at £25, sold to Taronga Park, 12 October 1918 (Guiler 1986).

The thylacine may now be dead but it is not forgotten. It is now the iconic emblem of many things Tasmanian – from civic sculptures, to restaurants to beer. Thylacine images adorn a plethora of tourist ephemera, including t-shirts, caps, badges, mugs, stickers, and key-rings. There is a good selection of soft and cuddly stuffed-toy thylacines.

The image of a contented thylacine stares out from every Tasmanian vehicle number plate, and most recently has been coupled with the invitation to readers to: ‘Explore the Possibilities’. Official Tasmanian Government letterhead, brochures and publications bear a thylacine image. Even government roadside billboards demonizing foxes and promoting poison-baiting of the island for fox extermination, are emblazoned with this happy thylacine image, apparently without any sense of incongruity.

The thylacine has by now made a successful transition from being a living part of the fabric of the island’s biota, to iconic branding marker for things genuinely Tasmanian. Once exterminated, the thylacine went on to become a ubiquitous and celebrated icon of Tasmania. The irony is apparently lost in the ether that the tourist trinkets are made in China, and that the thylacine was decried before it was deified.

Unlike the scatter-gun native wildlife poison-bait programs that were to follow, the thylacine bounties, in place from 1830, were precisely targeted environmental management practices with measurable outcomes.

## 1080

In 1951, the year prior to the introduction of the poison ‘1080’ in Tasmania, the Tasmanian Forestry Commission, offered the following advice in their *Tree Planters Guide*: “The planting area should be fenced and netted and cleared of rabbits before planting starts. If netting is not procurable, the rabbits must be, as nearly as possible exterminated before planting, and war must be waged against them for the first 3 or 4 years after planting” (TFC 1951).

World War II brought new weapons into play for environmental management. In 1944 more than 1,000 substances were evaluated at the Patuxent Research Refuge in Maryland, USA for their chemical warfare potential. Sodium fluoroacetate was entered as sample 1080-44. It was identified as a chemical of high potential toxicity, including by the US Chemical Warfare Service. The chemical was classified as ‘Secret’ under the US Espionage Act, and when it was announced to the public it was identified only as ‘1080-44’ (Connolly 2004).

Sodium fluoroacetate is a light and fluffy white powder that is an odourless, tasteless, water-soluble neurotoxin (IRIS 2004; Rammell and Fleming 1978). This toxin is known under a variety of names, including sodium monofluoroacetate. The chemical formula is  $C_2H_2FNaO_2$  (Worthing 1991). It is the sodium salt of monofluoroacetic acid ( $C_2H_3FO_2$ ). It is most commonly known as Compound 1080 or simply ‘1080’.

Sodium fluoroacetate was first synthesized in Belgium by Swarts in 1896 (Rammell and Fleming 1978). It was patented in Germany under the Nazi regime in the 1930s as an insecticide (Connolly 2004) and as a rodenticide (Rammell and Fleming 1978).

Monsanto Chemical Corporation was invited by the US government to manufacture and supply 1080 exclusively to the government; the product was regarded as being too toxic to be sold on the open market. Monsanto registered the name 'Compound 1080' and manufacturing began at Anniston, Alabama in 1945 (Connolly 2004). Monsanto sold its production facility, the production process, and the trademark 'Compound 1080' to Tull Chemical Company in 1955. Monsanto ceased all production of sodium fluoroacetate, and Tull Chemical has been, since that time, the sole source of the 1080 used in Tasmania. It is exported from Tull Chemical to New Zealand, and then on-sold to Tasmania [C. Wigley, 2004, personal communication (owner of Tull Chemical)].

The Tasmanian Government's 1080 was originally targeted at rabbits, an introduced species, but the remit was promptly broadened to the poisoning of native marsupials including Bennetts wallabies, pademelons and possums (Guiler et al. 1990).

Sodium fluoroacetate is classified as a male reproductive toxin (Orme and Kegley 2004). In the WHO Acute Hazard schedule it is classified '1a, Extremely Hazardous' (Orme and Kegley 2004). It is identified as a Chemical Warfare agent that is "lethal or incapacitating when placed in drinking water" (Hickman 1999).

