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Sustainable Cruise Tourism Development Strategies

Tackling the Challenges in Itinerary Design in South-East Asia

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Table of contents

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Foreword

The cruise industry is one of the fastest growing segments of tourism. Although a recent development in Asia and the Pacific as compared to the traditional destinations in the Caribbean and the Mediterranean, cruise tourism has been growing at double-digit rates in the region fuelled by the increasing demand from the North-East Asia markets, namely from China. In this context, South-East Asia has gained particular relevance as its ports account for around 45% of all port calls in the region.

The exponential growth of cruise tourism in Asia, and particularly in South-East Asia, presents a major opportunity, but also an undeniable challenge to ensure that the policy, planning and development of cruise tourism is done in a sustainable and responsible manner. Indeed, cruise tourism, though still an emerging segment in Asia, has an immense potential to contribute to the region's socio-economic progress while enhancing regional integration as many itineraries include ports in different countries. Yet, as highlighted in the present report "controlling tourism demand and mitigating its impacts will be the 21st century challenge. Cruise tourism will be one of the focal points of this shift in the way we experience the planet".

We trust this report on *Sustainable Cruise Tourism Development Strategies – Tackling the Challenges in Itinerary Design in South-East Asia,* developed by UNWTO and the UNWTO Regional Support Office of Asia and the Pacific (RSOAP) located in Nara, Japan, will prove a valuable tool for both public and private sector stakeholders in the cruise industry and beyond to maximize the socio-economic benefits of cruise tourism in South-East Asia while minimizing its environmental impacts.

Finally, we would like to express our utmost appreciation to the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT) of Japan (Japan Tourism Agency) and to the Asia-Pacific Tourism Exchange Center (APTEC) for their commitment and support in making this report possible.

Taleb Rifai
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Executive summary

South-East Asia is among the world's greatest regions for experiencing cultural and natural heritage. It is home to 34 UNESCO World Heritage Sites and five of the world's 35 biodiversity hotspots.

Tourism has the potential to bring economic benefits to destinations, but it also generates impacts, that can negatively affect the environment and host communities. Tourism's growth into a large-scale, global industry was its overarching success in the 20th century. Controlling demand and mitigating tourism's impacts will be its challenge in the 21st century.

Cruise tourism is characterized by bringing large numbers of people to concentrated areas of destinations for brief periods, thus multiplying and concentrating the impacts. Cruise development may lead to loss of precious biodiversity and destruction of cultural heritage if infrastructure and itinerary development outpace monitoring and evaluation of environmental and cultural resources and fragility. The impact, challenges and implications of cruise tourism development are representative of our planet's overall challenges in approaching economic development.

This report presents a call to action at a critical juncture in South-East Asian development and seeks to spread awareness of sustainable development in cruise tourism, catalyze collaboration across the region and stimulate the strategic implementation of best practices and innovations.

The premise of sustainable tourism is that the unique natural and cultural heritage offered by a destination is what generates its brand reputation, its value and what drives tourist demand. It is of utmost importance to manage growth to preserve the natural and cultural heritage assets of a destination and to sustain tourism's long-term economic vitality.

The three pillars of sustainable tourism are:

1. Environmentally friendly practices;
2. Support for protection of cultural and natural heritage; and
3. Tangible economic and social benefits to local people in host destinations.

A critical inflection point exists for both cruise tourism development and sustainable tourism in South-East Asia. The region has experienced rapid increases in demand primarily due to the growth in Asian source markets, which has surpassed previous forecasts. With arrivals only expected to grow, destinations across South-East Asia will struggle to handle visitor flows even before cruise ships start to arrive.

South-East Asia received nearly 100 million international tourist arrivals in 2014. China has fuelled much of South-East Asia's tourism growth, with the ratio of Chinese arrivals outpacing overall international arrivals in every ASEAN (Association of Southeast Asian Nations) country since 2005

(see table 5.1). Cruise tourism growth in the region has mirrored this trend, with the number of Chinese cruise passengers growing 79% from 2012 to 2014.[1] Forecasts point toward significant overall growth for cruise tourism in Asia, with an average annual increase from 2013 of 10.6% for inter-Asia cruises, 20% in passenger capacity and 34% in port calls. In 2015, 26 cruise brands will be active in Asia, deploying 52 ships, 981 intra-Asian cruises and 2.17 million passengers in Asia where South-East Asia represents 46% of this deployment.[2] As tourism grows within the region, destinations have the opportunity to develop types of tourism and to target the market segments that bring the most benefit to their communities. Cruise tourism may be appropriate for some destinations and not for others.

The most important component of sustainable cruise tourism development is for destination policymakers and managers to conduct assessments. Proper assessment of a destination's value chain will enable managers and policymakers to understand cruise tourism's potential benefits, risks and impacts.

Assessments form an empirical, quantitative and situational foundation for policymakers and managers to determine optimal levels of cruise tourism development. They can be used in planning processes, setting of policy and regulation and ongoing monitoring to create feedback loops and improvement.

To ensure that cruise tourism's benefits are maximized and its impacts minimized effectively, this report presents strategies for destination managers to undertake an introspective and participative assessment that considers all stakeholders and not solely the cruise lines or immediate revenues projected. Eight strategies are presented for sustainable cruise tourism development and responsible tourism in South-East Asia.

Strategy 1: Approach regional cruise tourism development by focusing efforts on controlling demand, rather than stimulating it:

- Tactic 1.1: Evaluate regional trajectory for cruise tourism;
- Tactic 1.2: Evaluate optimal levels of cruise passenger visitation;
- Tactic 1.3: Benchmark North-East Asian cruise destinations; and
- Tactic 1.4: Develop organic growth plans for receiving cruise tourism.

Strategy 2: Assess the sustainable development needs across the entire value chain and visitor experience:

- Tactic 2.1: Map the cruise tourism value chain;
- Tactic 2.2: Assess visitor flow impacts beyond port reception;
- Tactic 2.3: Assess sustainable destination management capacity; and
- Tactic 2.4: Conduct destination waste assessments.

Strategy 3: Quantify the value of natural and cultural heritage conservation to cruise tourism:

- Tactic 3.1: Identify and assess shore excursion possibilities;
- Tactic 3.2: Conduct visitor carrying capacity studies at heritage sites;

1 Cruise Lines International Association (2015), *State of the Asia Cruise Industry: More Cruise Ships, Passengers and Ports than ever before* (online), available at: www.cruising.org (27-03-2015).

2 Ibid.

- Tactic 3.3: Increase scientific study and monitoring of coral reefs; and
- Tactic 3.4: Identify dispersal and containment opportunities for attractions.

Strategy 4: Optimize the value of the destination's natural and cultural heritage through appropriate pricing models:
- Tactic 4.1: Quantify adequate fees for cruise reception;
- Tactic 4.2: Identify cruise passenger revenue linkages to heritage conservation;
- Tactic 4.3: Build site manager technical capacity for yield management; and
- Tactic 4.4: Develop demand-based fee models for receiving cruise ships.

Strategy 5: Position responsible tourism as an innovative pillar of the region's cruise tourism promotion:
- Tactic 5.1: Build awareness of responsible tourism for cruise passengers;
- Tactic 5.2: Develop concepts of experience fees and heritage crowdfunding;
- Tactic 5.3: Embed conservation initiatives into itinerary promotion;
- Tactic 5.4: Provide access for local communities to experience their heritage; and
- Tactic 5.5: Seek inclusive linkages for cruise ship crew.

Strategy 6: Stimulate innovation and regional interest in improving sustainable tourism:
- Tactic 6.1: Spread best practice guides across value chain;
- Tactic 6.2: Create awareness campaigns for local stakeholder's role;
- Tactic 6.3: Illustrate examples to spread innovation and innovative spirit;
- Tactic 6.4: Increase sustainable tourism training mechanisms; and
- Tactic 6.5: Create cross-functional teams for cruise tourism management.

Strategy 7: Integrate sustainable cruise tourism components into data collection, monitoring and performance measurement:
- Tactic 7.1: Improve cruise tourism statistical data collection;
- Tactic 7.2: Monitor visitation levels at key sites;
- Tactic 7.3: Conduct routine visitor expenditure and motivation studies; and
- Tactic 7.4: Establish environmental data monitoring systems.

Strategy 8: Create a regional network for data-driven collaboration in sustainable cruise tourism:
- Tactic 8.1: Initiate cross-border collaboration for benchmarking;
- Tactic 8.2: Create knowledge-sharing environments;
- Tactic 8.3: Evaluate comparative offering of destination experiences;
- Tactic 8.4: Engage multiple cruise line players; and
- Tactic 8.5: Increase involvement in industry initiatives and dialogue.

Introduction

South-East Asia is one of the world's greatest regions for experiencing natural and cultural heritage. It is home to 34 UNESCO World Heritage Sites and to five of the world's 35 biodiversity hotspots. With over 25,000 islands, the region has more coral reefs than anywhere else on the planet, encompassing nearly 34% of the world's total reef area and much of the Coral Triangle.[1] The status of several of the region's coral reef zones is not well known because they have not been adequately studied scientifically.[2]

South-East Asia is also a battleground for protecting and preserving heritage. For example, in the rainforests of Sumatra, which are both a biodiversity hot spot and a UNESCO World Heritage Site on the List of World Heritage in Danger, palm oil plantations, deforestation and habitat loss have become major issues affecting global supply chains, regional air quality and local livelihoods. The region is also home to some of the world's remaining indigenous cultures, such as Sea Gypsies in the waters of Indonesia, Philippines, Borneo and Thailand, whose existence and ways of life are increasingly endangered.

Cruise tourism growth in South-East Asia will thus be charting a course through some of the planet's most valuable and vulnerable natural and cultural heritage. Cruise development may lead to loss of precious biodiversity in the region if infrastructure and itinerary development outpace monitoring and evaluation of environmental and cultural resources and fragility. Even if cruise operators were to eventually reroute their ships to other destinations within the region or in other regions, the impacts and degradation would remain. To avoid this outcome, the course charted for cruise tourism in South-East Asia should be a sustainable and responsible one.

Furthermore, most nations in South-East Asia are considered developing countries[3] now experiencing significant economic growth, with tourism development accompanying and in many instances outpacing, the general economic development of each country. The scale, impact and implications of cruise tourism development, including the shifting demographic profiles of source markets and host destinations, are representative of the overall challenges in approaching general economic and tourism development, making cruise tourism an ideal focal point for sustainable development in tourism.

1 Tun, K. et al. (2004), 'Status of Coral Reefs, Coral Reef Monitoring and Management in South-East Asia', in: Wilkinson, C. (ed.), *Status of Coral Reefs of the World: 2004,* volume 1, Australian Institute of Marine Science, Townsville, Queensland, pp. 235–276.

2 Ibid.

United Nations Environment Programme (2001), *World Atlas of Coral Reefs,* UNEP World Conservation Monitoring Centre, Cambridge, pp. 259.

3 Also termed "least developed countries" (LDC), having a low gross national income (GNI) per capita per year. For further information, see: The International Statistical Institute, www.isi-web.org/component/content/article/5-root/root/81-developing.

Myriad publications on tourism have indicated the need and opportunities to reduce the adverse environmental impacts of tourism and to maximize its social benefits. The purpose of this report is to present a call to action at this critical juncture in South-East Asian development to spread awareness of sustainable development in cruise tourism, catalyze collaboration across the region and stimulate the strategic implementation of best practices and innovations.

To achieve this purpose, this research focuses on the issues and best practices relating to the destinations receiving cruise tourism and hosting cruise tourists. (It is not focused on sustainable operation of cruise ships, which is already covered by several initiatives and collaborative efforts.) The research provides an overview of trends in cruise tourism, a high-level mapping and discussion of cruise tourism's value chain, a description of its impacts and best practices through the lens of sustainable tourism and responsible travel and strategies for regional policymakers to practice sustainable cruise tourism development.

Chapter 1

Overview and general trends in cruise tourism

Summary

This chapter provides an overview of cruise tourism's growth globally and within South-East Asia. It frames the issue of cruise tourism's scale and how it may affect a destination, discussing segmentation of cruise ships and cruise passengers according to various levels of ship size, itinerary duration and destination choice. It introduces the concepts of sustainable development and sustainable tourism to prepare the reader for subsequent chapters focused on issues related to sustainable cruise tourism development.

Key words

- Cruise tourism;
- Tourism growth in South-East Asia;
- Cruise segmentation;
- Scale of cruise tourism;
- Sustainable development;
- Sustainable tourism; and
- Cruise passenger psychographics.

Key message

- Cruise tourism has grown significantly in Asia;
- Cruise tourism growth has been driven by growing Asian source markets of cruise passengers;
- Cruise tourism's regional growth currently focuses on North-East Asia and Australia. As capacity and source markets grow, this will drive cruise tourism growth in South-East Asia;
- Cruise tourism brings large numbers of people to concentrated areas of destinations for brief periods, thereby concentrating cruise tourism's impacts;
- Several different segments of cruise tourism exist, which vary widely in size and type of passenger. Larger ships carry more passengers and potential for tourism revenue, but also more potential for negative impacts;
- It is important for South-East Asian destination policymakers to understand the risks, impacts and best practices for developing cruise tourism; and
- Destinations should assess and implement strategies for managing cruise tourism's impacts across the entire destination, beyond the port terminal and arrival procedures.

1.1 Cruise tourism's growth and sustainable development

Tourism has increased significantly over the past decade, with forecasted growth to 1.8 billion international tourism arrivals by 2030.[1] Tourism growth in South-East Asia has outpaced global growth, with a 166% increase in arrivals from 2000 to 2014. South Asia is projected to be the sub-region with the fastest growth in international arrivals with average annual growth of 6% per year through 2030.[2] International tourism arrivals in the region will likely exceed 100 million in 2015 and are forecasted to reach 187 million international arrivals by 2030.

1 World Tourism Organization (2011), *Tourism Towards 2030 – Global Overview,* UNWTO, Madrid, pp. 15.

2 Ibid, pp. 18.

Emerging within the past 50 years, cruise tourism is a relatively young phenomenon. During that period average annual growth has been approximately 8%,[3] consistently outpacing that of tourism generally. Increasingly, cruise tourism represents a larger proportion of overall tourism arrivals. Though the 23 million cruise passengers forecasted globally in 2015 are a small fraction of the 1.1 billion world international arrivals in 2014, they make up a greater share because many cruise itineraries visit multiple countries. If an average cruise passenger were counted as three international arrivals to account for multi-country itineraries, cruise tourism would represent over 5% of overall international arrivals. Further considering that many destinations are inaccessible by cruise ships while others are accessible primarily by maritime transport, cruise tourism becomes more significant in the regions and destinations in which it operates.

For example, cruise tourism growth was most explosive in the Caribbean, which currently makes up more than one-third of cruise tourism capacity globally. Given that the Caribbean as a whole received 22.5 million international tourists in 2014 (excluding Mexico and South America) and those Caribbean cruise itineraries may double count passenger arrivals across countries, cruise tourism may account for at least one-third of the overall visitation to the Caribbean.

More important and relevant to destinations is the localized share of cruise passengers to a specific destination. Caribbean nations such as the Bahamas, Belize, Cayman Islands,[4] Dominica, Grenada and Saint Lucia receive more cruise passengers than overnight international visitors In many of these cases cruise passengers outnumber overnight visitors by more than two to one. For these destinations cruise tourism is the primary driver of visitor infrastructure.

In general, tourism brings economic benefits to destinations, but it can also negatively affect the environment and host communities in the destinations. Cruise tourism is characterized by bringing large numbers of people to concentrated areas of destinations for brief periods, thus multiplying and concentrating the impacts. Destinations need adequate infrastructure to host and supply large cruise ships and their passengers when they dock. Just as cruise tourism is a small slice of global tourism but a large or primary source of arrivals for specific destinations, its impacts on a specific city, attraction, or natural or cultural resource are intensified, as is the risk of irreparable damage. While cruise lines may be more efficient in managing people's impacts incrementally, for example, Carnival Corporation and Royal Caribbean Cruises state that, on average, the activities of their cruise passengers consume 61 US gallons and 53 US gallons, respectively, of water per person per day. This is compared to overall daily activities of Americans which consume around 80–100 US gallons per day.[5] However, the impacts on a cruise ship are multiplied by volume and intensified by shorter durations. If cruise ship arrivals were conceptualized in terms of airplane arrivals, using an average airplane capacity of 300 passengers, the arrival of a 3,000-passenger cruise ship would be equal to ten airplanes all arriving at the *same time.* Furthermore, cruise ships often arrive at more active city districts and via waterways with ecosystems that are more fragile and contain higher biodiversity value than the sky and airport location. Thus, cruise tourism merits higher levels of scrutiny and assessment for its economic, environmental and cultural implications.

3 World Tourism Organization (2010a), *Cruise Tourism – Current Situation and Trends,* UNWTO, Madrid, pp. xviii.

4 A British Overseas Territory.

5 Carnival Cruise Lines (2014), *Carnival Cruise Lines Sustainability Report 2013,* Carnival Cruise Lines, pp. 51 (online), available at: www.carnival.com (15-01-2015).

Royal Caribbean Cruises Ltd. (2015), *Beyond the Horizon 2013 Sustainability Report,* Royal Caribbean Cruises Ltd., pp. 56 (online), available at www.royalcaribbean.com (26-03-2015).

1.1.1 Pivotal moment for cruise tourism growth in South-East Asia

Cruise tourism is projected to grow significantly in Asia in the coming decade. Forecasts for the Chinese source market indicate a potential for 3–4 million Chinese cruise tourists by 2020,[6] which constitutes half of the future Asian market forecast of 8 million cruise passengers. Cruise itineraries departing from Shanghai and Tianjin with stops in the Republic of Korea, Taiwan Province of China and Japan are expected to increase significantly. New ships are being built to sail from these destinations. New ports are being developed in the region to stimulate further demand, including heavy investments in cruise terminals along these routes. To the south, cruise tourism has grown significantly in Australia, with the Australian cruise market penetration exceeding 3% of its population in recent years.[7]

As more development occurs in the China-Republic of Korea-Japan-Taiwan Province of China region and in Australia, many of these ships will need to be utilized in winter months when those itineraries are less favorable. This will lead to the prospecting and testing of routes in South-East Asia. As cruise demand and capacity grow within Asia as a whole, South-East Asia's geography, climate and natural and cultural resources make it ripe for growth potential similar to the Caribbean. The growth should be managed carefully in order to preserve the environmental and cultural heritage driving interest in visitation and to sustain the long-term economic vitality of its destinations for tourism. The challenges of balancing economic growth with the preservation of Earth's resources are significant, but not unique to cruise tourism. Destination policymakers and managers can apply the framework, key concepts and best practices that have already been developed to manage those challenges.

1.1.2 Sustainable tourism overview and concepts

Due to the outlook of increasing population growth, unsustainable depletion of natural resources, modernization threatening historical cultural heritage, global inequality and the manifestation of related concerns, the United Nations commissioned a study to recommend the future path of development on Earth. The resulting report, *Our Common Future* (also known as "The Brundtland Report" after its principal investigator), released in 1987 and coined the term *sustainable development:* "Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs".[8]

Sustainable development eventually led to theories for a balanced approach to economic development coupled with mitigation of environmental impacts and closing social equity gaps. The United Nations Conference on Environment and Development (also known as the Earth Summit) was held in 1992 to address these issues, with a resulting framework titled *Agenda 21,* laying the groundwork for the application of sustainable development in government and industry.

6 Ang Moo Lim, Buhdy Bok, Anthony H. Kaufman, Zinan Liu, Steve Odell, 'Focus on China', Cruise Shipping Asia-Pacific Conference, Hong Kong, China, panel presentation on (20-11-2014).

7 Cruise Lines International Association Australasia (2013), *Cruise Industry Source Market report Australia 2013,* pp. 11 (online), available at: www.cruising.org.au (30-03-2015).

8 World Commission on Environment and Development (1987), *Our Common Future: Report of the World Commission on Environment and Development,* Oxford University Press, Oxford and New York; also available through: www.un-documents.net.

UNWTO and World Travel & Tourism Council (WTTC) adapted the concept of sustainable development for travel and tourism in the publication *Agenda 21 for the Travel and Tourism Industry: Towards an Environmentally Sustainable Development.*[9] This set up a framework for applying the various components of sustainable development to tourism, or *sustainable tourism,* defined as "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities".[10] The three pillars of sustainable tourism are:

1. Environmentally friendly practices;
2. Support for protection of cultural and natural heritage; and
3. Tangible economic and social benefits to local people in host destinations.

The premise of sustainable tourism is that the unique natural and cultural heritage offered by a destination is what generates its brand reputation, its value and tourist demand, and thus the reason to protect it. Host destination communities play a major role in sustainable tourism because communities are impacted by visitation and at the same time they are part of the reason for a tourist's visit. Benefits to the community should be sought while minimizing the negative impacts that tourism may generate.

Sustainable tourism can be applied to an entire destination, as well as each type of entity in the value chain. Sustainable destination management is particularly important to cruise tourism because the visitor experience is diverse and visitor flows place pressure on a wider range of stakeholders within a destination. Worldwide, tourism demand is expected to outpace and stress the infrastructure required to handle it. Sustainable development in cruise tourism comes at a pivotal moment in global travel. The issues at hand may be less about strategies to grow tourism and more about containing tourism growth and developing sustainability.

Embedding sustainable development in cruise tourism for South-East Asia

At present, the cruise development discussion in South-East Asia is focused on starting industry dialogue and tackling basic issues such as consolidating standard itineraries, easing visa restrictions, fine-tuning logistics for handling people at the ports, increasing regional source markets, resolving generic cabotage[11] policies, and building awareness in general of cruising as a tourism product. This is an opportune moment to inject sustainable development into these discussions and initiatives. It is important for policymakers and the entire cruise tourism value chain in South-East Asia to prioritize strategies to mitigate environmental impacts, bring social and economic benefit to the host destinations and their communities and to develop awareness of responsible cruise tourism, particularly in cruise passengers. As tourism grows rapidly in the region, cruise tourism should be considered in relation to the other types of tourism that each destination will receive, particularly tourists who stay longer and spend more than cruise passengers.

9 For further information, see: World Tourism Organization, World Travel & Tourism Council and Earth Council (1997), *Agenda 21 for the Travel and Tourism Industry: Towards Environmentally Sustainable Development,* UNWTO, WTTC and Earth Council (online), available at: www.e-unwto.org (12-02-2014).

10 United Nations Environment Programme and World Tourism Organization (2005), *Making Tourism More Sustainable – A Guide for Policy Makers,* UNWTO, Madrid, pp. 12.

11 Cabotage refers to the transporting of passengers or goods within the same country (between two ports in the same country).

Increasingly, special interest travellers focused on cultural heritage tourism or ecotourism are examples of these types of markets. As tourism grows within the region, destinations have the opportunity to define and seek out the types of tourism and market segments that bring the most benefit to their communities. Cruise tourism may be appropriate for some destinations and not for others. Similarly, a range of segments exist within cruising and destinations should understand the characteristics and potential impacts of each on a destination.

1.2 Cruise tourism segmentation and relation to sustainable development

To develop sustainable cruise tourism strategies, one should understand the industry's segmentation and the experiences sought within the respective segments, as well as the value chain within a destination. *Cruise tourism* is a general term that does not necessarily have a clear definition and classification. Currently, cruise tourism options are varied by size of ship – ranging from yachts and catamarans to large vessels – and type of experience. For the purposes of this research, a common segmentation for cruise tourism can be applied using four categories:

Table 1.1 **Sample cruise tourism segments**

Segment	Demographics	Itinerary characteristics	Typical itinerary duration	Ship characteristics	Representative cruise lines
Budget	Youth and lower-income population segments.	Mediterranean itineraries and common destinations; "hop-on/hop-off".	3–7 days.	Small ships with minimum on-board facilities and services; cruise passengers make their own beds.	– Fred Olsen; – Island Cruises; – Louis Cruise; – Pullmantur; – Thomson; and – Travelscope.
Contemporary	Target is very broad, offering "something for everyone", but especially attractive to first-time cruise passengers, families, couples and young people.	Common destinations or zones.	3–7 days.	Large, new ships; resort-type facilities with a strong emphasis on on-board activities and services (such as beauty shops, golf, ice skating, spa, etc.), and family entertainment.	– Carnival Cruises; – Celebrity; – Costa; – Disney; – MSC; – Norwegian Cruise Line; – P&O; and – Royal Caribbean.

Segment	Demographics	Itinerary characteristics	Typical itinerary duration	Ship characteristics	Representative cruise lines
Premium	Over 40 age group, often professionals, targeting repeat passengers.	Itineraries featuring rarely visited ports.	Varied; more emphasis on cruises longer than 7 nights.	– Smaller than *contemporary* segment; – More refined furnishings; – On-shore excursions are important profit generators; – Two types of excursions are offered: for – First-time (less sophisticated) and repeat customers.	– Celebrity Cruises; – Fred Olsen; – Holland America Line; – Oceania Cruises; – Pullmantur; and – Saga.
Luxury	Couples and singles with a taste for super luxury resorts on land, with no facilities for children.	Focused on unusual ports and places; shore excursions represent an important profit generator.	More than 10 days.	– Smaller ships, most spacious accommodations, with a high percentage offering views of the sea; – Numerous suites; – Highest crew-per-passenger ratio; – More sophisticated interior design, with antiques and art collections of great value; and – Exclusive atmosphere.	– Crystal Cruises; – Hapag-Lloyd Kreuzfahrten; – Hebridean Island Cruises; – Peter Deilmann Kreuzfahrten; – Radisson Seven Seas; – Seabourn Cruise Line; and – Silversea Cruises.

Source: World Tourism Organization (2010a), pp. 61–66.

Separating the cruise tourism industry into these four general segments enables insight into the demographics of passengers, the scale of impacts and the type of itinerary experience. Ship size is not directly correlated with segmentation. In fact, within the industry, segmentation is generally determined by the weight of the ship rather than passenger capacity, as some lighter vessels carry more passengers and vice versa. However, a general size categorization and corresponding segmentation will be used for the purposes of this research:

Table 1.2 **Sample size categorization of cruise ships**

Ship size	Gross tonnage (gt)	Passenger capacity
Small	< 40,000	< 1,000
Mid-size	40,000–80,000	800–2,500
Large	80,000–150,000	2,000–4,000
Mega[1]	> 100,000	> 4,000

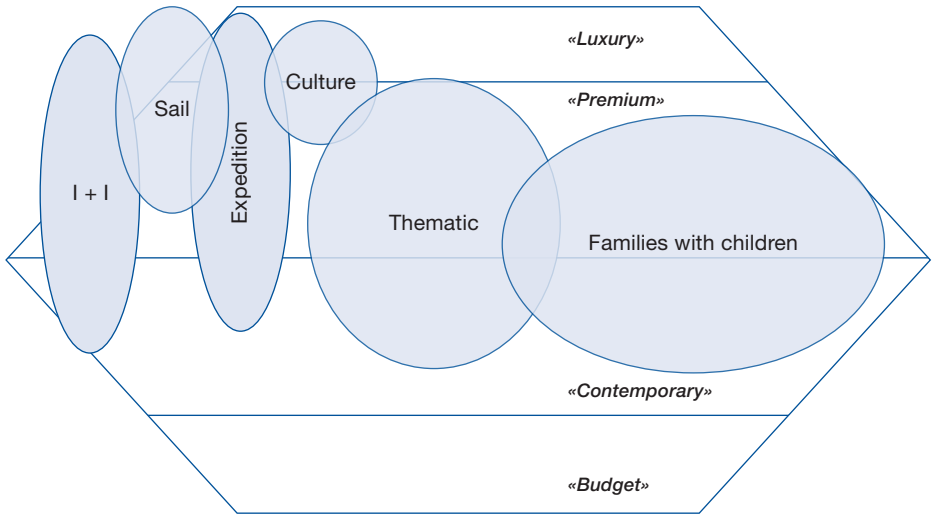
1) This is also termed a very large cruise vessel (VLCV).

Source: World Tourism Organization (2010a).

The categorization has also changed as cruise ships have grown. In 2007, the largest cruise ship could hold 3,600 passengers.[12] Now, the industry's largest ships, the *Allure of the Seas* and the *Oasis of the Seas,* can hold 6,360 passengers.[13]

Cruises can also be categorized by the type of experience offered, such as *thematic, expedition, families with children, culture, sail and one + one,* which may transcend the four segments and sizes but can be approximately overlaid as follows. Cruises of extended duration are categorized as voyages, which tend to cover more than one continent and fall within the *luxury* or *premium* segments.

Figure 1.1 **Specialization of cruises**



Source: World Tourism Organization (2010a), p. 67.

12 World Tourism Organization (2010a), pp. 2.

13 'The biggest Cruise Ships in the World' (n.d.), *Cruise Critic* (online), available at: www.cruisecritic.com (31-03-2015).

