



**Center for Responsible Travel**

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**Basic Landscape Overview:  
Food Waste Reduction & Prevention Opportunities for  
the Caribbean Hotel Sector**

Prepared by:

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for

**World Wildlife Fund**

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## Introduction & Background

The Food and Agriculture Organization of the United Nations (FAO) reports that up to one third of all global food is wasted. At the same time, producing that food uses incredible energy, water, and labor resources. Food systems release greenhouse gas emissions both on the production and disposal ends, which the planet can no longer afford. With all the energy that goes into producing food and the subsequent waste, how is it that almost a billion people still go hungry around the world?<sup>1</sup> Logic tells us that this incongruity is a solvable issue. But how?

The tourism industry is a suitable place to make headway. In 2017, international tourist arrivals reached a record 1.3 billion.<sup>2</sup> As the largest service industry in the world, a move towards a food waste prevention and reduction mindset among providers would have tremendous impact. A critical player in the march towards sustainable food systems in the tourism industry is the hotel sector. Only a little more than half of food on hotel buffets is consumed.<sup>3</sup> What happens to the leftover food on the buffet or on a plate due to unnecessary portion sizes, or to the uneaten meal ordered at an all-inclusive hotel simply because it was already "paid for"?

While traditional mass tourism has often reflected the characteristics of overconsumption, consumer demand for sustainability and social consciousness, along with a desire for increased efficiency and cost savings among businesses, has fueled a shift toward more responsible tourism models. The hotel sector is also able to educate visitors on issues such as food waste in a tasteful and meaningful way, which could, in turn, impact visitor behaviors once they return home. As stated by American Hotel and Lodging Association (AHLA) President & CEO Katherine Lugar, "The industry has a unique opportunity to raise awareness and design the guidelines, tools and resources needed to make a difference."<sup>4</sup>

Supported by The Rockefeller Foundation, World Wildlife Fund and AHLA have made strides in developing these guidelines, tools, and resources via a program called [Hotel Kitchen](#), stemming from a pilot with 10 US hotel participants. Through a survey, WWF found that staff "overwhelmingly want to do more to prevent food waste at work, but they need more direction from leadership on how. They do not have clearly defined roles, nor do they have an understanding of hotel food waste goals."<sup>5</sup> Key findings from this pilot show that through separation, tracking, and video training, AHLA participants achieved an average 30% reduction in food waste produced per guest, and even greater savings occurred after real time audits of buffet waste.<sup>6</sup>

The successful partnership with the AHLA establishes that there is now opportunity to expand WWF's tools and training to hotels outside of the United States. As the most tourism dependent region in the world, the Caribbean is a key geographical target that could make use of WWF's resources. This region is particularly suited for WWF's food waste program, given its proximity to the United States, reliance on costly food imports, increased pressure on resources and agricultural systems due to climate change and demand, and limited capacity in many destinations to manage waste. This report provides an overview of current tourism trends, food insecurity, and food waste reduction efforts, challenges, and opportunities within the Caribbean region.<sup>a</sup>

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<sup>a</sup> The issue of food waste prevention in the Caribbean involves both local agricultural capacity and reliance on imports. While we will touch on opportunities at a localized basis, we do not provide significant analysis on the agricultural sector. This report focuses mainly on the food waste reduction under the lens of donation and diversion opportunities.

## *Caribbean Tourism Industry Snapshot*

According to the World Travel & Tourism Council (WTTC), the total contribution of travel & tourism to GDP in the Caribbean in 2017 was US\$57.1 billion, or 15.2% of GDP. It is forecast to rise by 3.3% in 2018 and account for US\$84 billion, or 17.8% of GDP, in 2028.<sup>7</sup> Perhaps unsurprisingly, 89.1% of direct travel & tourism GDP in 2017 was generated by inbound and domestic leisure travel spending, while only 10.9% was attributed to business travel. Domestic travel spending accounted for 27.8% of direct travel & tourism GDP, and international tourist expenditure accounted for 72.2%.<sup>8</sup>

The total population of the Caribbean in 2018 is estimated to be just over 44 million.<sup>9</sup> In 2017, the Caribbean region received over 30 million stayover (meaning non-cruise) tourists for the first time, reaching US\$37 billion in visitor spending for this segment.<sup>10</sup> This milestone was achieved during uneven growth. The Caribbean Tourism Organization (CTO) reports a number of countries had double digit-increases in stayover visitors “such as Saint Lucia (11%), Belize (10.8%), and Bermuda (10.3%), while the hurricane-impacted countries recorded decreases ranging from -18% to -7%.”<sup>11</sup> The United States is the major source market for the Caribbean and accounted for 14.9 million visits.<sup>12</sup> For comparison, in 1996, the Caribbean received only 16.6 million total stayover visitors.<sup>13</sup> Arrivals have almost doubled in 20 years, putting pressure on development, food systems, and infrastructure.

## *Food Insecurity, Imports, & Local Production*

While tourism arrivals continue to rise, accounting for a significant (though currently unquantified) demand for food products, Caribbean residents face issues of food insecurity. The Food and Agriculture Organization of the United Nations (FAO) and the Pan American Health Organization reported that within the Caribbean, the proportion of hungry people fell from 18.4% in 2015 to 17.7% in 2016. Children here face the lowest instance of malnutrition compared to other sub-regions, at 5.3%, or about 200,000 children.<sup>14</sup> Within the region of Latin America and the Caribbean (LAC) the issue is not whether enough food is produced, it is whether the poor can gain access to that food.

The Caribbean Community (CARICOM), an organization of 20 countries, all classified as developing, reports “almost all [CARICOM countries](#) import more than 60 percent of the food they consume, with half of them importing more than 80 percent of the food they consume.”<sup>15</sup> Imports to CARICOM countries are now about US\$4 billion annually, which is a 50% increase from 2000. Current projections are that imports will reach US\$8-10 billion by 2020 if the issue of import dependency is not addressed.<sup>16</sup>