Sodium fluoroacetate is highly toxic to all species (Clarke et al. 1981). There are wide variations across species, including Tasmanian species (Guiler et al. 1990). The poison may be ingested, inhaled, absorbed through an open wound or mucous membrane (e.g. the eye), or through the skin (HAZMAT 2004). "The lethal dose is essentially the same by all routes of administration" (Gosselin et al. 1984).

Spurr and Drew (1999) identified 45 species of invertebrates feeding on 1080 baits. They included ants, beetles, earwigs, mites weevils, millipedes, centipedes and spiders. For Tasmania, the consequences of the biociding of large areas of the state over six decades are quite unknown. In a decision of the Resource Management and Planning Appeals Tribunal, the potential consequences to the rare Giant Velvet Worm (*Tasmanipatus barretti*) were deemed of sufficient concern, and sufficient uncertainty, to halt a proposed forestry application in the north east of Tasmania (Hall 2001:9).

The US EPA has rejected an application for re-registration of Compound 1080, on the grounds of: "no validated analytical method of detection with limits low enough to determine concentrations of compound 1080 at the level of concern" (EPA 1990:4).

Sodium fluoroacetate is banned in Laos, Thailand, Slovenia, Belize, Cuba (Orme and Kegley 2004) and China (Xie et al. 2002); it was banned in the USA by President Nixon in 1972 by Executive Order 11643 (Connolly 2004). In Tasmania however, economics has trumped ecology: "Poisoning is the least desirable but most cost effective method for reducing large populations of most browsing mammals" (Statham 2001).

For those favoring death as an environmental management tool, 1080 offers the attribute that it is non-selective. It is toxic to all native Tasmanian fauna (Rammell and Fleming 1978). It has been applied in Tasmania continuously as baits since 1952 (DPIPWE 2009). The *modus operandi* has been ‘bait-and-switch’. Animals are induced, non selectively, to a site by free feeds, usually carrots for browsing and grazing animals; once they are habituated to this, the next free feed is laced with 1080 poison (Statham 2001).

What is killed, and in what numbers is unknown and probably unknowable. Le Mar and McArthur (2000) found that “animal carcasses are extremely difficult to locate following a poisoning operation”. They report that “animals sought shelter after consuming poisoned bait” and that “seventy-five percent of carcasses were found inside shelters (i.e. inside windrows, hollow logs, dens or under fallen vegetation)”. They reported that of 15 killed animals that they studied, “three carcasses were not found but recovered (radio) collars showed carnivores’ teeth marks, suggesting that Tasmanian devils (*Sarcophilus harrisi*) or spotted-tailed quolls (*Dasyurus maculatus*) had moved and/or consumed them”.

Tasmanian devils, an endemic species, are the eco-clean-up scavengers of Tasmania. Devils are carnivores like the thylacine, but their feast is of carrion, the dead and the dying, this includes roadkill and will also include, of necessity, victims of 1080 poisoning.

This diet opens Tasmanian devils to the potential to ingest multiple sub-lethal doses of 1080 – and such free meals have been an aspect of the Tasmanian landscape continuously for nearly six decades. Just how this second-hand 1080 has impacted the devils is unknown. But there are some disturbing facts.

## Devils

The Tasmanian devil is the world’s largest surviving carnivorous marsupial. As a top level predator it relies on the integrity of the whole of the food chain. A problem somewhere in that food chain can manifest as a problem in the devil population.

Devils are known to eat 1080 poisoned animals (le Mar and McArthur 2000; Statham 2001). The Tasmanian Government has distributed a quantity of 1080 sufficient to exterminate the devil population many times over, however the application of 1080 in Tasmania has mostly been applied to carrot as bait for browsing animals. It is used to a smaller degree, and more recently, on meat baits as a fox poison. The impact of serial sublethal doses of 1080 on Tasmanian vertebrates and invertebrates is unknown.

The devil has a propensity for eating dead animals and as a consequence is at serious risk of ingesting 1080 from that source, in serial sublethal doses (Statham 2001). These sublethal doses can be expected to cause cancer, tumours, and developmental disorders, particularly as a consequence of ingesting the product contaminant, sodium fluoride.

