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Environmentally Friendly Industries:
An Examination of Ecotourism as the Solution to
the Environmental Degradation Caused by the
International Tourism Industry

Honors Thesis

Whitney Michael

1/16/2017

“Climate change does not respect border; it does not respect who you are – rich and poor, small and big. Therefore, this is what we call ‘global challenges’, which require global solidarity.” – Ban Ki-moon, Ex-Secretary General of the United Nations

Abstract

The increasing visibility of ecological alterations due to global climate change have required high-impact industries to reexamine their environmental impact. Transnational organizations such as the United Nations have identified the current management practices of the international tourism industry as a significant contributing factor to global warming. The high volume implications of the large-scale establishments necessary to lodging facilities in the tourism trade are responsible for damages such as resource depletion and pollution. Existing levels of environmental impact show irreparable and imminent damage to the world environment if current methods of the industry are allowed to continue.

New trends in consumer purchasing habits have allowed a segment of the tourism industry to emerge called ecotourism: a sector believed to be significantly less harmful and predominantly helpful in reversing adverse impacts. This paper will examine the specific benefits of ecotourism, including decreased carbon footprints, locally sustainable business models, widespread public education regarding fragile ecosystems, and increased levels of strategic financial stability. Each of these topics illustrate how ecotourism properties exhibit a drive for obtainable levels of environmental protection that is severely lacking within their traditional counterparts.

These benefits are subsequently weighed against the corresponding negative impacts ecotourism locations can create. Aspects such as true environment impact, unsustainable sites, species and environment alteration, and financial impracticability will be examined. The ability of ecotourism to overcome such downfalls and rise above traditional tourism practices is particularly emphasized throughout the argument. Due to advancements in modern management practices and increased emphasis on social responsibility, this paper seeks to show that

ecotourism is a positive and viable solution to the environmental degradation caused by the international tourism industry.

A Brief Explanation of Climate Change

Increasing numbers of large-scale natural disasters have brought mounting global attention to the dangerous effects of climate change (Garrett). Samantha Garrett of the Borgen Project self-published an article titled, “Are Natural Disasters Increasing” that found that the average number of natural disaster reported in 1970 and 2004 jumped from 78 to 348, while between 1990 to 2010 the money lost to these increased rates raised from \$528 billion to \$1.2 trillion respectively (Garrett). In 2016, citizens in the United States confronted Winter Storm Jonas, Hurricane Matthew, and the California/Tennessee Wildfires: natural disasters costing the federal government approximately 1.6 billion US dollars and over 100 human lives (Carr, Dorman, Groden, Weather). Scientists attribute the growing frequency of hurricanes, heat waves, and droughts to climate change (Weeks). These ‘acts of God’ are directly related to growing internal temperatures of the Earth due to global warming. NASA found that the recorded surface of the Earth during 2015 was the highest in recorded history with average weather readings shattering all benchmarks of previously historic rates in 2014 (NASA). Atmospheric heating magnifies the effects of extreme events and results in greater rates of occurrence within likely and unlikely locations (NASA). In her article in *Congressional Quarterly*, Jennifer Weeks explains that the massive shift in global weather can be attributed to “wildfires, volcanic eruptions, and (through) human activities – primarily burning fossil fuels such as coal, oil, and natural gas” (Weeks). The largest piece of this trifecta of causations under human control is the burning of nonrenewable energies.

A consequence of the relationship between fossil fuels and natural catastrophes is the uneven distribution of the effects. As of 2012, the US Department of Energy found that the largest emissions of CO₂ were recorded within the People's Republic of China (Mainland), United States of America, and India, respectively (Oak). Countries such as these hold the most machinery, large scale business, and population size - which produce the majority of greenhouse gases. While every continent experiences weather related events, it is important to note that the citizens who feel the most devastating impacts of natural events belong to third world countries. Oxfam International recently released a report revealing that the poorest 50% of the world population is responsible for approximately 10% of total global emissions, while the richest 1% are accountable for as much as 175 times that amount (Hardoon). A hurricane does not recognize borders, and it may impart lasting destruction on the underdeveloped areas least prepared for the damage or ill-equipped to provide common forms of disaster relief. Bigger countries such as India are more likely to notice widespread effects including city smog, changing seasonal temperatures, or falling rainfall rates. The universal impacts of climate change have resulted in a global initiative lead by organizations such as the UN to identify pivotal changes in production methods that can be collectively implemented in the race to slow climate change. One such industry that affects a large percentage of the world population is the international tourism industry, well known for its large-scale environmental impacts both locally and globally.

Importance of the International Tourism Industry

The international tourism industry has incurred significant growth in the past decade as countries recognize the taxation opportunities and financial returns possible through the support of global travel and excursion. The UN World Tourism Organization published the, "Tourism Highlights - 2015 Edition" with findings stating that 9% of worldwide GDP comes from tourism

while 1 in 11 jobs are created from the sector (UNWTO Tourism Highlights). The same UNWTO report described a leap of approximately 700 million international tourism arrivals from 1990 to 2014; a 38% increase in less than 25 years (UNWTO Tourism Highlights). This lucrative industry mainly encompasses lodging and entertainment sites, but can also include food, transportation, and public services. The housing facilities necessary for the creation of a successful tourism sector must be able to provide for the wide influx of people expected to use the location. Lodging locations in the tourism sector can take the form of a hotel, bed and breakfast, resort, condominium, motel, or hostel. The American Hotel & Lodging Association's report, "Lodging Industry Trends 2015" showed \$176 billion in domestic income resulting from over 53,000 properties employing over 1.9 million citizens (AHLA). Large amounts of hospitality structures in the US create a major conservation concern as fossil fuels are continually burned on a wide scale to support each establishment, despite the location's percentage of full capacity, primarily due to the fact that tourists expect a constant availability of resources such as heat, water, or electricity.

