

Don't Let Your Vacation Ruin the Destination

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It is clear in today's world that there is a growing concern for human's impact on the environment. Citizens of developed countries are encouraged to make eco-friendly decisions like using a reusable bag when grocery shopping or opting out of getting a straw with a drink, however there are no apparent expectations for businesses in minimalizing their environmental impact. Many people have an idea of how paper companies and car companies impact the environment, however there is not much awareness when it comes to the tourism industry. This lack of environmental awareness and expectations can especially be seen within the cruise ship sector. What makes a cruise ship different than other means of tourism is the fact that it is the transportation, lodging, and dining all in one. Cruise ships not only carry thousands of tourists but can reach areas that tourists would not be able to easily access through other modes of transportation. Because of the wide reach of cruise ships as well as the lack of research into the environmental impact of cruise tourism, more environmental researchers are spending time looking into and bringing awareness to the impact cruise ships have on the environment.

With the growing awareness of the environmental impact of cruise ships, cruise lines must be willing to suffer short term profit loss in order to invest in green technologies that will ensure the longevity of their business. This sacrifice will better fit a more environmentally aware consumer market which will help them maintain their clientele while also maintaining the environments that they use for tourism. It is clear to see the deterioration of businesses that have not adapted to the environmental concern, so if cruise lines want to maintain their profits, they need to make changes. These changes need to go beyond satisfying an environmentally cautious consumer, but in order to remain profitable, protect the land they use. Even though cruise ships have not been the biggest concern of the mass media, cruise lines are aware that they must limit

their footprint and have already taken actions to try to limit their environmental impact as well as plan for the future of cruising, however their current efforts are not enough.

Environmental Awareness

Environmental awareness has been growing in many first world countries since the 1960s. With the continuous advancement of technology and scientific techniques, we are now more than ever aware of the impact of everything from using a plastic straw to where we purchase our clothes from. However, travel for leisure became a part of American culture decades before people were made aware of the damage traveling caused to the environment. The mass use of airplanes and boats for tourism transportation became prevalent in the 40s, before the general population was aware of the damaging effect of burning fossil fuels or coal had on the environment (Caric and Mackleworth, 2017). Vacationing was a normal thing for the average family to indulge in and that tradition has been passed on for over 60 years. Cruises became a popular vacation for many families in the 60s because of the novelty of them as well as their relatively cheap nature. Their novelty remains, but their environmental impact and the knowledge of their environmental impact has grown.

Awareness towards the environment has continued to grow with the years and accessibility of the knowledge needed to take a more environmentally friendly stance. Today, the average business or consumer is too knowledgeable to ignore the impact each of their actions has on the planet. But this awareness can only be seen in developed countries. First world countries are the ones who are concerned with human impact on the environment, while the undeveloped countries they are visiting are the ones being affected. With their effect in mind, cruise lines and other industries that profit off the conservation and beauty of small third world countries must act to ensure the stability of these areas.

This change seems to be a challenge for many businesses because the price of “going green” must be absorbed by them for the most part. Even though consumers are increasingly more aware of the impact that every action has on the environment, most are not willing to pay more to reduce said impact (Hoffman, 1991). So, in the case of cruising, increasing the price per person to go on a week-long cruise in order to pay for green technology could potentially reduce the cruise line’s business. This means that to remain environmentally ethical, businesses must be willing to absorb the short term cost of their internal green initiatives to please the consumer, a task that is difficult for many businesses to see as justifiable.

Impact of Cruise Tourism on Undeveloped Countries

The growth of tourism hasn’t just impacted the American way of life, but also the lives of people who live in countries whose economy is reliant on the tourism industry. Relatively rich first world countries could easily take advantage of the weak and poor third world countries. The small countries than become reliant on these tourists to survive and feed their families. Most of the areas with economies that are reliant on tourism have enough room for an airport and a strip of hotels to sustain their tourist economy, which means they typically have a way to receive relief or have enough space for a waste treatment plant that allows them to keep up with the high amount of pollution and the large footprint tourists leave on their country. But cruise ports of call are not capable of doing so.

