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CAPITAL IN THE

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CONSERVATION FINANCE IN THE GALÁPAGOS ISLANDS

Capitalizing the “Missing Middle”

Brian Milder

Early in 2003, booming tourism in the Galápagos Islands was one of the few bright spots in Ecuador’s sputtering economy. Even so, small tour boat operators like Rocío Martínez de Malo and Rolf Wittmer struggled to compete against larger, better-capitalized companies with direct links to customers in North America and Europe. The dramatic growth in visitors and an influx in residents from the mainland were also putting a strain on the islands’ star attraction: their extraordinarily rich but highly sensitive biodiversity. Facing stiff competition in the market and mounting environmental pressure, Martínez de Malo and Wittmer worried about the future of the businesses they had toiled for years to build and the islands they called home.

One of only a few female boat owners in the Galápagos and the daughter of a fisherman, Martínez de Malo was owner of Daphne Cruises and a prominent local leader. Wittmer, the son of the islands’ earliest settlers, had pioneered tourism on the islands as far back as the 1960s and later founded Rolf Wittmer Turismo Galápagos (Wittmer Turismo) with his three sons. For years, both Martínez de Malo and Wittmer had run their businesses as extensions of their personal values and deep roots in the Galápagos community by hiring local residents as crewmembers and working to minimize their environmental impact. In 2000, a new certification known as Smart Voyager was designed for tour boat operators in the Galápagos by the international nongovernmental organization (NGO) Rainforest Alliance¹ and the Ecuadoran NGO Conservación y Desarrollo (Conservation and Development).² Obtaining certification would enable them to

¹ The mission of Rainforest Alliance, a New York-based international nonprofit organization, is “to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices, and consumer behavior” (www.rainforest-alliance.org/programs/index.html).

² The mission of Conservación y Desarrollo encompasses promotion of sustainable development, rational use of natural resources, and raising public consciousness about resource management.

communicate their businesses' social and environmental commitments to consumers, thus differentiating them from uncertified competitors.

To qualify for Smart Voyager, however, Daphne Cruises and Wittmer Turismo would first need to acquire new equipment that would reduce energy use and pollution. Unable to finance these investments or access credit from Ecuadoran banks, Martínez de Malo and Wittmer feared they would be excluded from Smart Voyager and the opportunities it might create. Although too large for microfinance institutions, but considered too small and risky by commercial banks, businesses like Daphne Cruises and Wittmer Turismo find themselves trapped in the "missing middle," where they lack access to capital that could yield cost savings, make them more competitive, and generate critical social and environmental dividends. Ultimately, both companies obtained certification after accessing credit from Root Capital, a nonprofit social investment fund that lends to unbanked businesses—that is, those that lack access to finance from commercial financial institutions.

This chapter examines the experiences of Martínez de Malo and Wittmer as they assessed the potential environmental and social impacts of certification in sustainable tourism. It examines the opportunities certification offers to generate community and conservation benefits by harnessing market demand, as well as the crucial role of finance in realizing these benefits. Root Capital's loans to Daphne Cruises and Wittmer Turismo represent a promising innovation in conservation finance. Linking finance to certification in tourism—just as is done in agriculture, forestry, and fisheries—can facilitate capital investment in smaller businesses underserved by commercial lenders. With access to capital, these businesses can leverage certification to strengthen their position in the market and generate significant community and conservation benefits throughout the Americas and beyond.

THE OPPORTUNITY: COMMUNITY AND CONSERVATION BENEFITS FROM SUSTAINABLE TOURISM

Nature-related tourism in the Galápagos Islands offers a microcosm through which to view the opportunities and challenges available for leveraging market forces to conserve biodiversity and improve livelihoods.

GLOBAL TRENDS IN TOURISM

The travel and tourism industry is the largest business sector in the world, accounting for more than 230 million jobs and 10 percent of the global economy. The \$6.5 trillion industry is one the top five export earners in 80 percent of the world's countries and the top export earner in 60 of them.³ Tourism plays a particularly large and expanding role in the economies of developing countries: it is considered the leading source of foreign earnings (i.e., export) in one-third of the world's poorest countries, and revenues from tourism are growing at an annual rate of 9.5 percent in developing countries compared to 4.6 percent worldwide (International Ecotourism Society 2006).

³ Unless otherwise noted, amounts indicated with a dollar sign (\$) refer to United States dollars.

While tourism can offer opportunities for wealth creation in low-income countries, in many cases growing tourist activity has exacerbated social inequality, cultural dislocations, and environmental degradation. The financial windfall generated by increasing numbers of visitors is often concentrated in the hands of the owners of a few large businesses, and only marginal economic benefits accrue to residents of the communities visited. A surge in visitors can also be a harbinger of related problems, such as human waste and noise pollution, deforestation, displacement of local people, and infringement on sensitive ecosystems. The United Nations Environment Programme (UNEP) and Conservation International report that tourism in biodiversity hotspots more than doubled between 1990 and 2000 (Conservation International 2003). Most of these hotspots are in developing countries that lack the resources, managerial capacity, and, in some cases, the political will to steward their natural resources effectively (Contreras-Hermosilla, Doornbosch, and Lodge 2007). Absent well-designed incentives, strong regulations, and effective enforcement mechanisms, nature-related tourism can become an extractive industry in which operators compete to maximize short-term wealth without regard for the longer-term impacts of their practices.

Sustainable tourism is a potential alternative to the industry's traditional models. The United Nations World Tourism Organization (UNWTO) defines sustainable tourism as "leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems" (World Tourism Organization 2001, 10). Since the 1990s, as the market for traditional, so-called sun-and-sand resort tourism has flattened, ecotourism—a segment within the broader category of sustainable tourism—has been growing 20 to 35 percent annually and is predicted to maintain a high rate of growth in the years ahead. Though still only a small slice of the overall industry, ecotourism is projected to represent 25 percent of the world's travel market by 2012 (International Ecotourism Society 2006).

With the growth of consumer interest in sustainable tourism, the number of hospitality providers and tour operators claiming to fall within the category has spiked. In this context, certifications denoting businesses' commitment to responsible environmental and social practices offer consumers a means of verifying these claims. Whereas traditional approaches to conservation typically involve regulations and penalties for violations, certification programs are market oriented. They enable consumers to select products aligned with their own social and environmental values and reward business practices that uphold these values.