1.2.1 Psychographics of cruise tourism segments

Excluding the *budget* segment, given its general market confinement to the Mediterranean, a general spectrum emerges and simplifies the discussion. At one end, *contemporary* refers to cruises of short duration (seven days or less) with large and mega cruise vessels and passenger counts, lower passenger spending, more vertically integrated value chains and passengers seeking common destinations and packaged experiences. This end of the spectrum is analogous to the *dependable psychocentric* end of Stanley Plog's framework of psychographic personality typology.[14] Contemporary cruises typically generate the highest passenger traffic, via larger vessels and more frequent calls. They tend to generate the biggest environmental impacts, test limits of carrying capacity, require the most infrastructure development and have the potential for disrupting residents in their use of public areas and transportation. They also pose a risk of disrupting local communities, as well as overnight visitors to the destination who have to share experiences with cruise passengers. Therefore, these cruises should be confined to destinations with sufficient port berthing or tendering infrastructure, capacity for handling large numbers of simultaneous visitors onshore, sufficient airlift or source markets within driving distance and complementary ports within a short navigable range to make the itinerary viable. They have the biggest potential for total revenue generation to the destination, but their vertically integrated and resort-style ship experience also create the potential for the cruise lines to keep a much larger proportion of revenues and cause economic leakage.

At the opposite end of the spectrum, *luxury* refers to cruises of longer duration (10 days or more) with small cruise vessels and lower passenger counts, higher passenger spending, less vertically integrated value chains and passengers seeking less visited destinations and unique or more authentic experiences. This end of the spectrum is analogous to the *venturer/allocentric* end of Plog's psychographic personality typology. The focus on shore excursion revenue and the higher-level income demographic can mean higher spending per passenger with less economic leakage. However, *luxury* cruises' ability and even propensity to arrive at ports of call that are not equipped to receive cruise passengers could mean that adequate assessment, policies and monitoring systems have not been put in place to address cruise tourism. Ships may arrive at existing cargo vessel ports that can handle their reception, but cause environmental degradation in shore excursions made without adequate visitor management. Furthermore, they have the potential to disrupt vulnerable or isolated communities, especially indigenous communities.

The *premium* classification encompasses the various shades and sizes between the two ends of the spectrum (as well as Plog's spectrum), exhibiting tendencies of both and trending toward *contemporary* or *luxury* depending on the cruise line, itinerary, desired experience and passenger demographic. The current general trend is for the *premium* segment to trend toward the *luxury* end of the spectrum.

14 For further reference see: Plog, S. C. (1974), 'Why Destination Areas Rise and Fall in Popularity', *Cornell Hotel and Restaurant Administration Quarterly,* volume 14 (4), pp. 55–58.

1.2.2 Additional segmentation of cruise experiences

Additional types of cruises exist in South-East Asia and can be considered by destination policymakers despite this research not focusing on them.[15] These are categorized as *specialty cruises,* of which the following are examples:

- *River cruises* are a growing trend and can be distinctly identified by cruise ship attributes and itineraries, with recent river cruise development examples in the Amazon River, the Nile and the Mekong;
- *Gaming cruises,* similar to riverboat casino operations, are prevalent in South-East Asia; and
- *Luxury yachts* also follow routes used by cruise itineraries.

These types of cruise tourism are growing as well, with 22 new specialty cruise ships expected to be added to global supply in 2015.[16]

In addition to speciality cruises, a trend likely to affect cruise tourism in South-East Asia is the growth in large vessels and their use in cruise itineraries in proportion to total cruise passengers globally. The on-board experience will play a larger role in cruise tourism in Asia than it may have played in cruise growth in the Caribbean or Mediterranean. The on-board experience is especially applicable in the *contemporary* segment as cruise ships have grown in size and the amenities themselves become the attraction. This arguably is a return to the origins of the cruise industry in which Carnival Cruise Lines' founder Ted Arison focused on the "fun ship" experience while at sea, with port visits being incidental.[17]

Given the industry's segmentation, it is important to consider that cruise tourism's impacts will vary widely and cannot be treated uniformly. For instance, a mega ship can carry over 5,000 passengers, ten times the visitors a small expedition ship can. The potential for negative impacts will depend on the characteristics of each destination. A developed urban turnaround port in a destination such as Singapore may be able to receive mega ships with minimal risk to its natural and cultural heritage. On the other hand, a transit port of call in a rural area with extremely conservative customs, surrounded by fragile coral reefs and encompassed by a forest under threat, such as Aceh in Sumatra, may be severely impacted by a ship with just 1,000 passengers.

Cruise tourism product development is regional

On the positive side, cruise tourism's segmentation also allows destinations of all types to receive cruise passengers even if they do not build large cruise terminals. Likewise, cruise tourism is an inherently supra-national tourism product, as many cruises visit more than one country. However, an oversupply of competing ports leads to reduced benefits for the region as a whole, as the cruise lines have more leverage with greater choices for similar ports of call. Regional dialogue and collaboration among destinations and countries is key to sustainable cruise tourism development

15 For example, cruise tourism research may exclude one- or two-night cruise ship-based casino gambling activities, which are marketed as gambling experiences and not necessarily operated as cruises with shore excursion experiences.

16 'State of the Cruise Industry: 2015 to See Robust Growth' (2015), *PRNewswire,* 09-02-2015 (online), available at: www.prnewswire.com (18-09-2015).

17 Becker, E. (2013), *Overbooked: The Exploding Business of Travel and Tourism,* Simon and Schuster, New York, pp. 133 and 136.

in South-East Asia. Collaboration will enable each destination to highlight and protect its unique natural and cultural heritage.

Collaboration and other best practices in managing cruise tourism are available, particularly through the many lessons learned in other regions over the past few decades. Globally, progress has been made in sustainable tourism development in cruise ship operations, destination management and responsible travel. However, the planet is also bearing increasing impacts of climate change and unsustainable resource consumption, including flooding, storms, degradation, species and habitat loss, water stress and eutrophication (excess nutrient run-off), among others. It is important for all stakeholders to collaborate, understand and replicate best practices and utilize available resources to mitigate and minimize negative environmental and social impacts on natural and cultural heritage in these destinations. A number of initiatives, best practices, resources and strategies are available for South-East Asian tourism policymakers and the region's cruise tourism value chain, as will be discussed in the subsequent chapters.

Chapter 2

Cruise tourism value chain

Summary

This chapter applies the concept of a value chain to a cruise tourism destination. It outlines all the types of entities that generally participate in the production of cruise tourism and the cruise passenger experience. The relationship among entities is discussed to enable destination policymakers and managers to view cruise tourism's impacts across the entire destination and visitor experience, not only at port reception facilities. Mapping of the value chain also frames the discussion of how concepts of sustainability can be applied individually by all entities that participate in cruise tourism.

Key words

- Value chain;
- Supply chain;
- Visitor experience;
- Visitor flows; and
- Sustainability.

Key message

- Cruise tourism should be viewed holistically as a phenomenon as numerous entities collectively create the visitor experience for cruise passengers;
- Many different entities participate in cruise tourism, supplying and procuring various types of goods and services;
- The concept of a value chain can be applied to better understand the interrelationship among entities, most importantly to identify both the risks of cruise tourism's impacts to a destination and the entities to involve for minimizing impact and maximizing local benefit;
- Managing cruise tourism's impacts requires a collaborative effort across several types of government and business entities;
- Understanding and mapping a destination's cruise tourism value chain is a key first step for destination managers and policymakers to initiate programmes to address sustainable cruise tourism development; and
- Sustainable development and sustainable tourism concepts can be applied to all entities within the cruise tourism value chain as many best practices and complementary initiatives exist.

2.1 Applying the value chain concept to cruise tourism

Cruise tourism requires complex infrastructure, regulation and logistics. Initially, destinations have a higher degree of control in choosing a cruise tourism development strategy. However, that complexity also requires greater investment and expertise. Cruise lines readily offer such expertise because they are interested in developing new itineraries and increasing capacity to meet growing demand.

To ensure that cruise tourism's benefits are maximized and its impacts minimized effectively, destination managers should undertake an introspective and participative assessment that considers all stakeholders and not only the cruise lines or immediate revenues projected.

Assessments can be framed in terms of a destination's cruise tourism value chain. The assessment can evaluate the local players, state of practices and impacts of each component of the value chain. Recommendations for strategies and best practices can be developed holistically, since multiple entities and government departments will be involved. Furthermore, sustainability is both an overarching concept for approaching tourism as well as a collection of practices that can be applied to all organizations and operations within tourism. The destination's value chain can be called upon to implement the concepts of sustainability since best practices and initiatives are available for each respective entity.

In general, tourism has a complex set of direct and indirect impacts. The industry includes transportation, accommodation, food and beverage outlets and it ultimately seeks to provide the visitor an experience. Cruise tourism offers a thematic view to tie each of these segments together, especially in segments where the supply chain and overall experience is much more consolidated.

These dynamic benefits and impacts can be examined by destinations within a framework of a *value chain.*[1] Originally developed as the range of activities that an organization undertakes to add value to its final products or services, a value chain concept can be applied to examine the various entities, suppliers and stakeholders that participate in cruise tourism. Likewise, the concept can help to enable destination managers to view the destination's collective value to its stakeholders and to the visitors.

Tourism demand for a destination is derived from the experiences it can offer visitors, not from the infrastructure it builds. Especially in the case of South-East Asia, tourists decide to visit a destination because of its natural and cultural heritage, not because of its cruise terminal. Each entity within the value chain helps to provide the visitor an experience. Within their own business model, each entity can embed respective best practices in sustainability to enhance product development, planning, operations and management. Ultimately, this will contribute to the protection of the destination's value.

Table 2.1 **Sample list of types of entities that make up the cruise tourism value chain**

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Cruise passengers	Represent the demand for cruise tourism and the experience.	Global, generally focused within source markets.	n/a	Travel agents, cruise lines, ground handlers and excursion operators, site amenity operators, ground transportation providers.	– Respecting natural and cultural heritage of host destination; – Creating positive economic impact to the host destination; and – Awareness of responsible travel.

1 Porter, M. E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance,* Simon and Schuster, New York.

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Cruise lines	– Central providers of the cruise experience; – Bring passengers to destinations; and – Work with countries to develop new cruise destinations.	Global or regional companies.	Cruise passengers, travel agents, cruise terminals.	All other entities within the value chain.	– Fuel use; – Waste management; – Preservation and minimization of impacts to marine environments; and – Economic benefit to local economies.
Cruise ship crew	– Perform operational functions aboard cruise ship while at sea and in port of call; and – Procure goods and services from destination while at ports of call.	Multinational, usually from least developed countries.	Cruise lines.	Site amenity operators, ground transportation providers, shipping agencies, site amenity operators.	– Respecting natural and cultural heritage of host destination; and – Creating positive economic impact to the host destination.
Cruise terminals and port operators	Facility that provides the infrastructure and operations for cruise ship and cruise passenger arrival (turnaround and transit).	Local, usually owned and operated by government entities or public-private partnerships.	Cruise lines, cruise passengers.	Other third party service providers, site amenity operators.	– Impacts from dredging in developing cruise terminals; – Impact from developing permanent jetties; – Impact from marine and shore based recreation; and – Transportation and infrastructure related issues for disembarking passengers and transporting them to shore based recreational sites.

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Ground handlers and excursion operators	Responsible for the logistical operations of providing cruise lines with shore excursion packages.	Local (with regional or even global affiliations).	Cruise lines, cruise passengers, shipping agencies.	Ground transportation providers, site attraction operators, site amenity operators.	– Capacity constraints in sites and visitor flows; – Economic leakage in cruise passenger revenue; – Responsible operation of activities with respect to natural and cultural heritage environments; and – Responsible behaviour of passengers on excursions.
Airports	Transporting fly-and-cruise passengers to home port (turnaround) destination).	Global, regional, or local.	Cruise passengers.	Destination waste management companies and haulers.	– Adequate lift to match cruise demand; – Logistics from airport to cruise terminal; and – Waste minimization and recycling.
Hotels	Accommodation for cruise passengers arriving to the destination prior to the cruise, departing after the cruise or staying overnight within a multi-day port of call.	Global, regional, or local.	Cruise passengers, cruise lines.	Destination waste management companies and haulers.	– Sustainable design; – Efficient resource use; and – Responsible travel promotion.
Ground transportation providers	Transport cruise passengers within the destination to/ from cruise terminals, hotels, airports, site amenities, attractions and activities or generally within a destination.	Local (with regional or even global affiliations).	Cruise passengers, cruise ship crew, ground handlers and excursion providers.	Other third party service providers.	– Overcrowding of transit infrastructure, fuel use and emissions from operations; – Management of waste from maintenance; and – Mobility of destination port area, district and key attractions.
Destination waste management companies and haulers	Responsible for waste management and resource recovery for waste materials landed by cruise ships.	Global, regional, or local.	Cruise ships, hotels, airlines, cruise terminals and port operators.	Destination waste infrastructure.	Proper handling, disposal and resource recovery of landed waste.

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Site attraction operators	Operate and maintain the attraction facilities and areas visited by cruise passengers.	Local.	Cruise ships, ground handlers, cruise passengers.	Destination waste infrastructure.	– Adequate maintenance; – Heritage preservation; – Community benefit; and – Carrying capacity and crowd management.
Site amenity operators (retail, food and beverage)	Operate and maintain the facilities and areas visited by cruise passengers, such as restaurants, shopping.	Global, regional, or local.	Cruise ships, ground handlers, cruise passengers.	Destination waste infrastructure.	– Economic multiplier/ leakage of cruise passenger revenue; – Community benefit of cruise passenger spend; and – Ethical trade of handicrafts.
Host community(ies)	Intangible heritage as part of the cruise passenger experience while visiting the destination.	Local.	Cruise passengers, all other value chain entities (such as employees and businesses).	Various entities as businesses.	– Preservation of traditional ways of life; – Interaction with visitors; and – Local economic benefit of cruise revenues and cruise passenger spend.
Destination management organizations	Promotion of the destination's brand image and experience to visitors.	Local, usually owned and operated by government entities or funded from local tourism trade.	Cruise lines, NTOs.	Site amenity operators, ground transportation providers, site attraction operators.	Promotion of responsible travel and awareness of natural and cultural heritage.
Destination managers and policymakers (ministries, NTOs, tourism boards)	Development of policies and management of operations within the destination regarding activities of cruise lines, cruise passengers, environmental monitoring and other value chain entities.	Local, government or funded from local tourism trade.	Cruise lines, ground handlers, cruise terminal operators.	Cruise industry media.	– Adequate policy to maintain destination; – Maximize economic and community benefit; and – Minimizing environmental and social impacts.

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Portside agents and handlers	Provide logistical coordination of goods and services procured by cruise ships, cruise passengers and cruise ship crew.	Global or regional companies.	Cruise ships.	Ship supply storage providers, cruise ship suppliers.	Relationships with cruise line preferred procurement.
Travel agents	Selling cruise tourism products to cruise passengers.	Global, regional, or local.	Cruise passengers.	Cruise lines, ground handlers, inbound tour operators.	– Authenticity in claims and promotion of cruise experiences; and – Promoting responsible travel and responsible cruise tourism.
Inbound tour operators	Packing and selling cruise tourism products (or packaged products containing cruise and other forms of tourism) to cruise passengers.	Global or regional companies.	Cruise passengers, travel agents.	Cruise lines, ground handlers.	Promoting responsible travel and responsible cruise tourism.
Cruise industry associations	Trade associations for cruise ships and/or cruise terminals.	Global or regional.	Cruise ships or cruise terminals.	n/a	– Promotion of responsible cruise tourism development; and – Development of resources for members regarding key components of sustainable cruise tourism development and operations.
Cruise industry media	Media channels for cruise industry information: magazines, websites, conferences, seminars.	Global or regional.	Most of cruise tourism value chain.	n/a	– Promotion of responsible cruise tourism development; and – Development of resources for members regarding key components of sustainable cruise tourism development and operations.

Entity	Role in cruise tourism	Entity scope	Directly supplies goods or services to	Directly procures goods or services from	Key issues
Shipyards	Facilities used for building or repairing cruise ships.	Local.	Cruise ships, cruise terminals.	Portside maintenance and repair contractors, destination waste management companies and haulers.	– Downstream impacts of waste materials; – Environmental management systems (EMS); and – Environmental health and safety (EHS) in operations.
Ship supply storage facilities	Provide warehousing facilities for supplies and materials sourced by cruise ships and cruise terminals.	Local.	Ship suppliers, portside agents and handlers.	Destination waste management companies and haulers.	– Construction of facilities and land use change or environmental impacts; and – EHS in operations.
Ship suppliers	Provide goods and services to cruise ships while at the destination.	Global, regional, or local.	Cruise ships, portside agents and handlers.	Manufacturers of goods procured by cruise ships.	Responsible procurement.
Portside maintenance and repair contractors	Provide maintenance and repair services to cruise ships while at the destination.	Local (with regional or even global affiliations).	Cruise ships.	Other third party service providers.	EMS and EHS in operations.
Destination waste infrastructure	Provides landfilling, incineration, recycling and transferring of waste materials.	Global, regional, or local.	Destination waste management companies and haulers.	Other third party service providers.	Adequate waste infrastructure; Responsible resource recovery.
Other third party service providers	General supply chain of products and services for all types of entities within the value chain.	Global, regional, or local.	All (either directly or indirectly), depending on type of provider.	Other third party service providers.	Respective issues to be identified per entity type.

2.2 Key entities in the cruise tourism value chain

2.2.1 Value chain: cruise passengers

The primary stakeholder of cruise tourism is the cruise passenger. The traveller is the one who choose to become a cruise passenger and which itinerary to sail. The cruise passenger also makes several purchasing decisions for goods and services within the destination. Before and after becoming official cruise passengers, these customers must first travel to and from the cruise ship. In the case of a *fly* and *cruise,* passengers are brought to home ports by air travel and may need hotel accommodation prior to embarkation. This is often packaged with the cruise itinerary. In the case of a *drive* and *cruise,* passengers travel to and from the home port by car or bus, usually residing in or originating this part of the itinerary from the home port's vicinity. Turnaround destination inventories of airports, hotels and ground transportation are involved in moving passengers to and from the ship. It should be noted that cruise tourism's value chain will be nuanced and different in a transit port in comparison with a turnaround port, where passengers only visit but do not begin or end their cruise itinerary.

The impacts of cruise tourism, both positive and negative, begin with the passengers, who decide whether to take a cruise vacation and are affected by their attitudes, behaviours and activities while on a cruise vacation. Thus, efforts throughout the value chain to encourage cruise passengers to be responsible travellers should also be seen as a component of sustainable cruise tourism.

2.2.2 Value chain: distribution channels

The distribution channels of cruise tourism – the agencies, operators and marketing vehicles that convert travellers into cruise passengers – represent a vital link of cruise tourism and a significant portion of its economic activity. In markets such as China, where travel agencies are responsible for the majority of cruise tourism sales, sustainable tourism is supported by accurately portraying the experience that visitors can expect of a destination when arriving via cruise itinerary. Significant opportunity also exists for travel agents to educate their customers on aspects of being responsible travellers.

2.2.3 Value chain: cruise lines

The cruise ship is the central component of the cruise passenger experience and the tour packaging of cruise itineraries sold through distribution channels. The cruise ship is owned and operated by the cruise line. In general, the cruise industry is highly consolidated, with a handful of companies representing the vast majority of cruise tourism capacity. Though 26 brands offer cruises in Asia in 2015, 90% of the passenger capacity is concentrated in four brands (see table 2.2). These are the most obvious participants in the cruise tourism value chain and significant resources exist regarding the behaviour and specifications of cruise lines in sustainable tourism development. In terms of cruise ship types, though the large and mega ships represent a minority of the number of total ships, their size and deployment position them as carrying the vast majority of cruise passengers.

Table 2.2 **2015 Cruise ship capacity forecast in Asia**

Cruise brand	Total sailings	Average cruise length (days)	Passenger capacity	Passenger capacity (%)
Star	352	2.5	545,376	25
Costa	215	4.1	620,440	29
RCI	173	5.2	553,870	26
Princess	91	6.4	228,010	11
Nippon Yusen Kabushiki Kaisha (NYK)	48	3.9	n/a	n/a
Celebrity	31	10.2	n/a	n/a
Silversea	21	10	n/a	n/a
Holland America	16	14	n/a	n/a
Windstar	14	10.2	n/a	n/a
Oceania	14	17.3	n/a	n/a

Source: Adapted from Cruise Lines International Association (2015).

Cruise trade associations that represent cruise lines are actively involved in cruise tourism. They partake in initiatives to guide sustainable development through commitments, charters and membership requirements. The Cruise Lines International Association (CLIA) has emerged as the global entity representing the cruise industry, primarily cruise lines. CLIA absorbed the Asian Cruise Tourism Association in 2014, which was further spun off into CLIA North Asia and CLIA South-East Asia.

Cruise lines employ thousands of crewmembers, who also impact destinations during calls and turnaround when they are given periods of leave. The attitudes and behaviour of cruise ship crew within destinations also involve several issues to address regarding sustainability and responsible travel. The relationship of cruise ship crew to destinations is unique in South-East Asia as the majority of shipboard crew come from the region, in particular Indonesia and Philippines. For example, 53% of Royal Caribbean's shipboard crew of 55,000 and 64% of Carnival Corporation's shipboard crew of 78,500 are nationals of South-East Asian countries.[2] From a regional context, cruise tourism development in South-East Asia will generate more regional and even "local" employment as a result. Wages are derived from the local wages in their respective countries of origin and sustainable tourism also involves the labor practices for management of cruise ship crew.

2 Figures obtained from: Carnival Cruise Lines (2014), p. 66; and Royal Caribbean Cruises Ltd. (2013), *Royal Caribbean Cruises Ltd. 2012 Stewardship Report,* Royal Caribbean Cruises Ltd., p. 19 (online), available at www.royalcaribbean.com (26-03-2015).

2.2.4 Value chain: cruise destinations

The most important players in cruise tourism are the destinations themselves and their host communities, which host the cruise passengers and provide the experiences that are being promised to visitors. Several types of entities play a role in cruise tourism at the destination level, including the cruise terminal, government agencies involved in arrival and departure of international visitors, shore excursion operators, host communities, heritage sites and local attractions or activities and the suppliers of the cruise ships while in port.

The cruise terminals, ports and adjacent jetty facilities that receive the ships form the initial visitor experience as well as the interaction between cruise lines and destination managers. Their construction and ongoing operation is a focal point for assessing environmental impacts. These may be ports that exclusively serve cruise passengers (as in the case of Kai Tak in Hong Kong, China), serve both cruise and ferry passengers (as in the case of the Singapore Cruise Centre) or serve cruise ships and cargo vessels (as in the present case of Port Klang, Malaysia; and Phuket, Thailand).

Within Asia, the Asia Cruise Terminal Association is comprised of cruise terminal operators, including the terminals of Port Klang, Malaysia; the Singapore Cruise Centre, Singapore; and the Port of Subic Bay, Philippines. Another example for cruise destinations is MedCruise, the Association of Mediterranean Cruise Ports, in Europe. Some destinations will join CLIA as members as well. Other thematic destination associations exist such as the Asian Cruise Fund which was founded by destination managers in Hong Kong, China; and Taiwan Province of China and joined by Hainan, China and Philippines. The Asian Cruise Fund was initiated to develop cruise infrastructure along the route from Hainan to Hong Kong, China, to Taiwan Province of China and to the Philippines.

2.2.5 Expanded value chains of cruise terminals and port reception facilities

Cruise terminals and ports themselves have extensive supply chains, especially when considering their planning, development and operations. Facilities contract security, porterage, maintenance companies and many other third party entities. Each entity can apply the concepts of sustainability through fair labor practices and the adoption of environmental management systems. Likewise, the shipping agents, ship maintenance providers, suppliers of goods and services, waste management entities and the facilities that store or handle related merchandise or materials all participate in the economic activities of cruise tourism. Though not often associated with the cruise passenger's direct experience, they should all be considered when evaluating the sustainability of cruise tourism operations of the destination as these are more likely to be more locally based entities than the cruise lines.

2.2.6 Value chain: ground transportation

Transportation providers, such as taxis, buses and local transit are essential pieces of the value chain because a portion of cruise passengers almost always utilizes these services. The transportation infrastructure required to handle visitor flows (and its government management organization) are important to recognize and to engage. Infrastructure reaches beyond the

immediate port or terminal area and involves the ground transportation area (GTA) and routes on and offloading passengers to sites and activities, especially when these flows combine cruise passengers and residents in peak periods.

2.2.7 Value chain: activities, attractions and sites

Activities and attractions collectively provide a major component of the visitor experience and a destination's marketing content. However, they are constituted by several different entities that own and operate these services. Gastronomy, shopping and a city's general tourism offerings that are accessible by the cruise passenger are key groupings. Other important components are the attraction operators or other facilities that receive cruise passenger excursions. These include the ground handlers or destination management companies that manage the excursion operations. These generally constitute the port content and a significant portion of the cruise passenger revenue. Within the attractions and excursions, nature-based experiences are significant in cruise tourism and the entities that operate and maintain the parks are highly impacted. It is important to note that although the port reception facilities may have been developed to handle the capacity of a large cruise ship, the existing activities and attractions may not have been.

2.2.8 Value chain: local communities and heritage

Finally, the destination's inhabitants, local communities and intangible cultural heritage are the end stakeholders. The practices and composition of each respective value chain component will affect their livelihoods and have the potential to disrupt it. The arrival of thousands of visitors at the same time presents a potential threat to local ways of life, ranging from altered traffic patterns to altered local customs.

The composition of a destination's value chain varies in each case. Sample factors that will affect the composition of the value chain are:

- The use of the destination within the cruise itinerary (whether a transit port, a turnaround port, or both);
- The vertical integration of the cruise line (in some cases the cruise line operates the cruise terminal or the tenders and the excursions);
- The spatial layout of the destination (some destinations are walkable with main attractions near port facilities, others are hours away and require more comprehensive logistics);
- The availability of and the cruise line's decision to procure certain goods and services and to land waste materials in a particular destination; and
- The content of port activities and excursions offered within the destination, along with the makeup of the entities operating them (some attractions are privately owned and operated, others are run by local authorities).

2.3 Mapping the cruise tourism value chain

Mapping the value chain at each destination is an important first step in understanding the full scope of needs to develop capacity for receiving cruise passengers. For sustainable cruise tourism development, it is important to consider that:

- Every destination will have a value chain and some form of the entities identified in table 2.1;
- Value chains will grow, consolidate and shift as cruise tourism develops within a destination;
- Destinations exist in cruise tourism as part of itineraries, and the destinations form part of the value chain among themselves within each itinerary;
- Every entity within the value chain has a relationship to sustainable development and in particular to the host community;
- Sustainable tourism requires collaboration among several different entities for a common purpose; and
- Sustainability concepts have become commonplace in managerial application across all sectors as well as government planning.

Resources such as case studies, industry-specific initiatives, standards, educational or awareness opportunities and best practices exist for each respective entity within the value chain. These resources exist as a result of the potential negative impacts of cruise tourism that will be mitigated.

Chapter 3

Impact of cruise tourism

Summary

This chapter discusses the types of risks and negative impacts cruise tourism may cause. It outlines these impacts in environmental, social and economic categories to build awareness for destination managers. Several historical examples are provided along with further explanation of related issues. After reading this chapter, the reader should have a better understanding of the magnitude of impacts, which will help frame the rationale for implementing best practices and strategies found in the subsequent chapters.

Key words

- Environmental impacts;
- Social impacts;
- Tangible and intangible cultural heritage impacts;
- Economic impacts;
- Reputational risks;
- Pollution;
- Capacity control;
- Crowding;
- Heritage degradation;
- Leakage; and
- Tourism economic multiplier.

Key message

- The scale of cruise tourism can cause severe impacts to a destination;
- The drivers of impacts involve infrastructure for enabling the arrival of ships, the visitor flows within a destination and the relationships among various entities within the value chain as well as other visitors and stakeholders; and
- The scale of impacts will depend on the characteristics of each destination.
  Impacts can be categorized as environmental, social and economic, along with associated reputational risks to the destination.

3.1 Overview of cruise tourism risks and impacts

Cruise tourism development, particularly that of large and mega ships and the *contemporary* segment, involves issues and challenges related to scale. As such, tourism's potential impacts, both negative and positive, are amplified in both quantitative and qualitative discussions.

Negative impacts from cruise tourism development are inevitable in some form. Impacts can be traced to three drivers, which all stem from the scale of visitation during a condensed period:

1. The development and operations of the physical berthing and tendering of cruise ships at the destinations;
2. The visitor flows of cruise passengers within the destination; and
3. The relationships among players in the value chain when conducting activities related to calling on destinations and resulting visitor flows.

The impact from cruise passengers disembarking is different for each destination. Impacts will be different in a remote island when compared to a major city. For example, Singapore, an urban destination with more than 372 cruise ship calls and approximately 890,000 cruise passengers in 2014,[1] is hardly affected by the current volume of cruise passengers. The city's infrastructure and shore excursions are built to accommodate high volumes of tourists per day. In contrast, Molokai Island in Hawaii is not built to handle large numbers of tourists, especially overnight tourists as it has limited accommodations. *National Geographic Traveler* ranked the island 6th among 111 islands and archipelagos as the most sustainable tourism destination because of "its rugged coast and minimal beachfront prevent big-resort development and protect Hawaiian cultural ways".[2] The arrival of large-scale cruise tourism would disrupt the very attractiveness of Molokai Island in addition to stressing its infrastructure and resources.

Though impacts are varied across environmental and social topics, they can all be contextualized by the economic or financial risks they carry. At a basic level, the maintenance, renovation and remediation resulting from impacts all carry financial costs to the destination. Furthermore, tourism demand for a destination derives from its natural and cultural heritage. When that heritage is degraded or diluted, it reduces the value of and demand for future visitation.