Devils that are protected from 1080 exposure, due to, for example, geographical barriers, are free of Devil Facial Tumour Disease (DFTD). The populations that are DFTD-free are those interstate, those in wildlife parks, and those in forestry-inaccessible areas, such as south west, and west Tasmania (Bevilacqua 2004; DPIWE 2004).

Consider:

1. Tasmanian devils eat the carcasses of animals poisoned by 1080 (le Mar and McArthur 2000; Statham 2001).
2. The bodies of 1080-poisoned animals store the poison in their tissues (Okuno et al. 1984; Tietjen et al. 1988).
3. The supply specification for Tasmania's 1080 is 90% purity [Wigley, 2004, personal communication (owner of Tull Chemical)].
4. The usual contaminant of 1080 is Sodium Fluoride (NaF) [Wigley, 2004, personal communication (owner of Tull Chemical); Worthing 1991].
5. Sodium Fluoride is a known tumorigen (Armato et al. 1992; Tsutsui et al. 1984).
6. Devils have tumours from a source unknown (McCallum et al. 2009).
7. The affliction Devil Facial Tumour Disease (DFTD) is threatening the species (McCallum, et al. 2009).

Sodium fluoride is a known tumorigen that is used experimentally to produce tumors, on demand, in laboratory conditions. So when we see tumors in devils that have access to 1080-poisoned areas of Tasmania, the alarm bells should be ringing, and the precautionary principle ought to be invoked.

Even if the evidence linking 1080 and DFTD is circumstantial, it would be a true wonder if a diet of toxic carcasses had no health ramifications for devils, both individually and collectively. Despite Premier Reece's better-off-dead proposition, in the light of the thylacine's extinction, Tasmania has a reputation to live down, and in the light of its tourism puffery, of, for example, 'Pure Tasmania', there is a narrative to live up to. Islands are special places, they have offered sanctuary and refuge, and some extra care and precaution may be called for, and may serve better than hindsight.

## Fox

Schofield (2010:2) writes: "On the wall in the parlour of the pub at Melton Mowbray [central Tasmania] there is a faded picture of the local hunt, styled no doubt on the eponymous English prototype, about to cry 'Tallyho!' and set off. But there were no foxes to hunt in Tasmania at that time and there still are none, despite extensive scat-scattering, shaky science and attempts to persuade the public that we are about to be overrun by 'Renard'. So far \$40 million has been squandered on this program, and still they spend". The scat reference is to Tasmania's Fox Eradication

Task Force having recently been caught out by the damaging revelation that it had been importing fox scats (droppings) into Tasmania since 2007 (Kempton 2010b).

The program of Tasmania's Fox Eradication Task Force has been widely ridiculed by the public and mercilessly pilloried by cartoonists (e.g. Kudelka 2010). What can be said in the Force's favour, based on their own values, is that there are no foxes established in Tasmania, none photographed nor road-killed, and is that not evidence of how effectively the Force has spent their \$40 million or so on intensive and extensive poison-baiting across the island? The baits have been meat laced with Tasmania's poison of choice, 1080 (DPIPWE 2010).

The fox is an apex-predator that theoretically could occupy the biological niche heretofore occupied by the thylacine. Foxes are not an established species in Tasmania. This is despite, what Guiler (1986:158) describes as: "several attempts by persons of more enthusiasm than sense to introduce foxes into Tasmania, mainly for hunting purposes". These efforts, it appears, did not meet with success.

The "Fox Eradication Program leader Matt Marrison ... reinforced the very real threat that foxes posed to not only this region [Kingston to Huonville, south east Tasmania] but Tasmania as a whole" (Naidoo 2010:39). The program "will spread meat baits laced with 1080 poison across 3,000,000 ha of farms, woodlands and grasslands over 5 years" (Naidoo 2010:39). Kempton (2010a:22) reported that 50 out of 180 property owners in the first tranche of this baiting exercise "refused baiters access to their land. Most refusals were driven by fears baits would kill dogs and wildlife". This toxic adventurism, with government funding assured for a decade, may finally extinguish the faint hope for any cryptic thylacine/s that may yet have survived the previous onslaughts against the species.

