Chapter 6
The Double Bind of Tourism in Galapagos Society

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No existe desarrollo sostenible [There's no such thing as sustainable development]

(Isabela Island hotel owner, 2008).

Poaching remains a serious threat and eco-tourism an even more serious threat. The Galapagos are being destroyed by both poachers and eco-tourism

(Sea Shepherds Captain Paul Watson, 2011).

Introduction

"This is not what it means to be *galapagueño*."[1] As the park guard made his sad proclamation, he stood in front of the desiccated carcasses of three giant tortoises whose flesh had been scraped away from their torsos and feet. It was June 2009, and a team from the Galapagos National Park Service (GNPS) was traveling on foot to one of Isabela's isolated beaches and a protected area, located several kilometers from the town of Puerto Villamil. The tortoises had been dead for over three months. They had been placed in tree branches at eye level. The faded numbers painted on their shells indicated that they were born and raised at the island's breeding center. As they photographed the remains, the guards agreed that this was likely the work of members of an old Galapagos family who were thought to be responsible for 16 such deaths the previous year.

[1] In this chapter, the term "*galapagueño*" refers to a permanent resident of the islands but, in colloquial use, is often reserved for descendants of the original colonists. In general, "resident" will be used to distinguish legal permanent residents from migrants and visitors.

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Acts such as this are less common than they were a decade ago, when high-profile conflicts between the fishing sector and policymakers erupted into violent demonstrations. Illegal activity is prevalent today though, not only on Isabela Island but archipelago-wide. Such behavior is often driven by resistance to measures that limit local development of the fishing, and now, more commonly, tourism sectors. Tourism, as the driving force of today's Galapagos economy, has become what Environmental Minister Marcela Aguiñaga called "one of the main threats to the health and integrity of Galapagos," in her opening speech at the Sustainable Galapagos Tourism Summit held in 2010. Although it is often called ecotourism, there are conflicting notions about how tourism in unique and fragile environments should be realized, which have brought the industry under recent scrutiny. Accelerating introductions of new species, migration and illegal activity have come in the wake of the tourism boom, questioning how Galapagos "ecotourism" really is.

Ecotourism should, according to Martha Honey (2008), be environmentally sound and small scale, providing equal benefits to conservation as it empowers and enriches the lives of local residents, but the sudden growth and expansion of the industry in Galapagos has transformed this economic activity into a threat to conservation and social practices. Uneven shares of tourism-generated wealth perpetuate old tensions between those who benefit from environmental regulations and those who do not. Galapagos society, therefore, is caught in a double bind: (1) to pursue economic success and (2) to do so in an environmentally responsible and legal manner. Across the archipelago, people are struggling to come to terms with these two, often contradictory, demands that privilege some and marginalize others in the shadow of the tourism boom.

This chapter examines the tourism industry in Galapagos critically, from its inception in the 1960s, dominated by live-aboard cruises, to the present day as island-based touring has gained momentum over the "floating hotel" model originally promoted by conservationists. While the economic implications of this shift have been described (Taylor et al. 1999; Taylor et al. 2003, 2006; Epler 2007), as well as the direct and indirect environmental impacts (de Groot 1983; Honey and Littlejohn 1994; MacFarland 1998; Cléder and Grenier 2010; Ouvard and Grenier 2010), the industry's social and cultural drivers have rarely been considered.

As the Galapagos tourism industry is one of the fastest growing economies in the world (Taylor et al. 2006), pertinent questions can be raised about its impacts on island society, including: (1) How do residents perceive tourism-related development, and to what extent are they participating in and benefiting from it? (2) Who controls and benefits from tourism facilities and infrastructure? Answers to these questions should clarify whether Galapagos "ecotourism" is contributing to responsible development by promoting economic success among local populations and ensuring environmental sustainability and social accountability.

This chapter addresses these questions through a blend of quantitative and qualitative inquiry based on research conducted in the islands between 2007 and 2011. Cluster analysis of a large resident survey ($n = 1{,}242$) conducted in 2009 identifies particular social and demographic characteristics among the resident population that are conducive to supporting particular types of development or conservation,

and investigates illicit environmental behavior in the context of environmental restrictions and economic need. This chapter then examines formal and informal tourism activities being practiced within the islands and considers the benefits and costs of the current tourism model in the context of the long-term management and economic development of the archipelago.

Development, Conflict, and Sustainability

Commercial Galapagos tourism in the form of "floating hotels" began in the 1960s when New York-based Lindblad Travel began offering multiday cruises on their 66-passenger ship, the *Lina A*. Quito companies Metropolitan Touring and Turismundial joined Lindblad to expand the market, and between 1974 and 1980, the cruise ship fleet grew from 13 to 42 (Honey 2008: 125). Land-based tourism began in the 1970s with the availability of interisland shuttles and small boats for charter (Epler 2007: 3), but by 1982, only 18 hotels archipelago-wide had a total capacity for 214 guests.

Throughout the 1980s, the demand for food and goods alongside population growth outpaced disjointed environmental regulations, whose implementation was stalled because there was no clear leadership entity. In spite of restrictive land and marine use zoning (97% of available land area is Galapagos National Park), no regulations have ever been put in place to control tourist numbers. The current tourism model is the result of rapid and uncontrolled terrestrial expansion that occurred largely in the last three decades. In the 1980s and 1990s, island entrepreneurs began offering more land-based options for budget travelers, including Ecuadorian citizens and backpackers, and the dollar-based tourism economy enticed farmers and fishermen to explore alternatives to their traditional livelihoods. By that time, 26 hotels could accommodate 880 guests, and 67 ships held over 1,000 berths between them (Epler 2007: 13, 16).