The goal should be to achieve a balance of minimizing impacts to the point where they do not pose risks to local livelihoods or to natural capital, based on an assessment and characteristics specific to each destination. Though cases of severe impacts to a destination are relatively few in proportion to the hundreds of ports of call that cruise ships visit globally, the scale of impacts can be devastating to the destination affected. Thus, impacts to a destination should be considered carefully when evaluating the approach for cruise tourism development.

3.2 Environmental impacts

The cruise ships, their passengers, or their suppliers may cause environmental impacts from cruise tourism. The primary impacts are disruption to aquatic systems, pollution and environmental degradation.

3.2.1 Impacts from physical arrival of cruise ships

Navigating and landing cruise ships at a destination causes aquatic disruption. If not properly zoned and regulated, cruise tourism can contribute to the loss of habitats or species in marine environments caused by facility construction, ship navigation, discharge and shore excursions. Impacts may also include eutrophication and coral bleaching, as well as mangrove depletion.[3] Impacts may also occur from discharge of bilge water and other waste.[4] Though not as significantly

1 Figures obtained from the Singapore Tourism Board (2015), 4th Experts Group Meeting on ASEAN-Japan Cruise Promotion Strategy, presentation material from 26 February 2015.

2 Tourtellot, J. B. (2007), '111 Islands', *National Geographic Traveler,* November/December 2007 (online), available at: www.nationalgeographic.com (16-01-2015).

3 Tun, K. et al. (2004).

4 United States Environmental Protection Agency (2008), 'Section 4: Oily Bilge Water', *Cruise Ship Discharge Assessment Report,* EPA, Washington, D.C., pp. 4-1–4-21.

as cargo vessels, cruise ships may also generate impacts from ballast water discharge and bringing invasive species to the region.

Issue 3.1 Ballast and bilge water

Ballast water and bilge water are two types of water with potential environmental impacts associated with shipping and frequently are mentioned as environmental concerns of shipping.

Bilge water consists of oily fluids such as fuel, oil, wastewater from engines and machinery, lubricants and cleaning agents. Bilge water can also contain solid materials such as rags, paint and metal shavings. Improperly treated or discarded oily fluids, even in small doses, can kill individual marine organisms or entire marine populations. In 2003, Monterey, California, banned a cruise ship for dumping wastewater including bilge in the Monterey Bay National Marine Sanctuary, home to 27 species of whales, dolphins and other marine mammals.[a] Many cruise lines have voluntarily adopted more stringent measures to address bilge water.

Ballast water is water taken in by ships at sea to balance the weight of the ship to offset fluctuations in overall ship weight. Ballast water discharge has been recognized as one of the shipping industry's potential impacts on biodiversity.[b] A ship may take in water in one region of the world, then expel the water in a different region, thereby displacing species that can be invasive and disrupting local ecosystems. The most problematic invasive species associated with ballast water discharge include types of algae, crab, mussel, kelp and bacteria such as cholera.[c]

Ballast water generally is an issue more relevant to cargo ships because cruise ships have a more consistent weight throughout voyages (amenities and passengers do not fluctuate). Nevertheless, cruise lines have identified ballast water as an issue they are addressing.

The International Maritime Organization (IMO) describes the threats of ballast water in detail:

> "While ballast water is essential for safe and efficient modern shipping operations, it may pose serious ecological, economic and health problems due to the multitude of marine species carried in ships' ballast water. These include bacteria, microbes, small invertebrates, eggs, cysts and larvae of various species. The transferred species may survive to establish a reproductive population in the host environment, becoming invasive, out-competing native species and multiplying into pest proportions […]. The effects in many areas of the world have been devastating. Quantitative data show the rate of bio-invasions is continuing to increase at an alarming rate and new areas are being invaded all the time. The spread of invasive species is now recognized as one of the greatest threats to the ecological and the economic wellbeing of the planet".[d]

Best practices in mitigating ballast water impacts include proper monitoring of ballast water, treatment of ballast water prior to discharge (called Ballast Water Management Systems (BMWS)) and ports or terminals that have adequate reception facilities for the reception of sediments.[e] The IMO set up a working group in 1999 and generated the *Ballast Water Management Convention* as a global approach to mitigating the effects of ballast water, which nations can ratify.[f] The Convention has been met with some criticism for its effectiveness. Countries that want to develop port facilities should examine the issues related to ballast water, particularly if they are located in ecologically sensitive areas where invasive species threaten local livelihoods and cruise passenger experiences.

a) Madigan, N. (2003), 'Monterey Bans a Cruise Ship Over Dumping, *The New York Times,* 06-03-2003 (online), available at: www.nytimes.com (14-09-2015).

b) Carnival Corporation & PLC (2014), *Sustainability Report FY2013, C*arnival Cruise Lines, p. 57 (online), available at: www.carnival.com (25-11-2014).

c) For more information see: International Maritime Organization (n.d.), 'Ten of the Most Unwanted', *Awareness materials,* Global Ballast Water Management Programme, IMO (online), available at: http://globallast.imo.org (14-09-2015).

d) International Maritime Organization (2015a), *Ballast Water Management,* IMO (online), available at: www.imo.org (26-01-2015).

e) International Maritime Organization (2004), *International Convention for the Control and Management of a Ships' Ballast Water and Sediments (BWM),* IMO (online), available at: www.globallast.imo.org (26-01-2015).

f) Available through the IMO at: www.imo.org/en/OurWork/Environment/BallastWaterManagement/Pages/Default.aspx.

3.2.2 Marine degradation

Marine degradation can impinge on a destination's recreational offerings (beaches, snorkeling, diving, boat excursions) as well as its livelihoods derived from fishing, causing losses of income. This type of degradation can also disrupt various ecosystem services, including climate regulation.

Cruise ships have significantly improved their waste management procedures after several instances of harmful discharge resulting in fines and sanctions;[5] however this is also in parallel with destination authorities improving their monitoring of cruise ship activities and environmental quality levels.

3.2.3 Air pollution

Air pollution occurs from particulate matter emitted when ships burn fuel while docked at a destination without adequate purification systems.[6] This pollution can cause health issues, as well as degrade the façades of historic buildings and other facilities.

Issue 3.2 **Cruise ships and fuel usage**

Accommodating and transporting thousands of passengers, cruise ships simultaneously act as transportation vessels, hotels and power plants. While at sea, ships cannot utilize energy grids, and renewable energy technologies such as solar or wind power are currently insufficient to provide the energy required for cruise ship operations.

Technically, cruise ships could use biofuels to generate power. However, the global supply and distribution infrastructure for biofuel is insufficient to handle cruise ships' demand for fuel consumption. Because of cruise tourism's scale, switching to biofuels would risk causing further impacts, such as deforestation and habitat loss if palm oil were used as a primary source, or increasing global crop prices if ethanol were used as an alternative source.

Thus cruise ships need to burn fuel to generate power. Fuel is a cruise line's single largest operating expense, with Carnival and Royal Caribbean consuming 134 million GJ and 23.3 million GJ of fuel in 2013, respectively. Burning fossil fuels causes three primary impacts:

- Greenhouse gas emissions (primarily from CO2) and contribution to climate change;
- Particulate emissions, air pollution and resulting health issues from the emissions of CO (carbon monoxide), SO2 (sulfur dioxide) and NO2 (nitrogen dioxide); and
- Damage to marine environments if fuel is spilled (though this is rare for cruise ships).

Overall, shipping vessels of all types accounted for approximately 3.1% of global CO_2 emissions in 2012,[a] of which cruise lines represented 3.3% of shipping vessel CO_2.[b] Therefore, cruise ships accounted for 0.1% of global CO_2 emissions in 2012. But this figure represents the emissions from a global inventory of only 372 ships,[c] so the relative impact per-ship is significant.

The most common fuel used by cruise ships is bunker fuel, which has high sulfur content and resulting particulate emissions when burned. Two approaches for reducing particulate emissions are gaining popularity and should be monitored closely by destination policymakers.

5 Brida, J. G. and Zapata, S. (2010), 'Cruise tourism: economic socio-cultural and environmental impacts', *International Journal of Leisure and Tourism Marketing,* volume 1 (3), Inderscience Enterprises Ltd., Olney, pp. 205–226.

6 Behar, M. (2012), 'Can the Cruise Industry Clean Up Its Act?', *On Earth,* volume 42 (2), pp. 42–49, (23-05-2012) (online), available at: www.archive.onearth.org (26-10-2014).

The first approach involves fuel switching and scrubbing. In accordance with the MARPOL Convention Regulation 14, countries and destinations have set up Emission Control Areas (ECAs) in Northern Europe, North America and the Caribbean to limit sulfur emissions while near shore or docked, with a global standard set for 2020 (see table 3.1.)

Table 3.1 **MARPOL regulation 14**

Outside an ECA established to limit SO_x and particulate matter emissions	**Inside an ECA established to limit SO_x and particulate matter emissions**
4.5 % m/m prior to 1 January 2012	1.5 % m/m prior to 1 July 2010
3.5 % m/m on and after 1 January 2012	1.0 % m/m on and after 1 July 2010
0.5 % m/m on and after 1 January 2020*	0.1 % m/m on and after 1 January 2015

Notes: m/m = mass fraction.

m/m × 100 = % m/m = percentage by mass.

Source: International Maritime Organization (2015b), *Sulphur oxides (SOx) – Regulation 14,* IMO (online), available at: www.imo.org (14-09-2015).

However, these controls address the sulfur content of fuels (0.1%) and not the sulfur emissions themselves, which are the problem. To reduce sulfur emissions, ships could switch from bunker fuel to marine gas oil (MGO) or liquefied natural gas (LNG). MGO can be substituted into existing ship power facilities and is present in some cruise ships, but is more expensive and currently unavailable in South-East Asia, which could be problematic. LNG is available but requires a costly retrofit of the vessel for its use. Some cruise lines and ferries are beginning to build ships to use LNG.[d]

In addition, some cruise lines have begun equipping ships with advanced emissions purification systems (colloquially known as *scrubbers),* which remove sulfur dioxide from fuel combustion emissions. The current IMO regulation allows for the possibility that these types of technologies be used in lieu of fuel switching but approval has not been received. The scrubber process for an ocean vessel ultimately removes the sulfur content from emissions by means of dilution through seawater, discharging water into the ocean with higher sulfur content.

The second approach has been to insist and in cases regulate that ships use onshore power, meaning the ship plugs into the destination's electricity grid for its power source. This is a viable option when the destination has the demand capacity and infrastructure to supply power to the cruise ships at a reasonable cost. But it should also be taken into consideration that such power must be generated from somewhere, which may produce equivalent emissions. Onshore power also benefits the destination by reducing noise pollution from docked ships, which may be a concern for terminals or jetties close to residential or commercial areas.

Destination policymakers have the duty to reduce the impacts to local inhabitants and particulate matter from cruise ships while docked is a serious concern. Policymakers can require certain fuels, power sources and technologies be used to mitigate this impact. As the issue is complex and evolving, destinations should work with cruise lines, industry groups and regulators to seek viable solutions that reduce pollutants to host communities and enable the continued viability of cruising in the region.

a) International Maritime Organization (2014b), *Third IMO GHG Study 2014 – Final Report,* Marine Environment Protection Committee, IMO, pp. 13 (online), available at: www.imo.org (26-01-2015).

b) Compiled using International Maritime Organization (2014), 'Session Agenda', item 6, tables 1a and 14, pp. 60 (online); calculated with Automatic Identification System (AIS) figures.

c) Ibid.

d) 'The fuel that drives success' (2014), *International Cruise & Ferry Review,* autumn/winter 2014, pp. 92–93.

3.2.4 Noise pollution

Noise pollution may also occur as ships arrive and as large numbers of passengers disembark. In addition to affecting local inhabitants, noise produced by cruise ships' engines, propellers, generators and bearings can cause marine species such as whales to accidentally collide with vessels or abandon their natural habitat.[7]

The physical arrival of the cruise ship is not the only cause of environmental impacts; shore excursions are too. Very few, if any, natural attractions can accommodate 2,000 visitors at one time, much less 5,000. When visitation exceeds the capacity of the attraction to recuperate, degradation occurs. These impacts are amplified when cruise passengers are not properly briefed and monitored for responsible behaviour specific to the site. Shore excursions are not limited to land-based activities, but commonly include aquatic activities such as snorkeling, diving and boat tours. Environmental impacts of these activities can be severe when not properly regulated.

Issue 3.3 **Coral reefs and cruise tourism**

Coral reefs are environments of particular concern for cruise tourism. Itineraries often include the world's primary coral reef zones. For example, the world's two largest coral reef zones – the Great Barrier Reef near Australia and the Mesoamerican Reef off the coast of the Yucatan Peninsula – are frequent cruise destinations. South-East Asia as a region has more coral reefs than anywhere else on the planet, holding nearly 34% of the world's total coral reef area.[a] It is home to the Coral Triangle – an area of 5.7 million km^2 around Malaysia, Indonesia, Philippines, Papua New Guinea, Solomon Islands and Timor-Leste – considered the global center of marine biodiversity and known as the "Amazon of the seas". This region has faced serious threats of environmental degradation due to fishing and coastal development. As regional tourism grows, the Coral Triangle will be a key attraction as well as a potential victim of cruise tourism development. Resources are available for assessing coral reefs and marine life in general. See annex IX for an inventory assessment of coral reefs within the region.

Cruise tourism impacts on coral reefs can occur from five main sources: construction of landing facilities, ship navigation and anchoring, ship discharge, port discharge and shoreside activities such as boat excursions and snorkeling and diving trips.

When cruise itineraries involve urban destinations or calls at ports with existing vessel infrastructure within coral reef zones, coral and marine habitats have already been damaged and modification of infrastructure for receiving cruise ships will not be as detrimental in the immediate area. But downstream sediment flows from additional construction may affect coral in proximate areas. When cruise tourism is developed in previously uninhabited or less developed areas where coral reefs are present, the potential impact on the marine environment is greater. Proper environmental impact assessment is needed to understand and potential impacts and limit development in high biodiversity areas around reefs. When construction is undertaken, environmental management systems to mitigate and limit potential degradation are paramount.

Ships can damage coral reefs with anchors, anchor landing, anchor chains and anchor dragging. This is especially relevant to smaller cruise ships that can navigate in shallower waterways where marine life is abundant and passenger views are prime. Improper anchoring may also pose a safety risk to cruise operations when transporting passengers. Responsible choices and regulations on landing sites are needed to mitigate these risks and impacts. Assessment should be undertaken of the impacts on marine biodiversity from anchoring when choosing landing sites, with disclosure of anchoring's potential damage to the marine environment. Requirements can be placed for ships anchoring in these sites such as limiting anchoring to specific, appropriate seabed types and depths.

When ships navigate in reef zones, they may discharge sewage, bilge water, wastewater, or accidentally spill other types of waste. Decades ago, the cruise industry was criticized for environmental damage to coral reefs and marine life from waste effluent. As a result, stricter international regulation has been enacted and cruise lines have developed technology and operational procedures

7 International Fund for Animal Welfare (2014), *Understanding the sources of ocean noise pollution,* 27-05-2014, IFAW, Yarmouth Port (online), available at: www.ifaw.org/international (20-03-2015).

to reduce waste discharge and associated environmental impacts. Although cruise lines will operate within applicable laws, there are instances where destinations will need to enact regulations to ensure best practices are followed. Per international law, cruise lines are not allowed to discharge sewage and other types of waste within 6.4 nmi of a coral reef and some cruise lines have enacted discharge policies even further beyond that distance. Destinations can map coral reef zones and evaluate cruise ship navigation routes to determine if additional regulation should be enacted to protect reefs that may exist away from shore and be susceptible to impact. Furthermore they should monitor compliance with international and national regulations to ensure improper acts do not occur and that accidental discharge is remediated.

Even if cruise ships properly treat and offload all waste streams, waste handling at the destination could lead to discharge if proper facilities, management and monitoring are not in place and destinations with ports of call and other coastal or upstream facilities with the potential to impact nearby coral reefs should pay particular attention to waste management.

Finally, the most visible and potentially impactful damage to coral reefs from cruise tourism are the shore activities involving visitors interacting with coral reefs. Where coral reefs are sought-after attractions, hundreds and even thousands of tourists will descend on reef zones. Boating excursions may cause damage from the outboard motor and its effluent passing over coral as well as boats used for sightseeing, snorkeling and diving may cause harm from anchoring. Snorkelers can damage reefs by stepping on coral, dislodging and removing pieces of the reef and disrupting the ecosystem by feeding fish. Even when behaving properly, snorkelers' use of sunscreen can have damaging effects to the reef, as it may contain chemicals harmful to aquatic life,[b] and its UV filters can affect sunlight beneath the surface and cause further disruption.[c]

Aside from direct physical damage to coral reefs, increased nutrients from organic material can lead to eutrophication, which leads to algae blooms. Eutrophication and other components of waste discharge, as well as increased sedimentation and use of sunscreen, have specific ecosystem impacts on coral reefs and cause coral bleaching, whereby the coral loses its ability to photosynthesize. This disruption has a compounding effect that leads to further degradation on its own if not remediated. This type of disruption is not confined to impacts from tourism, as fishing and coastal development are also causes.

To mitigate excursions' impacts on reefs, proper study is needed in South-East Asia to identify, map and assess coral reef areas so that marine parks and other zoning can be established. As a global biodiversity priority, work is already underway from international conservation organizations such as the World Wildlife Fund, The Nature Conservancy, Conservation International and the Coral Triangle Knowledge Network.

In zoning, it should be understood that areas opened for tourism and specifically cruise tourism excursions, will have impacts and result in some levels of degradation. However, best practices in carrying capacity, cruise line criteria in selecting excursion operators and their management procedures and rules, coupled with building awareness of responsible tourism behaviour for snorkelers, divers and boat excursionists can help mitigate these impacts.

Most importantly, cruise tourism may afford the opportunity for threatened coral reefs to be protected. First, from tourism funding the establishment and operation of marine parks and related sustainability initiatives and second, by providing alternative livelihoods to local fishing communities who can shift to tourism work instead of unsustainable fishing activities and actually be paid to protect the reefs rather than exploit and degrade them for profit. The growing concept of Payments for Ecosystem Services (PES) has direct application in this instance.

Coral reefs and in particular the Coral Triangle area, have immense potential to provide memorable experiences for millions of cruise passengers. In addition to sustainable development practices and potential funding, opportunities exist to educate and build awareness of the importance of protecting coral reefs to a mass audience.

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a) Tun, K. et al. (2004).

b) Downs, C.A. et al. (2014), 'Toxicological effects of the sunscreen UV filter, benzophenone-2, on planulae and in vitro cells of the coral, Stylophora pistillata', *Ecotoxicology,* volume 23 (3), pp. 175–191.

c) Tovar-Sánchez, A. (2013), 'Sunscreen Products as Emerging Pollutants to Coastal Waters', *PLoS ONE,* volume 8 (6): e65451, available at: doi:10.1371/journal.pone.0065451.

3.3 Social impacts

Cruise tourism's social impacts are encompassed by the effects it has on local stakeholders. They may be derived from environmental impacts or arise from interaction among groups. Common impacts associated with cruise tourism are congestion, cultural heritage degradation and community disruption.

3.3.1 Congestion

Cruise passenger visitor flows may disrupt or congest local traffic and pedestrian routes. This type of congestion, termed *People Pollution,* crowds areas used by inhabitants.[8] Changing local infrastructure to accommodate visitor flows may reduce congestion, but may also be unfavorable to locals if preference is given to accommodating tourists. In addition, the impact of massive simultaneous arrivals in destinations can lead to corruption of local officials and businesses opportunistic of the need to expedite the visitor flows.

3.3.2 Cultural heritage degradation

Impacts to a destination's cultural heritage generally result from poor management of large-scale visitation in finite periods and exist in two forms. First, local communities and traditional cultures may be impacted, especially in rural areas where their intangible heritage forms an attraction despite their not wanting to interact with cruise passengers. This can also lead to unwanted social change and threats to intangible cultural heritage. Second, cruise ship emissions or high-intensity visitor traffic may degrade cultural heritage sites.[9] Large visitor flows cause wear and tear on infrastructure, facilities, attractions and sites.

Cruise passenger behaviour may bring negative social impacts as well, both directly and indirectly. As large numbers of tourists also represent opportunities to sell products within a finite period, cruise tourism can create dependencies for locals vying to hawk goods to tourists. In some cases, tourist handouts can cause locals to spend all their time begging from tourists, to the extreme of approaching ships to see if tourists will throw money overboard for collection. In addition, unlawful sex tourism including child exploitation may be present with cruise calls with demand from both cruise passengers and crew. Security concerns may arise if local criminals view a large increase in tourists as an opportunity for theft and assault, and security is not properly addressed by the destination.

8 Term first described in: Baekkelund, A. (1999), 'Solving the people pollution problem', *Seatrade Cruise Review,* December, Cruise Shipping Publications, Colchester, pp. 61.

9 Ashworth, G.J. (2012), 'Do tourists destroy the heritage they have come to experience?', in: *Critical Debates in Tourism,* Channel View Publications, Bristol, pp. 278–286.

3.3.3 Community disruption

Finally, social impacts include dissatisfaction with local stakeholders who do not perceive that their communities receive adequate benefits from cruise tourism despite being subjected to other types of disruption and impacts. This can include both local businesses' views regarding their participation or conditions for supplying goods or services to cruise lines, as well as local residents' views. Collectively, these impacts pose financial risks to destinations and the cruise tourism value chain.

3.4 Economic impacts

Two overarching economic risks exist for a destination when cruise tourism is developed. First, cruise tourism arrivals cease despite a destination becoming reliant on its revenues because a cruise line or lines decide no longer to call at that port. Second, cruise lines continue to call at a destination even though it is no longer desirable by most local stakeholders to receive the ships and their passengers and costs more for a destination to receive cruise ships than is covered by the corresponding revenues. Both of these scenarios are a result of a combination of several impacts that cruise tourism may cause, or from mismanagement of its benefits by destination policymakers.

3.4.1 Economic benefit and long-term vitality

Cruise tourism should be considered within the context of a destination's long-term vitality. Cruise lines may change itineraries and lower visitation to destinations and attractions that become run-down, overcrowded, unsafe, or lose too much of their original authenticity. Such were the cases of Mobile (Alabama) and San Diego (California), United States of America, where local governments financed approximately USD 29 and 28 million, respectively, in constructing cruise terminal facilities, which then became severely underutilized as cruise lines changed their itineraries and reduced calls to those destinations.[10] Also, if cruise tourism causes or exacerbates social impacts or the revenues generated from cruise tourism are not properly utilized to manage risks, it can lead to the loss of arrivals and income while the problems continue. An example of this is cruise ships pulling out of destinations due to increased incidents of threats to its passengers such as robbery and assault.

The economic impact of cruise tourism and its benefit to local livelihoods is a ubiquitous topic for destination policymakers and stakeholders that arises when discussing cruise tourism development. Cruise tourism has been criticized for generating less spending per passenger in the local economy than non-cruise tourists, with passengers staying less time and less tax collected from entry via cruise terminals than airports or via overnight lodging taxes. For example, a study of cruise tourism in Belize found that overall, especially in heritage sites, while over three quarters of

10 Associated Press (2012), 'Cruise failure leaves Mobiles with looming debt', *Fox News,* 07-05-2012 (online), available at: www.foxnews.com (15-09-2015).

nbc.com staff (2011), 'Cruise lines flee Southern California ports', *NBC News,* 14-01-2011 (online), available at: www.nbcnews.com (10-03-2015).

its visitors were cruise passengers, they represented less than a quarter of the tourism receipts.[11] The study also indicated that the distribution of revenues resulting from cruise passengers is disparate, with some businesses generating the majority (over 75%) of revenues from cruise passengers, while similar businesses receive less than 25% of their revenues from cruises.

Cruise tourism may also generate less employment at the destination than other forms of tourism, especially at transit ports. Cruise tourism has been criticized for keeping the majority of associated revenues within the cruise line and not for the local communities (which may make up a large part of the attractiveness and experience) that are not benefitting sufficiently from the cruise passengers. Economic impact is determined by a number of factors specific to each itinerary and destination's value chain and is dependent on the degree to which passengers are able to increase or decrease spending within a destination.

3.4.2 Leakage and economic multiplier effect

The vertical integration strategies of cruise lines can inhibit the participation of local business. When cruise lines develop their own port reception facilities they have more influence and control on the retail outlets allowed to operate within the facilities and may give preference to their international partners over local business. When cruise lines are allowed to bring their own support services and ground handlers to destinations, those entities then compete for other businesses in addition to cruise passengers and have guaranteed revenue from ships.[12] When cruise lines operate their own tendering services and shore excursions, the operation's revenues may stay within their parent company or global partners. They also have greater control in negotiating visitor entrance fees and food and beverage outlets. Furthermore, the scale of visitation from cruise passengers may maximize capacity and displace other visitors who would have paid a higher fee for products or services. All of these scenarios lead to a low tourism multiplier effect and increased economic leakage, which is unfavourable to the destination.

The tourism multiplier effect describes the circulation of tourism revenue within a local economy. In a common example, a tour operator will purchase services from a local ground handler, who will in turn hire bus companies to provide transportation for an excursion. The transportation company will purchase and maintain vehicles, utilizing the services of local mechanics and auto repair shops for service and repair. The auto shop will purchase spare parts from its vendors and so on. Leakage occurs when the local revenues generated from tourism are received by foreign entities or are sent outside the local (or national, depending on the evaluation boundary) economy and those benefits remain outside the destination. When local businesses are foreign-owned (meaning owned by a foreign entity and not by a foreign national residing within and have registered the businesses within that community) the propensity for leakage increases. Multiplier effect and leakage are common concepts in tourism and identified problems in developing countries. When cruise passengers arrive to a destination within a highly controlled environment on a packaged vacation, spending within the destination is susceptible to significant leakage. Large and mega

11 Russell, D.M. and Launchpad Consulting (2005), *Belize Tourism Policy, Belize Tourism Board,* Belize City, pp. 6–7.

Center on Ecotourism and Sustainable Development (2006), *Cruise Tourism in Belize: Perceptions of Economic, Social & Environmental Impact,* CESD, Washington, D.C. (online), available at: www.responsibletravel.org (15-09-2015).

12 Brida, J. G. and Zapata, S. (2010).

cruise ships in the *contemporary* segment are increasingly vertically integrated and cruise passengers may shop, dine and purchase excursions while on board the cruise ship rather than at port.[13] In some instances, cruise lines even use private islands as ports of call, creating an enclave environment. Ships also purchase goods and services with significant economies of scale and benefit from negotiating reduced purchase prices, often with choice of procurement among the countries along the itinerary.

Issue 3.4 **Cruise lines and private islands**

Several instances exist of large cruise lines purchasing or leasing their own private islands for development as a port of call. The scale of their operations has made this strategy more economically feasible for them than landing at other destinations. Examples include:

- Castaway Cay, Bahamas (Disney Cruise Line);
- CocoCay, Bahamas (Royal Caribbean);
- Great Stirrup Cay, Bahamas (Norwegian Cruise Line);
- Princess Cays, Bahamas (Princess Cruises);
- Half Moon Cay, Bahamas (Holland America);
- Labadee, Haiti (Royal Caribbean);
- Motu Mahana, French Polynesia (Paul Gauguin Cruises);
- Isla Catalina, Dominican Republic (Costa Cruises);
- Mohagany Beach, Honduras (Carnival); and
- Cayo Levantado, Dominican Republic (MSC Cruises).

The use of private islands for ports of call is beneficial to cruise lines as they are able to exert more control over the entire visitor experience and, consequently, the economic activity generated. Shopping, dining, portside activities and excursions and their associated revenues are all controlled by the cruise line, which is also responsible for passenger logistics and maintenance of the island's infrastructure and facilities.

Given that there are tens of thousands of islands in South-East Asia, with Philippines and Indonesia alone comprising nearly 25,000 islands, it is likely that similar options will emerge for private cruise destinations in the region. Sustainable development concepts should be weighed in these instances as destination policymakers engage in related assessments:

- The private island destination is knowingly offered within the itinerary as a port of call for nature-based activity. It is a pure form of enclave tourism, without authentic cultural experiences (aside from potential entertainment and shopping that is brought into the island specifically for cruise passengers). As such, it will be offered on itineraries where this type of activity is part of the source market's demand;
- Private islands may be a beneficial alternative for its reduced disruption of local communities on nearby inhabited islands;
- Private islands require less administration and infrastructure cost on behalf of the country, but also less potential economic impact;
- Though considered a private island, its operation and general administration will still require support and monitoring services from local authorities and will not be autonomous, which should be considered in planning and fee structuring;
- Pristine islands may hold undiscovered biodiversity value, especially in many regions of South-East Asia where scientific study of habitats has been lacking. Proper assessment should be carried out to minimize related unknown consequences or to prevent the privatization of national patrimony. This holds true for not only the island or islands in question, but also those accessible by the visitors in shore excursions;

13 Ibid.

- The call is likely to be part of a broader itinerary, which includes nearby destinations that may be inhabited and even major urban areas where opportunities for showcasing cultural heritage and participating in economic activity may be greater;
- A private island component may make the corresponding cruise itinerary more feasible as an overall product and enable revenues in neighboring destinations, while concentrating the impacts and visitor flows of the cruise; and
- Regulatory frameworks will determine the level of environmental impact assessment and development conditions to which the cruise line will be subjected for the island's development. Depending on the policy in place, a private island may change hands from one owner to a cruise line. Destinations should ensure proper controls are established for the transformation of a private island into a commercial operation as opposed to its previous residential capacity.