Environmental degradation caused by a tourism location may take the form of carbon emissions, overconsumption of resources, or pollution. The United Nations Environment Programme defines the worldwide environmental impact of the tourism industry as "CO₂ emissions generated directly from the tourism sector account today for 5% of global CO₂ emissions but may be higher (up to 14%) if measured as radiative forcing, i.e. the warming caused by CO₂ as well as other greenhouse gases" and predict that emissions in 2035 will reach levels three times as high as today if left unchecked (UNEP). Within the global sphere of the hospitality business, traditional properties are quickly erected with as few construction costs as possible. There is little motivation for the implementation of costly environmentally conscious

fixtures. Due to the high-volume implications of the tourism trade, large levels of energy are consumed as the situation is aggravated by the extensive emissions of harmful byproducts. The Global Development Research Center self-published an article titled, “Environmental Impacts of Tourism” in response to a 2001 UN Environment Programme publication, that listed tourism’s specific forms of impact as the depletion of natural resources, land degradation, air/noise/solid waste/sewage/aesthetic pollution, and physical destruction like deforestation (Global). The lack of government oversight and control regarding possible forms of tourism pollution results in an industry-wide focus on financial returns over environmental protection. The combination of widespread and willful destruction is perpetuated by the significant levels of business that millions of properties accomplish throughout a single year.

Recent tourism trends demonstrate a consumer tendency to avoid environmentally destructive companies while traveling. The US Department of Commerce International Trade Administration’s National Travel and Tourism Office found that “Of more than 25 million US travelers who vacationed overseas in 2014, 82% went for sightseeing, 46% visited small towns or the countryside, 33% were interested in cultural/ethnic heritage sights, and 8% went for environmental/ecological excursions” resulting in approximately two million international ecotourists from the United States alone (National). The United Nations World Tourism Organization also found that nature-based vacations represent a growing 20% of all global travel and tourism (UNWTO Tourism). In response to this new consumer market segment, innovative properties have appeared. The International Ecotourism Society defines the new sector as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education” (TIES What). The purpose of the

fledgling industry is to provide educational opportunities within the tourism market while preserving natural areas surrounding each locale.

Ecotourism represents a substantial market share of the international tourism industry that continues to experience annual growth each year. The International Ecotourism Society's self-published report, "TIES Global Fact Sheet" found that the start of ecotourism in the 1990s experienced a growth rate of 20%-34% annually that resulted in statistics of 2004 suggesting that the sector was growing three times faster than the entire tourism industry (TIES Global). The same publication drew on UN Environment Programme data to demonstrate that sustainable tourism could grow to 25% of the global travel market within the next six years: valuing the industry at 473.6 billion US dollars annually (TIES Global). The growth of travel to natural areas through sustainable methods of travel has encouraged the tourism industry as a whole to further investigate the positivity and viability of converting or creating future investments in the new sector. Environmentally friendly establishments worldwide are under an increasingly large microscope as potential investors seek to understand all of the positive or negative consequences of an ecotourism venture.

As with every endeavor, there are drawbacks and consequences to the implementation of an environmentally friendly tourism location. These can include the establishment of properties within locales unable to support travel, dramatic changes in the surrounding ecological environments, and financial limits to construction. Opponents to the ecotourism movement can be found in the progressive and conservative sides of the environmental debate. Such viewpoints are surprisingly polarized in comparison to the traditionally progressive opposition to customary hospitality structures. In past decades, opposition to the tourism industry has historically cited the monumental levels of ecological degradation and blatant disregard for social welfare which

inevitably follows construction of such buildings (UNWTO Tourism, National). Jonathan Adler of the *New Atlantis Journal of Technology* published an article titled, “The Conservative Record on Environmental Policy” regarding the 2012 Republican presidential primary platforms on environmental improvements. Adler states “The candidates sought to outdo one another in showing disdain for the EPA and steely opposition to new federal regulations. Michele Bachmann suggested in a TV interview that the agency be ‘renamed the job-killing organization of America’, while Newt Gingrich proposed shutting it down and starting over. The most conciliatory environmental posture any candidate adopted was to simply ignore the issue” (Adler). The progressive opposition to ecotourism can be found in the article “Is Ecotourism Helping or Hurting Our National Parks” penned by writing contributor Sencer for the KQED Learning website in September of 2016. Sencer states, “Big Meadows, in Shenandoah National Park, faces a particular chronic human-wildlife conflict that affects meadow ecology with visitors frequently going off trail. This misstep causes a disruption of the plants in the meadow, which is an especially big problem because Big Meadows is a unique type of wetland and host to the highest concentration of rare plants in Shenandoah National Park” (Sencer). Current conservative challengers argue the feasibility and monetary cost of the new industry over customary edifices, while progressives contend that eco-sites ravage protected and fragile ecosystems (Adler, Sencer).

While these concerns are valid, the disadvantages to ecotourism tend to occur within the conceptual implementation phases of a property and do not condemn the ecotourism industry as a whole. Each of the overarching issues present conundrums business owners commonly face in the creation of any type of tourism property. The overwhelming improvements to the industry that are possible through new advancements in customary practices deserve consideration by

serious investors in the future of tourism. An increase in the number of ecotourism sites can provide innumerable benefits both locally and globally. The environmental, socio-economic, educational, and financial impacts of ecotourism show that the fledgling industry can provide alternative, healthier management practices to traditional tourism properties. The global community recognized this fact in December of 2015 when the United Nations announced 2017 as the International Year of Sustainable Tourism for Development, effectively placing ecotourism at the center of all UN decisions for the upcoming 2017 year (UNWTO Press).