In the midst of this early tourism boom, conflicts were generated among the increasingly regulated fishing sector. Commercial fishing of sea cucumbers, in particular, divided the resident population as well as the Ecuadorian government. Against regulations were local *pepineros* (sea cucumber fishermen), fishermen from the Ecuadorian coast, and the Ministry of Industry and Fisheries, while scientists and the Ministry of Agriculture expressed their strong support. Attempts to control the fishery were, as Honey writes, "disastrous…On the morning of January 3, 1995, a group of *pepineros*, some masked and wielding machetes and clubs, blockaded the road to the national park headquarters and research station outside Puerto Ayora [on Santa Cruz Island]" (Honey 2008: 134). On other occasions, disgruntled fishermen set fire to thousands of acres of land and threatened to kill giant tortoises held as "hostages" (Honey and Littlejohn 1994; Snell 1996; MacDonald 1997).

Soon, tensions grew between local tour operators and agencies based on the mainland, which controlled the Galapagos tourism market. This assumed the nature of a battle between residents and "outsiders," as naturalist guide Mathias Espinosa

recalls (personal communication 2008). The pushback from residents was met with resistance by the Ecuadorian government when the issuance of *cupos* (passenger/berth quotas) for local tour operators was suspended at the same time that the local fishing sector was restricted, resulting in explosive riots and demonstrations. "If the government wanted to economically strangle the Galapagos population," said Christophe Grenier, former head of social science at the Charles Darwin Foundation (CDF), "it would not have done anything differently: all of the islands' productive sectors were smothered under the pretext of protecting the ecology" (1996: 421).

Troubling levels of violence led to the development of the 1998 Special Law for Galapagos, a complex set of articles designed to control population growth, eliminate commercial fishing inside the Galapagos Marine Reserve, and promote responsible tourism development. A significant portion of the law was created by Galapagos residents to protect their economic interests and cultural integrity. Following the law's passage, trade unions and civil society organizations became important sites within local industry for residents to influence political decision-making when, according to anthropologist Pablo Ospina, "it became necessary to oppose the hold that environmentalism had on the province" (2001: 21). Permanent Galapagos residency was established, granting residents rights to employment and wages 75% higher than on the mainland. Incoming migrants are restricted to renewable, one-year temporary residency and 90-day visitors' visas, and residency is monitored via an electronic ID tracking system.

The Special Law was a landmark piece of legislation that, in part, sought to alleviate residents' concerns about the security of their livelihoods with the influx of recent migrants. It also served to reframe concerns about the impacts of tourism on more general population effects. While institutions like UNESCO acknowledge tourism's tight linkage with human population pressure in the islands, many scientists and policymakers do not (UNESCO 2007).[2]

Perhaps owing to this fact, implementation of the Special Law with respect to the tourism industry has been weak. Tourism continues to bring about considerable change in the urban and rural landscapes of Galapagos, and little has been done to encourage responsible development. Economics, more than sustainability criteria, have dictated decision-making, resulting in a 9% annual increase in tourist visitation and 150% growth in the number of island hotels (Epler 2007), while only 45 individuals and corporations own the 83 luxury, standard, and day-tour vessels operating in the islands (Epler and Proaño 2008). At the same time, conservation measures in Galapagos have been uneven and restrictive to the local population. Research on conservation psychology and political ecology has shown how illicit environmental behavior can arise out of marginalization and resentment (Neumann 1998; Kaplan 2000; Robbins et al. 2006; Khan and Haque 2010), demonstrated by

[2] Representatives of Galapagos conservation organizations often consider park officials, tourists, and tourism acceptable human influences, but not local populations. Although they rightly point to a history of unsustainable resource extraction by local communities, they do not acknowledge the similarly poor environmental track record of tourism (cf. Terborgh and van Schaik 2002).

continued acts of resistance when the needs and desires of Galapagos residents conflict with conservation mandates.

Currently, around 170,000 annual visitors travel to the islands where over 20,000 people live (GNPS 2011; INEC 2010). "No one envisioned that the islands would emerge as one of the world's premier ecotourism destinations; that Galapagos tourism would contribute hundreds of millions of dollars to Ecuador's national economy, and in turn, that it would generate revenues and population growth in Galapagos exceeding anyone's wildest expectation," Epler concludes (2007: iii). The annual growth rate in the number of tourists between 2000 and 2006 was 14%, falling behind only Panama, El Salvador, and Guatemala in percent visitor increase in countries within the Americas (Proaño and Epler 2008). If that rate continues, in under a decade more than half a million people will visit the islands every year.

For many inhabitants of the archipelago, the lures of Galapagos tourism and economic prosperity are illusory. The cost of living in Galapagos is three times that of the mainland, and although imported supplies such as gasoline are subsidized by the government, other products are high priced and often limited in availability. Without potable water or wastewater treatment systems, residents frequently experience intestinal problems and skin diseases. Health-care facilities are not equipped to handle most medical needs beyond minor surgeries, but flying to the mainland for hospital attention is not a financial option for many. Because the majority of tourism-related income remains in the hands of wealthy mainland or foreign-based tour operators, per capita income in Galapagos increased by less than 2% per year between 1999 and 2005, due largely to migration-induced population growth. "In real terms," write Taylor et al. (2006), "income per capita almost certainly declined." In the meantime, the permanent resident population alone is projected to increase to over 100,000 by 2030, if current growth rates hold (Proaño and Epler 2008).

Methods

Beyond reports produced by institutions operating in Galapagos, literature concerning modern Galapagos society places a heavy emphasis on the now-waning fishing sector (Honey and Littlejohn 1994; Andrade 1995; Moreno et al. 2000; Ospina 2005). Other scholarship focuses on the construction of a local *galapagueño* identity (Ospina 2001; Borja 2003; Ospina 2003; Ospina 2006) and migrant demographics (Bremner and Perez 2002a, b; Kerr et al. 2004). Studies of Galapagos tourism have been economic (Taylor et al. 2006; Epler 2007; Epler and Proaño 2008) rather than social. The overall goal of this chapter is to identify the social and cultural ways in which conservation and development measures intersect with resident interests.