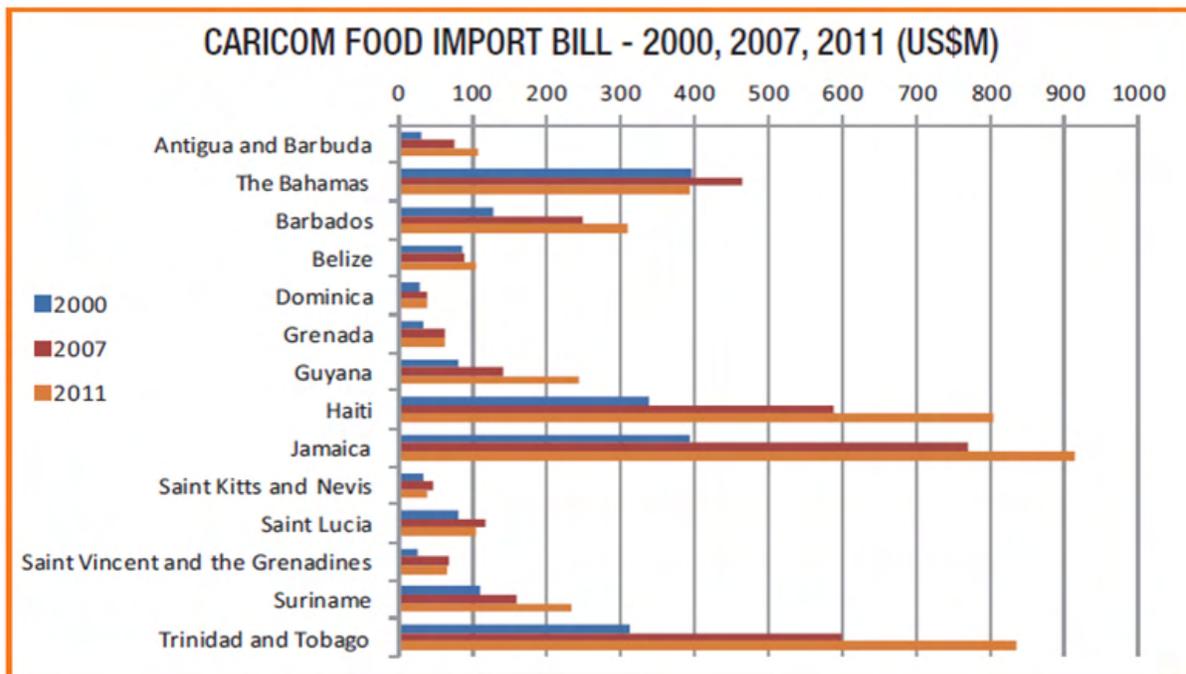


Figure 1: Four countries account for over two-thirds of value of the food import bill. In 2011, this translates to: Jamaica, 21% (US\$913 million), Trinidad and Tobago, 20% (US\$833 million), Haiti, 19% (US\$802 million) and the Bahamas, 9% (US\$393 million).<sup>17</sup>

Factors that contribute to a high level of imports include:

- Changing tastes in the Caribbean resident population
- Food surpluses in the United States, EU, and other food-rich nations
- Low import barriers and even lower prices
- Domestic challenges in the Caribbean farming sector
- Increases in tourism over the last half century<sup>18</sup>

The islands of the Caribbean are at a specific disadvantage for producing their own food due to lack of arable land and climate change impacts. Only 12.7% of the food imports in the region were sourced from within the Caribbean in 2010.<sup>19</sup> There is work being done to change this. The [Caribbean Farmers Network](#) (CaFAN), an NGO including 14 member countries, has a major focus to “foster linkages, training and information sharing amongst Caribbean farmers so that they are in a better position to respond to the key challenges facing the agricultural sector in the Caribbean. CaFAN organizes training workshops, advocacy, study tours, information sharing, regional planning sessions, and produces a variety of publications.”<sup>20</sup> Main crops include cassava, beans and other legumes, a variety of fruits and vegetables, and animals, especially goats and chickens.

## Regional Context for Food Waste Reduction

Opportunities are available to both support food insecure populations and lower import reliance if effective programs can be implemented. The Latin America and Caribbean (LAC) region as a whole is estimated to lose or waste ~15% of food supplies.<sup>21</sup> Though there is no current estimate for total food

losses in the Caribbean alone, the FAO's Regional Office for Latin America and the Caribbean reports "The Caribbean region has positive experiences and FAO's support to meet the goal of the Sustainable Development Goals to reduce losses and waste by half by 2030."<sup>22</sup> Engaging with food waste management broadly in the Caribbean can be a challenging task, as institutional arrangements to do so within each country are different. They each have a separate set of involved parties, as well as different legal and regulatory frameworks. We found few instances of individual Caribbean countries having a specific food waste policy or working groups; if food waste is included, it is typically part of the greater solid waste management and/or national food and nutrition security policy.

The following timeline outlines relevant regional agreements, conferences, and policies that have sought to tackle the issues of food waste prevention and reduction, food security, and strengthening the agricultural sector:

- 2005: The FAO launched the [Hunger-Free Latin America and the Caribbean Initiative](#), which engages countries and organizations "in the creation of the necessary conditions to eradicate hunger by 2025. The Initiative is intended to support the development of legal frameworks that would promote and protect the Right to Food, institutions that would coordinate and monitor the negotiations to increase food security; and policies that would lead to practical actions to eradicate hunger."<sup>23</sup> An ongoing program, since 2012, the following CARICOM countries have launched country-wide initiatives: Antigua and Barbuda, Grenada, St. Vincent and the Grenadines, and St. Lucia.
- 2010: The [CARICOM Regional Food and Nutrition Security Policy and Action Plan](#), covering the 15-year period from 2012-2026, established goals surrounding food availability, food access, food utilization/nutrition adequacy, and stability of food supply.<sup>24</sup>
- 2011: The [Caribbean Community Agricultural Policy](#) sought to build on earlier policies and "transform the agricultural sector to play a meaningful role in the Single Market and Economy," focusing on practical engagement and action within five pillars: 1) food and nutrition security, 2) production-trade (value) chains, 3) sustainable development and natural resources, 4) rural modernization and youth programs, and 5) modern knowledge and information systems.<sup>25</sup>
- 2012: The **32<sup>nd</sup> FAO Regional Conference for Latin America and the Caribbean** (LARC) acknowledged "the relevance of policy and regulatory measures for reduction in food losses and waste and increased access to food and changes in consumption patterns."<sup>26</sup>
- 2014: The [33<sup>rd</sup> FAO Regional Conference for Latin America and the Caribbean](#) (LARC) considered food loss and waste reduction among the priorities for 2014-2017. Activities identified include inclusive and efficient development of agriculture and food systems at the local, national, and international level.<sup>27</sup>
- 2014: FAO hosted a [regional consultation](#) including experts from 13 Latin American and Caribbean countries to analyze the extent of the food waste problem and the actions taken so far. An expert network was set up with FAO as the technical secretariat.<sup>28</sup> At the meeting, a **Regional Strategy for the Reduction of Food Losses and Waste** was proposed and accepted.

The strategy proposes the establishment of a facilitating platform for joining forces and setting common goals. Since then, some countries, supported by their FAO country representatives, have set up National Committees for Food Loss and Waste Reduction, which are made up of members of public, private, and civil society organizations.<sup>29</sup> The only Caribbean countries reporting progress as of February 2016 are the Dominican Republic (more information in the country snapshot, below) and Saint Vincent and the Grenadines.

- 2015: The **First Regional Dialogue on Food Losses and Waste** was held in Santo Domingo in the Dominican Republic, attended by the Vice-President of the Dominican Republic, as well as authorities and representatives of 11 countries of the region. The objective of the Dialogue was to promote the reduction of food losses and waste as one of the strategies for the eradication of hunger, poverty, and malnourishment in the region, within the framework of the Sustainable Development Goals.<sup>30</sup>
- 2016: At the **Fourth Summit of the Community of Latin American and Caribbean States (CELAC)** in Quito, Ecuador, “the region’s leaders reaffirmed their commitment to prioritize the consolidation and implementation of the CELAC Plan for Food Security, Nutrition and Hunger Eradication and reiterated their request that FAO support the process. This includes also the creation of the *Regional Alliance for Reducing Food Waste and Losses* and the establishment of national committees seeking to halve waste in the region by 2030.”<sup>31</sup>
- 2016: The **Second Regional Dialogue on Prevention and Reduction of Food Losses and Waste in Latin America and the Caribbean** was held in St. George, Grenada. Revisiting the 2005 Latin American and Caribbean Zero Hunger Initiative embraced by CELAC, the group reaffirmed commitment to halve per capita food losses and waste by 2030.<sup>32</sup>
- 2017: The FAO supported the **Seminar in Social Innovation from Management of Food Losses** to look at the success and challenges of the Dominican Republic’s Committee on Food Loss and Waste, involving participation from representatives from national food loss and waste initiatives in Brazil, Colombia, and Jamaica. Discussion centered around knowledge sharing among country initiatives and strengthening social innovation.<sup>33</sup>

### *Involving the Tourism Industry at a Regional Level*

There has been little engagement at this point between regional strategies and the tourism industry, indicating significant opportunity for leveraging the industry to act on food waste reduction. The Caribbean Tourism Organization (public sector, NGOs, and international agency members) and Caribbean Hotel & Tourism Association (private sector members) offer initiatives and annual conferences that may provide opportunities for creation of strategies, initiatives, presentations, pilots, etc.:

- [Caribbean Tourism Organization](#) (CTO): The CTO’s mission is “to provide to and through its members, the services and information needed for the development of sustainable tourism for the economic and social benefit of the Caribbean people.”<sup>34</sup> The CTO conducts research and compiles tourism data from member states, hosts conferences, and provides advocacy services

for the region. The CTO has no official food waste policy or resources to provide to members, but the organization's sustainable tourism department is interested in the topic. There are opportunities for engagement to facilitate region-wide public sector dialogue.