However, the infrastructure required for a transit destination to bring cruise tourism is not the same as would be required for overnight visitors. Transit ports do not require airports, hotels, similar levels of food and beverage outlets and general support infrastructure and supply chain needed to accommodate overnight visitor arrivals and activities. If classified by technical definition, cruise ship passengers on transit calls are *visitors* or *excursionists* and not *tourists.*[14] In addition, passenger spending in turnaround ports prior to or after their cruise vacation may not be counted as cruise passenger spending. Therefore a comparative analysis of spending and revenue of cruise tourists should not necessarily be benchmarked against that of non-cruise tourists within the same destination without proper life cycle cost analysis to include costs of infrastructure development and maintenance.

Leakage in cruise revenue may also have several channels that extend beyond the control of the cruise line. National or provincial taxation and fees collected from cruise operations and passenger spending may not be equally distributed within the local economy. Other entities within the local value chain such as ground transportation, receptive handlers, attraction/excursion operators, shopping and food and beverage facilities may be owned by foreign entities or non-local national entities whose economic gain is generally distributed elsewhere, even though they are not owned by the cruise line. Finally, cruise tourism spending may remain within the local economy, but not benefit the communities impacted by cruise tourism, especially indigenous groups or other community constituents, when subject to decisions of local authorities who may use tourism's benefit for other interests and lack transparency in its distribution.

3.4.3 Economic impact studies

Economic impact studies are a best practice in assessment and monitoring of cruise tourism. Studies vary and are subject to the approach and even viewpoints of the entity conducting the study. An economic impact study conducted by the cruise line and another by a local business bureau, may produce different results for the same cruise passenger. Destinations should consider how the studies will be undertaken and ensure the scope of spending and impact will generate results that can be applied managerially.

14 World Tourism Organization (n.d.), *Understanding Tourism: Basic Glossary,* UNWTO, Madrid (online), available at: www.media.unwto.org (26-02-2015).

Table 3.2 **Sample cruise passenger spending at various destinations**

Location	Spending per passenger (USD)	Year of study	Author(s)
Antigua and Barbuda	65	2011/2012	FCCA[1]
Aruba	95	2011/2012	FCCA[1]
Bahamas	65	2011/2012	FCCA[1]
Barbados	66	2011/2012	FCCA[1]
Belize	46	2005	CESD and INCAE[2]
Belize	73	2011/2012	FCCA[1]
British Virgin Islands	66	2011/2012	FCCA[1]
Cayman Islands	94	2011/2012	FCCA[1]
Colombia	99	2011/2012	FCCA[1]
Costa Rica	55	2005	CESD and INCAE[2]
Costa Rica	72	2011/2012	FCCA[1]
Curaçao	72	2011/2012	FCCA[1]
Da Nang, Viet Nam	176	2014	MLIT and FRI[3]
Dominica	48	2011/2012	FCCA[1]
Dominican Republic	70	2011/2012	FCCA[1]
Grenada	41	2011/2012	FCCA[1]
Ha Long Bay, Viet Nam	98	2014	MLIT and FRI[3]
Ho Chi Minh City, Viet Nam	175	2014	MLIT and FRI[3]
Honduras	58	2005	CESD and INCAE[2]
Honduras	62	2011/2012	FCCA[1]
Jamaica	79	2013	Jamaica Tourism Board[4]
Kota Kinabalu, Malaysia	200	2014	MLIT and FRI[3]
Luganville, Vanuatu	57	2013	Australian Aid, Carnival Australia, IFC[5]
Manila, Philippines	146	2014	MLIT and FRI[3]
Muara, Brunei	198	2014	MLIT and FRI[3]
Mystery Island, Vanuatu	19	2013	Australian Aid, Carnival Australia, IFC[5]
Nicaragua	46	2011/2012	FCCA[1]
Penang, Malaysia	148	2014	MLIT and FRI[3]
Port Vila, Vanuatu	104	2013	Australian Aid, Carnival Australia, IFC[5]
San Juan, Puerto Rico	118	2011/2012	FCCA[1]
Saint Kitts and Nevis	109	2011/2012	FCCA[1]
Saint Vincent and the Grenadines	27	2011/2012	FCCA[1]

Location	Spending per passenger (USD)	Year of study	Author(s)
Singapore	256	2014	MLIT and FRI[3]
Sint Maarten	185	2011/2012	FCCA[1]
Turks and Caicos Islands	64	2011/2012	FCCA[1]
United States Virgin Islands	147	2011/2012	FCCA[1]

1) Florida-Caribbean Cruise Association (2012), *Economic Contribution of Cruise Tourism to the Destination Economies,* FCCA, Pembroke Pines (online), available at: www.f-cca.com (09-01-2015).

2) Bien, A. et al. (2007), *Cruise Tourism Impacts in Costa Rica & Honduras: Policy Recommendations for Decision Makers,* CESD and INCAE for the Inter-American Development Bank, (online), available at: www.responsibletravel.org (15-09-2015).

3) Ministry of Land, Infrastructure, Transport and Tourism of Japan and Fujitsu Research Institute (2015), *Economic Impact of Calling Cruise and Major Cruise Itineraries in Japan [MLIT Research Report],* MLIT and FRI, presentation (26-02-2015).

4) Jamaica Tourism Board (2013), *Annual Travel Statistics 2013,* Jamaica Tourism Board, Kingston, p. 79. (online), available at: www.jtbonline.org (15-09-2015).

5) Australian Department of Foreign Affairs and Trade, Carnival Australia and International Finance Corporation (2014), *Assessment of the Economic Impact of Cruise Ships to Vanuatu – Report, August 2014,* Australian Department of Foreign Affairs and Trade, Carnival Australia and IFC (online), available at: www.ifc.org (15-09-2015).

More importantly, the destination should routinely monitor, benchmark and seek to improve the spending per cruise passenger and the portion that remains within the local economy and its communities without dis-incentivizing cruise lines and businesses operating within the destination. Common methodologies for determining passenger spend and economic impact will enable benchmarking and data aggregation, as well as improve monitoring's effectiveness across destinations within a country and a region.

Finally, it is important to consider that the economic impact and passenger spending calculations are limited to the instance of visitation and do not account for potential future gains. Cruise tourism passengers who have a positive experience within a destination may decide to return to that destination by air or land in subsequent visits. The destination should encourage and seek to maximize return visits through various channels as a strategy for increasing spending over the long-term and weigh the potential for positive or negative reputational impact.

3.5 Reputational risks: stakeholder criticisms of cruise tourism

Destinations can face reputational risks from cruise tourism development. The impacts of cruise tourism may lessen its attractiveness and favour among other segments of tourists, who find less authenticity in a mass-scale cruise destination and have unfavourable experiences of overcrowding when sharing their visit with thousands of cruise passengers. This is one type of criticism stemming from the traveller, whose opinions increasingly gain significance with social media channels being used to review and choose destinations.

Because of its scale, reach and ample potential for negative impact, destination managers should understand the risks of criticism for cruise tourism. Stakeholder groups critical of cruise tourism include:

– Local residents and community leaders who are threatened by cultural impacts and lack of local community benefit from cruise tourism revenues;

- Environmental NGOs critical of cruise ship impacts to the local or global marine environment, or of unsustainable visitation levels to locations with high biodiversity value without proper facilities or management planning;
- Labour organizations critical of the treatment, terms and conditions of cruise ship crew;
- Sociologists and cultural heritage preservationists critical of cruise tourism impacts to a destination's way of life; and
- Critics of mass tourism who argue for lower-impact, community-based tourism.

Criticisms may be unfounded and cruise lines may receive criticisms that are general to tourism or development as a whole, as well as that of the passenger's behaviour. In many cases, such as environmental impacts of wastewater and pollution, cruise lines have made significant strides in mitigating the impacts original caused, or in increasing local community benefit. However, destinations and their value chains should be made aware that these types of discussion may arise as cruise tourism becomes more prevalent in the region. Ultimately, the destination's reputation is at stake, regardless of which entity or entities within the value chain are responsible for causing the impacts.

When criticisms are directly linked to the damage of natural or cultural resources, this creates a polemic issue for destination managers as it may pit tourism businesses against inhabitants. In a handful of cases, the impacts of cruise tourism have manifested in ports of call with either community activism against cruise line calls, or prohibiting cruise ships from entering destinations for various reasons. When a destination makes the decision to prohibit cruise ships from certain operating procedures or from calling at all, it is a mitigation measure to prevent further impacts. However, the associate environmental, social, economic, or reputational impacts still will need to be remediated.

Examples of destination activism, regulations or bans against cruise tourism:

Svalbard Archipelago, Norway: effective as of January 2015, Svalbard Tourism has enacted a heavy fuel oil (HFO) ban, which prohibits larger cruises from entering parts of the Svalbard Archipelago in Norway. The HFO ban existed between 2007 and 2010 to protect the fragile areas of Svalbard. From 2010 to 2015, cruise lines were given the opportunity to change to lighter marine diesel fuel. During the five years, cruise lines were permitted to enter Ny-Alesund and Magdalena Bay until the end of 2014. As most large cruise lines still use heavy oil, cruises to the remote Svalbard archipelago will mainly consist of smaller expedition vessels until larger ships comply with the new regulations.[15]

Antarctica: Crystal, Princess, Regent Seven Seas and Oceania were forced to pull Antarctica from their itineraries for the 2011 and 2012 seasons when International Maritime Organization banned heavy fuel oil. The ban prohibits all cruise ships from burning or carrying heavy fuel oil in Antarctic waters. This ban resulted in a 22% decrease in the number of visitors by cruise ship during 2011 and 2012.[16]

15 Machan, T. (2014), 'Cruise regulations put Svalbard off-limits', *The Telegraph,* 17-03-2014 (online), available at: www.telegraph.co.uk (15-09-2015).

16 Shearing, C. (2012), 'Dramatic fall in Antarctic visitors', *The Telegraph,* 24-05-2012 (online), available at: www.telegraph.co.uk (15-09-2015).

Venice, Italy: in November 2014, in an attempt to protect a world heritage city, the Italian Government announced that all large cruise ships over 96,000 gt are barred from entering the St. Mark's basin Guidecca Canal. But not too long after, in January 2015, the Government lifted the ban, stating that alternative routes need to be in place in order to impose such restrictions. The Government's decision to lift the ban and plans to open up an alternative route for large cruise ships have caused distress to the environmentalists and the residents of Venice concerned with the already fragile state of the lagoon.[17]

Monterey Bay (California), United States of America: in 2003, Monterey banned Crystal Harmony for dumping about 36,400 US gallons of wastewater, of which 34,078 US gallons was gray water, 264 US gallons of treated black water and 2,119 US gallons of processed bilge water into the Monterey Bay National Marine Sanctuary, home to 27 species of whales, dolphins and other marine mammals.[18]

Charleston (South Carolina), United States of America: in 2013, a citizens group of Charleston formed partnerships with similar groups in other historic port cities such as Key West (Florida) and Venice, Italy. Together, they worked to protect their historic port cities from congestion and pollution attributed to large volumes of cruise passengers disembarking at once. The group proposed banning ships with a total passenger size greater than 3,000, reducing the number of cruise calls and imposing a policy for cruise ships to use onshore power or burn low sulfur fuel while idling at dockside. Despite the efforts by the citizen group and environmental group, South Carolina's highest court dismissed a two-year lawsuit to block the development of a new cruise terminal in Charleston with a budget of USD 35 million.[19]

Molokai (Hawaii), United States of America: the residents of Molokai have a long history of resisting increased tourism and overdevelopment. Residents have protested cruise ship companies planning port calls on the island to preserve their rural lifestyle. As a result, American Safari Cruises have had to cancel multiple Molokai port calls. The Molokai Island in Hawaii is not built to handle large numbers of tourists, especially overnight tourists and it has limited accommodations. *National Geographic Traveler* ranked the island as the 6th most sustainable tourism destination among 111 islands and archipelagos for "its rugged coast and minimal beachfront preventing big-resort development and protecting Hawaiian cultural ways".[20]

Key West (Florida), United States of America: concerned citizens in Key West worked toward banning large cruise ships from visiting the city, as it is necessary to dredge the channels to allow large cruise ships to dock. The channel consists of a delicate ecosystem with the only barrier coral reef in North America and is a protected Florida Keys National Marine Sanctuary. The citizens also argued that the large cruise ships not only disturb the area's natural ecosystem, the large volume of passengers diminish the original character and appeal of the port. Furthermore, the citizens

17 Donati, S. (2013), 'Giant Cruise Ships to be Banned from Venice Beginning Next Year', *Italy Magazine,* 08-11-2013 (online), available at: www.italymagazine.com (15-09-2015).

18 Madigan, N. (2003).

19 Smith, B. (2013), *Charleston, SC Tells Venice and Key West How to Beat Mega Cruise Ships,* 05-11-2013 (online), available at: www.skift.com (15-09-2015).

20 Osher, W. (2011), 'Cruise Ship Protest Planned on Molokai', *Maui News,* 07-11-2011 (online), available at: www.mauinow.com (15-09-2015).

have blamed the city's politicians for supporting the cruise ship industry and making the city dependent on it. Ultimately, dredging of the channel was voted down.[21]

Activism and regulation against cruise tourism, as described above, generally are targeted against cruise lines themselves. However, the business model and several of the impacts ultimately stem from cruise passenger demand and shore activities. If cruise passengers request more services that benefit local communities, seek more locally operated activities and purchases, inquire more frequently to cruise lines regarding their practices, or choose not to embark on cruise itineraries which degrade destinations, this can help catalyze the sustainable development and responsible operation of cruise tourism. In practice, stimulating passenger awareness, behaviour and preference for responsible travel is easier said than done. However, consumer trends indicate a significant increase in demand for sustainable products and services, along with a greater desire to have transformational experiences during travel. Just as a growing segment of tourists seeks enriching, authentic experiences, sustainable development and a culture of responsible travel could be built as a precursor to enabling such experiences. As will be outlined in the next chapter, sustainable tourism best practices for the cruise tourism value chain have an increasing relationship with the traveller.

21 Smith, L.M. (2014), 'Key West Votes "NO" to Sanctuary Dredging', *Ecology Florida,* 30-03-2014 (online), available at: www.ecologyflorida.org (15-09-2015).

Chapter 4

Sustainable tourism and cruising

Summary

This chapter further describes the concepts of sustainable tourism and provides an overview of the best practices and recommendations for applying sustainable tourism to cruise destinations. Best practices are outlined in greater detail as relating to destination policymakers and managers, cruise terminal and port facility operators and shore excursion or excursion site operators. The concept of responsible travel and its relationship to cruise tourism is introduced. Crosscutting best practices that apply to the entire cruise tourism value chain are presented. Particular focus is placed on conducting assessments. The chapter builds upon the previous chapter to help prepare South-East Asian destinations to understand and address the risks and opportunities for addressing growth in the region.

Key words

- Carrying capacity;
- Yield management;
- Assessment;
- Best practices for sustainable tourism;
- Destination waste assessment;
- Global Sustainable Tourism Council (GSTC); and
- Responsible travel.

Key message

- Assessment is the most important concept and action for destinations to undertake at the present moment;
- Various types of assessments exist, with the most important being carrying capacity studies with the purpose of also embedding yield management;
- Assessments provide a foundation but must be used for planning, development, policy and regulation and ongoing monitoring;
- Sustainable tourism does not have to be a large, complex undertaking. Best practices can be implemented immediately; and
- Cruise tourism in Asia affords the opportunity to educate growing Asian source markets and new travellers on the concepts of responsible travel and their behaviour within destinations to respect natural and cultural heritage.

4.1 Sustainable tourism overview and considerations for cruising

As identified in chapter 1, the three pillars of sustainable tourism are:

- Environmentally friendly practices;
- Support for protection of cultural and natural heritage; and
- Tangible economic and social benefits to local people in host destinations.

These pillars directly address the potential impacts outlined in the previous section. It is important to consider that cruise tourism, and particularly the contemporary segments with large and mega ships, presents inherent difficulty in applying sustainable tourism given its large-scale visitation in short periods. In many cases an authentic interaction between the visitor and local community

that also benefits the host community is not possible for thousands of tourists at once without severe disruption. Therefore, cruise tourism shore excursions to heritage sites will differ from best practices for other forms of heritage tourism.[1]

4.1.1 Sustainable development and cruise tourism trade-offs

Polemic or paradoxical issues of sustainable tourism are brought to the forefront in cruise tourism. There is a need for a balanced approach that focuses on minimizing impacts and risks. Examples of discussions relevant to cruise tourism:

- Sustainable tourism strives for the local community to receive maximum benefit, yet stakeholders do not always want cruise passengers or disrupt their way of life. Cruise tourism will not always be a viable option or tourism segment for some communities and destinations;
- Enclave activities are criticized when tourists do not leave the ship during a transit port of call and do not benefit the local economy or sufficiently experience the destination. At the same time, cruise tourism is criticized for its people pollution and traffic congestion due to the scale of visitation (see section 3.5). If excessive cruise passenger visitor flows are causing impacts in the destination, then this may be a practical trade-off;
- Cruise lines are criticized for any associated negative impacts, yet sufficient attention is lacking to hold accountable the thousands of people disembarking who collectively cause the impacts for choosing to become cruise passengers;
- Efforts should be focused equally on the passengers and distribution channels of cruise tourism;
- Cruise tourism is argued to generate less revenue per passenger than overnight tourists in a destination, but those criticisms often do not factor in the cost and impacts of building the infrastructure, marketing the destination and operating the support services needed to fly in and house a similar number of overnight tourists. Cruising may enable tourism and economic benefit in places that would otherwise not be accessible by road or air;
- Cruise lines are criticized for strategies to maximize passenger spend within their operating agreements. However, cruise tourism's structure for supplying the two most fundamental component that defines tourism – travel to the destination and overnight accommodation – differs from other tourism for two reasons that should be considered:
  - Cruise ships depreciate, while hotel and lodging facilities are real estate that tend to appreciate. Cruise ships do not present the same risks to a destination as does lodging real estate speculation; and
  - Cruise ships address the conundrum of low profitability in inbound passenger transport. Few stakeholders will complain that airlines arriving to destinations may be foreign-owned or that they do not trickle their passenger revenues into the local economy.
- Arguments against cruise tourism often are developed from purely a tourism perspective and not a shipping perspective. Cruises are cited for generating significant maritime environmental impacts, but they are not considered collectively with cargo ships, ferries and other vessels in those criticisms in the instances where the impacts are similar and the resulting economic activity holds much less potential for generating economic multipliers.

1 For cases, discussions and conclusions in best practices for management of heritage sites for tourism in Asia, see: World Tourism Organization (2009), *Sustainable Tourism Management at World Heritage Sites – Enhancing Inter-agency and Stakeholder Coordination for Joint Action,* UNWTO, Madrid.

These issues should be considered within a wider scope of sustainable development for a destination. In the case of cruise tourism, some sustainable tourism concepts will be less exact and create trade-offs, but destinations and stakeholders should not be discouraged from applying them. This is a common problem in sustainable tourism. Mass tourism is seen as incompatible with sustainable tourism largely by the industry. Sustainability principles are often only applied to small-scale operations or other special interest travel segments, such as, ecotourism. However, the tenets of sustainable tourism, stemming from the motivation of travellers to visit destinations, are fully aligned with a beneficial approach to managing any destination and developing any type of tourism. Increasingly, consumers of all types are interested in topics related to environmental and social issues, generating demand for sustainability and posing market risks to companies and destinations that do not align with those values. Furthermore, sustainable development is a concept that addresses the future of the planet and not just certain segments of its travellers.

4.1.2 Sustainable destination considerations for cruise tourism

Many South-East Asian nations have recognized the importance of sustainable development in national policy and planning for tourism. Examples can be found in national planning and policy documents in annex VIII. This indicates a regional awareness in the importance of sustainable tourism and the interest in the pursuit of its concepts. The current challenge is to merge these policy and frameworks with each country's cruise tourism development strategies across the value chain.

In practice, the overall strategy is for destinations to foment the ethos and programmes for sustainable cruise tourism development. Sustainable tourism does not need to depend on complex models or broad planning. Many actions can be taken with minimal efforts that provide immediate benefits to businesses, such as increasing the efficiency of energy and water usage from operations. Significant strides have been made in the past few decades to convert the concept of sustainable development into actionable frameworks, criteria and best practices for tourism and specifically cruise tourism. UNWTO guidebook on I*ndicators for Sustainable Development for Tourism Destinations* contains the following cruise tourism effects on destinations and corresponding indicators for their monitoring:[2]

- Capture of benefits for the host community:
  - Revenues;
  - Jobs;
  - Capital support from cruise lines for facilities used; and
  - Provisioning.
- Security (including customs and immigration controls);
- Control of social and environmental impacts on targets tour sites (including education of passengers);
- Provision of dockside facilities for services to cruise ships, including siting considerations to minimize potential impacts;
- Water supply;
- Waste disposal and treatment;
- Impact on destination services and infrastructure;

2 World Tourism Organization (2004a), *Indicators of Sustainable Development for Tourism Destinations – A Guidebook,* UNWTO, Madrid, part 4.18.

- Scheduling (including seasonality and multiple arrivals);
- Crowd management; and
- Coral reef protection and contribution to conservation.

4.1.3 Global Sustainable Tourism Criteria

While these effects are indicators of the impacts of cruise tourism, there are additional applicable resources. Using these indicators, destinations can apply the Global Sustainable Tourism Council (GSTC) Criteria. The GSTC developed a preeminent framework for applying sustainable tourism for destinations on a whole, as well as hotels and tour operations.[3] See annex VII for the full criteria. Four key areas of the GSTC criteria are:

1. Demonstrate effective sustainable management;
2. Maximize social and economic benefits to the local community and minimize negative impacts;
3. Maximize benefits to cultural heritage and minimize negative impacts; and
4. Maximize benefits to the environment and minimize negative impacts.

The GSTC was founded primarily as an accreditation framework for new and existing sustainable tourism certifications. However, the criteria and even the GSTC itself may be used to assess the policies and programmes in place at a destination. At the time of publication, the GSTC enabled a destination assessment programme to help destinations begin applying sustainable tourism. This section builds upon the GSTC to frame recommendations and best practices specific to cruise tourism across its value chain.

4.1.4 Best practices overview

Best practices to mitigate cruise tourism impacts and maximize benefits across the value chain and its visitor flows are overarching themes in the assessment process. The next steps are to translate the findings into planning and development processes, policies and regulation and monitoring systems. Proper assessment of a destination's value chain will enable managers and policymakers to view cruise tourism for its opportunities as well as risks and impacts. For a destination, best practices can be undertaken in individual components as well as holistically for tourism in general or specific to cruise impacts. Examples of cross-cutting best practices include:

- Staff training on environmental and cultural issues, including operational procedures and requirements to minimize environmental impact as well as cultural references and stories to engage and attract the tourists;
- Capacity building, training and facilitation of market access for local businesses to provide goods and services throughout the value chain;
- Measuring and tracking related indicators and setting related process-and outcome-based goals. Sustainability reporting using corresponding frameworks is a further approach to routine performance measurement, increasing transparency and leveraging the information to initiate dialogue with internal and external stakeholder groups;

3 For further information see: Global Sustainable Tourism Council, www.gstcouncil.org.

- Embedding sustainability into the supply chain. Entities can ask their suppliers about their own approach and performance to sustainability issues and request actions to improve products and services. Posing these types of questions to the suppliers does not cost the organization and in many cases opportunities can be found for environmentally preferable purchasing at little or no increased cost. Furthermore, in many developing nations a risk exists of procuring materials that were manufactured with unfair labour conditions. Supply chain evaluation at its basic level helps bring awareness to these issues and stimulate the dialogue;
- Benchmarking and sharing best practices. Sustainable development and sustainable tourism deal largely with overcoming challenges, finding opportunities for improvement and changing behaviour. Often the main challenge is not finding the best practices or criteria, but rather figuring out how to implement them. Knowledge sharing, collaboration and ongoing interaction with peers will help brainstorm ideas, transfer knowledge and tools and learn about actions that worked (or did not work) in similar situations; and
- Green Teams or sustainability working groups are a common entity within an organization that convenes around these issues. Extending the concept of working groups across entities within the destination augments this possibility.

Best practices are further outlined below for destination policymakers and managers, cruise terminals and port facilities and excursions (including operators and site managers).

4.2 Destination policymakers and managers

At the time of publication, the most important component of sustainable cruise tourism development and call to action is for destination policymakers and managers to conduct assessments. These will enable proper planning, operations and monitoring and serve as the foundation for collaborative efforts within and across destinations. Specific emphasis and examples are given in this section for the relevant types of assessment to conduct, followed by a summary of its relation to other stages of sustainable destination management.

4.2.1 Assessment

Thorough assessment is an overarching best practice when evaluating cruise tourism development opportunities, risks, impacts and current operations. This is especially important when cruise tourism development is planned or proposed for fragile natural and cultural environments such as more remote islands. Destination assessment can be undertaken in many forms and together with various stakeholder groups. Several types of assessment are described in this section.

It is important that assessments and their tools are objective, involve local stakeholders and take into consideration the viewpoints of the value chain beyond just the cruise lines and local agencies for economic development and/or tourism promotion. Independent assessments should be utilized as well so that a clear and well-rounded picture is obtained.

Destination sustainability assessment

The GSTC Destination Criteria provide an initial framework for undertaking a destination assessment. Its focus on policies and monitoring systems helps the transition from assessment to structuring and implementation. Several destinations have applied the criteria as early adopters, including destinations that receive cruise tourism. A sample of the early adopters are Riviera Maya, Mexico; Saint Kitts and Nevis; St. Croix, United States Virgin Islands; South Sardinia; Huangshan, China; Samoa; and Lanzarote (Canary Islands), Spain.[4]

Destination assessment based on the GSTC is also a practice within regional sustainable destination initiatives such as the Sustainable Destination Alliance for the Americas and South Pacific Destination Alliance. Both of these were created with funding of Royal Caribbean and supported by destination managers. They focus on cruise tourism and are coordinated by Sustainable Travel International, offering an evaluation with prioritised recommendations for destinations regarding policies and programmes which are followed up with standardized tools offered to all destinations in the alliance.[5]

An example of a cruise line-initiated destination assessment is Carnival Australia, which developed an Integrated Remote Destination Management Plan for Milne Bay Province in Papua New Guinea. Within this planning is an overall decision support framework categorized in the following areas:

- Site;
- Access;
- Activity;
- Estimated capacity;
- Opportunities;
- Constraints; and
- Ecological risk rating.

The risk is rated via an ecological risk decision support tool (see figure 4.1) various impacts according to their likelihood and consequence. Though developed for Carnival, destination managers can utilize the same framework and decision tool.

4 For further information see: Global Sustainable Tourism Council (2014), *GSTC Destinations* (online), available at: www.gstcouncil.org (06-04-2015).

5 Sustainable Travel International (2014a), *Destination Alliance to Harness the Power of Travel and Tourism in the South Pacific Region* (online), available at: www.sustainabletravel.org/spda (14-02-2015).

Sustainable Travel International (2014b), *Private and Public Sectors Unite to Guide Caribbean Destinations toward Sustainability* (online), available at: www.sustainabletravel.org/sdaa (14-02-2015).

Figure 4.1 **Carnival Ecological Risk Support Decision Tool, descriptions**

		Ecological consequence: descriptions					
		No detectable change likely	Change is likely to be detectable but minor and confined	– Change values leading to short term *in situ* damage; – Possible *ex situ* effects; and – Possible contribution to cumulative effects.	– Change in values leading to damage with recovery likely; – *In situ* impacts expected; and – Moderate contribution to cumulative effects.	– Permanent ecological damage with possibility of long term recovery; – *Ex situ* effects expected; and – Moderate contribution to cumulative effects.	– Change in ecosystem leading to long term and widespread damage with poor potential for recovery; – Major *ex situ* effects; and – Major contribution to cumulative effects.
Likelihood		**F**	**E**	**D**	**C**	**B**	**A**
Expected to occur during the project or beyond the project	**A**	Moderate	Moderate	High	High	High	High
May occur under the project or beyond the project	**B**	Moderate	Moderate	Moderate	High	High	High
Possible under exceptional circumstances	**C**	Low	Moderate	Moderate	Moderate	High	High
Unlikely to occur under the project	**D**	Low	Low	Moderate	Moderate	Moderate	High
Very unlikely to occur during the project	**E**	Negligible	Low	Low	Moderate	Moderate	Moderate
Extremely rare or previously unknown to occur	**F**	Negligible	Negligible	Low	Low	Moderate	Moderate

Note: Terminology used for the rating:

Negligible: the identified potential impact is extremely unlikely to constitute any significant impact and no specific management and mitigation will be required;

Low: the identified potential impact is unlikely to constitute any significant impact and specific management and mitigation is unlikely to be required, however may still be applied to reduce the potential for impact further;

Moderate: the identified potential impact has the potential to constitute a significant impact and specific management and mitigations should be applied to reduce the potential for impact further; and

High: the identified potential impact is likely to constitute a significant impact and specific management and mitigation measures must be applied.

Source: Eco Logical Australia (2013), *Integrated Remote Destination Management Plan Milne Bay Province – Papua New Guinea,* Carnival Australia Pty Ltd., table 1.

