CONSERVATIONISTS ARE LOOKING TO ECOTOURISM

HOT-AIR BALLOONS rise over the temples of Bagan in Myanmar.

ECOLOGY

SAVING EDEN

TO PRESERVE MYANMAR'S WILDERNESS, BUT CHALLENGES ABOUND

By Rachel Nuwer

ON A CLOUDLESS JANUARY AFTERNOON,

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two tourists climb into bright-yellow kayaks and set out to explore Myanmar's Indawgyi Lake, one of the largest and most pristine bodies of freshwater in Southeast Asia. The lake's clear, still surface perfectly reflects the grassy wetlands fringing its shores and the forested mountains towering just beyond. The golden outline of Shwe Myitzu Pagoda—a pilgrimage site for local Buddhists, accessible only by boat during most of the year—shimmers on the horizon like a mirage. As in a holy place, speaking seems taboo here. Only the rhythmic slap-swoosh-drip of paddles breaks the kayakers' awestruck silence.

Such awe comes easily in Myanmar, the biggest country in mainland Southeast Asia. Decades of rule under a brutal military junta left vast swaths of its wilderness unexplored and undeveloped. Although smaller than the state of Texas, Myanmar contains eight distinct ecosystems, from mangrove-choked deltas to snow-peaked mountains. Much of its natural heritage is still spectacularly intact, especially compared with nearby Thailand, Malaysia, India and China. It has the most bird species of any nation in mainland Southeast Asia—more than 1,000—as well as 250 mammal species, seven of which live nowhere else in the world. Each mission into a fresh patch of jungle or coral reef there seems to yield species new to science, including 14 reptiles and amphibians, many freshwater fish, a bat, a primate and the world's smallest deer in the past few years alone.

POLITICAL AND ECONOMIC isolation left Myanmar's wildlife well preserved compared with that of neighboring countries.

Myanmar is changing quickly, however. In Yangon, new buildings pop up seemingly overnight, and tendrils of highway extend toward impossibly remote regions. As the military loosens its grip, foreign prospectors have taken note of Myanmar's ample timber, mineral and petroleum resources, which raise tantalizing business prospects for one of the poorest nations on earth.

In the face of these forces, the continued survival of Myanmar's extraordinary wildlife is by no means guaranteed. Ensuring that some of it withstands the country's transition into modernity requires convincing both policy makers and local communities that keeping it around is worthwhile, especially from an economic point of view. Evidence supports this case: a recent report commissioned by the European Union estimated that Myanmar's terrestrial and aquatic forest ecosystems provide $7.3 billion in benefits to the country every year, including vital habitat for fishes and agriculturally important insects.

Yet financial support for existing national parks makes up a mere 0.2 percent of the budget of Myanmar—boiling down to just $26,600 allocated for patrolling, research, community outreach and other operational expenditures for all the protected areas there, according to environmental economist Lucy Emerton of the Environment Management Group, a sustainability consultancy based in Sri Lanka. But even if Myanmar did want to invest more in protecting its biodiversity, she adds, the reality is that the government simply does not have the funds to do so.

Now conservationists think they might have a partial solution both for both motivating Myanmar to safeguard its wildlife and for providing the money to do so: ecotourism. When executed correctly, this nature-focused form of tourism operates in an environmentally sustainable and responsible way and educates locals and visitors about the importance of preserving wildlife. Although Myanmar already admits up to three million tourists a year, it has yet to take advantage of everything its many wild areas have to offer.

IN BRIEF

Having been long cut off from the rest of the world both politically and economically, Myanmar has an abundance of pristine wilderness.

Now that the military is relaxing its hold, the country is beginning to transition to modernity, raising questions about the fate of its wild places.

Conservationists are hoping to persuade locals and the government to preserve that biodiversity by developing ecotourism around it.

But a successful ecotourism program is tough to develop even under the best of circumstances, and Myanmar has many complicating factors.

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Map by Mapping Specialists

ALEX TREADWAY Getty Images

FISHER PADDLES across Indawgyi Lake in northern Myanmar. Plans to develop the site as an ecotourism destination are under way.