Cruises, since they don’t need property for hotels or an airport to bring in their tourist population, don’t need to transport tourists to more developed areas. This has made many small islands in the Caribbean an easy and cheap target for cruise lines. Cruise ships are foreign corporations which means they can avoid taxation, labor laws, and even environmental regulations (Brida and Aguirre, 2010). For cruise ships, the lack of regulations make these small

under developed areas places they can profit off of. Many natives of the islands that have become dependant on cruise tourism would be impoverished if they no longer had access to the tourist market brought in by cruise ships. Moscovici discusses that the areas often taken advantage by the cruise ship industry are unstable and cannot afford to try to increase their environmental precautions, which could possibly drive away the tourism market (Moscovici, 2017). These small islands then need to decide what's important, maintaining their economy or maintaining their environment in which their economy is based on.

The impact of first world countries can be seen greatly in the third world countries that can be easily affected by climate change. Ports of call are known for their unique white sand beaches and tropical wildlife, two characteristics that are easily affected by human's environmental impact. If one of the main reasons' tourists choose cruising goes away, the cruise tourism market will suffer major repercussions. Greenhouse gasses have increased the temperatures of the oceans, which has had a multitude of effects on island countries. Coral reefs, which tend to be a tourist attraction off the coasts of many islands, have been bleached. This means that the beauty that tourists would spend hundreds of dollars to scuba dive to no longer have the appeal they once did. This has a clear effect on the economic state of these islands. Cruises also add to the damage caused by the total global temperature increases by bringing pollution that would not typically be formed in isolated islands. Cruises burn oil which could cause pollution in the water, further effecting the marine and coastal environments (Klein, 2011).

The impact caused by cruise tourism can be seen in the Cayman Islands, specifically an area off the coast known as "Stingray City". This is a popular cruise excursion in which tourists take a boat big enough for about 30 passengers to a sand bar. Tourists snorkel or scuba dive to get a better view of the stingrays and the coral reefs around them. You can get a kiss from a

stingray and for the brave you can get a back massage from one of them, like my mom has. The stingrays are rewarded by the guides with whatever fish they can get for cheap at the local market. With an estimated number of tourists being around 100,000 visitors per year these stingrays have a lot more interaction with humans than they should be. This has caused the stingray population to develop shoaling behavior, skin abrasions, and altered feeding habits (Shackley, 1998). These changes have brought about a movement to limit tourist interactions with the animals, which could greatly decrease the appeal of travelling to these lands. The effect on the animals can be seen as a warning sign that, the amount of human interactions caused by cruise tourism can be detrimental to the marine life of tourist destinations.

Global warming has caused the ice caps to melt which has caused the sea levels to rise which has and will continue to have detrimental effects on small islands. The few centimeters of sea level change leads to beach erosion and beaches are one of the main draws to go on a cruise. Without the guarantee of a nice beach to tan on, many people would forgo traveling to a small country to sit on a beach that does not fit their expectations. And because of the continuous melting of the ice caps, the beautiful beaches seen online will no longer be available for tourists. This will eventually lead to the destruction of the economies of these tourist islands (Pernetta, 1992).

The amount of garbage left behind by these cruise ships can also be damaging to the small islands. Because many of the islands the cruise ships travel to are too small to process all the garbage that is left behind by cruise ships, much of it piles up and eventually makes its way into the natural environment. Cruise ships also bring about a high amount of littering. When on a boat, it is easy to throw trash into the ocean, especially since most tourists come from areas where litter is a common sight (Hall et al., 2015). Small islands typically do not have to deal with

litter because many of them have different cultures where the environment is more respected than in the United States or other first world countries, so islands are challenged with finding ways to manage the waste.