- [Caribbean Hotel & Tourism Association](#) (CHTA): The mission of the CHTA is to be “one of the world’s leading associations representing tourism interests known for providing national hotel and tourism associations and members with exceptional value which generates business and advances a sustainable and profitable industry.”<sup>35</sup> The CHTA offers webinars and readily shares knowledge with members via a web portal. In addition, they host annually the [Caribbean Hospitality Industry Exchange Forum](#) (CHIEF), which is the premier educational forum for Caribbean hospitality and tourism professionals. “CHIEF is where the hospitality industry unites to learn from each other, break the molds and set a new normal for the industry.”<sup>36</sup> CHIEF would be an excellent forum to present food waste management topics.

In addition, the [Caribbean Alliance for Sustainable Tourism](#) (CAST) is a project of the CHTA, chaired by Denaye Hinds. CAST is currently updating its [waste management toolkit](#) for hotels, which includes a few components of food waste prevention and reduction, last updated in 2001. The updated version will reflect more innovative and alternative measures. In addition, they are in the process of structuring a series on fat, oil, and grease (FOG) waste innovation and a closed-loop system from the kitchen design side, including building a show kitchen in Barbados that will include the technology to do so.<sup>37</sup> This ties into a larger effort to engage restaurants through the [Ocean Friendly Restaurant Certification](#) run in conjunction with Surfrider Foundation. There are significant opportunities for engaging CHTA and CAST private sector members to share resources and integrate food waste management programs.

## Country Snapshots: Opportunities for Engagement

Below is an overview of seven identified Caribbean countries that rely on tourism as a major portion of GDP and have food insecure populations that may be served through effective donation and diversion programs for the hotel sector. Through a series of interviews and desk-based research, we provide information on current policy, institutional structure for waste management, and current food waste practices for each country.

### *Aruba*

Within Aruba, the total contribution of travel & tourism to GDP was US\$2.3 billion, or 86.5%, in 2017. It is forecast to rise by 1.2% in 2018 and to reach US\$2.9 billion, or 91.7%, of GDP in 2028.<sup>38</sup> In 2017, Aruba received 1,070,548 stayover visitors.<sup>39</sup> The population in 2018 is 105,618.<sup>40</sup> No data is available from the FAO on the estimation of the population that is undernourished.

The climate in Aruba makes local farming difficult.<sup>41</sup> The island has a dry, desert-like climate and the eastern coast suffers from high winds and tides.<sup>42</sup> <sup>43</sup> As of 2015, only 11.1% of land was arable.<sup>44</sup> At only 69 square miles, land availability is an issue, and there has been an increase in land values due to competition with the tourism industry. Demand for imported, processed products has also caused local

food initiatives to stagnate; for example, small aquaculture development efforts began the 1980s,<sup>45</sup> but the World Bank still reported no aquaculture production in Aruba by 2015.<sup>46</sup>

Although we were able to identify a food bank on the island called [Fundación Pa Nos Comunidad](#),<sup>47</sup> the types of foods accepted are limited, and one food bank cannot manage the large scale of food waste coming from the many hotels and resorts on the island. Team member Nathaly Stanley of Bucuti & Tara Beach Resort states, “The hospitality industry in Aruba is very much developed, offering about 9000 hotel rooms and 500 restaurants. This comes with a relative amount of food waste, with limited options to re-use. At Bucuti & Tara we have policy and procedure in place to significantly reduce food waste. The unavoidable food waste that is left is diverted from landfills by donating to pig farmers to completely avoid waste.”<sup>48</sup> Waste management on the island is operated by [Serlimar](#), an Aruban governmental entity. A private company called EcoTech also collects and disposes hotel and commercial waste.<sup>49</sup> Some of this collected waste is buried. Serlimar reports that there are two landfills on the island in which it is legal to dump, alongside the excess of illegal dumping sites.<sup>50</sup> The Parkietenbos Landfill in particular has been a source of political controversy for decades; in 2009, the government responded to complaints by purchasing equipment for the Serlimar facilities from a company called [WastAway](#), which purported to be capable of processing up to 50% of the municipal solid waste generated on the island.<sup>51 52</sup> According to Bill Martin, the Vice President of the Tennessee-based company, the WastAway facility was closed a year after its opening, due to changes in the political climate.<sup>53</sup>

In 2017, community organizations were still petitioning the government and developing their own solutions to deal with the landfill problem that was perceived to have an impact on public health and safety.<sup>54 55</sup> In February of this year, the government put out a request for information on more sustainable solutions to managing waste, which included the stated intent to close the Parkietenbos Landfill and build new “thermal treatment” facilities instead.<sup>56</sup> WastAway has submitted a proposal to re-open their facility, which would use a “patented hydrothermal process [to convert] a ton of unsorted household waste into a pathogen-free, environmentally safe medium.”<sup>57</sup> The proposal is currently under review. One of the functions of this facility will be to convert food waste into fertilizer and biofuel, which may be used as a source of alternative energy for Aruban power plants.<sup>58</sup>

There is hope for a strategic food waste prevention and reduction program, as the Aruban government has shown a commitment to sustainability initiatives. Several renewable energy technologies have been developed, and the island plans to be energy independent by 2020.<sup>59</sup> As waste diversion efforts have been only marginally successful, there is a clear opportunity for engagement with both public and private sectors to prevent food waste and introduce more developed recycling/composting technologies.

There is opportunity for engagement on the issue of food waste through the [Aruba Hotel & Tourism Association](#). Ewald Biemans, owner and CEO of Bucuti & Tara Beach Resort (rated in 2016 as the most environmentally friendly resort in the world by [Green Globe](#), a global certification for sustainable tourism) serves on the board of directors.

### *The Bahamas*

Within the Bahamas, the total contribution of travel & tourism to GDP was US\$4.3 billion, or 47.8%, in 2017. It is forecast to rise by 3.1% in 2018 and to reach US\$6.2 billion, or 59%, of GDP in 2028.<sup>60</sup> In 2017,

the Bahamas received 1,335,933 stayover visitors, ranking 5<sup>th</sup> in the Caribbean.<sup>61</sup> The population in 2018 is 398,713.<sup>62</sup> It was estimated that from 2004-2006, 10% of people were undernourished; from 2014-2016, again 10% of people were estimated to be undernourished, though estimates had peaked as high as 11.9% from 2010-2012.<sup>63</sup>

More than 80% of the Bahamas' food is imported due to the poor quality of soil and the high cost of production.<sup>64</sup> In 2015, "the United States agricultural and related products exports to the Bahamas were valued at a record US\$324 million... Of the total amount of consumer-oriented food products imported into the Bahamas, approximately half is directed toward the hotel, restaurant, and institutional (HRI) food service sector".<sup>65</sup> Hotels and resorts have expressed interest relieving reliance on imported produce, but largely have been unable to identify a dependable supply stream.<sup>66</sup>

The legal framework for solid waste management is composed of the [Environmental Health Services Act](#) and the [Environmental Health Services Collection and Disposal of Waste Regulations](#). Regulatory oversight of solid waste management is provided by the [Bahamas Department of Environmental Health Services](#) (DEHS) and the [Ministry of the Environment and Housing](#). The DEHS is responsible for the collection and disposal of garbage within New Providence, which is the most heavily populated island of the Bahamas, where Nassau is located.