A certification program is meaningful if it has standards that (1) require social and/or environmental practices beyond the industry norm, (2) are transparent to businesses seeking certification and to consumers, and (3) are consistently adhered to by certified businesses (i.e., there is an audit and enforcement mechanism). Certification programs also entail costs, however, such as those for developing standards, conducting audits, changing business practices, and in some cases investing in new equipment. Certifications are only practical if the participating businesses generate economic returns that meet or exceed these costs.

When ecotourism operators perform the analysis of the costs and benefits of obtaining certification, they often perceive financial returns from a larger customer base and/or from customers who are willing to pay higher prices for their services. In fact, studies have shown a business rationale for certification in tourism, albeit in different ways:

- reduced costs of water, electricity, and fossil fuels, without reduced quality of service;
- improved customer satisfaction, which is believed to generate more repeat visits and customer-to-customer referrals; and
- additional bookings from tourism agencies that favor certified operators for their clients. (Center for Ecotourism and Sustainable Development 2006)

Ronald Sanabria, director of sustainable tourism for Rainforest Alliance, reports that increasingly travel agencies are favoring tour operators with certifications such as Smart Voyager, even when their customers do not explicitly indicate such preferences (Sanabria personal communication 2008). As of 2008, certifications were only just beginning to attract notice from customers making their own bookings. Sanabria noted that a similar pattern developed for the sustainable agriculture and forestry industries. Certification first became important at the business-to-business level. It then gradually entered the mainstream consciousness to influence consumer choices. Over time, a growing market segment became willing to pay a premium for products with recognizable social and/or environmental certifications.

It is not clear whether sustainable tourism will experience a similar trend. Unlike agricultural products, such as coffee and cocoa, for which certification systems like Rainforest Alliance and Fair Trade have gained traction in the market, sustainable tourism certifications are geographically fragmented. The panoply of more than 70 distinct programs worldwide that claim to certify sustainable tourism operators easily confuses both tourists and the travel agents who make bookings on their behalf. To address this concern, a new entity, the Sustainable Tourism Stewardship Council (STSC), was launched in 2009 by Rainforest Alliance, UN Foundation, UNEP, World Tourism Council, and private travel companies such as Expedia and Travelocity. The STSC will accredit sustainable tourism certification programs worldwide. Its founders hope this accreditation system will bring transparency to the market so that businesses with responsible social and environmental practices can reap economic benefits to reward and reinforce their commitments.

SUSTAINABLE TOURISM IN THE GALÁPAGOS ISLANDS

Widely considered to be among the world's greatest ecological treasures, the Galápagos Islands are located 1,000 kilometers west of mainland Ecuador and have been part of its territory since 1832 (figure 8.1). The islands' volcanic landscapes host remarkable biodiversity, including 228 endemic flora and fauna species, while their waters are home to 2,900 marine species, 18 percent of which are found nowhere else on earth (CDE, GNP, and INGALA 2008).

The islands, which many consider the birthplace of Charles Darwin's theory of evolution, were declared a national park in 1959 and a United Nations Educational,

Scientific and Cultural Organization (UNESCO) World Heritage Site in 1978. The Galápagos National Park Service (GNPS) manages the islands using a combination of regulatory and market-oriented approaches. The inhabitants live in designated areas on 3 percent of the Galápagos' landmass; the remaining 97 percent is protected from development. To regulate tourism activity, GNPS awards bed permits to a fixed number of licensed boat operators, and tightly manages resource use by residents.

This former pilgrimage destination for scientific researchers and Darwin enthusiasts developed over the last quarter of the twentieth century into a popular vacation spot for North American and European travelers. The islands' popularity translated into higher occupancy rates for existing bed permits and an overall annual growth in visitors from 12,000 in 1974 to 25,000 in 1981 to 46,000 in 1994. As occupancy rates reached capacity in the early 1990s, GNPS responded to pressure from tour operators and increased the number of daily bed permits from 800 to 1,400. Because the smaller operators had already maximized their boats' bed capacity, these changes favored larger, better-capitalized boat operators, who were able to add additional beds or replace medium-sized boats with larger ones. By 2001, visitor levels had jumped considerably, reaching 70,000 annually, with more than two-thirds of these visitors arriving from many countries. While annual tourism revenues in the Galápagos grew 14 percent during the 1990s and early 2000s, the visitor experience appeared to be suffering as tourists reported declining levels of satisfaction. By 2006, the number of visitors had more than doubled, to 146,000 (Epler 2007).

The booming tourism industry also attracted waves of migrants from Ecuador's mainland, who sought employment and the higher standard of living available on the islands. Many of them could not find jobs because the international companies with larger boats that were consolidating the industry typically imported their own guides from abroad and supplies from the mainland. New residents put pressure on local government to increase services on the one hand, while chafing against the restrictions on settlement and natural resource use on the other. During the 1990s, tensions between local fishermen and GNPS spilled over into civil unrest when GNPS attempted to regulate poaching of sharks (for their fins) and sea cucumbers. The growth in human activity and associated ecological and social impacts threatened to push the islands beyond their carrying capacity and endanger their endemic biodiversity (figure 8.2).