The Fox Eradication Branch of the Tasmanian Government's Department of Primary Industries, Parks, Water and Environment asserts that one of their aims is to "protect ... the Tasmanian brand" (DPIPWE 2010:1). While that may be a laudable goal, is Brand Tasmania – think 'Pure Tasmania' – really enhanced by entrenching the dissemination of poison baits across the island as an ongoing mode of environmental management? Where is the mythical cashed-up tourist or backpacker who is seeking the experience of a toxin-baited landscape? If these 1080 baiting programs really are enhancing Brand Tasmania then let them appear on all the tourist promotions and brochures.

## Futurability

In the human heart there is a perpetual generation of passions, such that the ruin of one is almost always the foundation of another (La Rochefoucauld 1678:Maxim 10).

The ultimate tragedy of the thylacine is that it was loathed too early and loved too late. Replica thylacine pelts made from sheep skin by Hobart artists David Hurst and Rebecca Kissling (Killick 2010) perhaps express the yearning of many Tasmanians and others for what has been lost.



Environmental management rarely achieves unequivocal results, and even more rarely achieves a success which is permanent. The management of the thylacine in Tasmania is a standout example of an environmental management strategy that was pursued with vigour and persistence over an extended period of time to achieve a final successful outcome that endures to this day. That very success is the great regret of many but it reflects the fact that the care and management of an island can exhibit a finality of outcome just because the opportunity for fight or flight may be truncated owing to the absence of any further safe refuge to which to flee. And that endemism is the essence of the successful yet tragic extermination of the thylacine.

Better-off-dead is an environmental management policy that has been pursued in Tasmania in various guises and under pretexts that have been, and remain, compelling to some. But for all those who yearn for the sight, or just the knowledge, of a thylacine loping across a Tasmanian ‘marsupial lawn’ – Tasmanian browsing marsupials graze some grasslands to a park-like lawn – better-off-dead is by now a rancid, morally bankrupt, environmental management policy which is quite past its use-by date. Agriculture and silviculture operations may be better off fenced, better off netted, or even better off reverted to bush.

Between 1803 and 1936 thylacines were exported, both dead and alive, around the world (Guiler 1985; Paddle 2000). The consequence is that there are thylacine skins, skeletons, pickled foetuses, and other remains, scattered globally (Sleightholme and Ayliffe 2009). Can the jigsaw of scattered remnants of thylacine DNA ever again be reassembled? There has been one serious unsuccessful attempt at recovery of the thylacine genome (Greer 2009). Whether this science fiction scenario becomes science fact at some future time is an open question. In the meantime the death-day, 7 September, of the last thylacine to die in captivity has been commemorated in Australia as National Threatened Species Day since 1996 (Environment Australia 2002).

The Dalek mantra of ‘Exterminate, exterminate, exterminate’ will surely retain some appeal, as a simple, direct, call to action, but ‘Look Ma, we shrank the endemism’ is nothing to brag about. Environmental management can be grounded in science, but will it be driven by love or fear? It was Lord Northbourne’s 1940 book *Look to the Land* that presented the foundational manifesto of organic agriculture (Paull 2006). In that book, Northbourne proffered this gentle message: “It now remains for us to try the way of love” (1940:192). For managing a farm, an island, or a planet, Northbourne’s advice remains worthy of consideration.

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# Chapter 13

## An Island Saved, At Least for Some Time? The Advent of Tourism to Rennell, Solomon Islands

Nils Finn Munch-Petersen

### Introduction

Tourism has too often been a harbinger of cultural commodification and environmental degradation. This is perhaps nowhere more glaringly evident than on small, sunshine islands. The world's most penetrated island tourist economies – in the Caribbean, Mediterranean and Northern Pacific – are today typified by large resorts, overcrowding, erratic waste management, the replacement of man-made attractions for lost amenities (Bryden 1973; McElroy 2003), along with the transformation of the local populations as exotic museum pieces, objects of a lingering and ubiquitous gaze (MacCannell 1999; Urry 2002). And yet, appropriate types of tourism policies have at times be used as tools for environmental conservation, and certainly as a more palatable alternative to the wholesale destruction of natural assets for short term economic gain. On the island of Rennell, a raised atoll outlier in the Solomon Islands, the introduction of tourism, at least for a time, has saved a unique ecosystem with a wide range of endemic species.