Environmental Implications of Ecotourism

The defining difference between an ecotourism location and a traditional hospitality site is the decreased carbon footprint created through the usage of eco-friendly materials and practices. Fixtures found within an environmentally conscious property can include quality insulation, low flow faucets, dual flush toilets, low impact or sensor-activated lighting, and recycled building materials. Each of these items serves the function of decreased resource usage through conservation or recycling methods. A recent article by Bob Cerrone titled “Hotels Make Room for Water Savings” published for the *Hotel Business Review Journal* in 2016 examined the statistical impacts water-efficient fixtures can have on a hotel’s water supply. Cerrone found that commercial buildings can reduce energy or water usage by 10% and 15% respectively, simply through the implementation of updated or retrofitted water-efficient products (Cerrone). Small alterations such as these fixtures create less strain on local environments to produce large scale amounts of electricity or water necessary to power the locations housing hundreds of visitors expecting resource access 24/7. Common management practices consist of restricted purchasing of solely recycled materials, promotion of reduced laundry usage programs to guests, or strict company policies regarding recycling and composting within the property. WasteCare

Corporation self-published an article in 2016 called “Waste Reduction & Recycling Tips for Hotels” to bring attention to a 300-room Miami hotel that implemented recycling techniques to divert over 150 tons of waste per month, reducing their costs by about 60% (WasteCare).

CleanLink also self-published an article on the reuse of hotel amenities titled, “Benefits of Recycling Hotel Amenities” that found amenity recycling by hotels such as Hilton, Starwood, and Marriott created a pool of 25 million reusable bars of soap eligible for donation to 99 countries – resulting in a diversion of 7 million pounds of waste from US and Asian landfills (CleanLink). These examples of ecotourism practices help to reduce the amount of waste and pollution produced by the everyday functions necessary within the tourism industry.

Furthermore, current advancements in building construction have enabled corporations to invest in eco-friendly design principles that mitigate environmental impacts and dramatically reduce necessary levels of resource consumption for operations. Examples of the reduced carbon footprints created within ecotourism locations can be found in Bernard L. Supetran’s article, “Leading the Way in Earth-Friendly Lodging”, published in the *Business Mirror* September 11th, 2016. Supetran discusses current consumer trends regarding preferences of companies to exhibit eco-friendly amenities such as water or energy systems, social responsibility agendas, ‘farm-to-table’ practices, organic foods, and zero-waste practices. He elaborates on the work of United Nations recognized artist and architect Hitesh Mehta, a man largely responsible for innovative work in the creation of eco-lodges. Green Global Travel defines an eco-lodge as a hospitality property that emphasizes elements such as environmental responsibility and minimal negative impact through remote locations in pristine environments (Bret). Green Key Global creates a certification process for environmentally conscious buildings such as ecolodges down to the design level and has reportedly only certified a total of 2,500 establishments across 54 countries

(Green Key). Supetran reveals that many of the Philippine-influenced designs attributed to Mehta incorporate waste and water management systems and reduce footprints by integrating infrastructure with the natural surrounding environment (Supetran). These examples of eco-friendly tourism sites in the Philippines illustrate how modern architects have begun to embrace environmentally-friendly practices in the integral design phases of their creations. The article consequently shows that while currently unpopular, it is possible to alter new construction in a way that leaves little to no carbon footprint on its surrounding environment.

However, in various parts of the world researchers assert that eco-properties actually contribute to the underlying issue of global warming through an increased carbon footprint over traditional counterparts. Yukio Yotsumoto published one such paper, “Ecotour Providers in the Kyushu Region: the Characteristics of Japanese Ecotourism and its Relationship with Global Warming”, in the *Journal of the German Institute for Japanese Studies Tokyo* during July of 2012. Yotsumoto examined a study utilizing a mail survey, location content analysis, and participant observations of ecotour providers in the Kyushu region. He reports that the operators demonstrated little to no knowledge regarding how their business related to global warming, noting that their businesses practiced only two to three eco-friendly actions to mitigate environmental effects instead of the complete usage of ecotourism methods. The approaches utilized by the Japanese participants emphasize a concentration on local community over environmental impact - typically characterized by the limited use of local foods, recycling, and reduced levels of fossil fuel burning. The author concludes that there is a “positive but weak relationship and a varied negative relationship in Japan” in regards to the correlation between ecotourism and climate change (Yotsumoto). The claim against the environmental benefits of ecotourism is further supported by Yotsumoto’s correlation to the Western discovery of the

negative impacts of large emissions produced by necessary transportation modes, such as airlines, to reach remote ecotourism locations.

The leading cause for concern in the viability of ecotourism as an environmentally-friendly industry lies within the carbon emissions created by transportation methods necessary to access remote ecosystems. An anonymous writer for *the Bulletin of the American Meteorological Society* penned an article analyzing airline impacts on the industry titled “Red Light for Green Vacations” in August of 2007. The piece may have originally sought to support viewpoints such as Yukio Yotsumoto’s by further reiterating flight costs, but actually served to demonstrate how complete compliance with diligent practices can overcome negative connotations concerned with fuel burning. The article quotes Alexi Huntley, head of the Costa Rica-based Nature Air Airline, as announcing her company to be first in their trade to claim zero net carbon emissions due to offsetting investments in reforestation projects (Red). The Carbon Neutral Company explains such initiatives as “offsetting delivers finance to essential renewable energy, forestry and resource conservation projects which generate reductions in greenhouse gas emissions. In order to ensure this finance delivers genuine results, the projects which are supported must be high quality and ‘additional’ so as to prove that the project would not happen without the sale of carbon credits. Projects follow a comprehensive set of validation and verification procedures to demonstrate that they are generating emission reductions and are monitored on a regular basis through independent third parties” (Carbon). Such enterprises are primarily designed for a corporation to meet their reduction goals and to compensate for any discharges unable to be cut from daily production. This will mainly take the form of cultivation projects such as tree planting as companies must specifically reproduce oxygen totaling the original amount of CO₂ emitted by the firm. An article published by *Green Futures Magazine* in October of 2013 titled “Aviva’s

Carbon Offsetting Projects Improve 200,000 Lives” found that carbon offsetting by British insurance company Aviva and organization Climate Care offset 126,555 tons of carbon emissions while affecting over 200,000 people in India and Kenya (Aviva’s). The article states their project “reduces dangerous smoke put out by inefficient cooking stoves, which kills over 400,000 people a year in India alone; safer stoves which cut toxic emissions by up to 80% and produce 60% less Co₂, are now being installed in households. The LifeStraw project, on the other hand, helps combat waterborne diseases. Around 17 million people in Kenya do not have access to safe drinking water, and many suffer from waterborne diseases such as diarrhea – the third leading cause of death in Kenya. By distributing nearly 900,000 gravity-fed water filters, the project offers an alternative to boiling drinking water over a fire, saving money on fuel, reducing carbon emissions and protecting local forests” (Aviva’s). These initiatives were quantifiably measured by an internationally recognized method called LBG Framework to show the true environmental and social impacts of carbon offsetting in the corporate world.