FIGURE 8.1 THE GALÁPAGOS ISLANDS

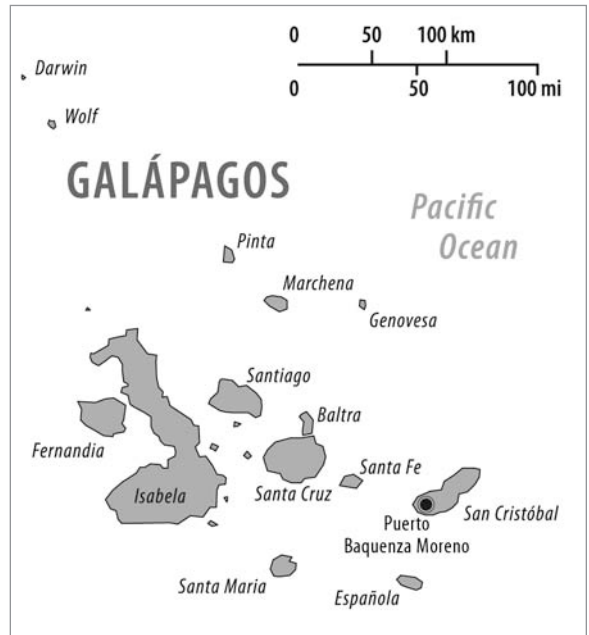
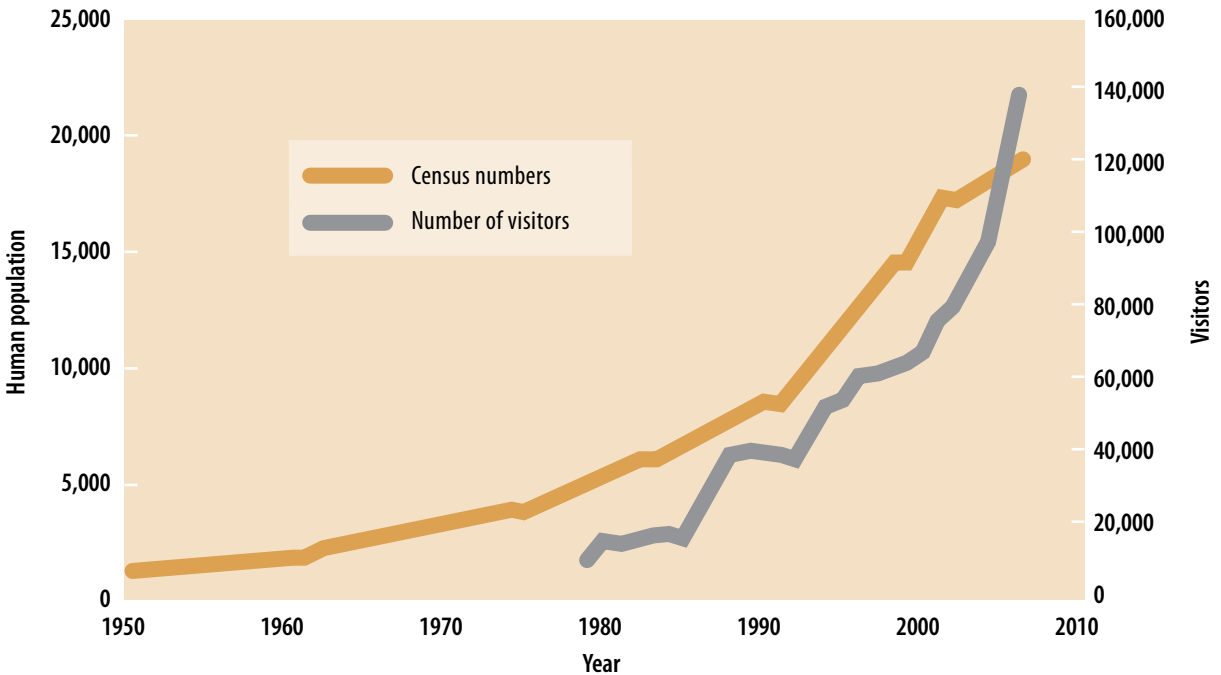


FIGURE
8.2

GROWTH IN HUMAN POPULATION AND VISITORS, GALÁPAGOS ISLANDS (1950–2006)

Source: Watkins and Cruz (2007).



As in most protected areas where biodiversity has attracted increased tourism, conservation in the Galápagos depends on managing both the volume of residents and visitors and the intensity of their impact. Ensuring that the volume of human use is appropriate to an area's carrying capacity is typically within the purview of government administrators. While this is not the focus of this chapter, it is a critical element of any successful conservation strategy in the Galápagos. The remainder of this chapter discusses the role of Smart Voyager certification in harnessing market mechanisms to slow the growth in the number of visitors to the islands and reduce the intensity of human impact from tourism. It also examines the crucial role of finance in facilitating these processes.

THE CHALLENGE: ALIGNING MARKET INCENTIVES TO REDUCE THE INTENSITY OF HUMAN IMPACT

As the tourism industry on the Galápagos consolidated among the larger operators, fewer opportunities remained for residents to work as crewmembers or guides or to benefit indirectly by supplying provisions. Inadequate environmental regulations and enforcement produced a "tragedy of the commons," which stemmed from boat operators cutting corners on costs for controlling pollution from fuel emissions and human waste.⁴ In the early 2000s, local and international stakeholders responded by creating a

⁴ The term *tragedy of the commons* refers to a situation in which individuals acting in short-term interests degrade a shared interest, often at the expense of their own long-term interests. It has frequently been applied to fisheries, such as those of the Grand Banks off Canada's east coast, where fishermen remove as much fish as fast as possible from the ocean only to deplete the stock and undermine their longer-term economic interests.

certification program for the islands' boat operators. Without a finance mechanism to accompany it, however, certification would have limited adoption and impact.

SMART VOYAGER CERTIFICATION

In the late 1990s, a multistakeholder group convened representatives from government agencies, conservation groups, the tourism sector, and local communities to form a strategy for protecting the Galápagos' fragile ecosystems. They focused on reducing the environmental impact of tourists visiting the Galápagos and the 85 licensed tour boats shuttling them around the islands. The objective was to establish voluntary standards that would apply rigorous conservation practices to the tour boats and require boat operators to educate their clients on the need for environmentally appropriate behavior. Boats that complied with the standards would receive certification, which would enable tourists and travel agents to make informed choices among the islands' tour operators.

The World Bank provided funding for the Rainforest Alliance and Conservación y Desarrollo (CyD) to develop the certification program, which was named Smart Voyager (figure 8.3). In designing the standards, Rainforest Alliance and CyD engaged both local stakeholders and the International Galápagos Tour Operators Association (IGTOA), a nonprofit organization consisting in 2000 of 33 North American travel wholesalers that sold the majority of the tour packages to the islands. IGTOA provided significant input and pledged to support Smart Voyager. Based on participant feedback during the process, the certification standards were expanded beyond their initial focus on conservation to include health, safety, and quality of life of the crews, their families, and the Galápagos Island community (box 8.1). Although certification would not directly reduce the number of visitors to the islands, Rainforest Alliance and CyD reasoned that it could stem the conversion of smaller boats to larger ones. They also believed that certification standards set a high bar, requiring the businesses to minimize environmental impact and increase their contributions to the local community. Certified operators would receive preferential bookings from IGTOA travel agents, which created a business incentive for obtaining Smart Voyager certification.