Destination considerations involve limits of acceptable change and carrying capacity

These types of assessments should take into account that cruise tourism's scale is bound to cause change to the destination to some degree and stakeholders should be made aware that impacts and change are foreseen. The degree to which change and consequences should occur can be examined using the concept of limits of acceptable change (LAC), which can be incorporated into assessments. LAC has been developed with a nine-step process:[6]

- Identify area of concerns and issues;
- Define and describe opportunity classes;
- Select indicators of resource and social conditions;
- Inventory existing resource and social conditions;
- Specify standards for resource and social indicators for each opportunity class;
- Identify alternative opportunity class allocations;
- Identify management actions for each alternative;
- Evaluate and select preferred alternatives; and
- Implement actions and monitor conditions.

Applied conceptually, LAC provides the basis that cruise tourism development will change the destination. Assessments should consider that cruise tourism's nature and scale may congest and stress the capacity of facilities, public areas and resident's transit. Visitor carrying capacity studies are important for cruise tourism and specifically for transit ports, as they consolidate large numbers of visitors within the destination and its attractions for short periods. A destination's carrying capacity evaluation for cruise tourism needs to be more granular to define the capacity intervals than the traditional concepts of carrying capacity. Setting annual or even daily visitation limits for an attraction is only part of the equation; visitor flow carrying capacity should also be measured for specific limits at any given time. A nature park may have a daily carrying capacity of 3,000 visitors, however the operations may only be able to sustain 1,000 of those 3,000 visitors at one specific instance.

Visitor carrying capacity

Visitor carrying capacity should be viewed in terms of managing visitor flows. Studies should contemplate that at times a destination's capacity can be increased structurally (such as reception facilities or sanitation), while in other situations, it cannot (the size of a coral reef zone or a turtle habitat). Likewise, if capacity is increased in one area, it may result in increased flows affecting another area. Expediting port entry and customs processes for cruise passengers will not be beneficial to the visitors' experience if they then experience long lines and delays in being transported from the cruise terminal to shore excursions. Carrying capacity and limitations or quotas in some cases pertain to the number of ships or calls to a destination within a period.

Carrying capacity assessments will help destination policymakers understand the constraints receiving passengers and handling visitor flows. More importantly, carrying capacity can be used as a tool to adequately structure pricing for fees and costs to visitors and cruise lines and in some cases to control capacity while optimizing revenues.

6 Stankey, G.H. et al. (1985), 'The Limits of Acceptable Change (LAC) System for Wilderness Planning', *USDA Forest Service General Technical Report INT-176,* United States Department of Agriculture.

Good practice 4.1 **Combining carrying capacity assessment and yield management**

Carrying capacity is a term with wide application but generally stems from studying the ability for ecosystems, habitats, or specific species (including humans) to be sustained. Though carrying capacity is a broad concept, tourism's application was originally associated with protected areas such as nature parks. The concept can be applied effectively in smaller instances of areas within sites and specific to cruise tourism and visitor flows. The UNWTO has defined tourism carrying capacity as "the level of visitor use an area can accommodate with high levels of satisfaction for visitors and few impacts on resources" when considering environmental, social and managerial factors.[a]

Carrying capacity has received criticism for its practical use in scientific terms. The notion encompasses the present sustainable development challenge as humanity is on a trajectory to exceed Earth's carrying capacity overall. However, the collective application of managing carrying capacity in sites and destinations can become a formidable contribution to sustainable development.

A location or facility's carrying capacity is determined by conducting a study of several factors. Various methods and frameworks exist; within a heritage management perspective it can be categorized into physical carrying capacity, ecological carrying capacity and social carrying capacity.[b] In general, studies should seek to answer the following question:

How many people can this activity or site support …

- … within each physical space?;
- … as pedestrians and their associated belongings and vehicles?;
- ... and allow the ecosystem to replenish itself?;
- … without over-disrupting the wildlife?;
- … without over-contaminating habitats or bodies of water?;
- … without over-degrading the visitor-designated trails, passageways and other designated flow areas?;
- … without over-degrading heritage buildings, artifacts, or other amenities?;
- … with the available potable water supply?;
- … with the available sanitation infrastructure to attend to visitor restroom needs and properly dispose of all types of waste?;
- … and meet their needs for food and beverage and other supplies which need to be brought in?;
- ... with a viable amount of operational and maintenance staffing?;
- … across seasonal variations across the year in weather, temperature and daylight?;
- … and not cause a negative visitor experience due to overcrowding?;
- … without negatively affecting the other sites or flows within the excursion itinerary?;
- … without negatively affecting the host community or inhabitants?;
- … and what precautions or limitations must be set on visitors while on the premises?

A holistic approach that considers carrying capacity from an environmental and managerial perspective allows destination managers and policymakers to understand the operation in terms of both its limits and opportunities that result from demand for visitation.

Analyzing visitation demand against its carrying capacity will enable managers to improve the practice of yield management. Yield management and its application is best summarized as:

> "Yield management is the umbrella term for a set of strategies that enable capacity-constrained service industries to realize optimum revenue from operations. The core concept of yield management is to provide the right service to the right customer at the right time for the right price. That concept involves careful definition of service, customer, time and price."[c]
>
> Enz, C. A. (2001).

Yield management will increase in importance as global tourism demand grows for a finite number of natural and cultural heritage attractions. Mixing these concepts implies that each visitor incrementally generates revenue and causes a quantified impact. If carrying capacity and visitor demand are properly studied, destinations can use pricing strategies to limit demand within the capacity and optimize revenues with less impact. For example, 600 visitors paying USD 10 per person will generate the same revenue as 1,000 visitors paying USD 6 per person, yet potentially with 40% less incremental impact.

Other opportunities in yield management combined with carrying capacity are dynamic pricing for seasonality to incentivize calls during lower periods. Demand charges are also an opportunity for applying yield management creatively, whereby visitation and related service fees are increased to account for the increased traffic and use of utilities and services. For example, a public restroom experiences significantly more use during large periods of cruise passenger visitation, which generates more operational and maintenance cost. This concept is already commonly accepted in the commercial supply of electricity by utilities, where demand charges are placed on businesses for the highest points of use given their contribution to the capacity of electricity generation.

In addition to the concept of demand charges for other public services in peak periods, yield management and price-based capacity controls are common within much of the value chain of travel and tourism. Airlines, hotels, tour operators and rental car companies commonly practice yield management. These all set precedents for destinations practicing similar yield management techniques, especially if their purpose is to protect the destination's natural and cultural heritage that forms the value proposition for its attractiveness to visitors.

The following are successful carrying capacity and visitor management examples:

The **Mogao Grottoes** UNESCO World Heritage Site in China's Gobi Desert along the ancient Silk Road has been monitoring visitor flows and setting visitor limits since at least 2001. A scientific study was undertaken to determine the carrying capacity and visitation limits, which were set at 3,000 people. Capacity was determined based on the evaluation of impacts, such as the increased CO_2 in the caves that damaged the ancient frescoes. Though the site boasts nearly 500 caves, most of them are small and cannot handle large visitation. Tourism steadily increased to those limits of acceptable change, eventually surpassing the carrying capacity and receiving 11,000 visitors per day. Seeing the threats of degradation, actions were taken to optimize visitation. An integrated visitor management system was put in place. Digitization and preservation initiatives were implemented and the site constructed a visitor center. This allowed the daily visitation capacity to increase to 6,000 people per day, which was then set as the visitation cap in high peak seasons, with lower capacity limits and variable by season. The site regularly sells out in advance and tickets are purchased through an online ticketing system.[d]

The **Huayna Picchu** site area is within the Machu Picchu UNESCO World Heritage Site. Huayna Picchu was identified as a more fragile and a less accessible area compared to the rest of Machu Picchu. A daily visitation limit of 400 people was implemented with fewer hours available for visitation. Entrance tickets are sold through the Internet and must be purchased well in advance as they commonly sell out ahead of time. The site has stable, structured and well-forecasted visitor flows while the larger site of Machu Picchu is open to a greater number of visitors. By setting capacity limits on specific portions of the site, degradation is better managed while still allowing for a larger number of tourists to visit Machu Picchu overall.

Xel-Há Park, a privately managed nationally protected area in the Mexican Caribbean, saw large increases in visitation as tourism grew significantly to the Riviera Maya region. Tourists in Cancun, Cozumel and Playa del Carmen visited the park in combination with a day excursion to the Tulum archaeological ruins. The tour gained in popularity and the site's daily visitation increased to reach upwards of 5,000 daily visitors. Part of this visitation increase was due to cruise excursions during a period in 2004 when ships were calling at Playa del Carmen, which would bring in up to 2,000 visitors for a period of two hours during the peak part of the day. Guest satisfaction decreased during the peak seasons and visitation hours when the facilities and snorkelling areas became saturated. Management undertook various environmental and managerial carrying capacity studies during this time. Measures were set up to limit the amount of feed available to fish each day and overall carrying capacity was determined at approximately 4,000 daily visitors. The carrying capacity however still did not solve the issue of visitor experience at peak times. To better manage visitation and revenues, the park switched to an all-inclusive system, whereby park entrance fees are bundled with food and beverage, lockers, towels and snorkelling gear. This increased the overall revenue per visitor and reduced visitation, optimizing revenues while increasing the visitor experience. To allow for equity in visitation, the park enabled routine visits from local communities and schools so that the price is not prohibitive to them experiencing the region's natural patrimony.

The **Galápagos Islands** established carrying capacity levels to limit and monitor not only the number of tourists arriving to the islands, but also the number of ships and calls allowed. Foreign visitors to the islands pay a park entrance fee of USD 100. Private boats are not allowed to remain within the territory for more than 21 days and can carry a maximum of 100 passengers per boat. When going on excursions, groups cannot exceed 16 persons per guide. Some islands have even further restrictions on capacity depending on their respective levels of sensitivity to visitation.

a) World Tourism Organization (1992), *Guidelines: Development of National Parks and Protected Areas for Tourism,* UNWTO, Madrid, pp. 18.

b) Pederson, A. (2002), *Managing Tourism at World Heritage Sites: A Practical Manual for World Heritage Site Managers,* UNESCO World Heritage Centre, Paris, pp. 56–58.

c) Enz, C. A. (2001), *FieldField Management,* Cornell University Center for Hospitality Research, Cornell University School of Hotel Administration (online), available at: www.chr.cornell.edu (15-02-2015).

d) Demas, M.; Agnew, N. and Fan, J. (2015), *Strategies for Sustainable Tourism at the Mogao Grottoes of Dunhuang,* China, SpringerBriefs in Archaeological Heritage Management, Springer International Publishing, London.

Agnew, N. and Demas, M. (2014), *Visitor Management and Carrying Capacity at World Heritage Sites in China,* Getty Conservation Institute, J. Paul Getty Trust, Los Angeles, pp. 87–90.

Other relevant assessments

Similar to location-specific carrying capacity assessments, more granular types of assessment are appropriate in many instances for focusing on specific aspects. Environmental impact assessments are common and in many cases required for development of the built environment. Economic impact assessments are vital to develop adequate fee structures to support the infrastructure, facilities and port content needed for cruise passengers. As cruise lines generate significant streams of waste that need to be offloaded ashore, their scale provides an opportunity to conduct destination waste assessments. As described in good practice 4.2, policymakers stand to benefit from conducting destination waste assessments. While best practices exist for regulating and managing waste, this type of practice is an innovative opportunity for South-East Asia to collaborate for sustainable tourism development.

Cruise tourism assessment also can cover social aspects, such as community impact assessments, which are helpful in understanding the potential impacts to local communities and the towns or cities on a whole. These help identify potential impacts as well as the associated risks that destinations and cruise lines may face from activism or backlash, at both local and international levels. Impact assessments are critical when cruise tourism enables the arrival of technology, visitors and value chain players to remote island communities of traditional lifestyles or that are otherwise shielded.

If assessments and plans for implementing cruise tourism are done well, with all stakeholders involved in the planning, then the potential for “activism or backlash” is reduced. Activism and backlash is usually the result of poor planning with limited engagement of those most affected by the onset of cruise tourism. Finally, assessments are only a worthwhile exercise if they are inclusive, transparent to vulnerable stakeholders and their results acted upon. It is of no use to conclude that a community or natural habitat will be severely impacted if the recommendations are not incorporated into planning and development, or without placement and enforcement of policy and regulation or monitoring systems to check and improve their effectiveness.

Good practice 4.2 **Destination waste assessment**

Cruise ships are less than 1% of the global merchant fleet but account for an estimated 25% of all waste generated on ships, with up to seventy times more waste generated than a typical cargo ship.[a] This is because cruise ships carry passengers rather than cargo and each passenger's activity generates waste as they eat, sleep and consume services onboard. Cruise ship waste streams are diverse. Best practices for recovery and disposal for each waste stream are available for destinations and cruise lines. There is a waste hierarchy that demonstrates best uses of waste streams, with landfill or incineration being the last resort. See annex III for a breakdown of cruise ship waste stream types and best practices for disposal.

Cruise lines have made significant strides to address all forms of waste generated from ship operations and passenger activity. An example is Royal Caribbean's mapping of its waste in a waste stream operations controls chart.[b] Furthermore, several resources exist for the value chain to address the issue of cruise ship waste. Sustainable Cruise, an initiative of the European Commission LIFE+ (The Financial Instrument for the Environment) project, is focused on developing innovative end-of-life solutions for biodegradable waste, packaging and paper.[c] The project contains several relevant documents dissecting the waste management practices and regulations, with particular focus on EU directives.

Other examples are the Clean-Sea and Green Star programmes. Both require that at least 50% of the total recyclable waste is offloaded for recycling.[d] Green Star contains recycling and advanced recycling criteria for waste separation and treatment for recycling when landed. CLIA has put forth a commitment on waste for its members agreeing to various practices relating to waste management.[e] Legislation has also been enacted in several instances to address ship waste. For example, the European Community directive 2000/59/EC on port reception facilities was enacted with the purpose of reducing discharge into sea by ships.

Though several initiatives, commitments and regulation exists for cruise ships to manage, treat, discharge and land various waste streams, the full perspective of waste impacts to a destination, particularly in South-East Asia, is not well documented or understood. In terms of greywater and blackwater discharge at sea, policies may be asymmetric across the region. While cruise ships have extensive policies on waste management it does not guarantee flawless operation. Accidents may happen and their impact worsened if water quality levels are not routinely monitored.

For landed waste, policymakers and managers can benefit from conducting a destination waste assessment. Similar to visitor flows, this type of assessment seeks to map and understand the flow of various waste streams within the destination, tracing their ultimate end destination and use. Through this assessment, both risks and opportunities can be identified for waste handling. Steps to conducting a destination waste assessment:

- Review current municipal waste management policies for handling of all types of waste;
- Identify the types and estimated aggregate volume of waste that cruise ships calling on the destination are either landing at the destination or keeping onboard for landing at other destinations;
- Map and evaluate port facility waste collection points for receiving each waste stream type, with the focus on identifying and correcting risks of environmental damage to marine ecosystems due to improper handling or discharge during the landing process. Conduct waste stream audits at the collection points to identify status of proper waste separation;
- Trace the outbound flow of each waste stream, including the specific waste hauler, route and end location (whether to a transfer facility, landfill, incinerator, recycling facility, end user, or other);
- Map out the cost structure for each type of waste across the destination flow. This includes fees levied on cruise ships for waste disposal, fees charged by waste haulers and fees charged by downstream reception facilities (including fees or revenues for shipping waste away from the destination to another region or country);
- Identify the regulations and practice of waste haulers and downstream facilities for implementing adequate environmental management systems;
- Evaluate the processes in place to ensure haulers and facilities are complying with regulations and furthermore that waste is actually ending up in its intended downstream destination; and
- Benchmark this assessment against other local industries that generate significant amounts of waste and against other destinations within the region and in cruise destinations in other continents.

Destination waste assessments may present several interesting findings and opportunities:

- It may become apparent that overall it costs a destination more to handle and dispose of some types of waste than the cruise lines are paying to land it;
- Destinations may be shipping waste to other regions or countries after receiving, hauling and transferring it. The end regions or countries may include other ports of call visited by cruise lines on their itineraries;
- Risks and improper practices may be uncovered within local operations, including opaqueness in contracting, corruption, improper disposal and environmental impacts from handling;
- Waste hauling logistics may be inefficient and costly with fragmentation among several haulers, when opportunity exists to consolidate and streamline processes;
- Cruise lines may be keeping waste onboard that is mutually beneficial to land within the destination, but may be inhibited due to out-of-date legislation;
- Inadequate policies may be in place to regulate waste management;
- Environmental degradation may be occurring from waste handling and discharge within the destination, which is outside the cruise lines' operational control but for which they may be blamed;
- The assessment lays the groundwork for developing Port Waste Management Plans (PWMPs);
- Opportunity may exist to leverage the scale of cruise ship waste to increase waste reception infrastructure and even develop recycling facilities; and
- Regional benchmarking can identify opportunities for consolidating and optimizing waste handling based on the respective strengths of each destination within common cruise itineraries.

a) Butt, N. (2007), 'The impact of cruise ship generated waste on home ports and ports of call: A study of Southampton', *Marine Policy,* volume 31 (5), pp. 591–598.

b) Royal Caribbean Cruises Ltd. (2011).

c) For more information see: Sustainable Cruise, www.sustainablecruise.eu.

d) For more information see: Sustainable Cruise (n.d.), *D.1.5.1, D.2.7.1, D.3.5.1: Regulatory marine framework and constraints (for packaging stream, biodegradable waste and paper stream)* (online), available at: www.sustainablecruise.eu (01-12-2015).

e) Cruise Lines International Association (n.d.), *Waste Management Best Practices and Procedures* (online), available at: www.cruising.org (12-10-2015).

4.2.2 Planning, policies and monitoring

Assessments will form an empirical, quantitative and situational foundation for policymakers and managers to determine optimal levels of cruise tourism development. They can be used in planning processes, setting of policy and regulation and ongoing monitoring to create feedback loops and improvement.

Planning for tourism development is a common practice. Several tourism ministries undertake planning exercises and many embed components of sustainable development and the preservation of natural and cultural heritage. Some planning such as Malaysia's Economic Transformation Programme are top-down plans for economic development integrating tourism as a pillar and will include cruise tourism.

National tourism organizations (NTOs) can link sustainable development and heritage preservation to corresponding cruise tourism initiatives in national planning. As a best practice, planning for cruise tourism development can be implemented throughout the value chain and at various stages of development. This is particularly important in South-East Asia where cruise tourism will grow significantly and cases of capacity limits and congestion will arise. Master planning is

also a common practice in cruise tourism development since the construction of cruise terminals, jetties, passenger handling facilities and ground transportation areas (GTAs) require large spaces of land use across several types of zoning as well as comprehensive visitor flow analysis. Master plans should address environmental and cultural impacts. Likewise, it is important that planning encompasses the value chain throughout the visitor experience. Planning for cruise terminal development should be accompanied by planning for visitor flows throughout the destination, which is often separate from the cruise terminal master planning scope. This is where potential impacts identified in assessment exercises can be mitigated and activities developed to offset potential impacts.

Planning

Planning can mitigate impacts during development stages of cruise tourism and its infrastructure. New development and infrastructure should be compatible with the character of the destination's cultural heritage and proper planning should incorporate these characteristics. A best practice in planning is to incorporate local representation in destination assessments, including indigenous communities and other stakeholders and to invite participation into the planning process. Additionally, establishing cross-functional cruise tourism committees or working groups, with dedicated staff, helps a destination coordinate and address visitor flows across the entire destination. The planning stage is an opportune moment to include this group given that cruise tourism transcends port of call arrival and disembarkation, transportation logistics and numerous attractions or activities.

Policy and regulation

Policies and regulations should be put in place to ensure the protection of natural and cultural heritage. Policies and assessment are interrelated, as a sound initial policy requires assessments to be undertaken for cruise tourism development and its related activities. During the implementation of policies and regulations, destinations may have the opportunity for discussion and negotiation of related port and visitor fees with cruise lines. Issues that deal with environmental and social impacts such as visitor flows, use of shore power, waste discharge, port fee structures, licensing and access will involve discussions of fees. Cruise tourism is a business dominated by large multinational companies with fiduciary duties to investors to maximize profitability. Therefore, it should be expected that cruise lines will be hesitant to agree to terms that will result in increased operating costs. Proper assessment can help support a destination's positioning.

A best practice is to apply internationally accepted regulations already in place in many other parts of the world. When dealing with policies of disputed nature, it is important to research the issues from multiple perspectives including that of cruise lines and cruise associations and to engage in dialogues to arrive at optimal solutions. Benchmarking of other destination stances and results will help in developing policies as well. Though cruise lines seek profit, cruise lines and destinations often share the need for general public approval for cruise tourism. This is largely determined by the ability of the cruise line to mitigate its environmental impacts and maximize local benefit of cruise tourism's economic activity without causing irreparable change to cultural heritage and values.

Policies are the foundation to ensure that economic impacts of cruise tourism are appropriately distributed. Two examples of related policies include: guarantee local operators access to sell their services to cruise passengers in the port area or the opportunity to bring new services to the cruise excursion market structuring port fees to be reinvested in maintenance of infrastructure and heritage conservation that is impacted by cruise tourism. Policies can help with visitor management flows, such as developing zoning and use of buffer zones to manage visitor flows and visitation across the destination and particularly in or around heritage sites.[7]

Soft policies can also be enacted upon cruise ships as voluntary initiatives instead of regulation in the form of requests for disclosure. Soft policy is becoming a global trend in corporate reasonability and sustainability reporting, whereby a government or market regulator requests that a company discloses its approach and performance to various Environmental, Social and Governance (ESG) issues, or explain why it chooses not to disclose. The same concept can be applied to cruise lines and other key value chain players, requesting they disclose their programmes toward environmental impact minimization and fostering community benefit for that destination.

Ongoing monitoring

Destination monitoring systems are an overall best practice and key component of the GSTC Destination Criteria. Monitoring is important to ensure compliance, especially since infractions will have significant environmental or social consequences. Though cruise ships may have extensive shipboard environmental management systems (EMS) and be certified in ISO 14001 and comply with or exceed all best practices in waste management, occasional incidents may occur of operational non-compliance.

Monitoring can take several forms and address specific topics. Air quality monitoring is important in the port area to gauge air quality levels when cruise ships are docked and burning fuel. Economic impact studies are an example of monitoring practices. This includes measuring passenger spend per day within the destination to evaluate leakage issues. Routine evaluations of visitor satisfaction and experience are important as are monitoring of perceptions and experience of locals affected by cruise passenger visitation. Performance measurement is also a form of monitoring. Destinations should establish KPIs relating to economic, environmental and social issues and monitor them at least annually.

Destinations can utilize ongoing monitoring systems already in place for complementary purposes. Many environmental monitoring tools are available for a destination either externally or via other departments such as those for water risk, ocean health, biodiversity and air quality:

- World Resources Institute Aqueduct Water Risk Tool (www.wri.org/our-work/project/aqueduct);
- WWF Water Risk Filter (www.waterriskfilter.panda.org);
- Conservation International Ocean Health Index (www.oceanhealthindex.org);
- Map of Life (www.mol.org);
- IUCN Protected Planet (www.protectedplanet.net);

7 For further guidance see: United Nations Educational, Scientific and Cultural Organization (2015a), *The Operational Guidelines for the Implementation of the World Heritage Convention,* UNESCO World Heritage Convention (online), available at: www.whc.unesco.org/en/guidelines (04-05-2015).

- AirCasting (www.aircasting.org); and
- Air Quality Egg (www.airqualityegg.com).

Some examples for South-East Asian ports of call are found in annex I and annex IV.

4.3 Cruise terminals and port facilities

Cruise terminals and port facilities are the point of entry and often the focus of destination managers' in regards to cruise tourism development. Especially in cases where no prior cargo terminals exist and facilities need to be constructed, the associated capital costs, investment structure and policy framework set the stage for long-term viability of cruise tourism within the destination. Port development projects should ensure that the taxes and fees charged to cruise ships reasonably cover the cost of maintaining the facilities, particularly historic ports. Port authorities and port management organizations should evaluate the cruise ship and passenger fees to balance the total cost of port operations, services, maintenance and security appropriately. Proper analysis should be followed by mechanisms to allocate a portion of the fees collected for future restoration of historic areas and maintenance of protected areas.

4.3.1 Construction of port facilities

The construction of berthing facilities for cruise ships will cause some form of environmental impact. Best practice for mitigation of these impacts stems from proper site selection and construction techniques. Some best practices include:

- Proper environmental impact assessment when evaluating potential berthing sites that will require building of jetties and piers;
- Attempts to preserve existing shoreline and vegetation;
- Construction of berthing facilities should be prohibited in sites of high biodiversity value such as mangroves or turtle nesting areas;
- Sites where ships have traditionally landed and environmental impacts already occurred are preferable;
- Prefabrication techniques can be used for structures such as jetties so that more of the structure is placed rather than built on-site in the marine environment (provided that the prefabrication sites are not impacting marine environments either);
- Precast concrete piles can be built and placed on the floor bed so that jetty and pier trestle panels are placed upon them and above any existing reef environment and reduce water flow impacts;
- Sediment control practices should be put in place during construction so that sediment travel is reduced; and
- When the site is remote and without sufficient infrastructure to support construction crews, self-contained work barges should be used to minimize impacts from crew activity.[8]

When dredging is needed to enable cruise ship access, best practices, environmental impact assessment and benchmarking of dredging procedures and impacts should be carefully studied.

8 Adapted from Eco Logical Australia (2013).

Issue 4.3 **Dredging**

Dredging can be defined as "the relocation of underwater sediments and soils for the construction and maintenance of waterways, dikes and transportation infrastructures and for reclamation and soil improvement."[a] In cruise tourism dredging pertains to the process of deepening and widening waterways or berths to make them more navigable for ships (of larger size), undertaken by removing sediment from the immediate area and placing it elsewhere.

Dredging is a common practice and will be ubiquitous in discussions of cruise tourism development where new or expanded port facilities will be needed. It is also a necessary practice in some instances to maintain current depth at existing ports. An alternative to dredging is to have the cruise lines tender at sea, where the ship anchors offshore and passengers are transported to and from the destination by smaller boats. Cruise lines prefer berthing at the port rather than tendering, as anchoring offshore requires the ship to maintain the ship at full operation, is more complicated logistically involving more entities and reduces the amount of time cruise passengers have to spend (and consequently time to spend money) at the destination. Cruise lines operating large ships will request, influence and support destinations to enable berthing through increased infrastructure, which often includes dredging. In some cases it is preferable and at the time of publication a recent cruise tourism-related dredging example is Benoa Harbour in Bali, Indonesia.

Several destinations in South-East Asia and globally are accessed by tendering and do not offer deep-water berths. Some of this is by choice and some by sheer navigability where the engineering requirements are unfeasible economically, environmentally, or socially. Some destination ports are accessible by small or mid-size vessels but would require dredging to create deep-water berths and enable larger ships to dock.

Some negative impacts associated with dredging are:

- Loss of coral reefs and other marine habitats and their related species;
- Reduced water quality; pollution of local waterways;
- Visually unappealing waterways during dredging;
- Loss of local economic activity due to the environmental impacts caused; and
- Local community activism or backlash for the environmental impacts caused.

A destination's decision whether to dredge should consider a number of factors. In addition to the influence and potential increase in visitation by bigger cruise ships, the environmental and social implications should be considered. Furthermore, it may be in the best interest of the destination to tender even though the cruise lines prefer berthing, regardless of the marine impacts.

When the decision is made to dredge, destination policymakers and authorities should seek out resources, attend conferences and summits, identify and adapt best practices and benchmark other regional experiences with dredging. Some resources include:

- The International Association of Dredging Companies offers best management practices for dredging.
- Dredging Management Practices for the environment – a Structured Selection Approach, EnviCom report 100, January 2009 issue.
- Dredging: The Environmental Facts. Where to Find What You Need to Know. International Navigation Association. PIANC 2001. www.pianc-aipcn.org.
- The Environmental Protection Authority of Australia published a *Best Practice Environmental Management Guidelines for Dredging,* available at www.epa.vic.gov.au/publications.

a) Definition from: International Association of Dredging Companies (2005), *Dredging: the environmental facts – Where to find what you need to know,* IADC (online) available at: www.iadc-dredging.com (28-02-2015).

4.3.2 Facility design and operations

Terminal and port facilities can implement sustainability into design and operations, seeking international- or national-level green building certifications. Some examples of common practices and specifications include:

- Energy efficient lighting and low-flow water fixtures;
- Use of natural lighting and open air to reduce energy usage;
- Use of multi-paned and treated windows to optimize heating and cooling;
- Use of local character and architecture in facility design, such as locally sourced, reused or recycled building materials such as pillars and beams, façades and furnishings;
- Reduced use of carpeting;
- Use of low-VOC carpeting;
- Use of low-VOC paints;
- Responsible sourcing initiatives for procurement of goods and services;
- Use of digital signage to reduce printing; and
- Reduction of printing in operations, use of double sided printing and printing on FSC or SFI paper.

Within facility operations, as a first step, ports should implement an environmental management system (EMS). EMS sets forth a routine approach to identifying and addressing environmental issues within the facility's operation. Additionally, EMS can be part of an overall approach to quality management. The certification for the EMS can be sought, with the most prevalent ISO 14001.