In order for a company to succeed as a true ecotourism provider, they must fully comply with the ideals of eco-friendly practices throughout the organizational structure of the business. The recycling habits of the administration, the installation of energy efficient materials, and even the original design plans must clearly demonstrate a desire to alleviate impact on the surrounding area for the firm to successfully reduce carbon footprints. This is clearly illustrated by the published paper of Japanese ecotour operators that falsely represented their company in the Kyushu region through the adoption of select eco-practices necessary for ecotourism. In turn, the misrepresentation led to negative impacts on the environment while the organization struggled to understand the full responsibilities of their establishment. Nature Air Airlines took the opposite approach by surpassing public expectations to simply adjust compatible practices. The airline’s

initiative to invest in further projects to reach zero net carbon emissions was rewarded through industry and public recognition. The reduced carbon footprint created by ecotourism properties is becoming increasingly appealing due to environmental strains and resource scarcity. The reversal of the effects of fossil fuel burning will not be easily erased from the global ecosystem, but companies can begin the first steps of the process by adhering to the simple practices of ecotourism designed to create a clean and livable Earth.

Socioeconomic Benefits to Dependent Communities

An eco-friendly location also provides increased socio-economic and financial benefits to surrounding communities as a direct result of economic market creation that is lacking in traditional hospitality properties. The ABTA UK Travel Association reports that living like a local has become an essential aspect of exploring destinations as consumers now seek more authentic traveling experiences (ABTA). As ecotourism locations are established, tour operators attempt to construct the business in exotic settings “off-the-beaten-path” so that the unique concept will attract tourists. These remote sites are typically in underdeveloped areas that lack the modern comforts of large-scale corporate commerce, thereby preserving the beauty and integrity of the local ecosystem upon which the tour center relies. Residents of the remote regions tend to maintain little to no access to modern resources, such as healthcare, due to the underdeveloped nature of their community. The establishment of an ecotourism site provides the isolated populace with rare, white collar employment opportunities. Peripheral benefits include increased stability or overall health through improved financial standing, resident well-being, as well as enhanced access to resources and education (Hunt).

The creation of an ecotour facility improves the livelihoods of the surrounding local citizens through employment at all levels of business structure and the promotion of public

outreach initiatives. These enterprises promote authentic consumer experiences within the unique environment, while supporting the shareholder foundation necessary for firm survival.

Quantifiable examples of improved communities can be found in an article co-written by Carter Hunt, William Durham, Laura Driscoll, and Martha Honey called, “Can Ecotourism Deliver Real Economic, Social, and Environmental Benefits? A Study of the Osa Peninsula, Costa Rica” published in the *Journal of Sustainable Travel* during March of 2015. The article cites a study examining whether ecotourism in the Osa Peninsula provided better rates of resident well-being, enhanced access to resources/education, and increased support for conservation efforts over other nearby economic sectors. The results of 128 semi-structured interviews with locals of all occupations found that jobs in the eco-friendly sector doubled the wages of competing industries, incentivized local ownership of ecolodges and small businesses, improved overall quality of life, and increased support for local parks and conservation efforts (Hunt). The study established that these benefits also led to pledged township resources for the further development of similar properties and successfully illustrates how an ecotourism location in Costa Rica increased community well-being, while making a greater societal impact than the other local employment opportunities (Hunt).

Fundamental practices of ecotourism characterized by support of and investment in local communities result in economic progressions advantageous to further land development for ecotour companies. As evidenced by the previously mentioned Osa Peninsula, locales surrounding ecotour facilities tend to seek the continued expansion of the industry due to tangible fiscal increases evident in the subsequent years following implementation. Such improvements are shown in a series of studies analyzed by Susan Lynne Snyman within a report called, “The Role of Tourism Employment in Poverty Reduction and Community Perceptions of

Conservation and Tourism in Southern Africa”, published in the *Journal of Sustainable Tourism* during February of 2012. Based out of Botswana, Malawi, and Namibia, the studies assessed the household income and social welfare impacts on citizens while measuring the number of people indirectly affected by ecotour employment. Snyman found that employment in the industry proved to positively impact conservation and tourism attitudes, although education levels were determined to be the most poignant factor (Snyman). The results showed that rural communities are increasingly engaging with the market economy due to ecotourism industry operations within their immediate area. Her report showed that these jobs provided income levels that enabled natives to invest in education to improve financial security or welfare and demonstrated a new consumer tendency to purchase luxury goods (Snyman). The market stimulations caused by ecotourism development help to further the economic situation of remote villages while improving integral relations in legislative positions.