The Smart Voyager program was officially launched in 2000, with vessels receiving certification when they fulfilled at least 80 percent of the criteria and signed a written commitment for continual improvement in subsequent years. CyD performed the initial assessments, approved certification for eligible boats, and conducted an annual audit of certified boats. From 2000 to 2002, Smart Voyager certified five of the nineteen

FIGURE 8.3 SMART VOYAGER LOGO



SUMMARY OF SMART VOYAGER SUSTAINABILITY STANDARDS

- Integrated waste management:
 - Recycling waste-disposal systems, waste reduction and management plans, and adequate final treatment and disposal of all wastes onboard
 - Use of biodegradable cleansers: soap, detergent, shampoo
- Strict control of use, supply, and storage of materials:
 - Careful management of fuel loading and storage to minimize risk of spills or leaks
 - Onboard desalinization plants to generate fresh water
- Reduction of negative environmental impacts:
 - Replacement of two-stroke motors on dinghies with four-stroke engines (70 percent quieter, emit virtually no fumes, use 50 percent less fuel)
 - Use of lead-free and tributyltin-free paint on boat hulls
- Lowering risk of introduction and dispersal of exotic species:
 - Strict management of supplies to minimize transport and/or introduction of foreign plant and animal species to the islands
- Treatment of workers:
 - Fair wages, good living conditions, and health benefits for crew and guides
- Employee training:
 - Emphasis on environmental education for all personnel
- Planning, monitoring, and evaluation:
 - Consideration for technical and economic factors along with social and environmental factors

large and medium-sized boats—those carrying more than 16 passengers—operating in the Galápagos (table 8.1). Ecoventura and Canodros, the companies that owned these boats, were among the most advanced in the market and could afford to cover the initial certification fee, annual audit, and equipment upgrades. Ecoventura certified its entire fleet of four boats (three 20-passenger yachts and one 48-passenger ship), while Canodros certified its large boat, the 100-passenger *Galápagos Explorer II*. These large boats paid an initial certification fee of \$1,500 per boat, which covered the first two years of the program. Subsequent annual fees for each site audit included an average of \$160 per day per boat, plus travel expenses from Quito or Guayaquil.

Smart Voyager certification fees were modest, and equipment upgrades to comply with certification generated net savings over time. But upfront investment costs could be onerous to operators of small boats (16 or fewer passengers), and most of these were family-owned businesses with limited access to capital. (See projected costs and savings

of certification in table 8.2 and figure 8.4.) In addition to these operators' concerns about financing equipment upgrades, they held a general perception that certification standards were too complex and not feasible for small boat operators to implement.

CERTIFYING SMALL BOAT OPERATORS

CyD and Rainforest Alliance were determined to extend the certification program throughout the industry and particularly to small boat operators. Many of these owners were descendents of the original islanders. Compared to the owners of the large boats, these small boat operators tended to hire more staff from local communities, reinvest profits on the islands, and have long-term stakes in the islands and in protecting local habitats. Many small boat operators had been affected by Ecuador's banking crisis in the late 1990s, and especially by the country's currency conversion in 2000 to the United States dollar, which spurred inflation and rising costs.

Seizing the moment, larger boat operators, typically owned by nonresident investors from mainland Ecuador or abroad, acquired many smaller operators' coveted boat permits. With sufficient capital, the owner of a boat permit could replace a boat carrying fewer than 16 passengers with a larger boat that carries up to 100. This process of consolidation and expansion by a few large companies was responsible for most of the growth in the number of visitors to the islands. CyD and Rainforest Alliance believed

TABLE 8.1 LICENSED GALÁPAGOS ISLAND TOUR BOATS BY PASSENGER CAPACITY, 2003

# of passengers	# of boats
33–100	9
17–32	10
Exactly 16	45
Fewer than 16	16
Daily tours (32 maximum)	5

TABLE 8.2 PROJECTED COST-BENEFIT ANALYSIS OF IMPLEMENTING SMART VOYAGER CERTIFICATION FOR ONE BOAT

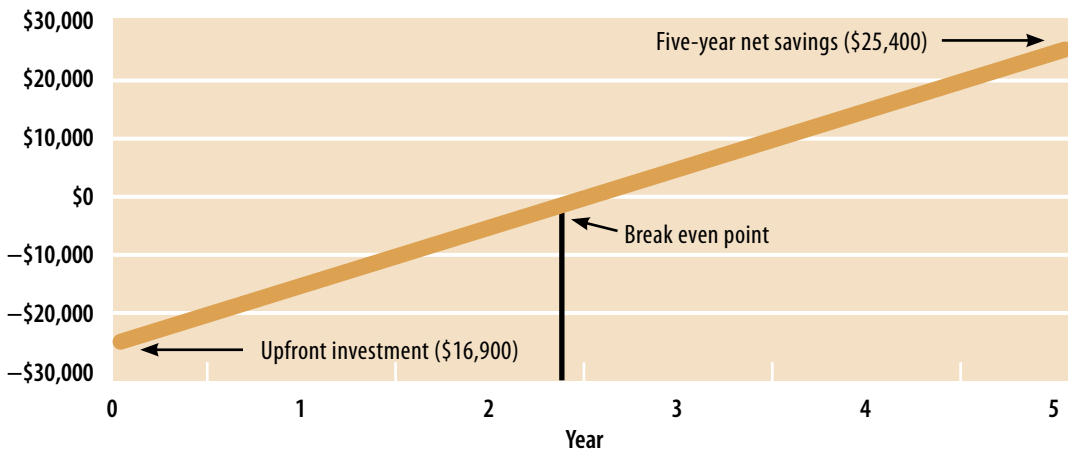
	Costs before	Costs after	Net savings (cost)	Investment required*	Total net savings (cost)
Water	\$14,400	\$2,400	\$12,000	\$10,000	\$2,000
Gas**	\$9,600	\$5,760	\$3,840	\$13,800	\$(9,960)
Maintenance of desalinization unit	—	\$450	\$(450)	—	\$(450)
Ecological paints	—	\$1,250	\$(1,250)	—	\$(1,250)
Legal costs of certification and audits	—	\$4,300	\$(4,300)	—	\$(4,300)
Total (year 1)	\$24,000	\$14,160	\$9,840	\$23,800	\$(13,960)
Total (years 1–5)	\$120,000	\$70,800	\$49,200	\$23,800	\$25,400

* Required upfront investments per boat included one desalinization unit (\$10,000) and two, four-stroke fuel efficient motors (\$6,900 each); both pieces of equipment last an average of five years.