Regulations

Although the impact cruise ships have on areas that may have never been affected by the pollution have the possibility to destroy the environment and economies of the small islands they utilize, cruise lines are taking steps to ensure that they do not destroy the land that they need to sustain their business. More regulations have been put in place for cruise industries both federally and internationally. The Clean Water Act is a U.S. law that ensures the limitation of pollutants released into rivers, lakes, and coastal waters. Cruise ships need to take the proper precautions to ensure that no pollutants are released, however cruise ships do not need to receive a National Pollutant Discharge Elimination System permit, which reduces the oversight the government has (Copeland, 2008). Internationally, there is MARPOL, which is the International Convention for The Prevention of Pollution from Ships. MARPOL has six annexes which set protocols for oil discharge, noxious liquids, labelling and removal of harmful substances, sewage, waste, and air pollution. The main obstacle for MARPOL is how extensive their policies is along with how many ships fall under their jurisdiction; it is difficult to hold all vessels accountable (Copeland, 2008).

With waste being one of these regulations many cruise lines have implemented a system of taking back any trash produced on any small islands and not leaving any trash produced on the boat while docked. This ensures that small islands do not have too much waste to process within their small waste production plants. The trash produced throughout the cruise is then brought back to the country of origin for the cruise ship, so it could be processed there. According to the

Cruise Line International Association, waste on cruise ships has the possibility of waste being 100% repurposed if cruise lines take the proper steps (CLIA, 2018).

Cruise ships also leave the option open for passengers to be eco-friendly. Although it is an expectation on vacation to have fresh linens every day, cruise ships allow and promote the reuse of towels and sheets. This limits the water consumption for the boat immensely. Because cruise ships do not have an unlimited access to fresh and clean water, small steps to reduce water usage can reduce cruise ships environmental impact over all.

Along with a high consumption of water on cruise ships, food waste is a big issue associated with cruise lines. The all-day buffets are major producer of food waste because food can sit out for hours and still not be eaten. On the average cruise, around 10,000 meals are made per day with an estimated food wasted around 30% (Grant, 2014). Because of this high amount of waste, international laws are put in place that ensure the leftover food is processed in the correct manner. Heavy fines have been put into place if the proper system isn't used to dispose of food waste. Food waste is held separately from all other waste on board. The food waste is then broken down into fish food which is released while the boats or at sea. The repurposed food waste can only be released away from shore lines and sensitive coastal areas (Grant, 2014). Some food lines are taking the repurposing of food waste to another level through an onboard food cycler. The food cycler system breaks down and cleans cruise ship food waste into a fertilizer to be used on shore. This fertilizer is regarded as high grade because of the high amount of nutrients from the food and many hospitals, resorts, and even military bases utilize the rich fertilizer (Grant, 2014). Although this process is not widely used by cruise lines, the growing research and advancement of technologies to ensure oceans stay clean, this process will probably expand in order to increase sustainability of the cruise industry.

Johnson states that an increase in awareness of tourist industries, like cruise lines, is necessary for the cruise ship industry to be sustainable (Johnson, 2006). Awareness brings about change, so making guests aware of how much energy and fuel is consumed to wash a towel could reduce consumption greatly. Since cruise ships can produce a high amount of pollution, actions need to be taken by cruise lines to ensure the sustainability of the industry. These changes will allow for the profits of the cruise ship industry and the tourist destinations will continue for years.

Even though there have been cruise lines that implement different techniques for increasing their conservation efforts, Disney Cruise Lines has become a model for the future of cruise ship sustainability. In fact, Disney Cruise Lines has received high ratings for their environmental footprints (Manoiu, 2018). The Friends of the Earth “Cruise Ship Report Card” gave Disney Cruise Line an overall A rating with the recognition of them being highly transparent with their environmental impact. The organization gave Disney an A for the sewage treatment which means that they maintain up to date techniques for waste disposal and have minimal sewage released into the water (Manoiu, 2018). Disney Cruise Line is also applauded for their compliance in regard to water quality. Disney Cruise Line is regarded by many as the current standard for eco-friendly cruising, but there is more that could be done.