Donation and diversion opportunities for hotels are available through a Nassau food bank called [Hands for Hunger](#). Zeleka Knowles, executive director, shares:

*Many of the large hotels, here in Nassau, Bahamas, are sensitive to the issue of food waste and seem genuinely committed to reducing the amount of food their hotels throw out, both from a cost perspective but also from an ethical stand... Hands for Hunger was instrumental in passing the [2010 Good Samaritan Act \(Bahamas\)](#).... In the Bahamas companies with surplus food are encouraged to donate to Hands for Hunger as well as soup kitchens and feeding agencies across the island. There are some farms that use animal feed, as such any food that is not fit for human consumption can certainly be used there..... As it relates to tourism, we are a country that receives hundreds of thousands of tourists via cruise ships each year. It would be a significant contribution to our local feeding program if we could convince cruise ships to donate any surplus food from their buffet kitchens to organization's like Hands for Hunger each time they dock at our port. The quantity is less important than the symbolism behind cruise ship companies that have a sense of responsibility to their ports.*

The Bahamas legislation she mentions reflects the 1996 U.S. Federal Bill Emerson Good Samaritan Food Donation Act that protects donors from the liability of food donations to charitable organizations.<sup>67</sup> A Good Samaritan Act of this type has not been identified in any of the other Caribbean countries of focus in this report. We conducted interviews with 14 individuals from the public, civil, and private sectors in these countries and this was the only policy related to donor liability reported.

Before the 1990s, much of the Bahamas' waste was dumped in wetland areas or burned.<sup>68</sup> At this time, the government entered into a partnership with the IDB to fund a US\$33.5 million solid waste management project.<sup>69</sup> Reports from 2016 and 2017 all note that this investment has been only sporadically successful, with some waste-to-energy facilities developed inefficiently, while other recycling initiatives were never enacted.<sup>70 71</sup> A study done in 2014 on benchmarking at Sandals Emerald Bay, Exuma, noted there were still no governmental "requirements to recycle or sort the solid waste stream."<sup>72</sup> Solutions proposed by private companies were apparently never acknowledged by the

Bahamian government. In the meantime, fires are frequently reported at landfill sites in New Providence, Nassau.<sup>73</sup>

There are opportunities for engagement on issues of food waste with the [Bahamas Hotel & Tourism Association](#). Though food waste is not an individual program area, the BHTA offers a “Green Enterprise Seal Checklist.” The checklist includes a section on food & beverage, asking questions such as “Is any kitchen waste composted? If so, what items are composted and what is done with the finished compost? Does the hotel have a fruit, vegetable or herb garden to provide produce for the kitchen?”<sup>74</sup> In addition, the BHTA offers a Best Practices Guide for hotels, which includes a Kitchen section. Among the best practices listed are “Donate unserved food to a local charity. Collect separately food waste and scraps, and donate this material to a local farmer who can use it as pig feed. If the food waste cannot be used as animal feed, collect separately the vegetable and fruit waste from the pantry and other kitchen areas and send it to the compost pile.”<sup>75</sup> The BHTA has also announced a strategic alliance with the American Hotel & Lodging Education Institute Partners Program, “to facilitate broader industry and employee participation in attaining certifications and credentials in line, supervisory and management levels.”<sup>76</sup>

Due to the Good Samaritan Act and interest from both Hands for Hunger and the private sector, the Bahamas has been identified as a strong candidate for a successful food waste reduction program.

## *Barbados*

Within Barbados, the total contribution of travel & tourism to GDP was US\$1.9 billion, or 40.6% of GDP, in 2017. It is forecast to rise by 2.8% in 2018 and to reach US\$2.8 billion, or 51.5%, of GDP in 2028.<sup>77</sup> In 2017, Barbados received 642,350 stayover visitors, ranking 8<sup>th</sup> in the Caribbean for international arrivals.<sup>78</sup> The population in 2018 is 286,336.<sup>79</sup> It was estimated that from 2004-2006, 5.5% of the population was undernourished; from 2014-2016, 4.4% was estimated to be undernourished.<sup>80</sup>

Within Barbados, the legal and regulatory framework for solid waste management is composed of the [Returnable Containers Act of 1986](#) and [Health Services Act](#), the Sanitary Service Act, and the Municipal Solid Waste Tax Bill of 2014. The Ministry of Environment and Drainage is responsible for relevant legislation and policy development in Barbados. The Environmental Protection Department of the Ministry of Energy and the Environment is the primary environmental monitoring and pollution control agency, while the Sanitation Service Authority, a semi-governmental organization owned by the Ministry of Environment and Drainage, is responsible for collection, transportation, and disposal of all solid waste. The Environmental Health Department (EHD) also shares responsibility for solid waste management issues and is part of the Ministry of Health.

In Barbados, regulations and fees pertaining to solid waste disposal are often skirted by waste haulers, who resort to dumping waste in abandoned quarries.<sup>81</sup> The government drafted two pieces of legislation to address this issue, once in 1998, and once in 2004, but these were never formalized. In spite of these efforts and the multiple agencies overseeing solid waste management, by 2005 the amount of solid waste generated in the country had risen fivefold in ten years.<sup>82</sup> The government has since upgraded and established multiple management and recycling facilities, but a report commissioned by the Ministry of Environment and Drainage in 2015 notes that there is still “no concerted effort to make great use of organic waste,” which constitutes approximately 51% of the total solid waste stream on the island.<sup>83</sup> They recommend that the private sector provide better training for the use of new technologies

and equipment, and that the government introduce tax incentives for recycling programs. The island does use organic haulers, according to an FAO contact.<sup>84</sup> The Sustainable Barbados Recycling Centre maintains a small composting project as well (although according to their website, they do not officially accept food waste).<sup>85 86</sup>

There are opportunities for engagement on food waste issues with the [Barbados Hotel & Tourism Association](#) (BHTA). The BHTA engages with the private sector on environmental issues and has a strong culinary interest, hosting the Barbados Culinary Team and the Culinary Alliance of Barbados (CAB).<sup>87</sup>

## ***Belize***

Within Belize, the total contribution of travel & tourism to GDP was US\$766.8 million, or 41.3%, in 2017. It is forecast to rise by 3.6% in 2018 and to reach US\$1.2 billion, or 54%, of GDP in 2028.<sup>88</sup> In 2017, Belize received 427,109 stayover visitors.<sup>89</sup> The population in 2018 is 381,352.<sup>90</sup> It was estimated that from 2004-2006, 4.6% of the population was undernourished; from 2014-2016, 6.2% was estimated to be undernourished.<sup>91</sup>