Unfortunately, some cultural communities can be negatively impacted or influenced by the creation of ill-conceived or poorly managed ecotourism sites. One such negative impact is evidenced by the Aboriginals surveyed by Amanda Smith, Pascal Scherrer, and Ross Dowling for the *Journal of Ecotourism* in 2009 in the article, "Impacts on Aboriginal Spirituality and Culture from Tourism in the Coastal Waterways of the Kimberley Region, North West Australia.” The undeveloped region had recently gained attention for the natural scenery, wildlife, and abundant Aboriginal rock art in the Kimberley area. The purpose of the paper was to examine the impacts of unregulated expedition ecotours on the residents and environment. Smith, et al, discovered that the majority of regional visitors seek out attractions of native cultural importance with the aid of non-indigenous tour guides (Smith). This unintentional slight led to dangerous tensions between tourists and natives due to a perceived disrespect towards the

local Aboriginal people, including failure to consult with tribes, lack of permission to access, and demonstrations of gross appropriation of cultural protocols (Smith). The authors strongly suggested that an adequately equipped body of governance be quickly appointed to ensure implementation of practice guidelines, operational standards, and development of the area (Smith). This Australian example of operators acting without oversight is unfortunately prevalent in the industry as few government programs have been assigned within the relatively new field. The situation is aggravated by a lack of internationally recognized certifications or standards to oversee ecotourism labeled companies, resulting in a prevalent amount of ‘greenwashing’ or falsely advertised companies.

The initial design phases of ecotour creation is integral in the careful and diligent analysis necessary to properly select viable locations for large levels of tourism. One such example of site investigation is illustrated in Norzeana Roslan and Norela Sulaiman’s article, “Assessment of Environmental Factors that Affect the Fireflies for Ecotourism in Unesco Tasik Chini Biosphere Reserve” published in the *AIP Conference Proceedings Academic Journal* during September of 2015. The authors conducted a study in Tasik Chini to determine the community’s ability to conform to and support tourism. This was achieved through insect sampling, soil analysis, data collection, and questionnaire surveys from local residents regarding knowledge on fireflies and ecotourism (Roslan). Roslan and Sulaiman found that local restrictions and environmental factors such as soil acidity demonstrated the area was not ready for the high-demand of an ecotour property (Roslan). While the prevalent levels of various species indicated an opportunity for eco-friendly development, in-depth analysis showed poor indicators of industry suitability (Roslan). The investment of time and research into possible venture opportunities is highly correlated with the long term success and profitability of developments. Not every ecosystem is

positively impacted by increased amounts of tourism, so it is essential to fully vet all aspects of a potential area before construction or implementation.

Educational Effects on Environmental Behaviors

The ecotourism industry is additionally beneficial through the provision of an immersive, educational experience that can result in increased levels of environmentally conscious behaviors within the public sphere. The subsequent informed actions of an ecotourist returning home create a domino effect on improved universal conditions in relation to climate change and global warming. The primary attraction of ecotours is the introduction of tourists to remote or unique locations that are not easily accessible in everyday life. 'Once in a lifetime' opportunities present visitors with experiences up close to fragile ecosystems, rare plants or wildlife, preserved environments, or exciting outdoor recreation. While a large part of the encounter is reliant on the advertised activity, consumers also expect an included educational component. The International Ecotourism Society's Global Tourism Fact Sheet found that 53% of American tourists feel their experience is enhanced by learning about the local environment (TIES Global). The same report states that 20%-30% of European travelers are aware of the needs and values of ecotourism, approximately ¼ of the entire Europe-based travel market (TIES Global). Interaction protocols, environmental dangers, sustainable impacts, and potential forms of eco-protection are just a few of the topics covered during expeditions. Future environmental decisions are then influenced by the knowledge received regarding conservation, as well as the face-to-face contact sightseers receive with fragile and endangered environments. Ventures into the 'untamed wild' can influence the public sphere to adapt mindful behaviors through charity support, conscious buying habits, recycling, or resource conservation.

The introduction of ecotourism within the international tourism industry has resulted in an increased amount of public discussion regarding potential means of conservation and its perspective validity. One such example of the resulting open debate of eco-friendly potential can be found within P. W. McRandle's article, "Low-Impact Vacations" published in the *World Watch* periodical during August of 2006. The author analyzes the "ideal environmental vacation" by scrutinizing types of eco-friendly activities, standardized certifications, and possible ways to research prospective sites. McRandle defines what ecotourism comprises, how to recognize greenwashing, and inexpensive ways to make a trip "greener". These include variously popular suggestions such as, "volunteering at an organic farm, helping rebuild temples, or trekking through a nature reserve" (McRandle). The article is particularly interesting for the way it seeks to advise the average citizen, rather than an academic audience, on ways to participate in the ecotourism movement utilizing impactful methods. McRandle's article demonstrates evidence of increasing consumer conversation about the concern for popular forms of environmental aid through conscious purchasing decisions such as green retreats. Without the option of ecotour facilities, the public is left to sift through various forms of greenwashing used in traditional hospitality sites.

While ecotourism provides significant educational benefits, locations left unrestrained can result in catastrophic alterations to ecological structures in the surrounding ecosystems. This is evidenced by Joseph Krieger and Nanette Chadwick's essay, "Recreational Diving Impacts and the Use of Pre-Dive Briefings as a Management Strategy on Florida Coral Reefs" from the *Journal of Coastal Conservation* in their 2013 issue. Chadwick and Krieger examine dive frequency, diver behavior, and damage on the coral reefs surrounding Key Largo, Florida. The study's results show that if current levels of coral damage are allowed to continue, 80% of coral

colonies will soon be damaged with less than 11% of live coral surviving within heavily utilized locations (Krieger). However, the authors also concede that the effects can be mitigated by the use of dive guides or extra education material, particularly for recreational divers using cameras and gloves (Krieger). This final recommendation indicates that management strategies should be continually evaluated and adapted to best fit the needs of ecological environments in response to increased levels of tourism. Increasing awareness opportunities and available education to tourists can result in less damage to ecological structures due to continued usage.