** Fuel efficient motors reduced gas usage from 2,400 to 1,440 gallons per year. The cost savings assumes a gas price of \$4/gallon.

FIGURE
8.4

COST-BENEFIT ANALYSIS OVER TIME



that certifying smaller boat operators would strengthen their position in the market by differentiating them from their uncertified competitors on the basis of superior environmental and social practices. If successful, this strategy would achieve two important goals: (1) reduce the intensity of environmental impact from the certified boats' operations, and (2) allow small boat operators to fend off takeover and slow the conversion to boats with larger capacities.

In 2002, CyD conducted a yearlong outreach effort to inform small boat operators about the opportunities afforded by Smart Voyager certification. CyD also analyzed the certification criteria and found that 93 percent of the original standards were applicable to all boats, regardless of size. The remaining standards were revised and adapted so that they, too, applied to small boats. During 2002 and 2003, Smart Voyager assessed 33 small operators in the Galápagos and determined that eight vessels were prequalified to receive Smart Voyager certification. All eight took the initiative to make certification-driven improvements relating to safety standards, waste management, and labor practices, among other issues. None, however, could afford the capital investments required for certification, such as ecofriendly four-stroke outboard motors, recycling waste disposal systems, onboard desalinization plants, and lead-free paint for boat hulls.

Martínez de Malo and Wittmer welcomed the introduction of Smart Voyager, which they believed would create incentives for operators to improve their practices and reward businesses, like theirs, that upheld high standards. As leaders in the small boat operators association, they had been instrumental in helping CyD and Rainforest Alliance adapt Smart Voyager standards to small boats and were among the eight operators who had initiated the certification process. Yet, like their fellow operators, they lacked the capital to comply with the certification's requirements for upgrading motors and installing new waste disposal equipment. As Ecuador spun deeper into recession, national banks were no longer lending to smaller businesses, even those like Daphne Cruises and Wittmer Turismo, which had relatively stable cash flows,

clean credit histories, and proven repayment capacity. It appeared that small boat operators would be excluded from participating in a certification system that could generate significant business, conservation, and community benefits.

THE SOLUTION: LINKING FINANCE TO CERTIFICATION

Root Capital's loans to the businesses owned by Martínez de Malo and Wittmer highlight the synergies between third-party certification and finance. In this case, certification played a critical role in attracting capital to underserved businesses and creating opportunities for small tour operators to increase their profitability by implementing improved social and environmental practices. This example presents a model for linking finance to certification for sustainable practices that could be applied on a larger scale to tourism and other industries.

ROOT CAPITAL: FINANCE FOR THE MISSING MIDDLE

After working as an investment banker on Wall Street, William Foote spent two years as a reporter in rural Mexico. As he traveled from village to village in the southern Mexican highlands, Foote was struck by the absence of a functioning economy and, in particular, formal credit markets. He observed how rural villagers in southern Mexico, as in much of the developing world, often pursued survival strategies such as slash and burn agriculture, illegal logging, and fuel-wood collection, all of which offered short-term economic gains but depleted the soil, increased erosion, and damaged the health of watersheds that nourished entire communities and ecosystems. He saw how these practices damaged both the natural environment and villagers' future economic prospects, triggering the downward spiral of environmental degradation and desperate poverty that was prevalent in Mexico and other countries struggling with population growth and food insecurity on the one hand and biodiversity loss on the other.⁵

In many of the communities Foote visited, farmers had managed to break out of this cycle by organizing themselves into cooperatives, which were beginning to export products like shade-grown coffee, organic cocoa, and wild-harvested spices to buyers in North America and Europe. These fledgling rural enterprises struggled to survive from year to year, however. Their growth was prematurely stunted by a lack of capital, and their plight was symptomatic of two broader trends that systematically exclude rural, small, and growing businesses from the capital markets.

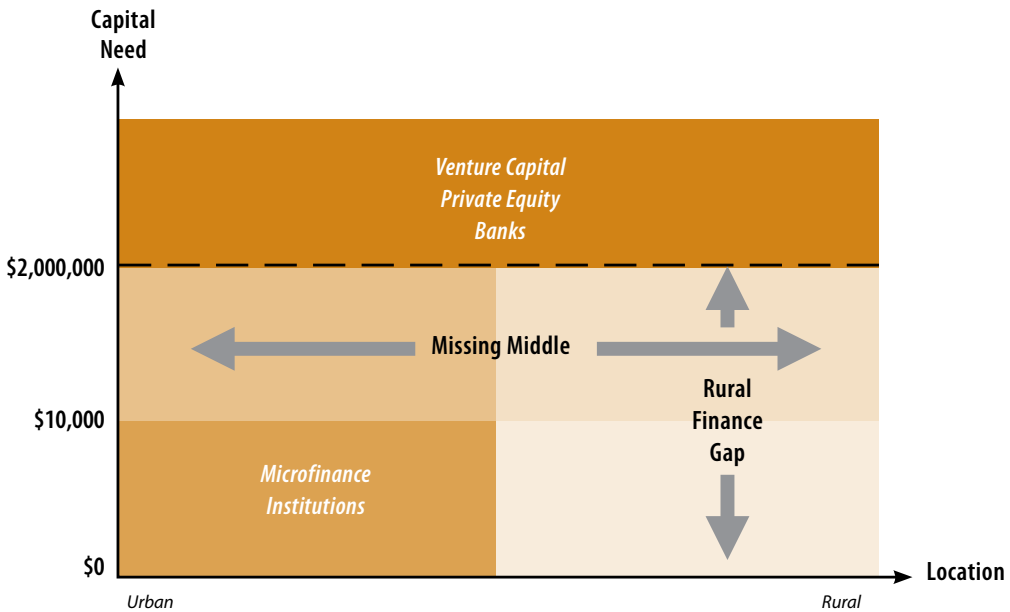
1. **Missing middle:** Businesses requiring between \$10,000 and \$1 million are often considered too large for microfinance institutions but too small and too risky for local commercial banks.
2. **Rural finance gap:** On the one hand, microfinance still has limited penetration into remote rural areas, with the vast majority of microfinance clients living in urban, periurban, or densely populated rural areas in regions such as South Asia.⁶ On the

⁵ Population growth exceeds the global average in 19 of the 25 biodiversity hotspots identified by Conservation International. In 16 of these hotspots, more than 20 percent of the local population is malnourished (Scherr 2003).