There are multiple food banks on the island (programs run by the [Belize Red Cross Society](#) and [San Pedro Food Bank](#)) and a government program to provide subsidized groceries to low-income families. Poverty reduction and food security seem to be at the forefront of Belize's agenda, with the Prime Minister stating, "The government repeats, with no apology and indeed much pride, that our pro-poor programmes are the centerpiece of our social campaign, our mandate of egalitarianism."<sup>92</sup>

The [Ministry of Natural Resources and Immigration](#) is responsible for solid waste management legislation and policy, while additional management is undertaken by the [Belize Solid Waste Management Authority](#) (BSWaMA).<sup>93</sup> BSWaMA was established to handle solid waste in an environmentally sound manner, however, they do not currently have policies in place to donate or divert food waste from landfills. Town councils are responsible for collection and disposal locally. In 2015, the government of Belize drafted a [National Solid Waste Management Policy](#), the goal of which was to pursue "a healthy, prosperous and resource-efficient society in which wastes are prevented, re-used, recycled or recovered wherever feasible and beneficial, and disposed of safely only as a last resort."<sup>94</sup> They note that in Belize, there have been only household or small-scale efforts to compost, while most solid waste does not undergo any type of processing. However, in 2011, a four-year strategy for solid waste management facilities planned for the construction of composting facilities.<sup>95</sup> These plans for handling organic waste were never fully implemented. In 2016, the BSWaMA signed an agreement to improve solid waste management in its major tourist destinations, with \$10 million in funding from the IDB. This will include the creation of new, more sanitary landfills.<sup>96</sup>

One entity in Belize that is involved in small-scale food donation is the [Belize Agriculture Health Authority](#), the mission of which is "to serve Belize by providing efficient, competent and cost effective professional animal health, plant health, quarantine and food safety services that protect human health, animal health and welfare, plant health and the environment, ensure safe and wholesome food, strengthen national food security and facilitate trade and commerce."<sup>97</sup> Towards this end, confiscated food imports can be tested and donated to schools or feeding programs. It is likely that they would provide a good source of information for local donation opportunities.

While Belize is engaged in strategies to improve their tourism destinations, these may not focus on the introduction of large-scale composting and food waste processing. It is necessary that the tourism sector emphasize the need for these developments in order to preserve destinations. The multiple food banks and government subsidized food programs present a clear opportunity for a partnership to divert hotels' and resorts' food waste from landfills.

Unlike many Caribbean countries whose hotel associations are at least, in part, industry-facing, the [Belize Hotel Association](#) (BHA) is consumer-facing, with the focus of marketing the country's hotels. Though most membership benefits are marketing-related, they do offer training & workshops for operations & marketing success, which may allow the possibility of education on food waste prevention & reduction for members. The [Belize Tourism Industry Association](#) is industry-facing and may be a more well-suited ally. Trainings are offered to members in the category of food preparation, though no details are available for what the training entails. The [Belize Tourism Board](#), which is a public sector entity, also positions itself as supporting tourism affiliated initiatives, including making the industry more sustainable.

### *Dominican Republic*

Within the Dominican Republic, the total contribution of travel & tourism to GDP was US\$13 billion, or 17.2%, in 2017. It is forecast to rise by 4.7% in 2018 and to reach US\$19.1 billion, or 16.7%, of GDP in 2028.<sup>98</sup> In 2017, the Dominican Republic received 6,187,542 stayover visitors, making it the preeminent tourism destination in the Caribbean.<sup>99</sup> The population in 2018 is 10,866,512.<sup>100</sup> It was estimated that from 2004-2006, 24.4 percent of the population was undernourished; from 2014-2016, 13.5% was estimated to be undernourished.<sup>101</sup>

The Dominican Republic's food imports were valued at US\$1.4 billion in 2014, the second highest in the Caribbean. It is estimated that 20% of these imports go to the hotel, restaurant, and institutional sector.<sup>102</sup> As part of the Community of Latin American and Caribbean States (CELAC)'s and FAO's joint efforts to reduce food waste and hunger across the Caribbean, the government of the Dominican Republic has initiated a [National Food Security and Nutrition Program](#), which supports the [Banco de Alimentos](#) (a food bank with other branches in Central America).<sup>103</sup> According to Julien Bulliard, Manager of Banco de Alimentos and member of the National Committee for Food Loss and Waste Reduction, all initiatives related to food waste reduction in the Dominican Republic are very recent and still developing. "About policies there is absolutely no incentive for food donation," he says. "As a food bank we participated to the national planing [sic] for SDG 2 (ZERO HUNGER) and one objective on that plan is to create insensitive [sic] for food donation but it may take time. There is also no regulation about food donation and as a National Committee we are working on a donation protocol."<sup>104</sup> This is especially relevant post-hurricanes Irma & Maria in 2017. It is unclear whether there was a significant increase in food insecure populations in the Dominican Republic at this time, but strengthening protocols for food donation will be vital to hurricane recovery efforts in the future.<sup>105</sup>

According to the independent film, *¿Basura o Recurso? Experiencia de la República Dominicana (Garbage or Resource? A Dominican Republic Experience)*, there are over 340 open-air landfills in the country, many of these unregulated, contributing to air and water pollution.<sup>106</sup> The government has commissioned multiple studies to analyze the state of solid waste in the country, one of which

determined that “only 55.5% of households at the national level received direct solid waste collection.”<sup>107</sup> They collectively cite inefficient government resources and residents’ behaviors as obstacles to solid waste management. However, the film details that residents have taken the waste issue into their own hands by building profitable businesses out of “trash diving”, ranging from individuals selling recycled bottles to factories converting newspapers into egg cartons.<sup>108</sup> Independent waste picking is not an industry isolated to a few individuals; the [Regional Initiative for Inclusive Recycling](#) (IRR), an initiative of the IDB, estimates that between 50 percent and 90 percent of recyclable materials across Latin America are recovered by these workers.<sup>109</sup>

In the Dominican Republic, there are also community-based composting projects in Los Platanitos as a collaboration with the University of Texas,<sup>110</sup> and in Laguna Salada. The community’s level of engagement on waste issues, coupled with developing food bank initiatives and a widespread food insecure population, signal a promising atmosphere for food waste prevention and reduction programs within the tourism industry. The [Asociación de Hoteles y Turismo de República Dominicana](#) (ASONAHORES) is very active and provides trainings and resources to membership. However, due to the size of the Dominican Republic (18,704 square miles), engagement on donation and diversion will likely be more effective at the municipal level.

### *Jamaica*

Within Jamaica, the total contribution of travel & tourism to GDP was US\$4.7 billion, or 32.9%, in 2017. It is forecast to rise by 4.6% in 2018 and to reach US\$7.3 billion, or 42.8%, of GDP in 2028.<sup>111</sup> In 2017, Jamaica received 2,352,915 stayover visitors, ranking third for international arrivals.<sup>112</sup> The population in 2018 is 2,897,481.<sup>113</sup> It was estimated that from 2004-2006, 6.9% of the population was undernourished; from 2014-2016, 8.4% was estimated to be undernourished, though estimates had peaked as high as 9.5% from 2012-2014.<sup>114</sup>

Solid waste disposal is governed by the National Solid Waste Management Policy and the [National Solid Waste Management Act](#) and is regulated by the [National Solid Waste Management Authority](#) (NSWMA).<sup>115</sup> In 2012, 2015, and 2016, there were three significant fires at Riverton and St. James’ landfill sites.<sup>116</sup> The 2012 fire cost the government almost US\$25 million to extinguish. The NSWMA estimated that in 2013, 62.22 percent of household-generated solid waste was compostable.<sup>117</sup> Although the NSWMA planned to introduce incentives for the proper disposal of wastes, businesses and waste collectors are still charged for disposal, resulting in a compliance rate of just 50 percent.<sup>118</sup> A report by the Caribbean Policy Research Institute from 2016 details the many inefficiencies of the NSWMA and suggests that gradual privatization of solid waste management might serve to improve the state of landfills in Jamaica.<sup>119</sup>

There are food banks in the country, including a [Food for the Poor](#) branch. There are a limited number of initiatives regarding food waste in Jamaica, however, frustrations with the inefficiencies of the NSWMA and public health concerns due to landfill fires may act as incentives for the establishment of food donation/diversion programs. There is evidence of engagement among farmers with organic agriculture, although there is pressure to export most of this produce to the U.S. market.<sup>120 121</sup> Even so, there could be an opportunity for hotels to engage with these growers and limit their dependency on imports.