In theory, the promise of foreign visitors could help convince both locals and the government to protect valuable environments by putting a tangible price tag on the natural places they flock to see. But developing an effective ecotourism operation is a notoriously difficult task even under the best of circumstances, let alone in a politically unstable, severely impoverished and logistically challenged place like Myanmar. Will tourists make the trek? Will communities choose them over timber? Will the government pass up natural gas and petroleum drilling in favor of mangrove conservation? No one knows the answers to these questions, but one thing is certain: if measures are not taken to preserve Myanmar's wilderness—and fast—this Eden will soon be spoiled.

A UNIQUE OPPORTUNITY

FRANK MOMBERG is leading the charge on developing ecotourism in Myanmar. Momberg, a conservationist at the Cambridge, England–based nonprofit Fauna & Flora International, first ventured into the country—a "sort of last blank space on the map" in terms of biological exploration—in 2006. Almost all other conservationists had long since pulled out because of ongoing armed conflicts and international sanctions. Once there Momberg encountered a place that was like "a frozen historical picture," complete with ox-drawn carts and small organic farming communities. But most important, he found wildlife—lots of it.

That exceptional preservation is an outgrowth of Myanmar's long record of human-rights violations and repression. After gaining independence from the U.K. in 1948, Burma, as the country was then called, struggled as various factions jostled for power. In 1962 the Revolutionary Council of the Union of Burma seized control; crippling impoverishment followed, and the nation was cut off from much of the outside world.

Despite those grim social and political realities, Momberg, who was then based in Indonesia, increasingly found his thoughts returning to Myanmar after his initial visit. He began spending every vacation there and finding more wildlife on each trip, including amphibians, insects, plants and fishes, all newly recorded for Myanmar. The crowning discovery came during an expedition to the country's northwestern corner, when Momberg and several other conservationists discovered a new primate, the Myanmar snub-nosed monkey. He proposed that Fauna & Flora open an office in Yangon. But his employers balked. "They were excited to hear the stories from Myanmar," he recalls, "but they were not quite ready to engage."

In 2010 things began to change. The government shifted to a quasi-democratic model, releasing many political prisoners and loosening its grip on the economy and the press. Although some areas remain under rebel control today, significant cease-fires have been established. As a result, Momberg finally got his office in Yangon. Several other international conservation organizations followed suit. Likewise more foreign tourists began to arrive.

With Myanmar's political situation stabilizing and tourism on the rise, Momberg thinks the time is ripe to develop ecotourism there—before other, competing interests gain a foothold. "Burma is at an absolute historical, exciting moment," he says. "It's important to act quickly during this transition period because in the future there will be too much vested interest to save these places." Indeed, as ecologist William McShea of the Smithsonian Conservation Biology Institute observes, "Right now the only people paying for natural resources are those who are tak-

ing them away." The hope is that getting in on the ground floor will allow conservationists to carefully plan from the beginning, in terms of both preserving as much nature as possible and laying foundations for best-practices ecotourism.

In 2012 Momberg and his colleagues took a leap of faith and began searching for a site to serve as their first tentative venture into community-based ecotourism. In addition to the three tenets of such efforts—nature, sustainability and education—the community-based variety places special emphasis on empowering and benefiting local people, who typically manage the tourism themselves and form a cooperative to distribute the benefits. The conveniently located mangroves of Meinmahla Island, just southwest of Yangon, proved too crocodile-infested for the government's liking, whereas any thought of developing tourism around the newly discovered snub-nosed monkey was shelved indefinitely after insurgents seized control of roads leading to the forest. Indawgyi, however, seemed perfect. The lake hosts nearly 450 species of birds and is already listed as a wildlife sanctuary, meaning the habitat and species there enjoy some formal protection. That protection extends to the surrounding forests, home to elephants, endangered hog deer and vulnerable eastern hoolock gibbons. More important, local residents seemed receptive to the idea of opening up their communities to foreigners, as did the park staff. "If local people can benefit from tourism, then they'll protect what the tourists came to see: nature and the lake," says Htay Win, park warden at Indawgyi Lake Wildlife Sanctuary.

HIKERS trek between Kalaw and Inle Lake in central Myanmar.