⁶ Despite remarkable growth over the past two decades, microfinance reaches more than 1 percent of the total population in only a handful of developing countries (World Bank 2005).

FIGURE 8.5

THE MISSING MIDDLE AND RURAL FINANCE GAP



other hand, commercial banks have historically overlooked rural markets due to several common perceptions held by many urban bankers, such as the idea that few businesses in rural areas are viable to finance, or that rural inhabitants have limited formal business training. Cultural biases against farmers and the notion that physically reaching remote areas presents a challenge also figure into the equation (figure 8.5).

To meet the capital needs of this underserved market, Root Capital raises low-interest debt, usually issued over multiyear terms, by borrowing from social investors such as philanthropic individuals, organizations, foundations, religious institutions, and corporations. It uses this capital to issue loans to rural, small, and growing businesses in Latin America and Africa that have adopted environmentally sustainable practices. At the time of the Galápagos Islands case, Root Capital offered loans ranging from \$25,000 to \$500,000 to businesses in Latin America that exported sustainable products from the agriculture, timber and nontimber forest products, fisheries, handicrafts, and ecotourism sectors.⁷ The majority of Root Capital’s clients are cooperatives of farmers or artisans, and most have never received a loan before. Others, including Daphne Cruises and Wittmer Turismo, are private businesses with best-in-class environmental and social commitments that may have some credit history but cannot reliably access finance.

TYPES OF LOANS

The most common loan from Root Capital is trade credit, which is available for up to one year and oriented around a production cycle such as a harvest. Typically, borrowers

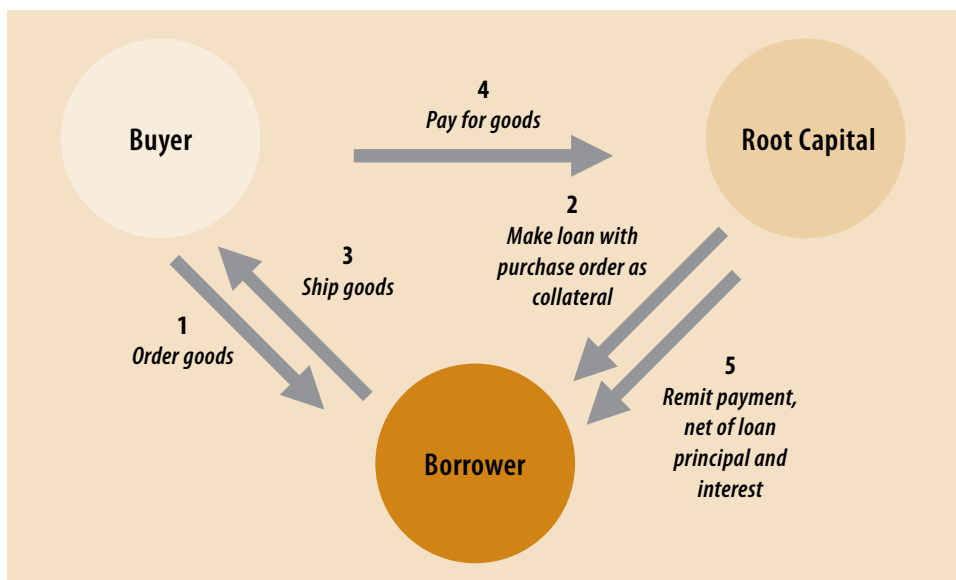
⁷ As of 2008, Root Capital was working in 30 countries across Latin America and Sub-Saharan Africa, and its loan ceiling had increased from \$500,000 to \$1 million.

for trade credit loans use them for working capital that allows them to purchase raw products from farmers at the time of harvest and cover costs of processing and exporting before they receive payment from buyers several months later. Root Capital also offers long-term loans that extend up to five years and are used for investment in equipment and infrastructure and for general operations.

RISK MITIGATION

To mitigate risk and reach a market segment that banks have historically ignored, Root Capital has developed a model that assesses collateral based on producers' future sales rather than existing assets. Approximately 80 percent of Root Capital's loans have terms of less than one year and are issued under a three-way arrangement against signed purchase contracts between Root Capital's clients and their buyers (e.g., Starbucks, Whole Foods Market). The remaining 20 percent use a more traditional structure to secure multiyear loans with fixed assets (e.g., land, buildings) as collateral, though the presence of long-term commercial relationships remains critical for risk mitigation (figure 8.6). In all of its loans, Root Capital invests significant time in due diligence, making trips to visit prospective borrowers in the field and building relationships predicated on communication and trust.

FIGURE 8.6 ROOT CAPITAL'S LENDING MODEL



For shorter-term loans, where signed purchase contracts are available as collateral, the borrower is eligible for a loan from Root Capital of up to 60 percent of the value of their export contracts. For example, if a buyer commits to purchase \$100,000 of a product nine months in the future, then the business can access a loan of \$60,000 up front in order to produce, process, and export the product. The discrete, future revenue stream pledged by the borrower becomes the collateral to repay Root Capital's loan.

When the borrower ships its product to the buyer, the buyer makes payment directly to Root Capital, which, in turn, deducts the loan principal and interest and remits the difference to the borrower.

Root Capital's due diligence and monitoring processes are designed to identify any challenges that might derail this transaction, such as weather issues, a strike at port that prevents the product from shipping, or the buyer going out of business. If the product is shipped and the buyer meets its payment obligation, Root Capital recovers the loan. It has applied this factoring model to more than 75 buyers in 17 countries—ranging from specialty importers, such as Equal Exchange and Sustainable Harvest, to large global buyers like Home Depot, Pier 1, Starbucks, and Whole Foods Market. This approach redefines risk assessment, placing value on supply chains that emphasize product quality and long-term relationships.