What are they doing about it?

The growing awareness of consumers is eventually not only going to impact the environment that they use, but the environmentally aware consumers. In order to maintain their profits, cruise lines are beginning to adjust how their ships run to make them more ecofriendly. This is a challenge for many cruise lines and even other businesses because many changes that can be made within a company come at a high price. Since the research in regard to climate

change and the impact humans have on the environment is relatively new, there are few companies that have fully developed green technologies to lower human's footprint like Google and Citibank. Because of this lack of technology, cheaper green options are not available to implement on a large scale for cruise ships. However, the many cruise lines are preparing for the future advancements in green technology.

Sweeting and Wayne discuss the challenges that cruise lines have been facing in preserving the environment and the cruise lines response to those challenges. They focus on Carnival Cruise Line and Royal Caribbean International. One of the areas they address the hazardous waste that cruise ships produce like photo processing chemicals that can harm the marine life and pollute the ocean. With the increased awareness of cruise lines and consumers have towards the decrease in marine biodiversity due to pollution, limiting chemical waste has become important. This has led to these cruise lines switching to complete digitalization of the photo process (Sweeting and Wayne, 2006). The laundry process on cruise ships is also a big contributor to the release of chemicals into the ocean from cruise ships. To limit the release of these chemicals, cruise lines have started to use specialized filters to limit the amount of chemicals that remain in the water after the laundry has been processed (Sweeting and Wayne, 2006). The switch to digitalization has not greatly impacted cruise line's profits because most electronics are completely digitized now, however the filters that are used to filter out chemicals on a large scale are on the more expensive size. The equipment that is needed for these filters is also expensive, so cruise lines need to prepare their bank accounts and new cruise ships for the amount of equipment that is required for the filtration system and the high price it costs to use (Ahmad and El-Dessouky, 2008).

Solid waste is also a concern on cruise ships because the areas that cruise ships travel to do not have the ability to process all the garbage cruise ships bring to them. This causes the cruise ships to have to hold onto the ton of garbage passengers produce each cruise, which decreases the efficiency of the cruise ship, but also increases the possibility of waste not being properly processed (EPA, 2017). Cruise ships are required by US Laws, like the Federal Water Pollution Control Act, to strive for zero-discharge. This policy means that cruise ships must first properly treat the waste produced before discarding it. However, policy does not represent the extent to which cruise lines must act to limit their footprint. Most major cruise lines have started onboard recycling programs, with Carnival Cruise Line reaching a recycling rate of 65%, which is a lot higher than many on land companies (Sweeting and Wayne, 2006). The recycling system that cruise lines have been implementing does come at a slight increase for the cruise lines, however it is a step that must be taken to ensure that the environment that is being utilized by the cruise ships lasts and remains profitable.

The steps cruise lines have taken to become more environmentally friendly may seem effective to the average person, however these relatively small changes made within the cruise lines are not causing enough of a change in their environmental impact as they may hope. The minor changes made are also leaving the educated consumer dissatisfied with the industry because they are changes they see in companies that are smaller and don't have a large environmental impact. This change is because it is now seen as a social norm for companies to implement recycling programs, water saving initiatives, and minimize chemical leaks (Han et al., 2017). Instead, consumers are looking for grander and more impactful changes, like onboard renewable energy sources.

With the possibility of stricter air and water regulations domestically and internationally, turning to renewable energy sources and energy storage systems may be the only way to stay within the guidelines set for cruise ships. This change in cruise ship's energy system has the possibility of greatly reducing fuel consumption on the boats, as well as increasing their efficiency (Tsekouras et al., 2014). This proposed system is known as "All Electric Ship" or AES and is a method of making all onboard energy systems as efficient as possible. The AES has the possibility to decrease cruise ship tourism's footprint immensely, however the technology has not been fully developed to be executed in the near future. AES can greatly reduce the amount of pollution produced by the cruise ships as well as the amount of money cruise lines need to spend on fuel, but this possible incentive for cruise lines to use AES technology is not worth it at the moment. This proposed technology would have to be utilized on a new cruise ship and with the possibility for failure for the AES, it could be a billion-dollar risk to build a more efficient cruise ship (Tsekouras et al., 2014). Even though cruise lines are aware of the damage their high fuel usage is causing to their product, many cruise lines don't want to spend the money on this eco friendly switch even though it is necessary for the sustainability of their business.