As with habitat alteration, continued interaction with humans has been suspected to cause dangerous behavioral changes within endangered or protected species involved with ecotour facilities. One particularly controversial form of ecotourism involves shark cage diving: a segment of tourism publically regarded to increase perilous behaviors and local rates of shark attacks against humans. Adam Barnett, Nicholas Payne, Jayson Semmens, and Richard Fitzpatrick seek to analyze ecological changes with the species through their study of accelerometry and respirometry called, "Ecotourism Increases the Field Metabolic Rate of Whitetip Reef Sharks", published in the *Biological Conservation Journal* during July of 2016. The study concluded that the ecotourism site within the applicable area caused a metabolic rate increase of 6.37% during periods that the sharks would normally spend resting (Barnett). The results in the Barnett, et al, study indicate that while behavioral changes in species are possible, they tend to manifest in small adaptations to environment changes. Another study called, "Seasonal Cycles and Long-Term Trends in Abundance and Species Composition of Sharks Associated with Cage Diving Ecotourism Activities in Hawaii" was written by Carl Meyer, Jonathon Dale, Yannis Papastamatiou, Nicholas Whitney, and Kim Holland for the *Cambridge University Press* in July of 2009. The paper examined data from two Oahu shark cage operators

and utilized shark species records, seasonal cycles, and long term trends for Galapagos, Sandbar, and Tiger sharks. The study discovered that over 98% of sharks that appeared at the cages were Galapagos or Sandbar sharks that rarely attack humans (Meyer). Furthermore, the authors comment on the remote locations utilized, conditioning stimuli differing from inshore recreation, and a lack of reported increases in shark assaults. Meyer, et al, also demonstrate how tour operators utilize necessary caution to monitor and track species trends to ensure ecotourism locations are not encouraging dangerous migration and behavior patterns. The limited impact of sustainable tourism on shark activities is not sufficiently large enough to show lasting hazardous behaviors.

Ecological alteration to animal behavior due to ecotourism viewing activities can align with species evolution to create positive population impacts. The installation of human interaction into an environment functions as any other introduced stimuli to cause a parallel reaction that can manifest in measurable or insignificant ways. This relationship was examined by Owen Nevin and Barrie K. Gilbert within their study, "Perceived Risk, Displacement and Refuging in Brown Bears: Positive Impacts of Ecotourism" and was published in the *Journal of Biological Conservation* during 2005. Nevin and Gilbert observed patterns, acknowledged published facts, and examined local reports to examine the relationship between local tourists and the behavior of brown bears within the coastal region of British Columbia. The researchers found that the viewing patterns appeared to only directly impact fishing habits during times of human appearances (Nevin). The results showed that there was little to no direct impact on females with cubs, but also measurable avoidance by male brown bears within fishing sites during observation times (Nevin). The article explains the following behavioral alteration as "Temporal avoidance of human activity by large males was observed; indications that they

departed upon satiation, before the arrival of morning tours, however, suggests that there was little energetic impact” (Nevin). Surprisingly enough, the scholars realized that this small alteration in behavior appeared to eventually produce positive results in the species population size. Nevin and Gilbert uncovered an increase in feeding opportunities for the lesser age/sex class that typically avoided their more aggressive counterpart, resulting in an increase in female mass and corresponding productivity rates (Nevin). Despite the quantifiable, albeit small, change in species behavior, the animals absorbed the stimuli as another evolutionary change in order to positively alter their population production and mean body mass.

Threatened populations of endangered species face an imminent danger of extinction that is partially alleviated by the supervision and protection afforded to those located within ecotour facilities or within nearby ranges. Endangered species are sheltered by international laws and local conservation efforts, yet still continue to fall victim to predation that reduces fledgling numbers each year. The impact of ecotourism on the survival rates of such animals is examined by Ralf C. Buckley, Clare Morrison, and J. Guy Castley in their article, “Net Effects of Ecotourism on Threatened Species Survival” published in the *Public Library of Science Journal* during February of 2016. The authors utilized a publically recognized method of evaluation called population variability analysis to determine if tourism positively or negatively contributed to the expected time of extinction throughout a wide variety of animal species despite other external threats such as poaching or habitat loss. Buckley, et al, discovered that ecotour facilities positively increased such estimates through a variety of factors such as habitat expansion, restoration, and protection or visitor management; the removal of alien predators or use of controlled fires; reintroduction and relocation methods, breeding programs, or vet services; anti-poaching actions; supplemented feeding or introduction of extra prey (Buckley). Researchers

found that these various initiatives successfully aided in the extended lifetimes of such species as the South African cheetah, African wild dog, hoolock gibbon, golden lion tamarin, orangutan, African penguin, great green macaw, and Egyptian vulture (Buckley). The supported animals greatly benefited from proactive steps taken by sustainable facilities that depend on rare species survival for continued success in the tourism market. By connecting the existence of an endangered mammal to the tourism opportunities of an ecotourism location, it is possible to alleviate some of the existing threats creating impending rates of extinction. The ecotourism industry can positively contribute to enterprises designed to preserve species for future world generations. This is yet another example of the enduring and beneficial nature of such properties to the worldwide hospitality market and global populace.

Financial Feasibility of Ecotourism

In order to remain relevant and financially sustainable in the strategic marketplace, the hospitality and tourism industry must adhere to ecotourism principles as developing consumer tastes require properties to adapt. The 21st century buyer expects speedy, cost-effective, and innovative service from a competitive firm. Modern customers have also begun to expect advertised 'green' initiatives as much as the anticipation of free Wi-Fi and widespread mobile apps. The World Travel and Tourism Council explains this wave of 'New Tourism' as, "These new tourists have a higher level of environmental and cultural awareness, which means that, as a result of the generalization of ICTs and social networks, they are more demanding, more able to influence, and have their say on the products that they consume" (WTTC). The WTTC calls to attention the fact that for the first time in US history, the demand for products is greatly controlling the supply. This has largely occurred due to the widespread use of the Internet in the

purchasing process, thereby increasing previously small pools of supply to infinitely large pools worldwide.