Rather than forming a homogenous social group, Galapagos residents have diverse goals, ways of knowing the islands, and economic engagements. To examine what combinations of conservation/development attitudes arose most frequently among Galapagos permanent residents, a cluster analysis was performed based on existing household survey data collected in 2009 by the Ecuadorian Statistical

Table 6.1 Summary of 15 variables selected for cluster analysis

Survey measure	Responses		
Collect trash at tourist sites	Yes	No	
Believe introduced species are a threat	Yes	No	
Number of tourists should grow	Yes	No	
Should live "*isleño*" lifestyle[a]	Yes	No	
Should conserve island nature long-term	Yes	No	
Quality of life in a World Heritage Site is:	Good	Average	Poor
Boat-based (cruise ship, multiday trips) tourism should:	Increase	Stay the same	Decrease
Land-based (hotel stays, day trips) tourism should:	Increase	Stay the same	Decrease
Fishing should:	Increase	Stay the same	Decrease
Land transport should:	Increase	Stay the same	Decrease
Mainland marine transport should:	Increase	Stay the same	Decrease
Island marine transport should:	Increase	Stay the same	Decrease
Island air transport should:	Increase	Stay the same	Decrease
Mainland air transport should:	Increase	Stay the same	Decrease
Construction should:	Increase	Stay the same	Decrease

[a]An *isleño*, or island-based, lifestyle is promoted by conservation institutions and emphasizes low imports, less motorized transport, responsible development, etc.

Institute and the Galapagos Government Council. The aim of the clustering exercise was to develop a resident typology that characterized the diverse motivations, expectations, and circumstances surrounding development, encouraging or obstructing residents' engagement in island conservation.

The 2009 survey was conducted to obtain current measures of the quality of life, health, education, and economic well-being of the permanent resident population. Using proportional, single-stage random sampling, investigators selected 1,336 households from the 72 census sectors in the province, which included the populated islands of Santa Cruz, Baltra, San Cristobal, Floreana, and Isabela. Of those, 1,242 households were selected for this analysis based on completed forms for the head of the household. Archipelago-wide, the average age of the household head was 43, and males comprised 82% of the respondents.

The survey form asked respondents to indicate their opinions about particular indicators associated with beliefs about the environment and growth in the tourism industry. Fifteen variables were chosen as surrogates for attitudes about development and conservation (Table 6.1). A cluster analysis was performed on these nominal, anominal, and ordinal variables, and four clear typologies emerged from the

data. The clustering algorithm analyzes means for each measure, grouping the data by minimizing the within-group response variance and maximizing between-group variance (Kaufman and Rousseeuw 2005). This facilitates group comparisons of the roles of other variables that were not included in the clustering algorithm, such as amenities and expenditures, quality of life, education, and migration information. Pair-wise testing for differences in mean values and frequencies for these interval and ordinal variables was conducted at the 0.05 significance level.

Cluster interpretation is based on cluster means, past and present trends of conservation and tourism development in Galapagos, and the economic and geographic contexts in which residents engage with the tourist industry. Explanation of the cluster groupings, along with information on current trends in tourism and development, is discussed through interviews conducted between 2009 and 2011 with residents, policy-makers, tourism operators, and representatives of conservation organizations.

Results

Permanent Resident Typologies

The clustering exercise revealed that overall, Galapagos residents agree with the need for conservation in the islands ($n = 1{,}215$, 98%) and the preservation of an *isleño* lifestyle ($n = 1{,}140$, 92%; Fig. 6.1). This represents a practical understanding of Galapagos as a source of residents' livelihoods and cultural legitimacy (Ospina 2006: 52). In this respect, many informants expressed a profound pride in their province while at the same time making clear their desire for greater mainland access and everyday comforts. This is reflected by the fact that three-quarters of respondents live in the coastal urban centers where they engage in the growing private and public sectors, rather than traditional activities such as farming and fishing.

The clustering algorithm condensed the 15 variables concerning attitudes about development and conservation into four clusters (Fig. 6.2). A development typology was assigned to each cluster based on group responses to questions included in the algorithm. *Expansionist*: The first cluster comprises over half ($n = 673$) of the survey respondents included in this analysis and describes a strong motivation for development, through mainland and island transportation, tourism, and construction. *Isolationist*: The second cluster ($n = 310$) is characterized by a desire for moderate tourism development, high construction, and a lower opinion of life in a World Heritage Site. *Moderate:* The third group ($n = 102$) is the smallest cluster and expresses low to moderate interest in tourism and local development. *Conservationist*: The fourth group ($n = 157$) seeks stabilization or decrease in most aspects of island growth.

Now that general typologies have been formed, the factors shaping permanent resident attitudes about conservation and island economic growth can be considered. Analysis of the clusters on variables not included in the clustering process provided interesting insights and facilitated further description of distinct resident types as identifiable categories (Table 6.2).

Fig. 6.1 Images from a 2008 GNPS publication for children that emphasize the difference between *isleño* (*left*) and mainland-based (*right*) lifestyles