Following a largely autobiographical style of writing, based on personal observations and reflections, this chapter describes the serendipitous introduction of tourism on the island of Rennell, and the eventual inscription of the eastern part of the island as a UNESCO World Heritage Site (UNESCO n.d).

### Rennell Island

The islands of Rennell (Mungava) and Bellona (Mungiki) are Polynesian outliers and form the southernmost extension of the Solomons, comprising the administrative province of Rennell and Bellona since 1993. The island of Bellona is densely populated and covers only 6.5 square miles; while Rennell is larger with a land area

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of 338 square miles. The present population of Rennell is about 2,000. The interior of the island is covered by dense forest and East Rennell holds the most expansive lake in the Island Pacific.

The southernmost island in the Solomons, Rennell is the second largest raised atoll in the world (after Lifou (Lifu) in the Loyalty Islands of New Caledonia), fronting the sea with almost vertical limestone walls reaching a height of 380 feet. The former atoll lagoon forms the Te Nggano Lake covering an area of 60 square miles. The lake is surrounded by forest, and contains more than 300 islands, scattered and in small groups: the Te Ava Islands, the Atualonga Islands, the Tautiage Islands and many more. From the shores and from within the lake, Te Nggano presents itself as a mini Island Pacific.

The forested interior of the island forms a bowl with shallow soils where forest trees rarely reach more than 20 m thus admitting light for dense below-canopy vegetation. The island holds a large number of endemic plants, of which one, the orchid *Dendrobium rennelli*, only grows on islands in the Te Nggano Lake. The Lake is also home to an endemic poisonous sea snake, *Laticauda crockeri*. As the snake is totally unaggressive, its quite deadly poison, a postsynaptic neurotoxin, was unknown to the inhabitants until collected and analyzed by a visiting herpetologist. Other endemic animals comprise a flying fox, *Petropus rennelli*, seven endemic land snails and 60 endemic insects, as well as 11 endemic species and subspecies of birds, including the Rennell white-eye, *Zosterops rennellianus*, and the Rennell fantail, *Rhipidura rennelliana*. In terms of biology, culture and geophysics, Rennell is a unique island ecosystem (Wolff 1958; e.g. Filardi et al. 1999).

## Remote and Fascinating

Due to their remoteness from other islands, small size, lack of valuable trade goods and lack of sheltered anchorages, the islands of Rennell and Bellona were only rarely visited from the outside (e.g. Kuschel 1988). Steamers from Australian ports to the Solomon Islands used to pass between Rennell and Bellona using the islands as a landfall, but this was ended in 1907. The first official visit to Rennell was by the Solomon Islands resident commissioner in 1906, while the first missionary arrived in 1909 (Wolff 1958/1:28). After the Solomon Islands became a British Protectorate in 1893, the inhabitants of Rennell, along with the inhabitants of other Solomon Island Polynesian outliers, were not taxed, and the islands were declared a closed district in 1937. As the inhabitants had proved poor plantation workers, only minimal Australian recruitment (blackbirding) took place in the islands (Bennett 1987:272). During the Second World War, Japanese and then American sea-planes used Lake Te Nggano for landings, while a small US lookout post was established in November 1942 and discontinued before the end of the War. The Battle of Rennell Island was the last major naval battle of the Guadalcanal Campaign which occurred in January 1943 (e.g. Morison 1953). At the end of the

war, eight Catalina seaplanes were scuttled in the lake and are visible from the lake's surface: a lingering testimony of the War. Today, Rennell's main link with the outside world is a twice weekly Solomon Islands flight service to Honiara, using a grass airstrip.

As Rennell has been visited by a number of scientific expeditions through the years, its biology, pedology and geology are reasonably well known. Research visits have included the American Whitney Expedition in 1928 and 1930, the American Templeton-Crocker Expedition in 1933, the Danish Rennell Expedition in 1951, and the British Museum (Natural History) Expedition in 1953, as well as visits by individual researchers (e.g. Birket-Smith 1956, 1966; Christiansen 1964; Lambert 1941). Most of these highlighted the uniqueness of the island; but none really advocated for its preservation. Rennell was probably perceived to be too remote to worry about its conservation or nature reserve status, and was best thought to be left *tale quale*. Meanwhile, the Solomon Islands achieved independence from Britain in 1978.