The culturally and environmentally aware consumer is prepared to spend substantially more money to obtain desirable products that market to their sustainable interests over the traditional product. In order to explore modern day purchaser tendencies, Nielsen self-published an exploratory article in response to their 2015 Nielsen Global Corporate Sustainability Report in December of 2015 called, “Consumer-Goods’ Brands That Demonstrate Commitment to Sustainability Outperform Those That Don’t.” The annual report polled more than 30,000 people across 60 countries with a margin of error of 0.6% and is particularly representative of Internet users. Approximately 66% of all global respondents state that they are willing to pay more for sustainable goods, significantly growing from 55% of the total polled in 2014 (Nielsen). This rise in market popularity represents an increasingly large portion of past purchasers and potential revenue lost for all companies abstaining from sustainability. Particularly interesting is the article’s observation that sustainably conscious consumers are no longer singularly comprised of wealthy suburbanites - “Those earning \$20,000 or less are actually 5% more willing than those with incomes greater than \$50,000 to pay more for products and services that come from companies who are committed to positive social and environmental impact (68% vs. 63%)” (Nielsen). This information may be especially heartening to companies relying on markets mainly comprised of less wealthy consumers. Millennial and Generation Z shoppers are 73% and 72% respectively more likely to spend the additional cash, while new statistics suggest that it is exponentially easier to market sustainable goods in undeveloped markets over developed markets due to visibility of social need and market saturation (Nielsen). The tendency of a buyer to make a significantly more expensive, eco-friendly transaction over their necessary purchase

depends on a variety of factors such as age, environment, and product advertisement. The indisputable bottom line is that a large portion of consumers are actively purchasing with social responsibility in mind, leaving relatively small market shares for companies refusing to acclimate.

The extensive short-term costs of constructing a proper ecotourism location, however, in comparison to cheaper, traditional hospitality properties, however, can discourage potential firms from entering the ecotourism market. The initial investment required to build an ecotour facility can range anywhere from thousands of dollars to upwards of millions depending upon the size of the operation. The advanced or recycled materials and purposefully minimal-impact construction involve a laborious and expensive construction phase. An example of the possible costs can be found in a study completed by Guangming He, Xiaodong Chen, Wei Liu, Scott Bearer, Shiqiang Zhou, Lily Yeqing Cheng, Hemin Zhang, Zhiyun Ouyang, and Jianguo Liu discussed in their article, “Distribution of Economic Benefits from Ecotourism: A Case Study of Wolong Nature Reserve for Giant Pandas in China” published for *Springer Science & Media* in August of 2008. The researchers found that while the majority of investments in the reserve buildings were made by the reserve government, staff, or outsider contributors, the largest contribution resulted from the Luneng Group remodeling the major hotel property and surrounding scenic spots for a total of 54.5 million USD (He). This exorbitant investment is not the typical cost of a venture, but simply an example of the work companies are willing to finance. The return on an investment in eco-friendly properties is examined by Rachel S. Cox in her piece, “Ecotourism”, published for CQ Press in October of 2006. Even this early in the development of the industry, Cox found that industrial operations such as the lucrative logging or palm oil trade would value their respective businesses at approximately \$8.2 million, while small ecotourism firms in the area were valued

at \$29 million (Cox). The obvious difference in revenue, yet inadequate response of local companies, was explained by Cox's contact, tourism Professor Weaver, who explains "With traditional development you get a lot of money in a limited time, but then it's done. With ecotourism, it's never exhausted" (Cox). A strategic-minded company will examine short and long term investments of ecotour facilities to understand that the substantial leverage over traditional properties is the sustainable business possible long after other sectors have become obsolete in the consumer market.

Prospective companies restricted by financial cost to construction can choose to specialize in small scale locations within profitable subsets of ecotourism driven by niche segments of the international tourism market. These sectors can include innovative and unique companies labeled as adventure tourism, agritourism, gastronomic tourism, orange tourism, or luxury wellness tourism. The Center for Responsible Travel self-published a report titled, "The Case for Responsible Travel: Trends & Statistics 2016" regarding international tourism trends such as these focused divisions. The center defines adventure tourism, one of the most popular niche markets, as a combination of physical activity, natural environment, and cultural immersion divided into categories of hard adventure or soft adventure (CREST). These types of vacations are centered on activities such as camping, birdwatching, rafting, climbing, snorkeling, or hiking. The UN World Tourism Organization found that, "Adventure operators have reported an average of USD 3,000 spent (per) person, with an average trip length of eight days" amply demonstrating the profit potential of a small-sized ecotour facility advertising an adventurous activity (UNWTO Global). The Center for Responsible Travel also identifies a lesser known subset called orange tourism: "a sustainable tourism that generates cultural, economic, and social development through responsible tourism management of cultural heritage, artistic

production, and cultural and creative industries” (CREST). This distinctive area covers distinguishing characteristics unique to each culture such as dance, art, culinary, language, film, literary, crafts, music, or festivals. Buitrago Restrepo, Pedro Felipe and Duque Iván Márquez’s well-renowned book, *The Orange Economy: An Infinite Opportunity*, draws the interesting analogy that, “if the so-called Orange Economy were a country it would be the world's fourth largest economy, it would rank ninth in exports of goods and services, and it would represent the world's fourth largest workforce” (Restrepo). Even these seemingly insignificant sectors’ support small-scale properties with large niche consumer markets that are willing to spend excessive amounts of money on vacation experiences. The creative and financial potential of the ecotourism industry is enormous, allowing firms of all nature and size to participate at will.