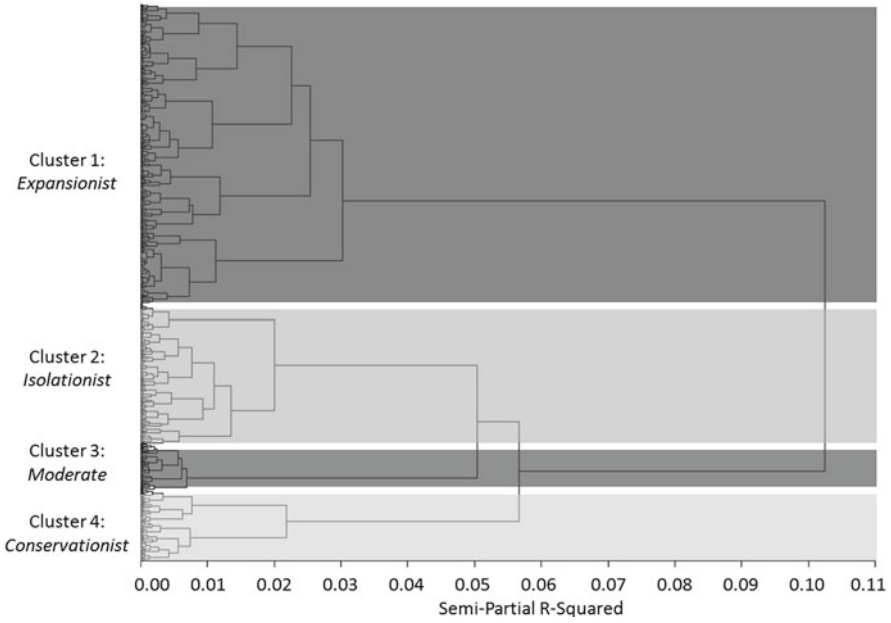

Fig. 6.2 Dendrogram produced by the clustering algorithm. The four development typologies are indicated by alternating shades of *gray*

Table 6.2 Survey information on household characteristics, education, amenities, and health

Survey measure	Expansionist ($n=673$)	Isolationist ($n=310$)	Moderate ($n=102$)	Conservationist ($n=157$)	Signif[a]
Household characteristics					
Current residence					E,I–M,C
Santa Cruz/Baltra	277 (41%)	136 (44%)	64 (63%)	99 (63%)	
San Cristobal	219 (33%)	126 (41%)	21 (21%)	42 (27%)	
Isabela	155 (23%)	44 (14%)	14 (14%)	15 (10%)	
Floreana	22 (3%)	4 (1%)	3 (3%)	1 (1%)	
Household type					C–E,I,M
House	442 (64%)	197 (64%)	62 (61%)	120 (76%)	
Apartment	87 (13%)	38 (12%)	13 (13%)	23 (15%)	
Rented room	67 (10%)	38 (12%)	17 (17%)	9 (6%)	
Shack	68 (10%)	32 (10%)	9 (9%)	5 (3%)	
Other	9 (1%)	5 (2%)	1 (1%)		
Origin					
Galapagos	178 (26%)	74 (24%)	16 (16%)	36 (23%)	M–E,I
Sierra	273 (41%)	136 (44%)	40 (39%)	68 (43%)	
Coast	215 (32%)	96 (31%)	43 (42%)	51 (32%)	
Amazon	7 (1%)	4 (1%)	2 (2%)	2 (1%)	
Foreign country	4 (1%)	5 (2%)	1 (1%)	7 (4%)	
Years lived in Galapagos	24.5	24.7	19.7	21.6	M–E,I
Education and employment					
Highest education attained					C–E,I,M
None	10 (1%)	6 (2%)	2 (2%)	13 (8%)	
Primary	34 (5%)	10 (3%)	2 (2%)	4 (3%)	
Secondary	244 (37%)	118 (38%)	41 (40%)	29 (18%)	
Postsecondary	281 (42%)	122 (39%)	43 (42%)	50 (32%)	
College and above	104 (15%)	54 (18%)	14 (14%)	61 (39%)	
Job location					C–E
Local business	309 (48%)	126 (43%)	51 (53%)	86 (58%)	
Construction site	47 (7%)	30 (3%)	11 (11%)	7 (5%)	
Various sites	121 (19%)	41 (14%)	11 (11%)	22 (15%)	
Kiosk/street work	7 (1%)	5 (2%)	2 (2%)		
Local or rental property	54 (8%)	34 (12%)	8 (8%)	13 (8%)	
Domestic work	25 (4%)	22 (7%)	4 (4%)	9 (6%)	
Farm/ranch	86 (13%)	36 (12%)	10(10%)	12 (8%)	
Spending and amenities					
Monthly income needed to live well	$1,654	$1,659	$1,640	$2,301	C–E,I,M
Trouble paying for food during last 2 weeks	189 (28%)	62 (20%)	31 (30%)	28 (18%)	C–E, M
Household amenities					C–E,I,M
Many amenities	489 (73%)	235 (76%)	74 (72%)	132 (84%)	
Average amenities	168 (25%)	73 (23%)	27 (28%)	24 (16%)	
Few amenities	16 (2%)	2 (1%)			
Quality of life					C–E,M
Good	92 (14%)	62 (20%)	18 (18%)	44 (28%)	
Average	531 (79%)	228 (74%)	78 (76%)	106 (68%)	

(continued)

Table 6.2 (continued)

Survey measure	Expansionist ($n=673$)	Isolationist ($n=310$)	Moderate ($n=102$)	Conservationist ($n=157$)	Signif[a]
Poor	50 (7%)	20 (6%)	6 (6%)	7 (4%)	
Current economic situation					C–E,I,M
Able to save money	79 (12%)	43 (14%)	13 (13%)	36 (23%)	
Equal save/spend	344 (51%)	177 (57%)	62 (61%)	84 (54%)	
Forced to spend savings	80 (12%)	29 (9%)	8 (8%)	15 (10%)	
Forced into debt	170 (25%)	61 (20%)	19 (19%)	22 (14%)	
Consider self poor	306 (45%)	122 (39%)	43 (42%)	34 (22%)	C–E,I,M
Play sports in last month	302 (45%)	140 (45%)	50 (49%)	91 (58%)	C–E,I,M
Internet access in last week	121 (18%)	59 (19%)	27 (26%)	74 (47%)	C–E,I,M
Amount spent on non-health mainland transport last 12 months	$171	$153	$188	$270	C–E,I,M
Health					
Sick last month	286 (43%)	136 (44%)	44 (43%)	88 (56%)	C–E,I,M
Has health insurance	97 (14%)	43 (14%)	16 (16%)	45 (29%)	C–E,I,M
Amount spent on health last 3 months	$108	$122	$131	$195	C–E,I,M
Amount spent on health last 12 months	$243	$255	$135	$494	C–M