Once an EMS is in place, it enables another best management technique for port facilities: to offer incentives for cruise lines to adhere to environmental best practices. To address air quality in and around terminal facilities, ports have begun implementing financial incentives, with some examples:

- In the port of Rotterdam, Netherlands ships that meet certain criteria and receive favourable scores in the Environmental Ship Index (ESI) and Clean Shipping Index (CSI) receive a 10% discount on port tariffs. In addition, ships that switch fuels to LNG are offered a 20% discount on port tariffs.[9] It also incentivizes disposal of garbage and oil at waste collection points, discouraging illegal dumping of waste and effluents at sea.[10]
- The Port of Gothenburg, Stockholm has piloted a programme called "Green Bunkering" which requires ships to undergo draining and put procedures in place when landing to avoid oil spills.[11]

Additionally, waste management is particularly important for port facilities and Port Waste Management Plan (PWMP) should be developed and implemented. As part of the PWMP, ports

9 For sample tariffs see: Port of Gothenburg (2015), *Port Tariff* (online), available at: www.portofgothenburg.com (26-03-2015) and Port of Rotterdam (2015), *ESI Discount* (online), available at: www.portofrotterdam.com (26-03-2015).

10 Organisation for Economic Co-operation and Development (2010), *Environmental Impacts of International Shipping: A Case Study of the Port of Rotterdam,* OECD, Paris, pp. 20.

11 For more information see: Green Bunkering (2015), *Kurinfromation* (online), available at: www.greenbunkering.com (26-02-2015).

can provide financial incentives to cruise ships to stimulate more efficient waste management. Components and best practices of a PWMP include:[12]

- Clearly mark waste disposal facilities and materials storage within the port;
- Provide sufficient and clearly marked waste containers throughout port facilities in relevant locations;
- Ensure sufficient facilities are available for landed ship-generated waste;
- Assign a person for coordinating, controlling and recording waste generation and disposal per waste stream;
- Enact regulation to prohibit disposal of waste into sea or river, with appropriate penalties and adequate signage to build awareness;
- Use drums to collect oil and other harmful liquids and implement processes to minimize leaks and spills;
- Have saw dust on hand to clean up small oil spills onsite;
- Ensure routine maintenance of cranes and other equipment to prevent leaks;
- Ensure waste storage areas are separately located, away from rainwater collecting channels and storm drains;
- Routinely monitor areas where dangerous goods are stores; and
- Oil-contaminated rags and material should be collected in a separate container with a closable lid.

Finally, port reception facilities present an opportunity to communicate the destination's sustainable tourism efforts and the concepts of responsible travel to the cruise passengers. While passengers wait in lines or pass through the terminal, they can be engaged in messaging. Information can be provided on responsible tourism practices as passengers pass through the reception facility before embarking on shore excursions.

4.4 Excursions and responsible travel

Shore excursions form the basis of the cruise passenger's destination experience. The sites, attractions and activities are the primary motivation to visit the destination. Part of the destination's inventory, these attractions and activities are rarely developed solely for cruise passengers and in most cases existed long before cruise tourism developed. As the sites often fall outside the investment and operation of cruise lines and port facility operators, they may not be given adequate attention when assessment, planning, development, policies and monitoring are undertaken for cruise tourism development. However, they deserve the most attention for a destination as they will form the visitor experience, which will provide or inhibit demand for tourism to the destination in general.

An overall approach to best practices for excursions is for operators to assess and align their businesses according to the GSTC Hotel and Tour Operator Criteria or a relevant certification, preferably one that is based on the GSTC Criteria. The GSTC Criteria can serve as a good framework to evaluate and cover key areas for implementation. As an example, Sustainable Travel International developed a certification specifically for shore excursions, championed by Royal Caribbean Cruises, to address the impacts and embed sustainability into these operations.

12 Mekong River Commission (2013), *Waste Management Guidelines: Prepared for Chiang Saen Commercial Port Area,* MRC, Phnom Penh and Vientiane, pp. 11–14.

4.4.1 Sample best practice criteria

The GSTC Criteria form a consistent framework for process-based application of sustainable tourism in general. In addition, common best practices for shore excursions include:

- Educating of passengers on proper behaviour and interaction due to cultural norms during the excursion;
- Management and proper disposal of waste generated during the excursion;
- Training of guides and support staff on environmental and cultural aspects regarding the specific excursion;
- Training of guides on interpretation;
- Optimizing use of vehicles per passenger counts;
- Offering local food and beverage options that benefit local restaurants and producers;
- Contributing to the conservation and preservation of sites visited;
- Respecting carrying capacity limits; and
- Involving authentic experiences with local communities, assessing vulnerabilities and minimizing disruption.

Common best practices for management of sites and attractions include:

- Training of staff on interpretation;
- Efficient resource use through energy and water efficient fixtures;
- Proper organization of waste collection and management of waste streams;
- Adequate signage and physical demarcation of visitation areas (and areas off limits to visitors);
- Assessment of vulnerabilities of artefacts or other objects, build environment, trails and other areas due to visitor traffic;
- Accurate collection of visitation data; and
- Enabling guest feedback and incorporating it into management review.

Proper heritage management should be implemented in key sites, as well as zoning to ensure that visitation does not encroach on natural habitats or intangible cultural heritage. Similarly, congestion management should be practiced at primary attractions, with visitor flows monitored.[13]

4.4.2 Responsible travel of cruise passengers

Excursions and the recipient sites form the primary intersection of sustainable tourism with the actual passenger. Taking this into consideration, the travellers directly impact, interact with and ultimately have a responsibility to the host destination. For the purposes of this report, *responsible tourism* implies many components of sustainable tourism, but encompasses how the travellers themselves can positively impact the host destination and their responsibility to minimize or mitigate negative impacts.

13 World Tourism Organization (2004b), *Tourism Congestion Management at Natural and Cultural Sites – A Guidebook,* UNWTO, Madrid.

Issue 4.4 **Responsible travel**

The concepts of sustainable development are focused on the overarching priorities for humanity meeting its needs and the ability of people to sustain their long-term existence on the planet. There are additional concepts of equity, ethical behaviour, human rights and social responsibility that should be considered. These not only correlate to sustainable development but also relate to the conditions in which humans exist while humanity pursues environmental sustainability. This is particularly relevant to tourism today, which exists largely for the tourist to experience the natural and cultural heritage of other locations and people.

The Cape Town Declaration of Responsible Tourism, an output from the Cape Town Conference on Responsible Tourism in Destinations in 2002, used South Africa's experience in multi-stakeholder collaboration for a set of guidelines for responsible tourism, calling for countries, destinations and multilateral agencies to develop responsible tourism in destinations, as set forth a set of guiding principles as follows:[a]

- Minimises negative economic, environmental and social impacts;
- Generates greater economic benefits for local people and enhances the well-being of host communities, improves working conditions and access to the industry;
- Involves local people in decisions that affect their lives and life chances;
- Makes positive contributions to the conservation of natural and cultural heritage, to the maintenance of the world's diversity;
- Provides more enjoyable experiences for tourists through more meaningful connections with local people and a greater understanding of local cultural, social and environmental issues;
- Provides access for physically challenged people; and
- Is culturally sensitive, engenders respect between tourists and hosts and builds local pride and confidence.

a) Cape Town Conference on Responsible Tourism in Destinations (2002), *Cape Town Declaration on Responsible Tourism* (online), available at: www.capetown.gov.za (15-02-2015).

It is imperative to stimulate awareness for cruise passengers to be responsible travellers. There are opportunities to build awareness of cruise tourism and responsible travel among growing Asian source markets and leverage the reach that cruise tourism affords. Responsible tourism programmes should be embedded to educate the cruise passengers to respect the environment, its resources, heritage sites and local community. Cruise lines, ground handlers and excursion operators should inform excursionists about cultural sensitivity, rules and regulations and appropriate behaviour.

Cruise lines should provide briefings on behaviour and actions specific to each excursion. For example, photography etiquette, wearing appropriate dress, not touching or removing items, handling tipping and giving handouts to locals, proper disposal of waste, etc. Educational messages can include an introduction to local products to encourage passengers to purchase them over goods that do not benefit the local community. Examples of educational materials include:

- Creating a website dedicated to educating the passengers and working with cruise companies to communicate the educational site to the cruise passengers prior to arrival;
- Placing clear and concise signage at the terminals for passengers to read while waiting in line to go through immigration; and
- Offering (reusable) pamphlets to use during the excursion.

A GSTC criterion important to consider in cruise tourism is the authenticity of marketing claims. Cruise passengers should be made aware that they are not going to receive the same levels of

authenticity in their natural and cultural heritage experiences at a destination as if they were to visit different packages tailored to special interest travel. However, cruise tourism offers a glimpse into a destination's offerings to passengers on transit calls. If properly developed, managed and marketed, cruise passenger visitation to a destination can lead to future visits for longer duration and increased spending if the interest is piqued for return visits to appreciate the destination's unique natural and cultural heritage.

Chapter 5

Cruise tourism outlook in South-East Asia

Summary

This chapter provides an overview of the current situation and the outlook of growth for the cruise tourism industry in South-East Asia. Particular attention is given to the growing Asian source market. It gives market-based analysis on growth and describes the critical points for sustainable tourism in the trajectory of itinerary development. It provides a situational analysis of destinations within the region. Singapore is examined as a turnaround port and the itineraries from Singapore to Phuket are presented. Also southern China and Viet Nam itineraries are discussed, as well as Bali becoming a home port.

Key words

- Chinese cruise tourist;
- Cruise tourism growth;
- Cruise itineraries;
- Outlook of cruise trends; and
- Development impacts.

Key message

- North-East Asia and Chinese cruise passenger source markets will fuel Asian cruise tourism growth. Australia's cruise tourism capacity has grown significantly. This collective growth will drive cruise development in South-East Asia;
- Singapore is the predominant turnaround port and routes originating from Singapore should be viewed, especially where vulnerable destinations are reachable;
- The route from Singapore to Phuket via the Strait of Malacca is the primary route. Attention should be given to Sumatra, given its current situation and immense heritage;
- Southern China source markets and turnaround ports will grow and impact Viet Nam. Viet Nam is planning for multiple port development and should carefully assess the growth across the region and within its key heritage sites;
- Bali will grow as a turnaround port and major cruise destination, especially once Indonesia removes its cabotage policy against multiple calls within the country during a single itinerary. Bali faces extensive tourism growth even without cruise tourism and has capacity constraints. It should assess the optimal visitation and ensure cruise tourism growth does not displace other visitors with higher spend;
- Destinations should consider that they are not singularly able to determine itineraries for cruise lines to develop or create itineraries. They should seek to understand and work within the bounds of probable routes, then collaborate among nations and with the cruise lines to understand the feasibility of itineraries within current and foreseen routes; and
- Collaboration is key for this type of approach.

5.1 Asia's cruise tourism growth

By 2030 Asia and the Pacific are forecasted to receive 30% of an estimated 1.8 billion international tourism arrivals, approximately 600 million.[1] At that time, North-East Asia is forecasted to be the most visited sub-region in the world with 293 million international arrivals, and South-East Asia to receive 187 million arrivals.[2] A critical inflection point exists for both cruise tourism development and sustainable tourism in South-East Asia. The rapid increases in demand, primarily due to the phenomenon of the Asian source market growth, has accelerated growth surpassing forecasts and will stress the capacity of many destinations to handle visitor flows even before cruise ships arrive. If not properly assessed, planned and monitored, and if short-term gain is not balanced from skyrocketing arrivals, destinations will face serious threats to their long-term vitality. This is the impending scenario not just particular to cruise tourism, but for all arrivals. According to the forecasts in Asia Cruise Trends 2014, there was significant growth for cruise tourism overall in Asia, with an average annual increase from 2013 of 10.6% for inter-Asia cruises, 20% in passenger capacity and 34% in port calls.[3] In 2015, 26 cruise brands will be active in Asia, deploying 52 ships, 981 intra-Asian cruises, 2.17 million passengers in Asia (2.05 million of which are on inter-Asian itineraries), where South-East Asia represents 46% of this deployment (in port calls).[4] This is without counting one-night gambling cruises, however, most cruises are less than six nights, nearly half being 2–3-night cruises.[5]

5.1.1 China fueling the region's growth

Much of Asia's forecasted growth is expected to be generated by Asian tourists – and predominantly Chinese travellers. China is the world's fastest-growing tourism source market, already surpassing the UNWTO 2012 forecast of 100 million arrivals by 2020.[6] In 2012 China became the country of highest international tourism expenditure, surpassing USD 100 billion in total spending.[7] Chinese tourist arrivals to South-East Asia have nearly tripled in the past decade as China has fuelled much of South-East Asia's tourism growth; the proportion of Chinese arrivals has outpaced overall international arrivals within every ASEAN country since 2005 (see table 5.1).

Cruise tourism growth in the region has mirrored this trend, as the number of Chinese cruise passengers has grown 79% from 2012 to 2014.[8] Cruise lines are making efforts to build awareness of cruising to Chinese consumers in order to stimulate this new source market.

1 World Tourism Organization (2011), pp. 17–19.

2 Ibid, pp. 15–19.

3 Cruise Lines International Association (2015).

4 Ibid.

5 Ibid.

6 World Tourism Organization and European Travel Commission (2013), *Chinese Outbound Travel Market – 2012 Update,* UNWTO, Madrid.

'China's Travel Market to Reach USD 530B in 2014; Oversea Chinese Travelers to Spend USD 155B' (2014), China Internet Watch, 17-07-2014, www.chinainternetwatch.com (26-10-2015).

Fu, R. (2014), 'Rise of the China Outbound Tourism', *China Internet Watch,* 12-09-2014, www.chinainternetwatch.com (26-10-2015).

7 World Tourism Organization (2014), *UNWTO Tourism Highlights, 2014 Edition,* UNWTO, Madrid.

8 Cruise Lines International Association (2015).

Table 5.1 **Total and China source market, international tourism arrivals, 2005 and 2013**

	International tourism arrivals						Average annual growth 2005–2013		Overall growth 2005–2013		Growth ratio[a]
	2005			2013							
	From China (× 1,000)	Total arrivals (× 1,000)	From China (%)	From China (× 1,000)	Total arrivals (× 1,000)	From China (%)	From China (%)	Overall (%)	From China (%)	Overall (%)	
World	30,863	808,000[1]	3.8	97,000[1]	1,087,000[1]	8.0	21	4	170	28	6.0
Asia and the Pacific	**28,065[2]**	**153,200**	**18.3**	**n/a**	**249,779**	**n/a**	**n/a**	**8**	**n/a**	**63**	**n/a**
Brunei	14[b]	126	11.0	30	225	13.6	15	10	119	78	1.5
Cambodia	59	1,333	4.4	463	4,210	11.0	85	27	682	216	3.2
Indonesia	112	5,002	2.2	858	8,802	9.7	83	9	665	76	8.8
Lao PDR	39	1,095	3.6	245	3,779	6.5	66	31	525	245	2.1
Malaysia	352	16,431	2.1	1,790	25,715	7.0	51	7	408	57	7.2
Myanmar	20	232	8.4	188	2,044	9.2	107	98	858	780	1.1
Philippines	107	2,623	4.1	426	4,681	9.1	37	10	297	78	3.8
Singapore	858	8,943	9.6	2,646	15,568	17.0	26	9	208	74	2.8
Thailand	777	11,567	6.7	4,610	26,547	17.4	62	16	493	129	3.8
Viet Nam	717	3,468	20.7	1,908	7,572	25.2	21	15	166	118	1.4

a) Ratio of growth in arrivals from China to a country in comparison to overall growth in its total international tourism arrivals.

b) Includes Hong Kong, China.

Source: 2005 data: World Tourism Organization (2010b), Yearbook of Tourism Statistics, 2010 Edition, Data 2004–2008, UNWTO, Madrid.

2013 data: World Tourism Organization (2015d), Yearbook of Tourism Statistics, 2015 Edition, Data 2009–2013, UNWTO, Madrid.

1) World Tourism Organization (2015c), UNWTO World Tourism Barometer, volume 13, UNWTO, Madrid.

2) World Tourism Organization and European Travel Commission (2013).

China has made significant infrastructure advances in building new cruise terminals. Cruise terminals have been built or upgraded across China's coast not only in major international destinations, for example, the Kai Tak terminal in Hong Kong, China – but also in relatively smaller cities or popular domestic tourism destinations.

Issue 5.1 **The Chinese cruise tourist**

Traditionally, nearly 60% of cruise passengers have been from North America and until recently, 95% of cruise passengers were non-Asian. Chinese cruise passengers totaled 216,700 in 2012, less than 1% of cruise passengers just three years ago.[a] Cruise product development including ships, itineraries and port activities traditionally focused on the interests, tastes and behaviours of the western world. The growth in cruise capacity in Asia is fueled by the region's inhabitants, which in 2015 are forecasted at nearly 10% of the global market of 23 million passengers. Cruise ships in Asia will be filled with Asian passengers, most notably from China, which comprised two thirds of the Asian source market in 2014 (a combined annual growth rate of 79% since 2012).[b] An example of this trend is Jeju island, which will be North-East Asia's most popular cruise destination with 217 calls. Most of the cruise passengers are Chinese. The common itinerary originates in Shanghai (where Royal Caribbean will homeport its latest Quantum of the Seas cruise ship).

The emergence of Chinese travellers as cruise passengers impacts the demographic shift in cruise source markets. Cruise lines have indicated their ability to adapt in order to change cruise tourism products for Chinese travellers.[c] Interviews with multiple cruise lines demonstrate interesting differences:

- Travel agencies have a higher influence as a distribution channel for cruise tourists in China than the rest of the world. Chinese travel agents and tour operators are central to the decision-making process of buying cruise packages;
- Chinese travellers tend to take shorter vacations compared to source markets in Europe and the Americas. Cruise itineraries of five days or less are optimal;
- Gambling is a more prevalent interest to Chinese markets and this carries over to cruise tourism. A clear example of this is the overnight gambling cruises championed by Star Cruises;
- Chinese are less interested in the sun and sand components of tourism and more interested in shopping and dining;
- Chinese are seeking enriching experiences as cruise passengers. Activities need to be offered to fulfill this demand, such as the opportunity to practice and improve in English language skills while on board;[d] and
- Cruise tourism's attractiveness is seen more for the experience of being aboard a cruise ship as a floating destination, rather than affording opportunity to visit the destinations in an itinerary. For example, popular destinations in the Republic of Korea are widely accessible and the same ports of call in cruise itineraries – Jeju Island, Busan and Seoul – are visited by many Chinese via air travel and the experiences sought at these destinations are similar in visits by both air and cruise passengers. The same can be said for many of the popular destinations in South-East Asia: Singapore, Bali, Phuket, Kuala Lumpur and Bangkok.

Cruise lines have adapted their itinerary development strategies accordingly, while simultaneously building awareness and demand for Chinese to take cruise vacations of longer duration so that further itineraries may be developed.

The critical shift in cruise passenger demographics and growth in South-East Asian cruise capacity provides an opportunity to build awareness of responsible tourism. Since at least 2011, initiatives for responsible travel have emerged. In 2011, the first annual China Responsible Tourism Forum was organized by the Pacific Asia Travel Association (PATA)[e] as an initiative to foment sustainable development of China's natural and cultural heritage, along with increasing awareness of responsible tourism and conscious travellers. These concurrent efforts in product awareness, behavioural awareness and responsible travel awareness can be utilized to build awareness, with the ultimate possibility of China's emerging cruise source market becoming conscious Chinese cruise travellers.

a) Tabulated from: World Tourism Organization (2010a); and
Asia Cruise Association, Cruise Lines International Association Asia and Chart Management Consultants PTY LTD (2013), *The Cruise Industry in Asia 2013 and Beyond,* ACA (CLIA Asia).

b) Cruise Lines International Association and Chart Management Consultants (2014), *Asia Cruise Trends, 2014 Edition,* CLIA, Washington, D.C. (online), available at: www.cruising.org (20-04-2015).

c) Ang Moo Lim, Buhdy Bok, Anthony H. Kaufman, Zinan Liu, Steve Odell, 'Focus on China'," Cruise Shipping Asia-Pacific Conference, Hong Kong, China, panel presentation on (20–11–2014).

d) Ibid.

e) Currently the forum is also organized by the China ASEAN Centre and the Juizhaigou National Park Administration.

An International Cruise Terminal was created in Xiamen in 2008, with an annual capacity of 1.5 million passengers. In 2014, it received only 21 calls but traffic is expected to double in 2015 as it is a prime home port for cruise itineraries to Taiwan Province of China.[9] In October 2014, a new international cruise terminal opened its first phase in Zhoushan and received its first call. The second phase expects the terminal to be able to handle the largest cruise ships of 300,000 metric tons. Zhoushan currently receives 40 million tourists per year, most of which are domestic Chinese

9 'Xiamen expects 40 cruise voyages in 2015' (2015), *Asia Cruise News,* 09-01-2015, Asia Shipping Media, Dalian (online), available at: www.asiacruisenews.com (23-01-2015).

travellers.[10] Qingdao will open a new cruise terminal in 2015, an USD 800 million project with the capacity for 600,000 cruise passengers per year.[11] Cruise terminals are also planned in both major southern Chinese cities of Shenzhen and Guangzhou located in the Pearl River Delta.[12]

The ports of China – particularly within Hong Kong, China, Taiwan Province of China, Hainan, Fujian and Guangdong Provinces – will be a cornerstone of cruise tourism growth in South-East Asia. These ports are targeted to growing the domestic Chinese source market. Many itineraries visiting South-East Asia will originate in China. Furthermore, Chinese cruise passengers visiting domestic or North-East Asian itineraries may seek to repeat cruise experiences elsewhere in the region. The increase in these potential turnaround ports and source markets has implications for potential growth in transit destination ports. Not only will China serve as a source market for cruise passengers but also turnaround ports for regional cruises.

The expansion of Chinese ports may create excess supply of under-utilized cruise terminals. These ports are often built by authorities with wider interests, such as enhancing a city's reputation or capitalizing on infrastructure development incentives, regardless of current market feasibility. However, these ports are often within driving distance to major metropolitan areas with enough potential demand to cater solely to "drive-and-cruise"[13] Chinese source markets. For example the Pearl River Delta is home to more than 100 million inhabitants, a potential market that can make multiple cruise terminals viable across those cities. Additionally, a small uptake in overall source markets can have big implications for cruising. For example, the port of Jeju went from 50 calls in 2009 to 218 calls in 2014.[14]

The key implication is once Chinese cruise terminals have been developed, authorities will have a stake in seeing that they become used and could actively promote the development of cruise tourism. Cruise tourism development also aligns with China's overall strategy to shift its economy away from manufacturing and toward the domestic consumption of goods and services.[15] As will be discussed in further sections, this has serious implications for South-East Asian destinations.

10 Shangwu, S. and Yiqi, Y. (2014), 'First cruise to visit new port marks milestones for Zhoushan', *China Daily,* 30-12-2014 (online), available at: www.chinadaily.com.cn (23-01-2015).

11 'China Port Focus: Qingdao' (2014), *Cruise Industry News,* 27-08-2014, New York (online), available at: www.cruiseindustrynews.com (23-01-2015).

12 Saltzman, D. (2015), 'Carnival Corp. and China-based Company Plan Join Venture for China-based Cruise line', *Cruise Critic,* 26-01-2015 (online), available at: www.cruisecritic.com/news (04-05-2015).

'SZ to develop cruise industry in Shekou' (2015), *Shenzhen Daily* (online), available at: www.szdaily.com (04-05-2015).

'Guangzhou to spend US$ 2.02 billion on sea freight hub development project' (2012), *The Shipping Tribune* (online), available at: www.shippingtribune.com (04-05-2015).

13 A cruise where the passenger arrives by car or other mode of ground transportation to the turnaround port and embarks.

14 Cruise Lines International Association and Chart Management Consultants (2014), *Asia Cruise Trends, 2014 Edition,* CLIA, Washington, D.C., p. 13 (online), available at: www.cruising.org (20-04-2015).

15 For further information of China's economic restructuring see example in: Keqiang, L. (2012), 'China deepens strategy of domestic demand expansion in the course of reform and opening-up', *China.org.cn,* 04-03-2012 (online), available at: www.china.org.cn (04-05-2015).

5.1.2 Intra-ASEAN tourism growth

China is not the only growing source market of tourism and cruise tourism. Collectively, South-East Asia received nearly 100 million international tourist arrivals in 2014. And the intra-ASEAN outbound tourism market has grown 98% from 2005 to 2013, with 45% of this outbound tourism being inter-ASEAN. These figures indicate similar potential for intra-ASEAN cruise tourism. Furthermore, Australian cruise tourism has grown significantly in recent years as well, another key market and region that will spur cruise tourism growth.

Table 5.2 **Total and intra-ASEAN source market, international tourism arrivals, 2005 and 2013**

	International tourism arrivals						Average annual growth 2005–2013		Overall growth 2005–2013		Growth ratio[a]
	2005			2013							
	From ASEAN countries (× 1,000)	Total arrivals (× 1,000)	From ASEAN (%)	From ASEAN countries (× 1,000)	Total arrivals (× 1,000)	From ASEAN (%)	From ASEAN (%)	Overall (%)	From ASEAN (%)	Overall (%)	
Brunei	47	126	37	123	225	55	20	10	160	78	2.0
Cambodia	220	1,333	16	1,832	4,210	44	92	27	734	216	3.4
Indonesia	1,837	5,002	37	3,285	8,802	37	10	9	79	76	1.0
Lao PDR	794	1,095	72	3,041	3,779	80	35	31	283	245	1.2
Malaysia	13,239	16,431	81	19,106	25,715	74	6	7	44	57	0.8
Myanmar	47	232	20	1,270	2,044	62	327	98	2617	780	3.4
Philippines	179	2,623	7	422	4,681	9	17	10	135	78	1.7
Singapore	3,158	8,943	35	5,921	15,568	38	11	9	87	74	1.2
Thailand	2,949	11,567	25	7,410	26,547	28	19	16	151	129	1.2
Viet Nam	525	3,468	15	1,440	7,572	19	22	15	174	118	1.5
Total	**22,996**	**50,821**	**45**	**43,850**	**99,145**	**44**	**11**	**12**	**91**	**95**	**1.0**

a) Ratio of growth in arrivals from China to a country in comparison to overall growth in its total international tourism arrivals.

Source: 2005 data from World Tourism Organization (2010b); 2013 data from World Tourism Organization (2015d).

5.2 Cruise outlook and sustainable development implications for South-East Asia

Cruise tourism development in the next three to five years will be concentrated in North-East Asia, in particular, the mainland Chinese ports of Tianjin and Shanghai with itineraries to Japan, the Republic of Korea and Taiwan Province of China, where significant cruise tourism development has occurred. In Taiwan Province of China, visa restrictions have eased for cruise passengers and the port of Penghu will be the region's first port in public-private-partnership where Royal Caribbean Cruises will be building a cruise terminal.

In addition, similar itineraries may develop from the emerging Chinese homeports of Zhoushan and Xiamen. As North-East Asian itineraries routes become developed, cruise lines will send more ships to the region.

The North-East Asia and Australia cruise itineraries are seasonal due to weather conditions being unfavorable during portions of each hemisphere's winter months. As capacity and demand grow in Australia and the Chinese source market increases, cruise lines will develop new routes in South-East Asia during the off-seasons. For example, Star Cruises will home port seasonal ships during the northern hemisphere summer months in Shanghai, China, and Keelung, Taiwan Province of China, then those ships will spend the corresponding winter months in Sanya, China and Kota Kinabalu, Malaysia.

5.2.1 Positioning of South-East Asia

South-East Asia is similar to the Caribbean and Mediterranean in having a favorable climate, numerous islands and a large potential clustering of geographically proximate destinations reachable by ship. South-East Asia is different however, in that many key destinations are part of large populous nations. Capital cities of Jakarta, Manila, Kuala Lumpur, Bangkok, Hanoi, Ho Chi Minh City and Singapore are large metropolises reachable via cruise itineraries. On one hand, this may make cruise tourism opportunities less impactful as the ports of call include these urban destinations with significant infrastructure in place (and pre-existing, historical disruption of marine environments for the creation of port zones that can be utilized or adapted for cruise ships). Cruise tourism management in these instances will be a form of metropolitan tourism management.

On the other hand, many metropolitan ports were developed for cargo vessels and are far from the current city centers. Cumbersome logistics will be involved and destination planners will find it difficult to relocate cruise terminals to accommodate better visitor experiences. Cruise lines seek new ports for more favourable berthing and logistics in addition to world-class attractions. Likewise, these major urban cities will only form part of the calls in an itinerary. Cruises will seek diversification in experiences and lesser-developed transit ports and foment more development. And intra-Asian, and more importantly intra-ASEAN travel, is growing steadily and has given rise to burgeoning regional low-cost airlines and modernized airports. Travel around South-East Asia's major destinations by plane is in many cases more cost-effective and less time-consuming than a cruise itinerary to the same places. These concepts indicate a potential demand for new cruise tourism ports of call.

For South-East Asia, perhaps the most notable factor is that the majority of current and projected cruise itineraries (by passenger volume) within the region tend to be three to five days in duration. This is due to the Asian tourist generally taking shorter vacations than North American or European counterparts. Several itineraries and significant capacity exist for longer periods of seven to 14 days as well as global voyages that stop in various destinations. Cruises originating in Tokyo, Sydney, Freemantle, Singapore and Hong Kong, China, will transit many regional destinations. However, the majority of the development in capacity and demand will be for cruises of less than seven days in duration (and likely less than five). Thus the base of the cruise itinerary is the turnaround port from which the cruise route begins, and the destinations reachable within a route within a five-day itinerary.