Existing companies can utilize eco-friendly management practices to become more sustainable and contribute to reduced pollution or energy usage without rebuilding or investing in new locations. Commonly recognized ways of becoming more sustainable logically include recycling, mindful purchasing, or pollution control. Despite these publically acknowledged and proven methods of reducing environmental impact, businesses still struggle to implement successful or impactful initiatives. Paul Klein examines actionable and accomplishable steps to a socially-responsible workplace in his corporate-aimed article, “How Companies Can Become More Socially Responsible in 2015” published by *Forbes* on January 5th, 2016. The article was written in response to reader requests for specific ways to adapt to the changing market trends and includes seven specific techniques firms can utilize in transition to more justifiable practices. These include the adoption of a “big issue” and mobilization of necessary resources; employment of socially minded millennials; engagement of constructively critical naysayers; allocation of philanthropic giving to socially minded enterprises; strategic investment in issues

within credible forms of measurement or evaluation; reduction of cost and improvement in efficiency by removing social responsibility reporting; disruption in typical industry actions with surprisingly innovative social action (Klein). Companies, large or small, and financially stable or fiscally conservative, can participate in sustainable and socially responsible initiatives. Even low levels of participation by worldwide firms can produce significant results in the reduction of climate impact.

Conclusion

The environmental, socio-economic, educational and financial impacts of ecotourism show that the fledgling industry can provide alternative, healthier management practices to traditional tourism properties. Locations are able to support local growth, leave a low carbon impact, educate consumers on environmentally friendly life decisions, and produce increased levels of economic return. The decreased levels of environmental and ecological impact help to contribute to a declined rate of global warming and climate change. Supporting socio-economic development within nearby populations allows the industry to be able to improve health and stability in the region as surrounding communities receive essential support for the development of underprivileged areas. Each setting strives to inform tourists regarding their prospective fragile ecosystem through the education and encouragement of behaviors within the public sphere that further decrease impacts of everyday resource consumption and pollution. The transition to sustainable practices is imperative to remain competitive in a market controlled by consumer demand as financial deterrents to construction are strategically offset with potential long-term returns. Sustainable concepts are still within reach for smaller companies wishing to take baby steps in the way of environmental consciousness.

However, the ability of a management company to consider and choose an appropriate location, build according to standards, and continually evaluate management practices to reflect ecotourism standards is crucial in the destructive or productive nature of a firm. The potential impact of each location is directly related to their ability to naturally fit within an ecosystem and impart positive outcomes. Tracie McKinney of the Australian University of South Wales published an article, “Species-Specific Responses to Tourist Interactions by White-Faced Capuchins (*Cebus Imitator*) and Mantled Howlers (*Alouatta Palliata*) in a Costa Rican Wildlife Refuge” in the *International Journal of Primatology* during April of 2014 to illustrate the case-by-case nature of ecotourism. McKinney focused on 1949 discretely collected samples of 15 minute all-occurrence interactions between tourist and non-tourist groups with the native primates between January 2006 and December 2007. The results of the study showed that both species of monkeys presented more varied and intense interactions with tourist groups over non-tourists; the defining difference occurred as mantled howlers demonstrated positively correlated contact rates with levels of human traffic as white-faced capuchins did not (McKinney). While two sets of similar primate species located within a related area were surveyed, the white-faced capuchins demonstrated an ability to cope with large levels of visitation lacking within their mantled howler counterparts. This study illustrated how species specific guidelines and properly analyzed ecotour facilities can reduce levels of visitor impact on protected ecosystems within their control.

The current oversaturation of ecotourism properties in the market is due to a lack of governance and widely recognized international certification standards. Government participation is necessary to establish responsibility and oversight of infrastructure upkeep while rating programs provide authenticity and quality assurance for the consumer market. Laurie K.

Medina examines the components of certification programs within Belize in her article, “Ecotourism and Certification: Confronting the Principles and Pragmatics of Socially Responsible Tourism” published in the *Journal of Sustainable Tourism* during 2005. Medina identifies the element of ecotourism most widely recognized to define certification as the provision of benefits to local communities, then discusses how Belize interprets who counts as a local, what counts as native participation, and what constitutes a community benefit (Medina). Another article by Michelle Mycoo titled, “Sustainable Tourism Using Regulations, Market Mechanisms and Green Certification: A Case Study of Barbados” published by the *Journal of Sustainable Tourism* in 2006 examines the ability of Barbados certifications to police their fledgling industry. Mycoo found inadequate infrastructure and a lack of impact assessments required by law to have contributed as leading challenges in the long haul goal of sustainable tourism in Barbados (Mycoo). Medina and Mycoo accurately demonstrate how a wide range of international interpretation regarding government oversight and certification of the industry stand in the way of long term success. Similar to the way third party organizations like AAA rate traditional tourism properties, so should there be a certified assessment required for all labeled ecotourism locations. The possible impact of ecotourism, both positive and negative, requires a level of responsibility not easily maintained without oversight.

Ecotourism is a positive and viable model for the reduction of the environmental degradation caused by the international tourism industry. Important environmental impacts can be accomplished by an encouraged transition into the eco-friendly market or adoption of management practices. Everyday consumers can embolden environmentally conscious behaviors by selectively choosing vacation or travel destinations that reflect their societal values. These locations are found in a variety of climates and locations across the continents with

specializations in a wide scale of various niche markets desirable to all forms of tourists. These can include adventure tourism in Costa Rica, wildlife excursions in South Africa, orange tourism of Europe, or shark cage diving in Hawaii. Businesses alter their strategies based on consumer demand, therefore suggesting that a surge in purchasing patterns of eco-certified locations will result in a reevaluation of traditional hospitality sites.

As the measurable impacts of global climate change become increasingly apparent in the twenty-first century, citizens of the world hold a responsibility to forcibly alter the standard of corporate responsibility. It is no longer acceptable for companies to advertise green practices without actively seeking a role in the reduction of climate change. The purchasing power granted to modern consumers by the globalization of supply through technology such as the Internet enabled the creation of the ecotourism sector, but it is dependent on global citizens' initiatives for growth. By creating an environment conducive to the growth of properties committed to ethical management practices, the travel industry can evolve into a conceptually-advanced trade centered on the principles of ecotourism. The stigma of environmental degradation surrounding high-impact industries such as international tourism can change into an industry focused on social responsibility. This generation's responsibility is to preserve the splendors of the Earth for future generations; there is no better way of accomplishing that than through the celebration and exploration of global ecological wonders.

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