[a]Only variables with significant differences ($p<0.05$) in pair-wise testing are displayed (E for expansionist, I for isolationist, and so on)

Expansionist: The socioeconomic characteristics found in the first cluster are conducive for encouraging the most positive attitudes toward development. When cluster members were compared by residence, it was found that expansionists were the most highly dispersed across the urban and rural areas of the inhabited islands, with a higher concentration of "original" (Galapagos-born) residents than other groups. Pair-wise analysis of the frequency distribution was significant, suggesting that geographic distribution is associated with the respondents' attitudes about conservation. This is due in part to the strong representation of Isabela Island residents where, in spite of UNESCO recommendations, a new airport and dock were recently completed under the mantra, "*Isabela crece por ti*" [Isabela is growing for you]. This group is also characterized by the most ethnic diversity, the lowest overall quality of life, and is the most frequently forced into debt. Few (14%) have private health insurance policies, and little household income is spent on health-related issues.

Isolationist: Members of the second-largest cluster are concentrated on Santa Cruz and San Cristobal Islands, and the group is predominately located in urban areas. Like expansionists, they have a higher makeup of Galapagos-born residents than the other two clusters and exhibit the lowest attained education levels. They are characterized by a lower desire for tourism-related development than the expansionist cluster but express strong support for increased construction and transportation. This group has the lowest opinion of life in a World Heritage Site, and only 6% of

respondents indicated that they collect trash at tourist sites. Households tend to have few amenities, and non-health-related spending is also the lowest in this cluster, but they experience greater job security than the other clusters.

Moderate: The third cluster is the smallest and contains the highest proportion of members originating from the mainland (85%), the majority of whom come from the coast. They migrated more recently than the first two clusters (average 19.7 years ago) and are more highly educated overall. However, they exhibit comparatively low awareness of the threats posed by introduced species, characteristic of those who migrated to Galapagos during the period of expansion in the 1990s (Heslinga 2003). The group is concentrated on Santa Cruz Island (63%) where they engage primarily in skilled labor and subsistence economic activities and experience the highest job security. Households have a moderate number of amenities, but report higher spending on health care and transportation to the mainland, and experience a low overall quality of life. They are characterized by a desire for some transportation improvements and boat-based tourism development, while most (68%) believe that land-based tourism should neither increase nor decrease.

Conservationist: The final cluster exhibits striking and statistically significant differences in development attitudes and socioeconomic characteristics from the other three. This group chiefly originates from Galapagos or the Sierra region of the mainland but has the largest constituent from foreign countries (4%). Many more are descended from foreign families and speak both Spanish and English. The cluster is predominantly urban and concentrated on Santa Cruz Island. High home ownership, very high education levels, low food insecurity, high savings and spending trends, and the most household amenities contribute to these respondents' experiencing the highest quality of life of any cluster. They are also the most likely to collect trash at tourist sites and express a strong desire for stable or decreased development, transportation, and boat-based tourism.

With the exception of the first cluster, survey respondents were in favor of stabilization or a decrease in the local fishing sector. Following the ban on industrial fishing in 1998, the sea cucumber and lobster fisheries virtually collapsed, leaving residents dependent on the less regulated, and less profitable, *pesca blanca* (whitefish) fishery. The coordination of fish sales to tour operators and sport fishing practices have been explored as alternatives to traditional fisheries that have met with limited success, particularly on Isabela Island. To this end, expansionists reported the highest participation in fisheries in the last 12 months of any cluster (8%), although this is still low compared to fisheries' activities a decade ago.

Given the disproportionately large share of the tourism economy that mainland tour operators hold (Taylor et al. 2006), it is not surprising that most residents are in favor of increased land-based tour development. Although Galapagos tourism is among one of the fastest growing economies in the world, only a fraction of total revenue (36%) remains in the islands (Taylor et al. 2006). The remainder is collected by large mainland touring companies who operate high-end cruises and own or rent passenger *cupos* (Epler 2007: 47). The Special Law granted permanent residents exclusive rights to obtain new tourism *cupos*, but this requires that they own a large boat that meets environmental

Table 6.3 Distribution of visitors by to Galapagos by accommodation type in 2011 (Ecuadorian and foreign combined)

Housing type	Number (%) of visitors
Hotel	88,489 (48%)
Cruise ship	78,447 (42%)
Family member	13,199 (7%)
Private residence	3,310 (2%)
Other	1,583 (1%)
Total	185,028

Source: (GNPS 2011)

regulations. Instead, locally owned pensions and hostels contract with fishermen and small boat owners for day tours (Honey 2008: 131). Even a third of conservationists, with significantly higher relative wealth than the other resident clusters, seek increases in land-based tourism. Indeed, island hopping is increasing in popularity over traditional "floating hotel" tourism: for the first time, in 2011, the number of visitors staying in hotels exceeded those staying on live-aboard cruise vessels (Table 6.3).

Much of the tourism-related infrastructure and development does not directly benefit residents, however. This reflects the fact that public services, particularly sanitary drinking and tap water, health care, and electricity, have been largely ignored during this period of growth.

Although Ecuadorian President Rafael Correa's administration has invested millions of dollars in mainland health care, marginal funding has been allocated to Galapagos. Limited access to sanitary water and sewer facilities frequently results in gastrointestinal and skin infections, especially among women, children, and the elderly (Walsh et al. 2010). None of the populated islands are prepared for serious viral outbreaks such as dengue fever (in 2005 and again in 2010) and H1N1 (2009), both of which arrived via tourists and visitors.