FINANCING THE MISSING MIDDLE IN THE GALÁPAGOS

Early in 2003, through conversations with Rainforest Alliance Executive Director Tensie Whelan and Director of Sustainable Tourism Ronald Sanabria, Foote learned about Smart Voyager certification. He had recently returned from Baja California, Mexico, where Root Capital had made loans to fishing cooperatives to invest in four-stroke outboard motors that significantly reduce fuel consumption, emissions, and noise pollution, and he became intrigued by the possibility of financing this clean technology elsewhere in Latin America. While most of Root Capital's loans were for terms of less than one year, and long-term loans required more time to originate, they offered compelling opportunities for positive environmental impact and were more profitable than shorter-term loans. Foote hoped to develop a repeatable formula that Root Capital could scale to help preserve marine ecosystems and strengthen the organization's financial sustainability.

At the invitation of Mauricio Ferrer and José Valdivieso, cofounders and directors of Conservación y Desarrollo, Foote visited the Galápagos in spring 2003. He initially believed there could be lending opportunities to both ecotourism and fishing enterprises and that loans similar to those Root Capital had issued in Baja California would be earmarked for purchases of four-stroke boat motors. Foote quickly discovered that fishing cooperatives in the Galápagos were less organized than their Mexican counterparts and had not embraced sustainable management. Galápagos fishermen were strictly regulated by the GNPS and did not reap economic benefits from adhering to sustainable fishing practices. On the contrary, they could earn a windfall from illegally poaching sharks' fins and sea cucumbers. Over the course of a week-long due diligence trip, Foote decided to focus on small ecotourism businesses and to finance not only four-stroke motors but also waste disposal and desalinization machines, which allowed operators to address unmet requirements and obtain Smart Voyager certification.

To manage Root Capital's risk exposure in a new industry and geography, Foote sought to pilot loans to two or three of the small operators on the islands. If successful, the loans would serve as models for local banks to replicate on a larger scale. During his visit to meet with the operators that CyD had prescreened, Foote focused on

Daphne Cruises and Wittmer Turismo because of their solid cash flows and reputations for excellent service, sustainable practices, and commitments to the local community. Another key factor was transparency. Martínez de Malo and Wittmer each spent a full day with Foote disclosing their financial statements and explaining the idiosyncrasies of their business.

The loans for capital investment that Daphne Cruises and Rolf Wittmer Turismo Galápagos required did not fit squarely into Root Capital's typical lending model, however. One major difference was that no physical product was exported, as it was when a farmer cooperatively sold organic coffee to Starbucks. Tourism is also a notoriously volatile industry susceptible to external shocks, such as the September 11, 2001, attacks in the United States and Ecuador's ongoing economic and political turmoil. Yet in other respects, the supply chain looked remarkably similar to those Root Capital had financed in other industries: one or more "buyers," typically travel agencies in the United States or Europe, would issue "purchase orders" in the form of advance bookings to the "producer," in this case a tour operator. Root Capital could leverage these predictable cash flows as a source of risk mitigation and loan repayment.

Rolf Wittmer Turismo Galápagos. Rolf Wittmer, a pioneer in bringing tourism to the Galápagos, designed and constructed his first yacht, the *Tip Top I*, in 1969. In 1982, Wittmer and his three sons created the company Rolf Wittmer Turismo Galápagos and launched the 16-passenger boat *Tip Top II*. To construct this craft and later the *Tip Top III*, Wittmer Turismo obtained loans through a credit facility arranged by the state-owned bank Corporación Financiera Nacional (CFN), a second-level financing agency that provided capital and security for low-interest loans disbursed and managed by Ecuadoran commercial banks. CFN was liquidated during Ecuador's banking crisis and the free-market reforms that followed, and by the early 2000s, despite its clean credit record, Wittmer Turismo found itself stuck in the missing middle.

Through discussions during Foote's visit and after he returned to the United States, Root Capital and Wittmer Turismo structured a \$50,000 loan to finance purchase of four-stroke motors, a new waste disposal system, and other equipment (tables 8.3 and 8.4).

Over the course of its 20 years in the market, Wittmer Turismo had developed loyal and long-term commercial relationships with travel agencies in North America and Europe. By 2005, around 70 percent of all tour bookings were made through foreign-operator agencies, and 80 percent of those—or approximately \$500,000 worth—were through Galapagos Travel, a California-based agency. This commercial relationship enabled Root Capital to structure repayment through Galapagos Travel using the lending model shown in figure 8.6.



Tip Top II

**TABLE
8.3**

LOAN SUMMARY: ROLF WITTMER TURISMO GALÁPAGOS

Loan amount	\$50,000	Three four-stroke outboard motors (\$5,000 each); waste recycling disposal system (\$8,500); refrigeration room (\$8,500); and onboard desalinization machine (\$18,000)
Loan term	2 years	
Collateral value	\$62,500	Liens perfected under Ecuadoran law on newly purchased equipment valued at \$50,000, plus two new inflatable dinghies valued at \$12,500
Collateral to loan ratio	1.25	
Repayment structure		Factoring arrangement with Galapagos Travel that represents an estimated 80 percent of annual sales, or approximately \$500,000; loan to be repaid over two years with quarterly payments of principal (\$6,250/quarter) and interest accrued throughout the loan period
Interest rate	12.0%	
Closing fee	0.5%	

**TABLE
8.4**

CASH FLOW FOR WITTMER TURISMO AND ROOT CAPITAL FOR \$50,000 LOAN

Year	2003		2004				2005			
Wittmer Turismo	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Total
Loan received	\$50,000	—	—	—	—	—	—	—	—	\$50,000
Closing fee	\$(250)	—	—	—	—	—	—	—	—	\$(250)
Principal	—	\$(6,250)	\$(6,250)	\$(6,250)	\$(6,250)	\$(6,250)	\$(6,250)	\$(6,250)	\$(6,250)	\$(50,000)
Interest	—	\$(188)	\$(375)	\$(563)	\$(750)	\$(938)	\$(1,125)	\$(1,313)	\$(1,500)	\$(6,750)
Total	\$49,750	\$(6,438)	\$(6,625)	\$(6,813)	\$(7,000)	\$(7,188)	\$(7,375)	\$(7,563)	\$(7,750)	\$(7,000)
Root Capital										
Loan disbursed	\$(50,000)	—	—	—	—	—	—	—	—	\$(50,000)
Closing fee	\$250	—	—	—	—	—	—	—	—	\$250
Repayment	—	\$6,438	\$6,625	\$6,813	\$7,000	\$7,188	\$7,375	\$7,563	\$7,750	\$56,750
Total	\$(49,750)	\$6,438	\$6,625	\$6,813	\$7,000	\$7,188	\$7,375	\$7,563	\$7,750	\$7,000

Daphne Cruises. Like Wittmer Turismo, Daphne Cruises was a family-owned company, operated by Rocío Martínez de Malo with management support from her husband, Carlos Malo Moncayo. A prominent leader in the local community, Martínez de Malo had served as president of both the Galápagos Residents Guild and the Association of Tourism Builders, and as vice president of the Provincial Chamber of Tourism. The company

received loans in 1980 and 1995 through the CFN credit facility, first to construct its 70-foot yacht *Daphne* and then to build a more modern version. Well known as the dive boat used to film the Smithsonian Institution’s 3D Imax film *Galapagos*, *Daphne* carried a crew of eight and sixteen passengers.