JOEL CARILLET *Getty Images*

In 2014 an independent ecotourism consultant whom Momberg hired helped 35 local volunteers create Lovers of Indawgyi, the first community-based ecotourism group in Myanmar. Fauna & Flora donated kayaks and mountain bikes, which the group rents out to visitors for a few dollars a day. "The kayaks are good because they're quiet, unlike motor boats," observes Su Hla Phya, a Lovers of Indawgyi volunteer. Two small guesthouses and a few restaurants round out the tourist offerings. The facilities stand in stark contrast to those at Inle Lake, one of Myanmar's most visited attractions, where motorboat traffic, hotel crowding, deforestation and pollution have sent bird and fish populations into a tailspin.

In the near future, conservationists and the government hope to establish programs similar to Indawgyi's all over Myanmar, following the lead of flourishing ecotourism ventures in places such as Costa Rica, Namibia and Rwanda. The government recently issued a nationwide sustainable tourism development and regulation plan and an ecotourism strategy for 21 of the country's 45 protected areas. And whereas 6 percent of the land is currently protected, officials aim to increase that figure to 10 percent by 2030. "Myanmar is promising because they understand that their natural and cultural resources can be turned into assets to help improve economic activity," says Hannah Messerli, a senior private-sector development specialist in tourism at the World Bank. "They want to share their culture and nature, but at the same time, they want to protect and take care of it in the long term."

Still, if history is any guide, the odds of success are long. For every ecotourism triumph, there are multiple failures. Greenwashing plagues the industry, with many operations that claim to protect the environment actually doing more harm than good. James Sano of the World Wildlife Fund for Nature (referred to as the WWF) recollects a resort in Malaysia that, when it first opened, called itself an ecotourism destination on the basis of the thin strip of rain forest left in between its hotel and golf course; several ecolodges in Ambergris Caye in Belize were discovered dumping raw sewage into the environment. "Around the world, genuine ecotourism products are in the minority, for sure," says Ross Dowling, a tourism expert at Edith Cowan University in Joondalup, Australia. "A lot of conventional tourism operators simply slap 'eco' in front of their name because it's sexy and marketable."

Greed-fueled marketing schemes aside, even if operators' intentions are pure, aspirations often fall short of the mark for other reasons. For example, in 1990 the WWF began an ecotourism program at Dzanga Sangha, a stunning rain-forest reserve in the Central African Republic that is home to elephants and gorillas, among other creatures. But reaching the lodge required a 16-hour drive or else an expensive chartered flight. "It's not enough to have a really interesting place for people to visit, even if you develop adequate on-site facilities," says Alex Moad, assistant director for technical cooperation at the U.S. Forest Service International Programs. "Successful ecotourism also depends on a number of off-site factors, such as reliable transportation."

At Dzanga Sangha, transportation did gradually improve over the years, and from 2007 to 2011 the park regularly received up to 600 tourists each year, putting it on track to become self-sustaining by 2016. But when civil war erupted in 2013, the staff was forced to suspend all tourist activities. Now that peace has returned to the Central African Republic, the WWF is hopeful that Dzanga Sangha can rebuild its numbers. That regrowth will take time, though. In 2014 the park reopened but welcomed just 37 tourists.

A LONG WAY TO GO

IT IS TOO EARLY to tell how things will play out at Indawgyi, but thus far Momberg's vision has been partly realized. For starters, tourists do seem to want to visit the lake. Before Fauna & Flora got involved in 2013, Indawgyi saw just 20 or so foreign visitors a year. Now that advertisements appear online and in Lonely Planet guidebooks, numbers have risen to more than 300. Tourists spend an average of $45 during their stay at the lake, totaling around $19,000 pumped into the local economy in 2014 alone—a significant infusion for the community of about 300 households in the village of Lonton, the epicenter of the lake's ecotourism, where families earn an average of $1,080 a year. Profits from the rentals have paid for hospital treatments and school fees for the village's poorer members. And throughout this gradual process of developing and promoting Indawgyi as an ecotourism destination, local people have remained supportive of the efforts, even if most of them are not making money directly from the tourists—a crucial win.

Yet there is considerable room for improvement. For starters, Indawgyi's eco-offerings are hardly impeccable. The only options for disposing of inorganic waste are burning or burying it on-site instead of recycling it or sending it to a landfill. And sewage-treatment systems are nonexistent. Thus, instead of purely conserving the environment, ecotourists are also inadvertently degrading it—at least when it comes to producing waste. The forested hills surrounding the lake—a trekker's paradise—are also sporadically off-limits because of the presence of the insurgent Kachin Independence Army, a military group based in the north. And Lovers of Indawgyi members have not acquired expertise in nature guiding. "If you want to go bird-watching, who's going to ID those birds for you?" McShea says by way of example. "Many countries have worked on training up a group of core ornithologists, but [Myanmar] hasn't really done that yet."