Growing problems such as crime and household waste are also attributed to the resident population. During the first five months of 2010, more than three-quarters (83%) of reported crimes in Puerto Ayora were committed by residents (Zapata, personal communication 2010). Santa Cruz Island, alone, generates 12 tons of waste per day, and although an estimated 35% of waste is recycled, the majority of is stored in a landfill until it is incinerated (Hardter, personal communication 2010). Despite the ubiquitous presence of trash canisters and recycling bins, littering persists in the islands' small towns. In a scathing editorial titled *The National Garbage*, American-born resident Jack Nelson writes, "This garbage doesn't come from offshore or Peru. It is not the kind of trash that falls from the hands of unthinking tourists. It is native, authentic island trash, lovingly Galapagos" (Nelson 2010: 4).

In light of increasing development and concerns about human impacts, the resident population has been the target of accusations that it is not capable of accepting the responsibility that comes with life in a World Heritage Site. Nelson has also attacked awareness campaigns by the GNPS, claiming that their portrayal of the *isleño* lifestyle is too abstract. Instead, he argues, residents must be told in

no uncertain terms that what they are doing is environmentally unacceptable. Unfortunately, biodiversity goals rarely incorporate information from locals, and regulations are handed down as mandates. It is not uncommon to hear sentiments such as the following, expressed by one Santa Cruz resident, "They make us feel like we don't belong here—like the life of a giant tortoise is worth more than human life."

Creating Sustainable Citizens

Unlawful environmental behaviors are acts of resistance by some residents, in response to restrictions perceived as external and illegitimate that have been imposed by conservation authorities. Such actions can be driven by need, while as Robbins et al. (2006) explain, "[S]ome is more overtly political." In part, authorities argue that increased surveillance and sanctions would stem unlawful activities, as the enforcement of environmental regulations in Galapagos has historically been minimal. The established penalty for engaging in illegal fishing includes a prison sentence ranging from 3 months to 3 years but is generally confined to confiscation of the vessel and a fine that is insufficient to deter future illegal activities. A seizure of $10,000 worth of shark fins may result in a fine of $2,000, a fraction of the value of one day's catch. Organizations like the Sea Shepherds, whose founder was quoted in the opening to this chapter, routinely push for greater application of sanctions within the marine reserve by the GNPS. A revision of the Ecuadorian Constitution in 2008 included a novel set of articles granting a unique set of rights to nature (Ecuadorian Constitution Article 71), which the Sea Shepherds urgently wish to apply to stop the poaching of endemic and native species that are protected by law (Emko, personal communication 2009). An exploration of illegal activity, however, necessitates an understanding of why residents would care for the environment in the first place.

To further capture reasons for environmental stewardship, a small opinion survey was conducted among 72 Santa Cruz and Isabela Island residents in 2010. Participants were asked to select one response out of four to the question, "Why would you participant in environmental protection?" and the results shown in Table 6.4 are paired with quotes from informants to further clarify the personal meaning of each statement. Those who responded, "It's unique in the world" or "Preserve it for future generations" adopt a view of the intrinsic value of Galapagos. They are represented by members of the conservationist cluster and are encouraged by conservation initiatives. As one young woman put it, "It's a privilege for us to live here, and it's our responsibility to protect it."

Members of the expansionist and isolationist clusters are more likely to agree with the majority (69%) of these respondents who chose a utilitarian view of the islands as a source of income or quality of life (responses 3 and 4). These clusters are comprised of more original families and the oldest migrants, a characteristic that Barber and Ospina (2008) also found to be related to a resistance to environmental

Table 6.4 Residents' reasons for participating in conservation measures

Survey response	Frequency	Quotes
(1) It is unique in the world	10 (14%)	"What we have in Galapagos, we don't have anywhere else"
(2) Preserve it for future generations	12 (17%)	"In the future we want to see Galapagos like it has been, always"
(3) The environment is the source of our well-being	26 (36%)	"*Galapagueños* have a very special identity. We care for our resources because we live from them"
(4) Good quality of life here	24 (33%)	"Here I can still let my children go out to play without worrying"

Source: Opinion survey, 2010

regulation. Their words express the pride in Galapagos that many residents share, intertwined with a sense of entitlement to the land.

It is that sense of entitlement, combined with hostility toward authority, however, that authorities fear is driving some residents to engage in unlawful environmental activities. In particular, there is an attitude among the "original" or "native" residents that they should not be subject to external regulations that are more concerned with plants and animals than people. For example, as one Isabela fisherman said in 2010, "the fish [populations] aren't a problem for us, for us the laws are the problem. To the conservationists everything we do is wrong." A marine comanagement scheme implemented through the 1998 Special Law was designed to facilitate the participation of fishermen in environmental decision-making, but its success has been tempered by a perceived lack of rights and access (Heylings and Bravo 2007) and punctuated by discoveries of illegal encampments along the coast (Suarez, personal communication 2010).

In contrast to clandestine fishing operations, highly visible infractions like the killing of giant tortoises are not fueled by a desire for or dependence on the use of protected resources. The reasons for resentment may include the rigid boundaries of the national park or the marine reserve, infringements on resource use rights, and perceptions of corruption among environmental managers or other environmental beneficiaries like tourism operators (Quiroga 2009).

As the cluster analysis reveals, Galapagos communities are not homogenous, and there are many reasons why residents would choose to support (or subvert, resist, and oppose) conservation regulations. The bitterness and disdain expressed by some informants stems from the awareness that funding destined for conservation projects will never benefit them. Measures that privilege the flora and fauna of protected areas over the needs and interests of their human counterparts generate further hostility among those poised to be conservation's greatest allies. In a final blow, the current model of development reinforces migrant flows from the mainland, a source of frustration for residents who argue that their interests were meant to be served by the 1998 Special Law.