Daphne Cruises had also developed long-term relationships with international travel agencies. While 60 percent of its sales were booked online, they were distributed across several different travel agencies making it complicated and time-consuming to structure repayment through the buyers. Instead, Root Capital structured the two-year, \$40,000 loan for outboard motors, a generator, and a waste recycling disposal system as a traditional loan backed by the new assets themselves, with additional collateral in the form of a car the company had recently purchased. *Daphne Cruises* would make semiannual payments of \$10,000 plus interest directly to Root Capital. Because of the slightly more risky repayment mechanism, *Daphne Cruises*’ collateral to loan ratio was 1.5, compared with the 1.25 ratio for *Wittmer Turismo* (tables 8.5 and 8.6).

TABLE 8.5 LOAN SUMMARY: DAPHNE CRUISES

Loan amount	\$40,000	Three four-stroke outboard motors (\$5,000 each); a 50 HP generator (\$16,500); and a waste recycling disposal system (\$8,500)
Loan term	2 years	
Collateral value	\$60,000	Liens perfected under Ecuadoran law on newly purchased and fully insured equipment valued at \$40,000 plus new car valued at \$20,000
Collateral to loan ratio	1.50	
Repayment structure		Payments of principal and interest on a six-month basis by way of <i>Daphne Cruises</i> ’ U.S. bank account, with a six-month grace period on principal payments
Interest rate	12.0%	
Closing fee	0.5%	

IMPACT IN THE GALÁPAGOS AND BEYOND

At a time when neither *Daphne Cruises* nor *Wittmer Turismo* could access credit from Ecuadoran banks, they were able to secure loans from Root Capital to make the investments required to receive Smart Voyager certification. Both companies repaid their loans on schedule, a notable success given the reluctance of local banks to issue the loans. Five years later, Martínez de Malo and Wittmer reported that their equipment upgrades yielded cost savings for fuel and water and that certification practices boosted employee morale, improved customer satisfaction, enhanced their businesses’ reputations, and strengthened their overall position in the market. Though neither company has quantified these cost savings or incremental customer referrals, both entrepreneurs are convinced that certification has been beneficial to their businesses.

TABLE
8.6

**CASH FLOW FOR DAPHNE CRUISES AND ROOT CAPITAL
FOR \$40,000 LOAN**

Year	2003		2004				2005			Total
Daphne Cruises	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Total
Loan received	\$40,000	—	—	—	—	—	—	—	—	\$40,000
Closing fee	\$(200)	—	—	—	—	—	—	—	—	\$(200)
Principal	—	—	\$(10,000)	—	\$(10,000)	—	\$(10,000)	—	\$(10,000)	\$(40,000)
Interest	—	—	\$(2,400)	—	\$(1,800)	—	\$(1,200)	—	\$(600)	\$(6,000)
Total	\$39,800	—	\$(12,400)	—	\$(11,800)	—	\$(11,200)	—	\$(10,600)	\$(6,200)
Root Capital										
Loan disbursed	\$(40,000)	—	—	—	—	—	—	—	—	\$(40,000)
Closing fee	\$200	—	—	—	—	—	—	—	—	\$200
Repayment	—	—	\$12,400	—	\$11,800	—	\$11,200	—	\$10,600	\$46,000
Total	\$(39,800)	—	\$12,400	—	\$11,800	—	\$11,200	—	\$10,600	\$6,200

In general, Smart Voyager certification has been a modest success (see table 8.2 and figure 8.4). It grew slowly from 2003 to 2008, certifying four additional boats—those of three small operators and one large one. José Valdivieso of CyD reports that finance is the primary obstacle to expanding the certification, with as many as 20 prequalified local boat operators unable to access finance for the required equipment upgrades. Notwithstanding this latent opportunity and the 99 percent repayment record of Root Capital’s borrowers, commercial lenders have remained wary of assisting small boat operators, even as Ecuador’s economy has stabilized. This scenario is indicative of a broader trend in Ecuador and throughout much of Latin America, which leaves thousands of small businesses trapped in the missing middle, their growth stunted by lack of access to finance.

From a lender’s perspective, screening prospective borrowers on the basis of a credible certification such as Smart Voyager offers several potential advantages: businesses often receive technical assistance related to certification; they must undergo a rigorous third-party audit and are likely to have basic accounting and reporting systems; they tend to be more energy efficient, have higher employee morale, and lower staff turnover than their uncertified counterparts; and they have a competitive advantage within a high-end and growing segment of the consumer market. From a purely business perspective, commercial lenders have much to gain by collaborating with credible certification programs to identify prospective borrowers. Furthermore, with recent global banking trends toward greater corporate responsibility, including the widespread adoption of the Equator Principles, which establish social and environmental standards for larger-scale project finance, commercial lenders could also derive valuable public relations benefits from such efforts.⁸

Effective conservation in the Galápagos and areas like it requires a multipronged approach. Active government oversight is critical for designing regulatory policies and

⁸The Equator Principles is an initiative of 60 of the world’s leading financial institutions, including commercial banks, insurance companies, bilateral development agencies, and export credit agencies.

enforcing them. At the same time, market-based mechanisms such as certification hold significant potential. To maximize their impact and open the marketplace to fair competition, these approaches must be linked to finance, with particular emphasis on under-served segments like the missing middle. Such social lenders as Root Capital have demonstrated viable models, but ultimately commercial financial institutions must enter the market to bring these successes to scale.

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