Trouble, however, was brewing. Melanesia has long been an area where logging companies have operated with impunity, often clear-logging entire islands, notably in the Solomon Islands and the Bismarck Archipelago of Papua New Guinea. Because of the complex land tenure systems in Melanesia, and the need for logging companies to identify 'landowners' in order to obtain national government licences to log, negotiations are often based on expediency and restricted to a few key individuals, rather than taking place with all legitimate landholders (e.g. Crocombe and Meleisea 1994). In this way, a few individuals can undermine the whole structure of customary land tenure, in return for cash from royalty payments. Moreover, local communities rarely see any promised infrastructure developments – such as schools, clinics and drinking wells – other than logging roads (e.g. Filer 1997). Presently, only about 25% of the original forest in Melanesia has survived the loggers, accounting for huge losses in biodiversity, and significant hardship for the inhabitants.

Indeed, the negative social impacts caused by industrial logging are often overlooked in assessments of the damage caused by logging, particularly the high numbers of people affected, the wide-reaching nature of the problems created in people's lives and the potential costs in economic and food security terms of replacing the lost benefits provided by forests, inclusive of non-timber forest products (e.g. Lim and Valencia 1990). Food is obtained mainly through horticulture and fishing, supplemented by hunting and collecting. Yams, taro, tannia and sweet potatoes are key cultigens; while the coconut is an important source of nutrients and raw material. In general, women take charge of the cooking, gardening, collecting fruits and herbs, fishing inshore (especially on the narrow reef exposed at low tide), plaiting, making nets, and caring for young children. The men do the heavy gardening, catch coconut crabs, fish, make cordage, and are responsible for canoe making, and house building.

I visited the Solomon Islands numerous times during 1986–1987 as head of regional projects for the Tourism Council of the South Pacific, and was often asked

if I intended to visit Rennell and Bellona. My usual answer was that, from what I understood, the islands were not in need of the disturbances that tourism would invariably bring in. On my return to Honiara in July 1987, however, this situation was about to change.

## Saved from the Loggers

The morning after my arrival in Honiara, the Solomon Islands capital, I found an envelope that had been pushed under the door of my hotel room. The envelope contained a copy of a letter from the then minister of health in the Solomon Islands, this being his reply to the Rainforest Information Centre in Lismore, Australia. The letter stated that the forest on Rennell had been sold to the Queensland logging company Foxwood, "... due to the immediate financial needs of the Rennell islanders". The minister added "Tourism cannot have any importance for the island. It is just a rock in the ocean with nothing to offer" (Munch-Petersen 1996:324, 2008:13).<sup>1</sup>

The same day, I was contacted by islanders from East Rennell, and left for the island a few days later, walking across the forest and crossing the Te Nggano Lake by canoe. There was no doubt as to the touristic value of Rennell: fine and unspoilt beaches, a beautiful fringing reef, the forest, birdlife and the immense Te Nggano Lake with its multitude of islands. Should the island be logged, the next cyclone would have washed the shallow forest soils into the lake, and the island's unique terrestrial life, its fragile ecosystem, would probably be lost forever, foreboding a bleak future for the islanders.

I found out that a team of biologists from New Zealand had actually advocated a strict conservation regime for Rennell, but did so without consulting the local islanders; as a result, the islanders revolted against the plan. The New Zealand team thus gave it a second try, sharing their proposals with the islanders. This time, the islanders liked the idea, and were therefore visibly shocked when they found out that, instead, their whole island was meant to be summarily denuded of its trees by Foxwood.

Back in Honiara, I called the Tourism Council of the South Pacific, in Suva, Fiji – part of the then South Pacific Bureau for Economic Cooperation, now the South Pacific Forum – with whom I was then working as head of environmental projects. I had a tourism economist travel to Honiara immediately. There was little time, so during the following day we did a sketch plan for tourism development on Rennell. The result was encouraging: a small, 20 bed hotel and an occupancy rate of 60% would, over a period of 12 years, bring in the same revenue as had been offered to

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<sup>1</sup>A copy of the 1987 logging proposal by Foxwood for Rennell Island is held in the Pacific Manuscripts Bureau of the Australian National University: <http://rspas.anu.edu.au/pambu/reels/manuscripts/PMB1187.PDF>.



the Solomon Islands Government by Foxwood. In this report, we also had the boldness to suggest that the Solomon Islands Government should apply to UNESCO for world heritage status for the full island of Rennell. Our report found its way to the Solomon Islands' Parliament; and Parliament, sure enough, revoked the logging license.