Due to the size of Jamaica (4,244 square miles), engagement on food waste management may be more effective at a municipal level. According to Vyjayanthi Lopez, Plant Production and Protection Officer for the FAO, a 2017 project aimed to develop a strategy for food waste prevention in Jamaica, which may include the establishment of a National Committee for Food Loss and Waste Reduction similar to the Dominican Republic's.<sup>122</sup> There is also opportunity for engagement on the island as a whole through the [Jamaica Hotel & Tourist Association](#) (JHTA), which offers trainings and resources to members. However, most resources from the JHTA are outdated, indicating lack of capacity.

### *St. Lucia*

Within St. Lucia, the total contribution of travel & tourism to GDP was US\$622.6 million, or 41.8%, in 2017. It is forecast to rise by 6% in 2018 and to reach US\$1.1 billion, or 54.9%, of GDP in 2028.<sup>123</sup> In 2017, St. Lucia received 386,127 stayover visitors.<sup>124</sup> St. Lucia markets its tourism towards more environmentally-minded visitors. Due to this focus on quality of visitors over quantity, international arrivals are comparatively lower than the rest of the Caribbean, but tourism's total contribution to the national GDP is high (41.8% in 2017, compared to 32.9% in Jamaica and 17.2% in the Dominican Republic - countries with the highest tourist arrivals). The population of St. Lucia in 2018 is 179,564.<sup>125</sup> It was estimated that from 2004-2006, 14.2% of the population was undernourished; from 2014-2016, 17% was estimated to be undernourished.<sup>126</sup>

Although suitability of the terrain allows for some domestic agriculture, St. Lucia is partially dependent on imports to supplement food supplies for undernourished populations.<sup>127</sup> The government has also implemented a "School Feeding Programme" as part of the Hunger-Free Latin American and Caribbean Initiative to address food insecurity.<sup>128</sup>

The government body that oversees waste management on the island is the [St. Lucia Solid Waste Management Authority](#) (SLSWMA), which arranges for waste disposal through public/private partnerships. The SLSWMA appears engaged with environmental issues (including an alternative energy plan that aims to convert 35 percent of the island's energy by 2020) and ensuring that the island's two landfills do not affect public health and safety. They have implemented a "sustained education and public awareness campaign.... to encourage general public compliance" with proper waste disposal.<sup>129</sup> Furthermore, unlike other islands, they do not charge a fee to waste haulers or households for disposal, but instead require that every visitor to the country pay a small environmental levy, collected by the St. Lucia Air and Sea Ports Authority. In 2016, it was announced that the United Nations Environment Programme (UNEP) would provide funding to develop a strategy for solid waste management with the SLSWMA for the next 10 years.<sup>130</sup> Even so, organics represent the largest portion of St. Lucia's solid waste stream, making up 45% by weight in 2008 (of which food waste constitutes 62%).<sup>131</sup> Furthermore, at least by 2014, there was no organized recycling of food waste, although some composting does occur among farmers cooperatives and households.<sup>132</sup> The Lucian Aid Foundation organizes a food drive each year to feed undernourished residents, for which it has received donations from hotels in the past.<sup>133</sup>

Based on the environmental initiatives already underway and the SLSWMA's reputation, the island would be an excellent candidate for implementing programs between the public and private sectors to address food waste. The [St. Lucia Hotel & Tourism Association](#) (SLHTA) is a likely ally, offering trainings and resources to members. SLHTA provides an [Environmental Best Practice Handbook](#), which includes a

section on waste reduction. On the topic of waste management, it states, “Food waste would always be welcomed by your local pig farmer to use as pig food. Build a connection with a local farmer – Help reduce his costs and your disposal costs too as he will come to collect for your food waste for you.” The Handbook also provides instructions on composting.<sup>134</sup> Within the Handbook, a list of SLHTA Environmental Committee Members (all representing hotels) is provided, offering a clear view of what hotels might be most likely to take part in a food waste management program.

In addition, on their website SLHTA places significant emphasis on partnerships between tourism and agriculture, noting “With approximately one-third of all visitor expenditure spent on food, creating linkages between tourism and agriculture holds great potential as a mechanism for sustainable development at the community level. It can therefore not be overstated the critical role that the food and beverage sector plays in the tourism industry’s growth. A recent TripAdvisor barometer study found that more than 60% of guests are likely to expand their palate when they come on vacation, proving that placing local products on a menu can be quite beneficial to restaurants and hotels.”<sup>135</sup>

## Hotel Engagement on Food Waste Prevention & Reduction

Hotel investment in food waste prevention and reduction via donation and diversion programs is an opportunity to cut costs, reduce carbon emissions, feed the food insecure, and build a brand as a sustainable business. Within the Caribbean, several individual hotels (particularly small properties) have food waste prevention and reduction programs in some form, as are applicable within their communities. However, through our research we were unable to identify any Caribbean country-wide initiatives that comprehensively engage the hotel sector.

Interview findings suggest some hotels do not perceive food waste to be an issue, as they have already developed systems to divert their waste from landfills. One of the most popular methods of diverting food waste is donating to pig farmers. This occurs both at small-scale and large-scale; Sandals Regency La Toc Golf Resort & Spa in St. Lucia states that they give 800 pounds of food waste to pig farmers every week.<sup>136</sup> On some islands, this strategy is preferable to waste hauling because the farmers sometimes offer to pick up the waste at no cost; furthermore, hotel managers do not have to worry about the perceived liability issues that may be associated with donation to a food bank (see Jade Mountain & Anse Chastanet, St. Lucia, below). Other popular diversion practices identified among Caribbean hotels are sharing leftovers with staff (although this is sometimes not allowed) and giving organic waste to stray dogs.

To minimize waste, buying locally and/or seasonally is also popular. Many hotels and resorts utilize on-site or nearby gardens to supplement their produce. One of the most documented examples of this is Island Outpost, a group of luxury hotels in Jamaica that utilize produce from nearby Pantrepant Farm in their food offerings.<sup>137</sup> Pantrepant Farm is also a destination in itself. Guests of the hotels are encouraged to visit and even stay overnight, providing them with a unique experience and sharing the local flavor of the island.<sup>138</sup> Linkages with organic farms present another opportunity for the diversion of food waste: a sustained demand for compost. Rockhouse Hotel in Jamaica provides a fitting example of this strategy, whereby all kitchen scraps are composted and then utilized in their one-third acre farm across the street.<sup>139</sup> Some hotels also cited the use of worm-composting (vermicomposting) in these

activities (see Puntacana Resort & Club, Dominican Republic and eXtreme Cabarete, Dominican Republic, below).