Infrastructure poses another problem. The lake's closest airport is six hours away, along a brain-rattling road accessible only by expensive private vehicle. Most travelers instead choose the shoestring option, making the 24-hour trip overland from Mandalay by train and in the back of a pickup truck. Once they reach Indawgyi, Internet and cell service are nonexistent, and electricity in the two small guesthouses—the only places where tourists may legally stay—is available for just a couple of hours a day. Some tourists count these no-frills conditions as a plus, a welcome respite from the bustle of the plugged-in world. But for many others, they are probably a deal breaker. "At this stage in the game, [Myanmar] is a place for ecotourists who are hardy and don't mind toughing it out to reap the rewards of the country's natural history," says Chris Wemmer, an honorary fellow at the California Academy of Sciences and a scientist emeritus at the Smithsonian National Zoological Park. "The little old ladies in tennis shoes who like to watch birds are not going to put up with that."

Kyi Kyi Aye, who is a senior tourism adviser at the Myanmar Tourism Federation and co-author of the ecotourism strategy, insists that the problems stymieing development in Indawgyi and beyond will all be ironed out eventually. She points out that these things take time: "We want to make Myanmar a better place to live and to visit. But the country has just opened up. It's a gradual process."

The question is whether Myanmar can overcome those hurdles in time to save its wildlife. For Rwanda, whose mountain gorilla ecotourism counts as one of the most successful examples of such programs today, that process took two decades. The International Gorilla Conservation Program, founded by a coalition of nongovernmental organizations, began developing ecotourism in 1979. But the 1994 genocide and ongoing political tumult largely derailed those efforts until 1999, when stability returned. Getting the program up and running required an initial investment of around $2 million for training, infrastructure and marketing, but those funds have repaid themselves many times over, with gorillas generating close to $16 million in park entrance fees alone in 2014. Profits are shared across the country for development projects, and the government has created additional national parks to give tourists an incentive to spend even more time in Rwanda. "We're not conserving for the sake of gorillas only but also for economic benefits," says Michel Masozera, country director for the Wildlife Conservation Society's Rwanda program. "Politicians and local communities get that message."

In Myanmar, the basic challenges of getting a successful ecotourism operation up and running are complicated by deeper societal issues, including corruption and ongoing democratic freedom constraints, according to Adam Simpson, director of the Center for Peace and Security at the University of South Australia. Bureaucracy there is constrained by a decades-old political culture of authoritarian decision making by military leaders, Simpson says, and the political system is further burdened by crony capitalism. "The key issues that will limit the effectiveness of an ecotourism industry are also those that impinge on effective governance in Myanmar as a whole," he asserts. "Until these issues are addressed across the board, it's difficult to see ecotourism—although welcome in itself—having more than a marginal impact on environmental conservation."

Bathed in the rosy glow of an Indawgyi sunset, however, it is easy to be optimistic. As tourists read and sip tea on the porch, Ngwe Lwin, Fauna & Flora's northern Myanmar forest conservation program director, sits down after a long day of community meetings. "At the moment, we cannot say that tourism is benefiting conservation here, because [tourists are] bringing in only a little extra income," he admits. "But in 10 years I imagine that this area will be more peaceful, open and accessible. Perhaps each village will have a small community guesthouse, and tourists can travel the whole lake." The security that a flourishing ecotourism operation could bring might come at the expense of some of Myanmar's magical wildness. But that is a trade-off conservationists may be willing to make. As Lwin says: "Good and bad things always come together." SA

MORE TO EXPLORE

A New Species of Snub-Nosed Monkey, Genus *Rhinopithecus* Milne-Edwards, 1872 (Primates, Colobinae), from Northern Kachin State, Northeastern Myanmar. Thomas Geissman et al. in *American Journal of Primatology,* Vol. 73, No. 1, pages 96–107; January 2011.

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FROM OUR ARCHIVES

Galápagos Stampede. Paul Tullis; April 2016.