For the region's tourism with larger cruise ships, the primary home port of Singapore will be the focal axis point for itinerary development, with a specific focus on existing or new ports of call reachable within a five-day itinerary. As well, Sanya port in Hainan will be a focus for shorter cruises to Viet Nam and Hong Kong, China, makes itineraries with Viet Nam or Philippines accessible in less than five days. Bangkok (Laem Chabang), Thailand, and Kota Kinabalu and Penang, Malaysia, also serve as turnaround ports from which itineraries may grow, however their accessibility is limited in terms of airlift, port logistics and routes. The only foreseen change in turnaround ports over the coming years is the potential addition of Bali as a central point to a growing transit destination with four separate ports of call.[16] Given these parameters, a few key routes and itineraries should be prioritized to sustainably develop tourism to protect the region's natural and cultural heritage. These are outlined below with rationale for prioritization and key issues.

5.2.2 Singapore and the Strait of Malacca

Singapore is the primary homeport with the most frequented cruise route in the ASEAN region. A cruise itinerary that originates from Singapore and travels through the Strait of Malacca has calls in Malaysia (either Melaka, Port Klang, Penang or Langkawi) and up to Phuket in Thailand. This particular itinerary lies on the eastern corridor of the Strait, though for *luxury* and *premium* cruises of smaller size vessels the Sumatran ports of Sabang, Banda Aceh and Medan are also visited.

Singapore has two main ports, the Singapore Cruise Centre and in 2012 the recently completed Marina Bay Cruise Centre. The Marina Bay Cruise Centre has increased the country's cruise ship capacity and enabled Singapore to berth up to four large ships at one time. At the time of publication, the Marina Bay Cruise Centre and Singapore Cruise Centre collectively received 335 calls in 2014, 267 of which were turnaround calls.[17] While this makes Singapore the most visited port in South-East Asia, the volume is well below the destination's capacity. Given this fixed cost and perishable inventory, it is in Singapore's interest to develop more cruise tourism itineraries within the region. The Singapore Tourism Board (STB) has a dedicated staff to cruise tourism development and promotion and actively supports regional development initiatives to increase cruise tourism itineraries that will benefit Singapore as a homeport. It has supported other destinations in conducting feasibility studies for cruise tourism. The Singapore Cruise Centre actively seeks similar regional development and feasibility studies, with opportunities for it to become a cruise terminal investment and operations partner.

As a South-East Asian nation, Malaysia will receive the most cruise calls in 2015 with an estimated 580 calls, a 52% increase in just two years.[18] Further supporting this region's cruise tourism growth, Malaysia's Economic Transformation Programme identified tourism as one of its Key Economic Areas. Within its tourism strategy, one Entry Point Project (EPP) is to create a "Straits Riviera" and establishing the Malaysia Cruise Council as a cross-functional committee of both private and public sector representatives from various departments to support policy and industry development. The destinations of Penang, Port Klang (Kuala Lumpur), Kota Kinabalu, Langkawi, Melaka and Kuching were highlighted under this programme, with MCC subcommittees established for each of these six ports.

16 ASEAN Tourism Forum 2015 (2015), conversation with Indonesia Ministry of Tourism (28-01-2015).

17 Cruise Lines International Association and Chart Management Consultants (2014).

18 Ibid.

Case study 5.1 Malaysia and the creation of a Straits Riviera

Tourism accounts for 7.2% of Malaysia's GDP and contributes to 14.1% total employment.[a] Malaysia has seen tourism sector continually grow with year over year increase of 6.7% in tourism arrivals in 2014. To continue on the growth projector, Malaysia has themed 2015 the year of "Endless Celebrations" with plans to hold 50 cultural events and festivities to showcase its local culture, heritage and traditions.[b]

Tourism is one of 12 key growth engines of the Economic Transformation Programme. It is also referred to as the National Key Economic Areas, which are prioritized through government support, funding and education for a skilled workforce. For tourism, 12 entry point projects (EPPs) have been identified under five overarching themes. The themes include affordable luxury, nature adventure, family fun, events, entertainment, spa and sports and business tourism.[c]

EPPs have been identified to mitigate issues associated with the current state of travel and tourism. Although Malaysia has experienced an increase in the number of visitors over the years, the average tourist has had shorter stays and less spend per day. This pattern defines mass tourism, which requires a higher focus on the growth of visitors rather than on spend per visitor. Since neighboring countries tend do have higher frequency of visits, the pattern can put Malaysia in the position to rely more heavily on its neighbors such as Singapore, India, Thailand and Indonesia. This places further strain on the country's capacity to accommodate a high volume of tourists and sustain or grow its tourism revenue.[d] To attract higher yield tourists, Malaysia's strategy has been to target the cruise industry.[e]

Currently, Singapore is the center of the region's cruise industry, but Malaysia has been developing the Straits Riviera "cruise playground" to compete with neighbouring countries and lead the "family destination" segment in South-East Asia. "Creating a Straits Riviera" is Malaysia's 6th EPP under the theme of "family fun". One of the rationales for creating a Straights Riviera cruise playground is to leverage the fact that nearly 50% of the cruise passengers are made up high-yield international travellers.[f]

Main objective was to build adequate terminal infrastructure, quality shore excursions, other tourism related products and services that meet the standards and expectations of the cruise operations and passengers. The "Creating the Straits Riviera Cruise Playground" project mainly focused on developing or improving the passenger sea ports infrastructure in six main ports identified in 2011: Penang, Port Klang, Kota Kinabalu, Langkawi, Melaka and Kuching.[g] Recently, Kuantan port was added to the original six to serve the growing demand from the eastern coast of South-East Asia.

The Straits Riviera concept was modelled after the French Riviera cruise, which covers the Mediterranean coastline of the South-East corner of France and Monaco and consists of four main ports: Nice, Cannes, Monte Carlo and St. Tropez as well as other secondary ports. Other successful Riviera themes have emerged in other destinations such as the Riviera Maya, Mexico, and the Red Sea Riviera, Egypt. Although Malaysia shares borders with the Strait of Malacca, the region's geography is comprised of dozens of other straits and waterways.

The Ministry of Transport and the Ministry of Tourism developed a detailed blueprint of the cruise tourism implementation plan. The key factors that were taken into consideration include infrastructure development and improvement plans for each of the key cruise terminals and ports, promotion of the theme-based cruise circuits, community based infrastructure plans and nearby shore activities. In addition, a Malaysia Cruise Council was founded, which is also governed by the Ministry of Transport and the Ministry of Tourism. Under the council, a committee was formed for each of the six priority destinations in the Straits Riviera concept. Responsibilities of the council are to devise a cruise tourism strategy, establish home ports at each of the main cruise terminals and collaborate with other ASEAN countries to promote South-East Asia as a cruise destination.

a) World Travel & Tourism Council (2014), *Travel and Tourism Economic Impact 2014 Malaysia,* WTTC, London.

b) Economic Transformation Programme (2015), *Annual Report 2015,* Performance Management and Delivery Unit (Pemandu), Prime Minister's Department, pp.116 (online), available at: www.etp.pemandu.gov.my (12-03-2015).

c) Economic Transformation Programme (2010), 'Chapter 10: Revving Up the Tourism Industry', *A Roadmap for Malaysia,* pp. 320 (online), available at: www.etp.pemandu.gov.my (05-01-2015).

d) Ibid.

e) Ibid.

f) Ibid.

g) Economic Transformation Programme (2015), pp.117.

On the other end of this route, the port in Phuket, Thailand, had needed an expansion to accommodate the increasing demand.[19] Phuket was the third most visited destination in South-East Asia in 2014 with 115 calls. It is forecasted to receive a 22% increase in calls in 2014.[20] However, the port cannot support two large ships at the same time and has capacity constraints with cargo vessels as well as destination logistics. After several years of feasibility and environmental impact studies, it was announced that Phuket's port had been approved for expansion and will begin the planning stage.

With these strategic initiatives to expand capacity and promote product development, the Singapore-Phuket route is poised to accommodate the region's cruise tourism growth from a cruise terminal capacity. As this route expands it will open the possibility for calls at more transit ports within the region. The implications of this growth present several areas of attention for sustainable development.

Environmental preservation: Sumatra

The western corridor of the Strait of Malacca is formed by the island of Sumatra. The island is largely undeveloped and is viewed for its potential for cruise tourism. Sumatra is one of the world's biodiversity hotspots and the declared area of focus for conservation of the *Sundaland Biodiversity Hotspot*[21] with immense natural beauty and cultural heritage. It is home to the most mammals of any island in Indonesia, 16 of which are endemic to the island and eight of which are on the IUCN red list of threatened species. It also hosts 582 species of birds (14 of which are endemic). Sumatra has been a battleground of palm oil-driven deforestation that has resulted in seasonal air pollution in peninsular Malaysia and Singapore. It boasts over 230,000 ha of marine recreation parks, though its coral reefs are under threat due to unsustainable fishing and coastal development. The island is a prime target for product development in the *luxury* and *premium* segments. However, it may be years before facilities for contemporary cruises call in Sumatra. At the time of publication, Sumatra's ports were not prioritized for development by the Indonesian government. However, the island is a prime target for product development in the *luxury* and *premium* segments. For example, Silversea and Regent Seven Seas Cruises offer itineraries with a call at Sabang. Sumatra's cruise development should be closely monitored for impacts from development of the value chain.

Environmental preservation: Nicobar and Andaman Islands

Along the Malacca Strait, itineraries to emerge at Sumatran ports of Banda Aceh and Sabang may extend north to the Nicobar Islands (and even further to the Andaman Islands), which in 2013 were declared a World Biosphere Reserve. These are territory of India and occasional cruises departing from Chennai and Vishakapatnam are offered to the Andaman Islands. The Nicobar Islands are sparsely populated and vulnerable to environmental and cultural impacts. In 2004, a

19 Promchote Trivate and Suparat Ditbanjong (2015), in: The 4th Experts Group Meeting on ASEAN-Japan Cruise Promotion Strategy, presentation material, slide 11.

20 Cruise Lines International Association and Chart Management Consultants (2014).

21 Critical Ecosystem Partnership Fund (2001), *Ecosystem Profile: Sumatra Forest Ecosystems of the Sundaland Biodiversity Hotspot – Indonesia,* CEPF, Arlington (online), available at: www.cepf.net (16-09-2015).

tsunami killed 6,000 inhabitants and heavily damaged its coral reefs. Currently, cruise tourism is undeveloped in the Nicobar Islands, but could become part of product development discussions as the Straits region consolidates and Sumatran calls become more frequent. However, cruise tourism to the Andaman and Nicobar, which is also home to various indigenous communities and tribal groups, will need to proceed with great caution and care and based upon sustainable tourism best practice standards.

Carrying Capacity: Phuket

Phuket is the third most visited destination by international visitors in Thailand after Bangkok and Pattaya. Including domestic arrivals, Phuket reports receiving over 20 million visitors a year, of which approximately only one-tenth are cruise passengers. Cruise tourism source markets had largely been domestic, comprising nearly 90% of cruise passenger arrivals.[22]

Phuket is a destination known for its natural and cultural heritage. Its marine environment forms a significant part of its unique offering and the strategy of its promotion is toward marine tourism. Islands and national parks such as Phi Phi Island, Phang Nga Bay National Park and James Bond Island are iconic nature-based shore excursions. Other natural heritage includes Haad Nai Yang National Park boasting Phuket's largest coral reef and habitat for leatherback turtles and Khao Phra Tawe National Park the largest primary forest intact in Thailand. Cultural excursions include the Wat Chalong Buddhist temple, Promthep Cape area and Phuket City.

Phuket had 115 calls in 2014 and is forecasted to receive 140 calls in 2015, a 22% increase.[23] Phuket's cruise development had stalled due to ongoing environmental impact assessments of a port upgrade. Thailand has prioritized cruise port development of Phuket as well as Krabi and Ko Samui. Phuket's enhancement will expand the port size, extend the berth and upgrade passenger facilities.

The increased numbers of tourists has degraded Phuket's environment. Phuket's marine environment, specifically the coral reefs, has been damaged due to over – fishing, excessive waste and general visitor activities. Several initiatives and monitoring systems are in place in Phuket to address these issues regarding the marine environment. In 2011, the Phuket Provincial Administration Organization and the Marine and Costal Environmental Conservation Center began an initiative to construct over 3,000 artificial reefs along the coast of Phuket, organize reef clean-ups and raise awareness about sustainable tourism.[24] The Phuket Marine Biological Center (PBMC), a joint initiative of the governments of Denmark and Thailand, was established in 1968 to research and monitor marine and coastal resources, as well as build awareness and provide education on sustainable resource for youths and the general public.[25] Now under the Institute of Marine and Coastal Research and Development (Department of Marine and Coastal Resources) of Thailand, the main activities are marine assessment and monitoring, rehabilitation of marine resources, research and community engagement and participation. Cruise ships are included in

22 The 4th Experts Group Meeting on ASEAN-Japan Cruise Promotion Strategy (2015), presentation notes.

23 Cruise Lines International Association and Chart Management Consultants (2014).

24 Phuket Provincial Administrative Organization (2015), *Artificial Reef Clean up Activities Organized by PPAO to Protect Marine Environment,* 24-03-2015 (online), available at: www.phuketcity.org (03-04-2015).

25 Phuket Marine Biological Center (2015), *History* (online), available at: www.pmbc.go.th (03-04-2015).

current monitoring activities. And the Green Fins programme, a regional initiative of the Coral Reef Unit of United Nations Environment Programme (UNEP), is headquartered in Thailand and active in Phuket. The programme offers resources and community support for coral reef conservation, including codes of conduct for members, specific "do's and don'ts" for diving and snorkeling, posters to build awareness and organizing community events.[26]

Despite these efforts, the challenges are to manage the negative impacts of tourism to the environment. The Phi Phi Islands are one example of Phuket's signature attractions and most popular excursions. There have been extensive carrying capacity studies but adequate limits and regulation have not been enacted or enforced. Maya Bay, perhaps the most picturesque area, has a natural carrying capacity to tolerate only the amount of excursion boats that can fit at one time on the beach. The beach commonly reaches saturation with the entire beach full of boats. Moreover, guest satisfaction has started to fall as tourists indicate crowded and unhealthy experiences via social media channels. Tours around the islands also fill the scenery with unregulated snorkeling, where tourists feed fish white bread that is sold in mass at the launch pier in Phuket, boat idling generates effluent and anchoring is not zoned.

Though Phuket's upgrades to its port infrastructure will allow significant growth in calls and accommodate the needs of large cruise ships, the corresponding infrastructure and physical capacity to receive large ships simultaneously may not be present to support the demand for popular shore excursions. A doubling of cruise passengers will result in even further crowding and degradation if regulation efforts are not improved upon to monitor and officialise voluntary efforts. Furthermore, given the inherent capacity constraints and popularity of its heritage sites, opportunity exists for destination managers to optimize visitation through capacity limits and scheduling. Fee structures can be optimized to enable proper conservation, management planning and operations of the destination.

5.2.3 Southern China to Viet Nam

Hong Kong, China, is positioned to become one of the most important cruise destinations in Asia. Though most of its itineraries likely will encompass other Chinese coastal ports, Taiwan Province of China and Okinawa, Japan, South-East Asia will become more prevalent in itineraries sailing from Hong Kong, China. The new Hong Kong, China, Kai Tak terminal has the capacity to simultaneously berth two Oasis class passenger ships (6,000 passengers each) twice a day, or hundreds of calls each year. It only received 28 calls in 2014, but is expecting 56 calls in 2015 and forecasting further growth in calls, including turnaround calls, in the coming years. The Ocean Terminal in Hong Kong, China, had 184 calls in 2014 (fourth highest in all of Asia, forecasted for 200 calls and third highest in Asia for 2015).[27] Hong Kong, China, will benefit from increased *contemporary* deployment in eastern and northern Chinese ports that only operate seasonal itineraries. The Hong Kong, China-based itineraries departing for Viet Nam will be further strengthened by Sanya's emergence as both a transit and turnaround port for short cruises to Viet Nam.

26 Green Fins – Thailand Programme (2015), *About us – Green Fins,* PMBC (online), available at: www.greenfins-thailand.org (04-04-2015).

27 Cruise Lines International Association and Chart Management Consultants (2014).

Hainan's tourism development focus

The China National Development and Reform Commission created the "2010–2020 Hainan International Tourism Island Development Planning Outline", a strategic plan to position Hainan as an international tourism destination, with the potential to triple its tourism arrivals in 20 years. Given national priority as a domestic tourism destination Hainan has surpassed its goals for 2030 tourism arrivals. Hainan received 18 million visitors in the first half of 2014; Sanya alone received 13.5 million tourists in 2014.[28] Sanya's cruise terminal had over 60 calls in 2011. This represents a significant opportunity for penetration from its growing visitation. Sanya is in a unique position; short duration itineraries of three days can be developed to visit Viet Namese ports such as Ha Long Bay or Da Nang and itineraries of four days can reach both. Tourists can spend one week of holiday combining a three-day cruise to Viet Nam with a four-day stay in Sanya.

The routes originating from Sanya and Hong Kong, China, may be further strengthened with the planned development of cruise terminals in nearby cities of Guangzhou and Shenzhen, China's fourth and fifth largest cities, respectively. Guangzhou and Shenzhen could be used for similar itineraries as Sanya and Hong Kong, China, as well as itineraries that combine calls to all Chinese ports. At present, Viet Nam's destinations are the only viable options in South-East Asian return itineraries departing from southern China of less than five days. However, half of Viet Nam's vast 3,260 km of coastline is practically equidistant for these itineraries and an even greater portion is accessible from Sanya in a five-day itinerary. Therefore, as cruise tourism home ported in southern China grows, Viet Nam is poised to receive increased calls. Several options exist for which specific Viet Namese destinations could receive the calls.

Heritage preservation: Viet Nam

Ho Chi Minh City and Ha Long Bay/Hanoi in Viet Nam were ranked fourth and fifth in cruise ship calls in 2014 with 111 and 108 calls, respectively.[29] Ho Chi Minh City is forecasted to have a 25% increase in port calls in 2015, though overall cruise ship calls to Viet Nam have declined in recent years.[30] To address this decline, Viet Nam has plans to develop a seaport system by 2020 (with orientations toward 2030),[31] with six priority areas encompassing two dozen of proposed sea ports. Notable planned ports include:

1. Duong Dong passenger terminal on Phu Quoc Island in Kien Giang Province, capacity for 225,000 gt;
2. Ho Chi Minh City international terminal, capacity for 50,000 gt;
3. Sao Mai-Ben Dinh in Ba Ria-Vung Tau Province, capacity for 100,000 gt;
4. Nha Trang passenger terminal, Khanh Hoa Province, capacity for 100,000 gt;
5. Tien Sa in Da Nang City, capacity for 100,000 gt; and
6. Chan May in Hue Province, capacity for 100,000 gt.

28 World Travel & Tourism Council (n.d.), *Hainan Travel and Tourism Development Potential 2011–2021,* WTTC, London.

29 Cruise Lines International Association and Chart Management Consultants (2014).

30 Ibid.

31 Viet Nam Seaports Association (2009), *Approving the Master Plan on Development of Viet Nam's Ocean Shipping up to 2020 and Orientations towards 2030* (online), available at: www.vpa.org.vn (24-04-2015).

Viet Nam has the most UNESCO World Heritage Cultural Sites of any South-East Asian nation and many destinations in Viet Nam have large offerings of unique natural and cultural heritage. The Mekong Delta is a common excursion from Ho Chi Minh City. The sites of Hoi An Ancient Town, My Son Sanctuary and Hué are all accessible by day trip from Da Nang. Ha Long Bay is a famous destination which is often included in the region's cruise itineraries because of its natural heritage, despite lacking adequate port reception facilities and requiring large ships to tender ashore.

Each site has varying capacity for receiving tourists and handling shore excursions and are a primary example of opportunities for proper assessment and planning to accompany port facility development. Unless the ports, destinations and sites are assessed for visitor flows collectively, the region could face overcrowding as well as oversupply.

Concurrent development of several ports for cruise ships places Viet Nam's destinations and attractions at risk for long-term viability. An over-supply of Viet Namese ports can place its destinations at a disadvantage to negotiate fee terms if pitted against one another. For example, the ports of Chan May and Tien Sa near Da Nang are approximately 75 km apart and both planned for development of ships of similar size and Ha Long Bay provides a formidable alternative as it is also planned for development of cruise reception facilities. Though cruise lines seek optimal port reception facilities, alternatives can be arranged for proximate calls that provide a satisfactory visitor experience.

On the other hand demand could increase to overcrowd the heritage sites such as Ha Long Bay. And in the case of Chan May and Tien Sa, though each port's reception facilities may be able to handle visitor flows, the aggregate flows of cruise passengers from both terminals, added to increased overnight visitation, can crowd the destination's attractions. The heritage site of Hoi An received a dramatic increase in visitors, from less than 200,000 in the year 2000 to well over a million visitors per year at present.[32] New accommodation facilities have been built and infrastructure developed. With tourism development, the destination has encountered increased pollution and waste management issues, while the increased infrastructure has not always been consistent with the historic architecture.[33] Local authorities put in place management planning to improve hotel zoning, restrict vehicle circulation, implement heritage-awareness programmes and develop heritage conservation plans. Planning has been inclusive of local stakeholders and has organized governance mechanisms for heritage management. All these measures, however, were taken without the potential impacts of large-scale cruise passenger visitation which will require adaptation and mitigation with the potential for larger daily visitor flows in shorter periods.

Hoi An is just one example but if overall saturation and degradation of the attractions at one port ensue, cruise lines can easily shift to other excursions within a destination or other calls within Viet Nam, leaving degraded environments, under-utilized and costly infrastructure and local communities without economic vitality. Likewise, the potential scale of *contemporary* cruises coming from southern China and the economic conditions of Viet Nam could make it attractive for cruise lines to develop their own cruise terminals outright or in public-private partnership. This offers increased viability of passenger arrivals, if not properly structured such deals could

32 United Nations Educational, Scientific and Cultural Organization (2008), *Impact: The Effects of Tourism on Culture and the Environment in Asia and the Pacific – Cultural Tourism and Heritage Management in the World Heritage Site of the Ancient Town of Hoi An,* Viet Nam, UNESCO, Bangkok.

33 United Nations Educational, Scientific and Cultural Organization (2008).

render a destination with significant economic leakage and insufficient revenues to maintain the infrastructure and facilities throughout the value chain.

5.2.4 Bali from transit to turnaround port

Indonesia recently analysed its cruise positioning, as cruise tourism increased nearly tenfold from 26,000 passengers in 2006 to 212,000 passengers in 2014. As a nation, Indonesia received 403 total calls in 2014; however this was spread across 103 different destinations. Indonesia's cruise tourism is concentrated on the *luxury* and *premium* segments. Most of the calls are generated from itineraries of more than 10 days originating from Australia, Singapore, North-East Asia, or even longer voyages from other continents such as North America and Europe. Indonesia seeks to grow these segments and strengthen its cruise tourism, prioritizing nine destinations with Bali, Semarang and Komodo receiving highest priority.

Given its recent growth, existing cruise destination inventory and continued focus on *luxury* and *premium* segments, the single greatest action that Indonesia can take to increase cruise tourism is to remove regulations on cabotage. Regulations restrict cruise ships from calling in any two separate ports within Indonesia along the same itinerary. Internal discussions are underway nationally to allow cruise ships to make multiple calls within Indonesia during one itinerary. Bali's strategic centralized location to most itineraries and significant tourism growth has positioned it to serve as the destination of focus for upgrading its cruise terminal infrastructure and becoming a turnaround port. Four ports exist within Bali that can strengthen its position as a regional hub for *luxury* and *premium* segments. Benoa Harbour has plans to receive large and mega ships. However, proper assessment should be undertaken to ensure that the lifting of cabotage does not cause a windfall of impacts as over 100 ports open up to more dynamic itineraries simultaneously. Furthermore, transitioning from a transit port to turnaround port requires significant increases in infrastructure to accommodate increased supplies, more complex visitor flows and waste management. Bali's roadways already are constrained with current visitor flows. There should be a comprehensive analysis to assess the full implications, opportunities and planning needs for Bali to accommodate cruise tourism growth without degrading its local infrastructure and heritage. Additionally, the overnight visitor should not be displaced. The supply for lodging, food and beverage and activities of the overnight visitor may generate higher spend per passenger.

Case study 5.2 **Bali**

Bali, an island and province of Indonesia, is the largest tourist destination in the country yet had the fourth highest number of calls in 2014.[a] It is situated between Java and Lombok and has four ports for cruise ships;[b] Benoa, Padang Bay, Tanah Ampo and Celukan Bawang. A total of 35 cruise ships carrying 67,000 passengers visited Benoa in 2012.[c]

Tanah Ampo is the most recently developed port, specifically for cruise ships as the government would like Bali to be a turnaround cruise destination.[d] Benoa port is located approximately 10 km from the town center of Denpasar as well as other popular beaches such as Kuta and Nusa Dua. However, Benoa currently cannot accommodate big ships to berth at the wharf and requires them to anchor and tender their passengers to the Bali Cruise Terminal. Padang Bay Port also serves cruise ships and also requires big ships to anchor and tender their passengers. It also serves ferries to Lombok. Finally, Celukan Bawang is mainly a cargo port but is located in the northern part of Bali allowing passengers to enjoy an uncrowded part of the island.

Tourism provides significant economic value to the island. Bali has been drawing tourists around the world for its vibrant culture, friendly local people and unique cultural heritage sites. The *Cultural Landscape of Bali Province* is a UNESCO World Heritage

Cultural Landscape that consists of five rice terraces and water temples.[e] It covers a total of 19,500 ha and is known for maintaining its agricultural ecosystem for over 1,000 years. Dating back to the 9th century, a cooperative water management system of canal and weirs, known as *subak,* has been credited to enabling Indonesia to feed its dense population.

Other notable heritage sites include Besakih temple complex and the village of Tohpati. Besakih is the largest temple complex located on the volcanic slopes of Gunung Agung, also known as the Mother Temple of Bali. The village of Tohpati showcases a traditional form of painting fabric called batik, which uses dots and lines from wax to design prints on the cloth.

Bali's natural wonders and diverse marine life attracts a large volume of water sports and activities such as snorkeling and diving. Bali is part of the Coral Triangle, where at least 500 species of reef-building corals are found in each eco-region. This triangular area of the tropical marine waters includes Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste and is recognized as the global center of marine biodiversity. With 76% of the world's coral species, over 2,228 reef fish species and six of the world's seven marine turtle species in the Coral Triangle, it is also called a biodiversity hotspot and top priority for marine conservation by the World Wildlife Fund.[f]

The Coral Triangle is important beyond its unique marine wildlife and coastal ecosystems. It provides considerable economic sources for the local community who sustains directly from the marine and coastal resources by sustainable fishing and nature based tourism. In 2007, the Coral Triangle Program[g] was launched to address the threats it faces. Recently, the coral reefs are at risk due to several factors including over-exploitation as well as poor marine management and unregulated fishing techniques such as blast and poison fishing. Furthermore, construction of infrastructure including construction of roads, airports and ports to boost tourism can also lead to unfavorable outcomes.

The tourism boom has made Bali commercialized with rapid developments of hotels, resorts and international fast food franchises. Such development can threaten the natural environment and the cultural heritage of Bali and therefore, the government has been tightening building rules and regulations while expanding development criteria to protect its environment and traditional culture.[h]

a) Makalam, N., Ministry of Tourism Republic of Indonesia, conversation with the Director of International Relations, Ministry of Tourism Republic of Indonesia (25-01-2015).

b) Cruise Management Consulting (n.d.), Indonesia – The Flower of Asia, Bali (online), available at: www.cruiseindo.com (17-01-2015).

c) Bali Yacht Services (2014), I*ndonesian Government to Make Bali Port of Benoa the Largest Cruise Port in Indonesia* (online), available at: www.baliyachtservices.com (17-01-2015).

d) Hudoyo, M. (2011), 'Ports with Potential – ASEAN prepares for more cruise ships to anchor', *TTG Asia,* number 1941, September 2011, Singapore and Hong Kong, China (online), available at: epublishbyus.com (16-09-2015).

e) United Nations Educational, Scientific and Cultural Organization (n.d./a), 'Cultural Landscape of Bali Province: the *Subak System* as a Manifestation of the *Tri Hita Karana* Philosophy', *World Heritage List,* UNESCO (online), available at: www.unesco.org (16-09-2015).

f) World Wildlife Fund (2015a), 'Conservation in the Coral Triangle', *Coral Triangle, SE Asia,* WWF Global (online), available at: www.wwf.panda.org (08-01-2015).

g) Ibid.

h) Parker, E. (2013), 'Tourism tales from Bali: Growth and Sustainability', *The Jakarta Post,* 15-06-2013 (online), available at: www.thejakartapost.com (09-01-2015).