Local food movements also help to scale down the supply chain, allowing simplified tracking and reporting. The difficulty of monitoring waste data along international and regional supply chains has led to a lack of reliable statistics in this regard. However, the FAO reports that 28% of the total loss of food along the supply chain occurs during production, while 6% occurs during processing, and 17% occurs during marketing and distribution.<sup>140</sup>

When it comes to donation of food waste for human consumption, Caribbean hotels and resorts suffer from a lack of options; we were unable to identify any that had sustained programs. A lack of awareness and policies surrounding food donation contributes to this gap. Amanda Charles, Sustainable Tourism Product Specialist at the Caribbean Tourism Organization, stated in an interview with CREST:

*“...I am not aware of any regional or national policies/standards related to food donation. As an organization, we encourage properties to practice sustainability, act responsibly and with compassion and integrity in their approach to food and food waste management... I believe some of the larger resort properties have the necessary human and financial resources to have a strategy which governs purchasing practices, stock taking and rotation, food management (preparation, storage, etc.) and food waste. This may not be the case for smaller properties which don't all have relevant staff and/or may not have an onsite restaurant. One of the important areas in particular is what is done with left-over cooked food items... there is need for education and capacity building of properties in this area. Barriers include general lack of knowledge and sensitization on the part of the public and private sector, lack of regional/national policy, and lack of awareness of options and methods by individual properties.... ”*

As previously stated, we identified one policy relating to donor liability in the Bahamas (see above). This would provide an excellent model for other islands to follow and would ensure that hotels and resorts would not face liability concerns when deciding on a program. However, as stated by Carl Hunter (see Jade Mountain and Anse Chastanet, St. Lucia, below), much of the food waste coming from hotels is not viable for donation; the only edible food waste that may be donated are buffet leftovers.

Additional issues identified through a series of expert interviews include:

- **Liability:** According to Kennedy Pemberton, Sustainable Tourism Consultant at the Caribbean Tourism Authority (CTO), *“In general, properties are cautious of providing excess food to persons or entities beyond their staff, as they are particularly mindful of the correlating liability issues created if someone was to suffer from food poisoning. In these cases the dumping of excess food is almost preferred as costs here have already largely been covered, so there is no real financial loss if food was disposed of, versus the risk to revenue if they were found to be culpable for issues of food contamination/food poisoning... Legal protections against liability for donations could go a long way to helping reduce food waste.”<sup>141</sup>*
- **Skills, Awareness, Culture, Lack of Infrastructure:** Food systems expert Todd Comen perceives, *“Chefs and restaurateurs may not have the requisite skills to optimize raw food yields. Expectations of guests in restaurants may be of large quantities on the plate, so more food is wasted, and cultural attributes may dictate norms around portion size as well as which ingredients are relevant for a menu item and which are considered waste....From a food waste handling perspective, numerous obstacles to managing food waste exist in the Caribbean. These*

*include lack of infrastructure including waste haulers, composting operations, and appropriate storage of food waste... (There is) limited education and awareness on the part of owners and employees as to why it is important to divert food waste from the landfill and why composting is important. Cultural barriers, financial barriers, and others too numerous to mention exist across the Caribbean, in my opinion.”<sup>142</sup>*

We identified at least 30 examples of hotels and resorts in the Caribbean that are involved in food waste prevention and reduction practices in some way. This is not exhaustive nor fully reflective of the landscape of food waste practices in the private sector because many hotels are not sharing publicly what they are doing. We infer this may be due to several reasons: they do not realize consumers are interested, they lack bandwidth to communicate the message, or they are unable to quantify their practices in the first place. In addition, though there is tremendous current demand for sustainably-minded hotels (See CREST’s “Case for Responsible Travel: Trends & Statistics” [2016](#) & [2017](#)) and many are proud to market themselves in that way, some eco-friendly hotels take the opposite approach. Tiamo Resort in the Bahamas is an example of a company that purposefully does not market their eco-initiatives because they perceive luxury-seeking guests will be turned off by the sharing of detailed practices.<sup>143</sup>

Here we have included descriptions of the practices of six hotels and resorts that were willing to expand upon their publicly available information. Their responsiveness indicates that all of these hotels could be good candidates for engagement.

#### **Hotel Mockingbird Hill, Jamaica**

Hotel Mockingbird Hill is a four-star, “eco-chic, boutique hotel” in Port Antonio, Jamaica.<sup>144</sup> It provides 10 guest rooms in a luxury setting near the Frenchman’s Cove Beach. Their Mille Fleurs Restaurant offers “creative Caribbean cuisine with a Continental flair” à la carte for breakfast, lunch, and dinner. They advertise their style of food service as “slow food,” which the *Caribbean Journal* describes as a movement encouraging the “preservation of local cuisine and farming” with a popular following in the Caribbean.<sup>145</sup> They strive to offer homemade dishes including produce from their on-site garden and local community projects.

Hotel Mockingbird Hill’s à la carte, daily-changing menu is central to food waste prevention on the property, as it allows their cooks to be flexible and to use food items that might otherwise go to waste.<sup>146</sup> Using only seasonally-available ingredients also ensures that dishes are fresh and high-quality. According to hotel co-owner Shireen Aga, “If we have vegetables that have not been used in a timely fashion, we simply make soup with it before it spoils... When we have an excess of a particular product, we either dry it to preserve it, or make flavoured oils using up all herbs before they spoil or make granita and ice creams with fruit before they spoil. We also make flavoured butters with herbs. We make our own ketchup or other preserves such as chutneys, etc. to use up fresh fruit or vegetable supplies.” They also separate food waste into meat and bones for dogs, food for pig farmers, compostable waste for their garden, and even collect egg shells to keep insects from their tomatoes.<sup>147</sup> As is the case for many small hotels in the Caribbean, Hotel Mockingbird Hill claims to have no food waste leftover to donate, even if a food bank existed in the region.

#### **Jade Mountain & Anse Chastanet, St. Lucia**

Jade Mountain<sup>148</sup> and Anse Chastanet<sup>149</sup> are two adjacent luxury resorts in St. Lucia that are co-owned and co-managed. Together they occupy a 600-acre private property, with 29 “sanctuaries” and 49 individually-designed rooms, respectively. Their popularity and sustainability efforts have earned them many awards from *Condé Nast Traveler*, *Travel&Leisure*, TripAdvisor, etc. They offer a wide array of

dining options, including multiple restaurants, lounges, and bars, as well as a “Chocolate Lab,” cooking classes, a “Chef on Wheels,” and annual food festivals. Their Emerald Farm, located 20 minutes from the resorts, produces organic vegetables for their restaurants and cocoa for the Chocolate Lab. Guests are encouraged to visit the farm during their stay. While some dining options are à la carte, others involve small buffets, which Property Manager Carl Hunter identified as the main source of food waste.<sup>150</sup> To combat this issue, their head chef estimates food proportions by head count. Consequently, they have lowered the amount of food waste produced to a minimum, and do not see a need for donation. Furthermore, their interest in any food donation program was surpassed by the perceived liabilities.

The majority of their food waste is composted, while meat is donated to a pig farmer. The farmer’s ability to pick up the waste helps to mitigate some of the costs of waste hauling. Mr. Hunter noted that the larger waste issue does not originate from guests, but from staff, who take large portion sizes due to socioeconomic factors. Management is working on influencing better consumption habits but this is slow to mature and as a consequence there is a lot of waste. Although growing food locally rather than relying on imports may be one way to reduce food waste along the supply chain, Mr. Hunter did not perceive that this was a major factor in generating food waste. Instead, he called utilizing a local, organic farm an “ethical way of doing business.”<sup>151</sup> He did note, however, that food goes bad more quickly in the Caribbean because of the high temperatures.