Because of the lack of certainty in the development of affordable and sustainable technologies that can decrease cruise ships' environmental impact, cruise ships are turning to the consumer to be environmentally cautious while on vacation. One of the techniques cruise lines use is the offering of ecotourism excursions. Within the past few decades of cruise tourism, excursions offered by cruise lines have shifted. While you can still go scuba diving or go on a speedboat around a Caribbean coast, cruise lines offer more natural excursion options. Some of these excursions include, guided tours of rain forests or plantations, a trip to a wildlife preserve, or tubing through natural caves. These newer options create more of a meaningful and

appreciative dialogue between the tourists and the local land and community (Johnson, 2006). By adding ecotourism excursions to a vacation, cruise lines emphasize the impact that the individual has on the environment around them and by pushing these less environmentally damaging tours, cruise lines can extend the lifetime of their business in that place.

The consumer's impact doesn't end with what they choose to do at their destinations. On board, guests are "going green" throughout their stay on their cruise. Guests are often offered a drink plan at an additional cost while aboard. These plans come with a reusable cup, which not only limits the waste a passenger produces, but also is profitable for the cruise line with the average cost running over 50 dollars per day (Carnival Cruise Line). When it comes to laundry, cruise ships limit the amount of chemicals they need to use by charging around six dollars per item to be washed (Cruise Critic). Cruise lines often ask guests to limit their water consumption, by only having completely dirty towels washed every day. Both techniques to limit chemical contamination of water and water use come with no cost or a profit for the cruise lines. However, when on vacation, many people do not put as much thought into their environmental impact. It is the mindset of many that you should get the most for what you pay for. So, using multiple towels after showering or leaving the sink on while brushing your teeth, rarely concern your average cruise goer (Adams et al., 2017). Because of this lack of concern while in the vacation mindset, cruise lines should take on the responsibility of going green and spending money to do so.

Concluding Ideas

The environmental impacts of cruising are extensive. They produce food waste, hard to process solid waste, hazardous chemical waste, and burn fuel just to operate. The impact of these environmental risks go beyond just an increase in global temperature, but for cruise ships, they have the possibility to completely wipe out the whole industry. The environmental damage that

cruise ships create on such a large scale have been destroying the destinations that they have made so profitable. From the bleaching of coral reefs, the high amount of litter in the ocean, to the decreased biodiversity in many tropical areas, these impacts go beyond effecting the tourist populations, but have had a great impact on the native population. The responsibility to limit the environmental and economical decimation of small countries that cannot sustain the large crowds brought in by tourists falls on the cruise lines themselves.

With the responsibility falling mostly on the cruise lines themselves, consumers are requiring a higher environmental standard from the companies that they are spending their money on. As of now, the actions these cruise lines have taken are relatively small. Disney Cruise Line is seen as the standard, but they have also not taken any drastic measures to decrease their environmental impact. Instead of developing new ships with renewable energy sources imbedded into their boats, cruises turn to small changes just to follow the domestic and international standards in place. To supplement their lack of action, cruise ships turn to their guests to make the right decisions while on vacation because it is a cheaper option for the cruise lines. However, this expectation is often not met because while on vacation, people don't want to think about the world.

With this in mind, cruise lines need to start to spend more money on research into sustainable energy sources and waste elimination processes rather than turning to cheap and ineffective methods of limiting the environmental impact of their product. This is the only way to ensure that the cruise ship industry can last longer and remain profitable.

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