Table 6.5 Changing resident attitudes toward migrants between 2006 and 2010

Survey response	2010[a]	2008[b]	2006[c]
(1) Accept migration restrictions for family members	42%	47%	43%
(2) Migrants result in environmental damage	78%	82%	82%
(3) Migration increases local crime	80%	81%	82%
(4) Migration increases local unemployment	72%	75%	83%
(5) Migrants erode *galapagueño* culture	89%	NA	NA

[a]Source: Opinion survey (2010, $n=72$)
[b]Source: Barber and Ospina (2008, $n=302$)
[c]Source: Barber and Ospina (2007, $n=295$)

Contracted by hotels, high-end restaurants, and cruise vessels, skilled and unskilled migrants often fill employment needs that cannot be met by members of the resident population (Grenier 2007; Watkins and Cruz 2007). In this way, tourism supports the maintenance of a segmented labor force that requires migrants taking advantage of wage differentials between Galapagos and the mainland (cf. Massey 1999). This has also given rise to one of the few cases of domestic illegal migration in the world: an unknown number of these temporary migrants overstay their permits, thereby becoming illegal guests of the islands, of which there are an estimated 3,000 to 3,500 today (Sotomayor, personal communication 2010).

While social and environmental irresponsibility is frequently associated with the resident population in conservation discourse, residents see migrants as the source of the problem; perpetuating old inside/outside divides (Table 6.5). Residents tend to believe that unemployment due to the migrant influx is decreasing over time, but still express a strong agreement to the statement that migrants erode *galapagueño* culture, reflecting the sense of place described by each cluster above.

"Ecotourism": The Benefits and the Costs

This chapter has highlighted the ways in which environmental management in Galapagos imposes legal restrictions on inhabitants, while perpetuating the conditions (and resident attitudes) that facilitate unregulated tourism growth. To quell accusations that mainland-based tourist agencies benefit from, but do not contribute to, the islands' welfare, some have begun to offer human services. Recognizing the difficulty and expense of medical transport to the mainland, for example, Celebrity Xpeditions instituted a program in 2010 to bring specialists to the Santa Cruz Island health center for week-long volunteer campaigns. Red Mangrove Galapagos and Ecuador Lodges, with hotels on three of the four populated islands, is developing family health and dental programs and assists with large-animal veterinary care on Isabela and Floreana islands.

Fundación Galapagos, an Ecuadorian for-profit organization founded by Metropolitan Touring, has promoted solutions in solid waste management for over 12 years.

Other organizations have attempted to address the fact that few local families are able to afford to explore the islands around them, meaning that the Galapagos archipelago's future leaders will scarcely know them. By 2009, Lindblad Expeditions and Metropolitan Touring had offered over 500 schoolchildren the opportunity to tour the islands on their cruises, a strategy that has boosted sales among foreigners, many of whom had no idea that up to half of the residents of Galapagos have never visited another island (Jenanyan, personal communication 2011).

Tourism has also provided an alternate source of income for residents who formerly engaged in illegal activity. Franklin, a former fisherman who came to Galapagos in the 1990s, guides day tours from Santa Cruz. But in the early years he lived on Isabela, participating in illegal shark fin, sea cucumber and lobster fisheries, and staging riots against the local GNPS office. "I was making $1,000 a day when my friends on the mainland were watching their money disappear. Of course I was going to keep doing it." Now he works in tourism, and he is happy with the change. "It's just not worth it. This is easier and I don't have to be looking over my shoulder" (personal communication 2010).

As mentioned above, to be an autonomous boat tour operator requires obtaining the right kind of boat and a *cupo*. Although the issuance of new *cupos* would promote community-based management and create a larger number of beneficiaries of tourism (Epler 2007: 48), a 2009 competition for the release of 72 *cupos* resulted in fewer than 20 proposals being approved (El Colono 2010a: 11). The process is particularly contentious on Isabela. While the current *cupo* system includes approximately 1,800 berths, they are exclusively owned by residents of Santa Cruz and San Cristobal islands. The presence of non-licensed tour operators also occasionally manifests in tragedy, as it did in early 2010 when two poorly equipped Isabela boats overturned while attempting to navigate the rocky entrance to a popular visitor site, resulting in serious passenger injuries on an island with only basic medical facilities.

The questionable legality of another tourism activity becoming popular among the islands' fishermen has generated recent conflict. Although *pesca deportiva*, or sport fishing, was prohibited by law in 2005 (Registro Oficial No. 564), operators claim that the GNPS and the Port Authority support sport fishing as a catch-and-release activity, a component of artisan fishing that is promoted as an alternative to commercial fishing. Proponents, including the mayor of San Cristobal, argue that it provides local fishermen with a tourist-based, sustainable alternative to traditional commercial fishing, with reduced pressure on local species. But, skeptics wonder, is this the kind of tourism that should be promoted in a place like Galapagos?

Although small operations by residents are expanding in the islands, the vast majority of tourism revenues and infrastructure remain in the hands of a few individuals and corporations (Epler and Proaño 2008). Large tourism operations have a seemingly limitless supply of lawyers and funding with which to defend their interests in the islands, while island-based operators, subject to the same conditions and

requirements, are caught up in bureaucratic state control. The president of Metropolitan Touring, Roque Sevilla, is among the highest ranking executives in Ecuador but has been accused of diverting jobs from residents in the operation of his high-end Santa Cruz Island hotel, The Finch Bay, which employs primarily migrant workers (Zapata 2009: 2).[3]

The limited release of new *cupos* in 2009 further angered residents who see Quito-based operators like Metropolitan Touring with enough to support several yachts with over 100 passengers each (El Colono 2010b: 5). According to the mayor of San Cristobal, "Double talk doesn't work in Galapagos. … It's obvious that [Mr. Sevilla] has his interests. He represents a group that has economic interests, that's who he is. I defend the public interest. … Corruption can't be seen as something normal" (Zapata 2009: 2). The high-end "Iguana Crossing" hotel on Isabela Island generated similar opposition among residents when its mainland owner received permission from the Environmental Minister to build on top of a marine iguana nesting site. "This project was approved by the government," said Gardenia Flor, president of Isabela's Chamber of Tourism, "but it violates the desire of the community" (personal communication 2009).