#### **Jake’s Hotel, Jamaica**

Jake’s Hotel is a boutique hotel located in Treasure Beach, Jamaica,<sup>152</sup> offering standard hotel rooms alongside oceanfront bungalows, cottages, and villas. They have been featured in *Condé Nast Traveler* and *National Geographic Traveler*. Their two restaurants and a bar are served by the nearby Dool’s Farm, where they also host monthly Farm and Fisherfolk Dinners. Jake’s Hotel’s menus change seasonally, and food is made-to-order. Due to this flexibility, General Manager Coleen Powell-Gordon says, most food waste comes from guests’ plates and cannot be donated.<sup>153</sup> Any leftovers are given to pig farmers. They purchase food from local farmers and fisherman multiple times a week, which allows them to prevent food from spoiling. They also attempt to estimate portion sizes before purchasing.

#### **Puntacana Resort & Club, Dominican Republic**

Puntacana Resort & Club is one of the premier examples of sustainability in the Caribbean, having been named the Caribbean’s Leading Green Resort at the World Travel Awards in 2014.<sup>154</sup> Located in Punta Cana, Dominican Republic, this property spans 15,000 acres of land, with multiple hotels, luxury home rentals, miles of private beaches, a beach club, a spa, two golf courses, and large wedding venues. They also own and operate an international airport. They host over a dozen restaurants and bars with world-class chefs. Their not-for-profit foundation, Grupo Puntacana Foundation, is responsible for all of their environmental and social initiatives. One of these, their Zero Waste initiative, has been documented at length on Grupo Puntacana’s website.<sup>155</sup> This solid waste management initiative is implemented throughout the property, and encourages guests staying at home rentals to separate organic waste from recyclable materials. Food waste is then given to individuals to convert to animal feed or is used in their worm composting (vermicomposting) program.<sup>156</sup> This compost is sold locally.

Jake Kheel, the Vice President of Grupo Puntacana Foundation, identified improper waste separation as the main barrier to the reduction of food waste. The size and diversity of the resort is also a problem, as they also struggle to manage and transport the large volumes of food waste that come from their various kitchens. Technologies such as digesters and large-scale composting are expensive and so far not economically viable for their operation. Most hotels on the island resort to landfilling due to costs: “Landfilling is too cheap in the [Dominican Republic] and the government oversight is too weak to really encourage hotels to seriously look for alternatives. If the cost of sending garbage to a landfill were

higher, I am certain hotels would pursue alternatives.”<sup>157</sup> Puntacana Resort & Club initially contributed to landfills until this integrated program was developed, which also incorporates resort-wide education and training for staff and a purposeful cultural shift marked by using words such as “materials” instead of “garbage”.<sup>158</sup>

## **Hilton**

With 19 hotels in the Caribbean including Puerto Rico<sup>159</sup>, Hilton has a great opportunity to make an impact on food management in the tourism industry in this region. Hilton partners with WWF on its key material environmental issues, including water stewardship, sustainable seafood, and food waste. The environmental impact of each of Hilton’s more than 5,600 hotels is measured and managed using LightStay, the company’s award-winning proprietary corporate sustainability measurement platform.

In Hilton’s 2017 Corporate Responsibility Report, which aggregates environmental and social data from the company’s global portfolio, Hilton estimates that it has diverted more than seven million pounds of organic waste from landfills using food digesters and donated 250,000 pounds of food to local communities.<sup>160</sup>

In 2018, Hilton set the goal to cut its food waste in half by 2030 as part of the company’s Travel with Purpose commitment to redefine responsible travel and tourism.<sup>161</sup> Hilton has rolled out its food waste reduction program, which leverages the Hotel Kitchen training videos and materials, to all of its managed hotels across the Americas, including in the Caribbean.

The Hilton Barbados has also implemented a pilot program to understand, measure and reduce the amount of food being wasted at the property. Hilton notes that in the Caribbean, limited infrastructure around composting and misperceptions around food donation liability can be challenging, but according to Terry Jenkins, senior manager of corporate responsibility – Americas, the company seeks to “overcome these obstacles by providing our hotels with practical training and resources, as well as empowering them to implement innovative localized solutions to reach our goal to reduce food waste by 50% by 2030.”

## **eXtreme Hotels, Dominican Republic**

eXtreme Hotels identifies as a “Caribbean Eco Sustainable Sports Adventure Resort.”<sup>162</sup> They host a 20-room hotel along with a circus, yoga, and fitness camp.<sup>163</sup> Located in Cabarete, the Dominican Republic, their eXtreme Collective aims to implement sustainable initiatives and train local workers. Their permaculture farm is located 20 minutes from the hotel, where food waste from their La Mesa restaurant is recycled back into the farm through worm composting. Food waste is also used as animal feed.

“Generally, food waste is not an issue,” says Shawn, a team member at eXtreme Hotel. “The biggest challenge is training restaurant staff to separate the food waste so that it goes to appropriate animal feed/compost pile, and storage.”<sup>164</sup> They support the idea that managing food waste actually reduces costs for hotels, as it avoids unused materials and the need for hauling.<sup>165</sup>

A list of additional hotels addressing the issue of food waste can be found in Appendix A.

## Conclusion

Through baseline research, it can be concluded that most hotel sector engagement with the issue of food waste management takes place on a property-by-property basis. Barriers for integrated destination programs include lack of clear policy at regional, country, and municipal levels; existence of varying stakeholders and protocols in each locale; lack of donation opportunities; lack of education and linkages necessary for successful diversion; and cost.

However, there is significant opportunity to engage with both the Caribbean Tourism Organization (CTO) and the Caribbean Hotel & Tourism Association (CHTA) for regional educational campaigns. Specifically, the Caribbean Alliance for Sustainable Tourism (CAST), a program of the CHTA, shows immense interest in the issue of food waste and can open doors to its members. In addition, a few islands covered in this report offer structures amenable to strategic programs and show interest among the hotel sector in food waste management initiatives, including **the Bahamas, the Dominican Republic, and St. Lucia**. Further engagement is recommended.

## Endnotes

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<sup>5</sup> Personal Communication with Pete Pearson, WWF.

<sup>6</sup> Ibid.

<sup>7</sup> World Travel and Tourism Council. (March 2018). "Travel & Tourism Economic Impact 2018: Caribbean." <https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2018/caribbean2018.pdf>.

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<sup>15</sup> STATE OF FOOD INSECURITY IN THE CARICOM CARIBBEAN. (2015). Meeting the 2015 hunger targets: Taking stock of uneven progress. Sub-regional Office for the Caribbean. Food and Agriculture Organization of the United Nations.

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<sup>17</sup> FAO. (October 2013). Subregional Office for the Caribbean. *CARICOM Food Import Bill, Food Security and Nutrition*. Issue Brief 5. <http://www.fao.org/fsnforum/caribbean/sites/caribbean/files/files/Briefs/Food%20Import%20brief%20.pdf>.

<sup>18</sup> Comen, T. and Naeher, E. (2017). "Overview-Food Print of Agricultural Imports and Farm-to-Table Initiatives in the Caribbean." *Coastal Tourism, Sustainability, and Climate Change in the Caribbean, Volume II: Supporting Activities*. Chapter 3. Edited by Martha Honey with Samantha Hogenson.

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