Now, one feature about places like the Solomons is that an external consultant in good standing would operate with and within a strong and useful network of the local population, and enjoy access to various groups and individuals. Presumably, I was known well enough in the Solomon Islands for my suggestions to be appreciated: and so, the document, somehow, reached parliament.

Of course, Foxwood were not amused by this turn of events; but, they probably looked at the bigger picture, and preferred to respect this decision, which only compromised a small proportion of their logging interests in the country. Ironically enough, a cyclone soon followed and felled many of the trees on Rennell; but Rennell is cyclone prone and cyclones are natural occurrences and have no long-lasting effects. Clear-logging the island would have been quite a different issue, with a much more tragic, long-term outcome.

East Rennell, and only East Rennell with its Te Nggano Lake, became the first world heritage site (WHS) in Melanesia in 1998 (Wingham 1997). It has been acclaimed as “a true natural laboratory for scientific study” (<http://whc.unesco.org/en/list/854>). It remains the only nature world heritage site within the independent nations of the Western South Pacific. While this is commendable, in hindsight, the whole island could have been declared a WHS, but this opportunity was lost.

Meanwhile, I never found out who pushed that envelope under my hotel door in 1987. And I never asked.

Thus, Eastern Rennell and its lake have been saved, at least for a time, while it remains doubtful if tourism has brought any significant improvements to the lives of the islanders. To-day, there are 11 small-scale, family owned guesthouses on Rennell advertising themselves as venues for backpackers and eco-tourists. The island offers opportunities for bird-watchers, botanists, photographers and other people who like to visit isolated areas or view World War II relics. The outstanding natural beauty of the lake and the island, diving, bush walks, and trips by canoe are a few of the available attractions (UNEP-WCMC 2008).

Independent Melanesian nations have extensive self-rule; since land-rights are customary, individuals and groups can sell logging rights unless impeded by central parliamentary decisions. Sadly, traditional, ‘big-man’ political systems (e.g. Oliver 1961; Sahlins 1971) encourage short term strategies for the acquisition and redistribution of wealth.

At present, the question of logging still haunts Rennell: logging companies notably find the Rennell ‘pencil cedar’, *Palaquium* sp., most attractive. An ethnic Chinese logging company brought logging equipment to West Rennell in 2009 “reportedly having signed agreements with landowners”, in return for which the company would provide money, roads, a wharf and *vehicles* to the holders of land-rights (Solomon Star 2010a, b, my emphasis). Logging, as well as bauxite mining, has been on the cards of the locals in West Rennell for some time, and many in East Rennell fear that any such operations would lose them their World Heritage Listing.

## Conclusion

With the exception of Papua New Guinea, the Solomons have a greater diversity of animal species and higher level of endemism than any other Pacific island nation (e.g. Munch-Petersen 1988). Within the Solomon Islands, Rennell has the highest occurrence of endemism for an island of its size. Rennell is famous for having developed many unique species because of its isolation. East Rennell is important because it includes all the habitats found on Rennell, and contains a viable representation in natural conditions of most endemic bird species. Moreover, Lake Te Nggano occupies 17.6% of the total area of Rennell Island and is also the largest body of enclosed water in the insular Pacific (UNEP-WCMC 2008).<sup>2</sup>

And yet, as this brief chapter demonstrates, for all its wonderful attributes, the survival of the East Rennell Island ecosystem into the twenty-first century has been quite accidental. A low-key tourism operation now drives part of the Rennell island economy, managing to provide some sustainable living to a number of islanders, while a rudimentary (air and road) transportation network ensures that the island, for all its enticing natural beauty, is not – or, perhaps better, has not yet been – invaded by hordes of rampaging tourists. As one of just five inscribed UNESCO World Heritage Sites in the insular Pacific, remote East Rennell is, for the moment, spared from both dramatic 'development' projects, as well as from an equally devastating tourism footprint.

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