Former GNPS director Raquel Molina refers to the network of large Galapagos tourism operators as the tourism "mafia." In March 2007, Molina was physically assaulted by members of the Ecuadorian Navy and Air Force as she and two park guards attempted to shut down an illegal kayaking operation on Baltra.[4] When asked about the conflict Molina responded, "They're corrupt, all of them. [Tourism operators] don't care about conservation in Galapagos—they care about making money… One day, eight major tour operators filed complaints about me at the municipality. I was just always in their way" (personal communication 2010).

The tourism industry itself has had its share of negative environmental impacts. As early as the 1970s, Silberglied noted that insects travel between populated islands and to distant sites on tour boats, a trend that has continued as pests and diseases are transferred with daily interisland ferry transport (Silberglied 1978). In 2001, an Ecuadorian tanker carrying diesel fuel, as well as bunker fuel that was destined for a luxury yacht owned by a mainland tour operator, ran aground off the coast of San Cristobal Island. Over 234,000 gallons of fuel were spilled into the waters that surround the archipelago's capital, Puerto Baquerizo Moreno, much of which was directed offshore by strong winds and currents (Fundación Natura and World Wildlife Fund 2001). In 2009, an Ecuadorian Navy training ship ran aground near Santa Cruz carrying 225,000 gallons

[3] Despite the fact that Finch Bay operates its own shuttle service and on-site farm, Sevilla recently argued that "licensed operators should be prohibited from vertical integration. In other words, tour operators should not be able to have their own on-land passenger transport service or be direct producers of food for tourists. This will allow more citizens to benefit from tourism as suppliers, even if they are not direct tourism service providers" (Sevilla 2008: 26).

[4] The altercation on Baltra was followed by Molina's 2008 dismissal from the GNPS by the Environmental Minister for insubordination, following her refusal to grant additional *cupos* to Sevilla.

of fuel, but was safely towed free (Arana, personal communication 2009). To date, however, cruise ships and day-tour boats do not undergo inspections or fumigations, and a contingency plan for environmental disasters like oil spills has never reached the draft stages (Rosero, personal communication 2011).

These issues raise critical questions about what kind of tourism model can best meet the islands' environmental and economic needs. Tourists also exert pressure on already-strained local resources, requiring food, water, and other commodities, in addition to the waste they generate. Many argue that this is a new kind of tourist, demanding amenities that can be found in the Caribbean or in Mexico: fine cuisine, discos, and luxury hotels. A writer for *Surfer Magazine* asked in 1998, "[O]n one of the great eco-tourism pilgrimages of all time, blessed with more intellectual raw data than perhaps anywhere on Earth: why are these clowns just doing the same bullshit they do at home?" (cf. Larson 2002: 234). That the naturalist guide pool has been increasingly "watered down" by new and lower-qualified guides is another indicator of the tour costs and quality that today's international tourists are seeking (Honey 2008: 157).

During the 2010 Sustainable Tourism Summit, workshop participants emphasized that the local culture is diverse and adapts to both internal and external forces, all clearly identified in Galapagos society, particularly as a result of the tourism boom of the past decade. As former CDF director Gabriel Lopez noted, "It's a major challenge to develop a shared vision for the common good among such a diverse community, but this is essential if we are to achieve a sustainable Galapagos." Proposals to double or triple the foreign entry fee to the national park (currently $100), initiate a lottery system, or limit visitors to one trip in a lifetime are some of the options proposed to control the exponential growth in visitor numbers, which UNESCO estimates will reach 400,000 per year by 2021 (Patel 2009). Paradoxically, as word spreads of the "crisis" in the islands, more people are compelled to visit them before it is too late (Neil 2008; Becker 2009; Bluestone 2009).

Conclusions

Since the late 1980s, growth driven by the tourism industry has dramatically altered the social, political, and environmental realities of Galapagos. Given the changes tourism has brought to the archipelago over the last 30 years, can its trajectory of development be considered "ecotourism"? As Galapagos scholar Jane Heslinga cautioned in 2003, "Ecotourism, if properly monitored and managed, can contribute to environmental preservation through increased awareness, education, and financing. However, if inadequately regulated, ecotourism will degrade or destroy the ecosystems of globally significant areas" (Heslinga 2003).

Although on the surface the Galapagos Islands have been heralded as an international example of sustainable tourism (Honey 2008: 155), the goal of this chapter was to draw attention to the social and cultural aspects of a failed tourism model that has trapped Galapagos society in a double bind of development and sustainability. The 1998 Special

Law, intended to protect the interests of residents in light of new economic opportunities, has historically been weak in its implementation with respect to tourism. Migrant flows are reinforced by the industry, whose unrestricted growth places the increasingly restrictive measures on Ecuador's citizens in sharp relief. Physical control of terrestrial and marine visitor sites has left an estimated 95% of the archipelago's native flora and fauna intact, but exponential growth in the sheer numbers of people arriving every year threatens to undermine the national park's careful zoning. Finally, the indirect social and environmental effects of violations related to quarantine, permits, or safety threaten both inhabited and protected areas archipelago-wide.

A constituent of residents rejects and resists initiatives that they feel are imposed upon them and restrict their economic success. On the other hand, a small and affluent minority, aware of their dependence on tourism, has begun to "utilize the main symbols of science and conservation to further their particular cause" (Quiroga 2009). As such, it is critically important to recognize the trade-off between ensuring local benefits through development and ensuring that biodiversity goals are being met. According to former CDF director Graham Watkins, "Conservation can only work if the biodiversity in the archipelago is owned in the hearts and minds of those that live there. If the local community doesn't benefit economically from tourism, it's not going to support conservation" (personal communication 2008). The sustainability of Galapagos tourism remains very much in question, and the tenuous alliances formed among stakeholders have yet to assemble a coherent and egalitarian vision for the future.

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