5.2.5 Other itineraries and considerations

The prior discussions of this chapter have focused on probable routes for major cruise lines and proportion of visitors in the short-term. However, all segments of cruise tourism have increased and 168 cruise destinations exist within Asia at publication. Destinations with attractions and experiences in high demand for tourism have increased visitation from *expedition* and *luxury* cruises with more flexible routes. Some examples of routes are:

- Singapore up the eastern coast of Malaysia into the Gulf of Thailand or Ho Chi Minh;
- Singapore or Kota Kinabalu departures across Borneo and through to Puerto Princesa, Philippines;
- Departing from Hong Kong, China, or other Chinese ports and ending in Philippines as an open jaw (not returning to the same turnaround port of embarkation); and

– Itineraries wholly within Philippines combining urban destinations such as Manila with more pristine islands.

Long-term, South-East Asia will see significant growth and new routes will be developed as itineraries and ports can be tested as capacity grows.

Case 5.3 Kota Kinabalu

Kota Kinabalu (also known as KK, formerly known as Jesselton) is the capital city of the Malaysian state of Sabah on the island of Borneo. It is both a home port and a transit port accessible within the region with cruise itinerary linkages to Singapore, Nha Trang, Viet Nam; Kuching (Sarawak), Malaysia; Bandar Seri Begawan, Brunei; and Puerto Princesa (Palawan Island), Philippines. Kota Kinabalu is one of the priority ports in Malaysia's Straits Riviera themed cruise itinerary region. Tourism arrivals are gathered and published annually by country of origin and demographic profile.[a] Cruise tourism data are not included in published statistics.

Kota Kinabalu currently is a port of call for all predominant cruise lines operating in the region. Kota Kinabalu is promoted offering diverse natural and cultural activities for cruise passengers. This includes historic buildings, nature parks, extensive marine parks with coral reefs and diverse local and traditional communities.

The port is situated within walking distance of the city of nearly half a million inhabitants. Overall the region has low baseline water stress and medium-to-high flood occurrence and the port is in a developed urban area with ongoing infrastructure and planning initiatives.

Sabah is home to several indigenous ethnic groups, including the Kadazan-Dusun, Bajau and Murut. In recent decades these groups have left traditional lifestyles which range from farming to nomadic seafaring, though heritage sites and festivals are still present.[b] Though collectively making up the majority of the population, indigenous groups have also receded in proportion to the population, as Sabah has seen large influx of immigrants from Philippines and Indonesia.

Shore excursions include guided tours offered visiting Kinabalu Park, a UNESCO World Heritage Site of tropical rainforest the highest point on Borneo island. Kinabalu Park is managed by Sabah Parks, under the jurisdiction of the State Ministry of Tourism Development, Environment, Science and Technology. The park has a management plan with effective monitoring and zoning. Pressures from commercial tourism and adjacent land use exist and though currently under control, will increase with higher visitation in the future, particularly with intense visitation from day excursions.[c]

Snorkeling and diving trips are offered to Tunku Abdul Rahman Marine Park. Boating excursions through mangroves are offered with focus on traditional crab gathering. Further northeast within Sabah is a forthcoming and soon-to-be zoned Tun Mustapha Marine Park, developed in partnership with World Wildlife Fund and will be one of the largest marine parks in South-East Asia encompassing 50 islands and over 1 million ha.[d]

Sabah's marine life is stressed with overfishing, dynamite and cyanide fishing and unregulated coastal development. The park is zoned for sustainable fishing, tourism and large conservation areas. The plan is inclusive of local communities who are to earn income through tourism, fishing and sustainable resource use.

Heritage tours are offered in forms such as city tours, heritage walks, or tours with ground transport. Landmarks are visited including the City Mosque, Tun Mustapha Tower, Sabah State Mosque, Signal Hill Observation and Atkinson Clock Tower. Several managed attractions exists such as the Sabah Museum with a heritage village of Sabah indigenous groups' traditional houses offering cultural activities, the Monsopiad Cultural Village, the Sabah Handicraft Market of traditional wood instruments, the Wetland Center and the Lok Kawi Zoological Park.

Issues of marine waste are being addressed innovatively with piloting of a catamaran debris skimmer to collect floating marine waste and in particular plastic waste that can then be used in a forthcoming local recycling plant. Coupled with the initiative is a public waste awareness campaign of reduce, reuse and recycle.[e]

In 2011 the Kota Kinabalu Structure Plan 2030 was completed, as a complement to master plans in public transport, solid waste management, landscape and sewage. The vision is for Kota Kinabalu to be the "nature resort and maritime city by 2030".[f] The plan is to revitalize the central business district; improve waste infrastructure; and promote environmentally sustainable design, maritime-related business and industries. The goal is to position the area as a world-class tourism destination. Comprehensive mapping exercises and resource auditing is being undertaken as part of the plan's implementation.

The complementary Kota Kinabalu Local Plan 2020 is in draft form and outlines tourism as a local policy planning component, with five key tourism areas: cultural heritage, shopping and leisure, islands and beaches, man-made attractions and MICE.[g] Infrastructure, cultural heritage and open space and recreation are also separate policy planning components. Within the plan, priorities and actions regarding heritage trails, visitor flows, coastal tourism, downtown vitality, scenic routes, infrastructure and open spaces will be beneficial to cruise tourism experiences and excursions Cruise tourism is not mentioned specifically in either the Structure Plan 2030 or the Local Plan 2020.

Kota Kinabalu International Airport is a hub for Malaysian Airlines and AirAsia, recently renovated and receiving over six million passengers in 2013. At the time of publication, large mixed–use real estate development called Jesselton Quay was in development adjacent to the port along the waterfront, converting container port space into leisure and commercial space. This development includes a new cruise terminal. Development is underway for ferry service between nearby Kudat, on the northeastern tip of Sabah and Brooke's Point, on Palawan Island in Philippines as an additional measure to stimulate tourism in the region, along with other government initiatives to stimulate development in Kudat.[h]

One of Malaysia's priority destinations in the Straits Riviera, Kota Kinabalu is positioned for a significant cruise tourism increase.

Further integration of cruise tourism across the region's planning is crucial to ensure that the current master planning exercises incorporate the structural needs for accommodating cruise passenger flows as envisioned by the Straits Riviera strategy.

Carrying capacity studies could accompany tourism product development and cruise visitation could be incorporated into tourism statistical tracking. Tourism development has the potential to include indigenous groups to which Sabah is their traditional home and generate revenues to support conservation efforts.

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a) Data available at: Sabah Tourism Board, www.sabahtourism.com (09-01-2015).

b) Minority Rights Group International (1997), 'World Directory of Minorities and Indigenous Peoples', *Minority Rights,* London (online), available at: www.minorityrights.org (22-02-2015).

c) United Nations Educational, Scientific and Cultural Organization (n.d./b), 'Kinabula Park', *World Heritage List,* UNESCO (online), available at: www.unesco.org (03-02-2015).

d) 'Building stakeholder support for the TMP' (2015), *Daily Express,* Kota Kinabalu, 12-01-2015 (online), available at: www.dailyexpress.com.my (17-09-2015).

World Wildlife Fund (2015b), 'Tun Mustapha Marine Park, Malaysia', *Coral Triangle, SE Asia,* WWF Global (online), available at: www.wwf.panda.org (05-02-2015).

e) 'First debris skimmer boat ready' (2014), *Daily Express,* Kota Kinabalu, 22-12-2014 (online), available at: www.dailyexpress.com.my (17-09-2015).

f) 'New planning document for KK' (2013), *Daily Express,* Kota Kinabalu, 12-08-2013 (online), available at: www.dailyexpress.com.my (19-02-2015).

g) Kota Kinabalu City Hall (2014), *Kota Kinabalu Local Draft Plan 2020* (online), available at: www.dbkk.sabah.gov.my (18-02-2015).

h) KePKAS (2015b), *Proposed Palawan-Kudat ferry service Roll-on-roll off ramp to be built,* Ministry of Tourism, Culture and Environment Sabah, 05-02-2015 (online), available at: http://kepkas.sabah.gov.my/ (17-02-2015).

KePKAS (2015a), *Develop tourism potential in northern Sabah: Teo,* Ministry of Tourism, Culture and Environment Sabah, 05-02-2015 (online), available at: www.kepkas.sabah.gov (17-02-2015).

Regional considerations for itinerary development

South-East Asian destinations are not singularly able to determine itineraries for cruise lines to develop. Itinerary creation depends on a wide range of factors including cruise ship pipeline and availability, airlift, source markets, navigability, distance between ports of call, accessibility of fuel and supplies, port infrastructure, regulation and collective visitor experience across ports of call.

As cruise lines are primarily constrained by the number of ships in their fleet, itineraries also depend on the port and ship capacity in other areas of the globe. Therefore, as an overarching recommendation, South-East Asian policymakers should not assume that they have the ability to create itineraries. Rather, they should seek to understand and work within the bounds of probable routes, then collaborate among nations and with the cruise lines to understand the feasibility of itineraries within current and foreseen routes. Each destination should consider its offering for

cruise tourism first and foremost in relation to neighbouring destinations along optimal routes and not only within its own boundaries. This strategy is fundamentally different from common destination-level approaches for development and promotion as a singular location for visitation or one accessible by road or airplane. Collaboration is inherently needed for this type of approach and should be sought not only with cruise lines but among destinations. Key drivers and scenarios from this chapter can serve as a base to begin regional collaboration and discussion and implement recommended strategies.

Chapter 6

Strategies for sustainable cruise development and responsible cruise tourism in South-East Asia

Summary

This final chapter uses the content in the preceding chapters to present strategies for sustainably developing cruise tourism in South-East Asia and for fomenting responsible tourism in travellers to the region. It lists eight key strategies, with tactical recommendations for each strategy in a five-year timeframe. In addition to these strategies, this chapter presents several unique concepts and opportunities. Though the strategies and corresponding tactics are presented in sequence per a logical flow to form a roadmap of sustainable destination management, each may be undertaken individually and out of sequence depending on the current status, capacity and type of destination.

Key words

- Organic growth;
- Experience fees;
- Heritage crowdfunding;
- Benchmarking;
- Regional collaboration;
- Visitor flows; and
- Shore excursions.

Key message

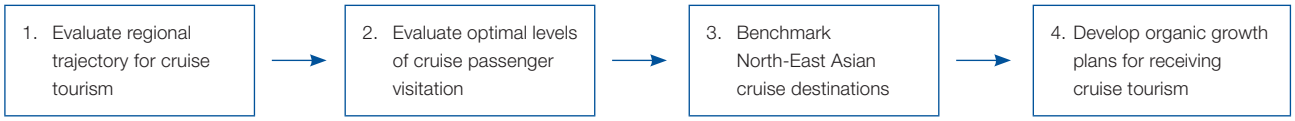
- Strategy 1: Approach regional cruise tourism development from a stance of focusing efforts on controlling demand rather than stimulating it;
- Strategy 2: Assess the sustainable development needs across the entire value chain and visitor experience;
- Strategy 3: Quantify the value of natural and cultural heritage conservation to cruise tourism;
- Strategy 4: Optimize the value of the destination's natural and cultural heritage through appropriate pricing models;
- Strategy 5: Position responsible tourism as an innovative pillar of the region's cruise tourism promotion;
- Strategy 6: Stimulate a regional culture of interest for improving and innovating in connotation with sustainable tourism;
- Strategy 7: Integrate sustainable cruise tourism components into data collection, monitoring and performance measurement; and
- Strategy 8: Create a regional network for data-driven collaboration in sustainable cruise tourism.

6.1 Strategy 1: Approach regional cruise tourism development by focusing on controlling demand, rather than stimulating it

This strategy may seem counter-intuitive to the traditional tourism industry focus on promotion, marketing and distribution. However, the astounding global forecasted demand for travel rationalizes this shift. South-East Asia is poised to see significant increases in tourism arrivals, regardless of whether they arrive by cruise ship. These increased arrivals will have impacts on the destination. Once large-scale cruise infrastructure is developed within a destination, it can have a profound impact on the value chain, host community and even the other types of visitors. North-East Asian destinations which are experiencing immense growth in cruise tourism and with similar

source markets, can be benchmarked by South-East Asian policymakers and managers. This will help them understand the implications of cruise tourism as well as tactical best practices.

South-East Asian nations have the opportunity to determine the appropriate trajectory of cruise tourism in the region. Destination managers should prepare for demand rather than seek it, prioritizing long-term value over short-term performance in arrivals. Adopting this approach will require there to be awareness-building among key tourism stakeholders at the highest levels of government and industry.



Tactic 1.1 Evaluate the cruise tourism trajectory within South-East Asia

Destinations should consider these traits and trends of cruise tourism:

- The Asian demographic is experiencing substantial growth in income, including high-income and high net worth individuals;
- Asian tourism and Asian cruise tourism have undergone a boom of double-digit growth and expansion in the past few years. In several instances, Chinese tourism growth has exceeded forecasts as a source market both domestically and internationally;
- Major cruise lines are beginning to homeport new ships in North-East Asia where itineraries are seasonal. Cruise lines are also partnering with Chinese partners to create new cruise companies;
- China is investing significant resources to create or enhance nearly a dozen cruise terminals, many of them within reach of South-East Asia in shorter itineraries. Once ready, China will have a vested interest in stimulating cruise tourism to recover the cost of those investments;
- China is shifting its economy to consumption of goods and services;
- The cruise industry is actively engaging in regional activity to develop ports and partnership cruise lines, increase awareness and stimulate demand for cruise tourism among Asian source markets and seek out new ports of call across Asia;
- Cruise lines in the *luxury* and *premium* segments actively pursue lesser-known ports, while cruise lines in the *contemporary* segment proactively work with destinations to develop ports to accommodate their arrival;
- Cruise tourism development requires significant infrastructure development, which takes time; and
- Once enabled, Cruise tourism's scale generates immediate issues of controlling visitor flows, especially in the *contemporary* segment.

Considering the above, it is likely that demand for cruise tourism – from both source markets and cruise lines – will outpace South-East Asia's structural ability to handle it for many destinations in the mid- and long-term. Holistic contemplation of these trends and their regional implications will enable destinations to approach development wisely.

Tactic 1.2 Assess and seek optimal levels of cruise passengers in relation to the overall visitors to destinations

Destination marketing organizations and national tourism organizations commonly target promotional activities for different markets, segments and types of travellers, of which cruise tourism may be one common segment. This segmentation exercise traditionally has been developed based on a destination's attractions and source markets, but not the benefit and interrelation that these segments bring collectively. Current segmentation should be carried further within the destination to the proportional impacts that each segment causes one another. In doing so, some destinations may find that non-cruise segments will generate more economic value and less negative impact such that cruise tourism is not favorable past certain sizes of ships or number of daily arrivals. In other destinations such as remote islands, cruise tourism may be the sole focus of targeted promotion and development. In the latter case, the potential cruise demand outstrips the capacity for other segments of tourists and thus requires less efforts and resources to attract other segments and develop related overnight visitor infrastructure.

Tactic 1.3 Benchmark growing cruise destinations in North-East Asia

South-East Asian destinations can learn from the current growth in cruise tourism in the Republic of Korea, Japan, Taiwan Province of China and mainland China. Tourism-focused destinations such as Jeju, Naha, Ishigaki and Penghu can be visited and local authorities engaged to understand the impacts and best practices. Furthermore, destination policymakers can visit and benchmark these ports over time and observe the transition as cruise tourism grows.

Tactic 1.4 Develop an organic growth plan for receiving cruise passengers

Ultimately, tourism demand will emerge based on a destination's attractions and visitor experiences and not because of its infrastructure. Very few, if any, tourists plan vacations and choose destinations by researching port facilities. Therefore, destinations should not use cruise terminal development to satisfy other primary motives, the result of which could be over-building and predatory regional competition. Just because a destination is accessible by ship does not mean that it should be developed for cruise tourism.

Organic growth implies building basic infrastructure and facilities first as a transit port along existing itineraries, in alignment with the size of passenger ships that the destination is capable of handling. This will allow cruise lines to test out the destination in itineraries and make recommendations without the destination over-committing. Gradually, as the destination becomes more accustomed to handling cruise passengers, port facilities and shore excursions can be expanded and the destination marketed for inclusion in new itineraries, eventually serving as a turnaround port and/or receiving larger ships. However, port terminal development costs are not always correlated with capacity increases. Some destinations construct grandiose structures in port reception facilities that are not needed. Consequently, once larger and more lavish cruise terminals and facilities are built, higher fixed costs are incurred for each call. This may dis-incentivize the calling of smaller ships that may have higher expenditure per passenger in the destination but are more costly to attend in the cruise terminal.

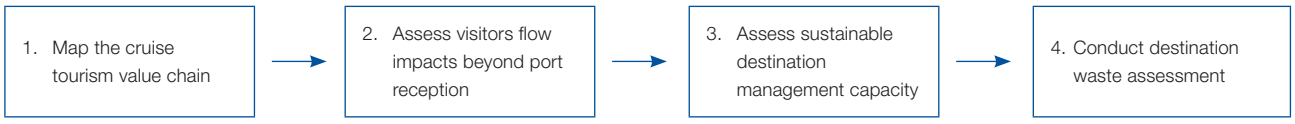
In an organic growth approach, it may be that a destination is best served and cruise tourism's value to the destination optimized by actually limiting the size of ships to a certain specification. Other destinations have struggled when first allowing mega ships, then seeking to place caps once itineraries have already been put in place, which is disruptive for all stakeholders.

This organic growth cycle is disrupted if cruise tourism is planned by destination managers for other purposes without a clear indication of sufficient current or forecasted demand, such as:

- Revitalizing an old port terminal centrally located in a city-center which is losing competitiveness;
- Embedding a real estate development strategy to stimulate investment and increase the land or commercial value of a city district;
- Using the proclamation of cruise development as a politically-motivated strategy to gain positive public opinion (when the public does not understand the complexity, feasibility and viability of large cruise ports);
- Competing to cannibalize regional competitor turnaround ports for cruise itineraries;
- Developing terminals in destinations clearly outside viable cruise itinerary routes;
- Securing additional development funding designated for tourism in order to improve city infrastructure; or
- Stimulating necessity for the development of other destination infrastructure under the control of other departments and ministries, such as airports, bridges, or cargo terminals.

6.2 Strategy 2: Assess the sustainable development needs across the entire value chain and visitor experience

Ultimately, the success or failure of sustainable tourism strategies is judged by the visitors based on their experiences within the destination and divulged to the world through reviews, images and word-of-mouth. Most of these experiences fall outside the port facilities and into the broader value chain within the destination. Policymakers and managers should approach cruise tourism development from the perspective of the visitor experience as a whole, analyzing and improving each component of the experience.



Tactic 2.1 Map the local cruise tourism value chain

Sustainable destination management implies systems thinking. The first step is to identify key players and their capabilities in a mapping exercise. Local players and their respective roles in the cruise tourism value chain should be identified, after which needs for strengthening gaps and weaknesses can be assessed.

Tactic 2.2 Assess visitor flow impacts for the destination beyond the immediate cruise terminal facilities

Feasibility studies and related environmental impact assessments for cruise tourism development often focus on the infrastructure needed to receive the cruise ships. Instead, destinations should begin assessments with their attractions and implications of moving cruise passengers to them, rather than the capacity to land a large ship. Destination managers should assess the infrastructure needs and impacts of receiving passengers beyond arrival of the ship. Infrastructure needs will also include the handling areas for ship supplies and roadways from the cruise terminal to the main attractions and to the shore excursion sites. If the intention is to receive cruise passengers in a homeport or turnaround capacity, the corresponding needs for airlift, parking, hotel accommodation and logistics from these areas to the cruise terminals should be studied. These areas will extend beyond the boundary of a port authority or maritime department, but as cruise tourism involves several components of the destination, destination managers and policymakers should incorporate further analysis to complement port-specific feasibility and environmental impact studies.

Tactic 2.3 Assess sustainable destination management capacity and status across the visitor flows and value chain

Having mapped the value chain and potential visitor flows relating to cruise tourism, destinations can perform general sustainable tourism assessments using frameworks such as the GSTC to receive input on gaps and opportunities. When these assessments are tailored to the specific value chain and shore excursions relevant to cruise tourism, they can provide greater value to serve as a basis for programme development in the other strategies in this chapter.

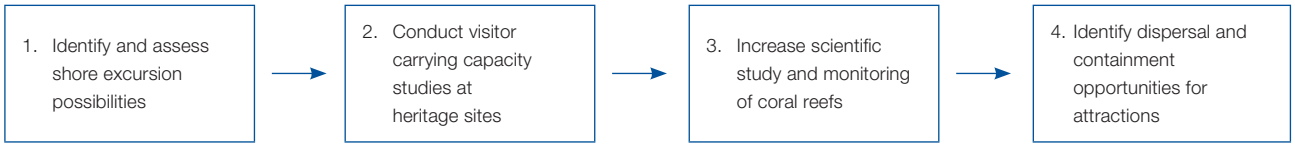
Tactic 2.4 Conduct destination waste management assessments to determine the gaps and opportunities for handling of waste types landed by cruise ships

Waste is one of the most important and specific impacts of cruise tourism to a destination. Yet rarely are waste assessments conducted to understand the full downstream effects and disposal of waste from cruise ships throughout the entire waste stream flow within a destination and across an itinerary. Significant research exists to help understand the various waste streams involved in cruise tourism and the best practices for disposing of them. Ultimately, waste management within a destination will depend on the ability to handle each stream. Each potential waste stream should be mapped to find its final destination.

In the process of assessment, several findings may be unearthed. Recycling facilities may be non-existent and separated waste may not be recovered, or it may be shipped to another destination at the cost to the local government. Policies may inhibit the evolution of waste handling and resource recovery. On the other hand, the scale of cruise tourism may actually inspire new methods for resource recovery at a destination, which can be uncovered by such an assessment. See good practice 4.2 for further guidance on destination waste assessments.

6.3 Strategy 3: Quantify the value of natural and cultural heritage conservation to cruise tourism

South-East Asia has rich heritage resources that should be properly valued. Valuation should be embedded into conservation efforts. When taking the perspective that many attractions will be in high demand and exceed capacity, opportunities to increase fees to limit demand offer a mutually beneficial situation. Proper understanding of the destination's existing and potential inventory of attractions and shore excursions will enable proper valuation.



Tactic 3.1 Identify and assess all heritage sites and attractions that are possible for shore excursion visits

Destinations should take inventory of heritage sites and attractions. Some sites may be developed for excursions and others with potential but not ready. In mapping these resources, destination managers can understand the mix of excursions and experiences and help to distribute the visitors during port calls. The concept of site valuation includes its popularity (demand for visitation) as well as potential revenue generation from shore excursions and FIT visitation. Undervalued sites and activities may be developed for excursions, using the approach of minimizing impact, benefiting local stakeholders and using tourism to generate natural and cultural heritage conservation mechanisms.

Tactic 3.2 Conduct visitor carrying capacity studies at individual sites and attractions currently or planned for cruise passenger visitation

Visitor carrying capacity studies should combine environmental, social and managerial considerations with the focus on controlling impacts and optimizing revenues via yield management and demand-based pricing. This permits sites to set limitations on visitation where capacity will be exceeded. In areas of high demand, studies should also identify opportunities to *increase* capacity without detrimental environmental or social impact, either through operational efficiencies, technology, complementary activity combination during excursions, or adding additional facilities and attractions. See good practice 4.2.1 for further information and examples of visitor carrying capacity and yield management.

Tactic 3.3 Increase scientific study and monitoring of the region's coral reefs, linking related initiatives to cruise tourism

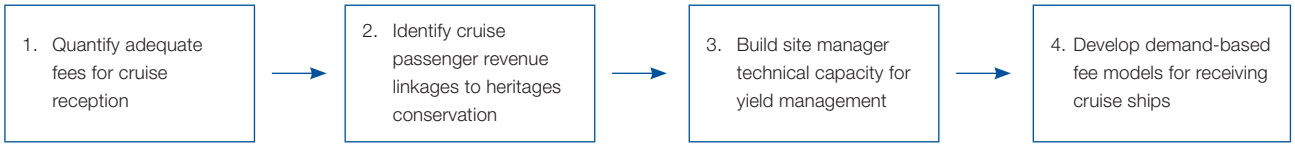
Coral reefs are high-demand tourist attractions and very popular shore excursions. These opportunities are vast in South-East Asia. The region is home to more coral reef areas than any other region on the planet. Many of the region's reefs are under threat from overfishing, exploitive fishing methods and bleaching from coastal development. At the same time, they are underfunded and lack appropriate monitoring or backing by scientific studies. It is recommended to increase initiatives to assess, zone and develop management plans for coral reefs in collaboration with destination managers and policymakers to identify opportunities for shore excursions and funding mechanisms.

Tactic 3.4 Identify opportunities to spread and contain cruise tourism visitor flows across activities and attractions

Port facilities and cruise passenger demand may be optimal for a destination but the city's layout, transportation infrastructure and historic attractions are unable to match cruise visitation levels without significant investment or intervention. Options can be considered to develop larger attractions to absorb visitor flows and concentrate them within the port area. Museums and parks are examples of attractions that can be built. These are excellent opportunities to include components to enable access to the local economy such as local handicrafts and cuisine. These provide additional port content for visitors that celebrate cultural heritage; offer alternatives to help curb overcrowding in resident areas and other, more fragile natural and attractions; stabilize and reduce the need for ground transportation; and offer opportunities for direct sales and higher economic multipliers.

6.4 Strategy 4: Optimize the value of the destination's natural and cultural heritage through appropriate pricing models

As in many other components of travel and tourism, the factors of fluctuating demand, perishable inventory and the provision of services (as opposed to products) are highly relevant to destination visitor experiences. Policymakers and managers can optimize the value while preserving their natural and cultural heritage once the heritage itself is seen for generating the demand. Revenues from visitors who wish to experience a destination should cover the full costs of operating and maintaining the attractions and infrastructure. Furthermore, the operational, maintenance and replacement costs can be reduced by practicing yield management to generate more total revenues from a lower number of visitors. Cruise tourism may bring thousands of visitors to a destination at once and this high period of demand should be properly quantified. More importantly, destinations should consider an approach of only seeking visitors who are willing to pay the appropriate fees for maintaining the very experience they seek.



Tactic 4.1 Quantify adequate operational and maintenance fees of port and reception facilities

Destination developers and policymakers should undertake studies to ensure that visitor arrival fees adequately cover construction and maintenance of port facilities and supporting infrastructure. Alternatively, ensure that there is a structure in place for capturing taxes from corresponding revenues generated from cruise passenger spending. This should be considered holistically, beyond the operation of port facilities and include downstream impacts such as transportation and waste infrastructure and even attractions, sites and facilities, which are impacted by cruise passengers but do not generate separate shore excursion revenue. Adequate and objective valuation of long-term operating costs will help destination managers when setting port fees. This will also help to analyse visa fees in terms of total cost to the cruise line, cruise passenger and the viability of receiving different types of cruise tourists.

Tactic 4.2 Identify cruise passenger revenue linkages to heritage conservation

Not only should popular attractions be assessed for their value, but there are other opportunities to leverage large-scale visitation to support additional heritage conservation. This includes facilitating shore excursions to sites that are lacking adequate funding, as well as embedding potential revenues in current conservation projects not linked to tourism. This tactic supports strategy 5 as these linkages can be promoted for tourists to become aware of the support their fees bring to the destination and the conservation of local and global heritage.

Tactic 4.3 Build technical capacity for the attractions and excursions value chain to understand yield management

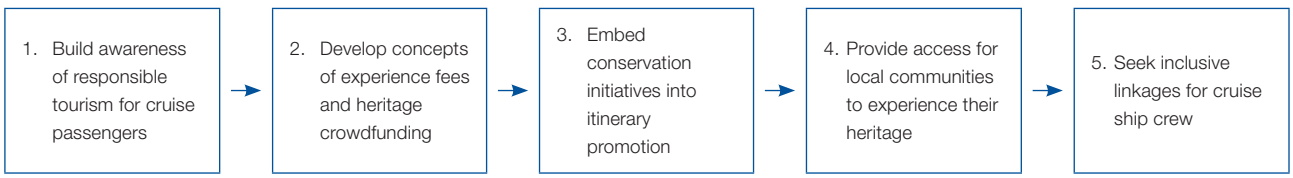
Traditionally, heritage sites have been managed from purely operational perspectives. Increase in pricing due to demand has been conceptualized as congestion fees and not yield management or dynamic pricing. Common practice in tourism's private sector is to practice yield management to optimize revenues and potentially reduce incremental costs. For example, hotels will sometimes choose not to accept a group because the demand for the hotel from higher-paying segments will be displaced. This practice can be applied to heritage sites faced with degradation from visitation as used a strategy to reduce impacts by receiving the same amount of total revenue from less visitors. If cruise ship passenger shore excursions will cap out the visitation limits of an attraction, the opportunity cost of higher paying passengers should be considered. Likewise, site managers can encourage visitation in periods of lower demand such as off-peak hours (or open additional periods) and collaborate with shore excursion operators. Finally, if attractions are in high demand, fees may be raised to achieve the optimal maintenance fee and reduce visitors. For example, 1,000 visitors paying a USD 5 entrance fee generate twice the impact with same revenue as 500 visitors paying a USD 10 entrance fee. Heritage site managers can be trained to apply the techniques of yield management to optimize a site's value as a parallel mechanism of conserving it

Tactic 4.4 Develop demand-based fee models for receiving cruise ships

Most of the tourism value chain manages peak and off-peak seasons with pricing strategies. In periods of high demand, prices for airfare, lodging, activities and even food and beverage increase. Cruise lines themselves may charge premiums during peak periods. Conversely, periods of low demand are met with offers and discounts. Reception of cruise ships by a destination should follow the similar management approach to tourism under the premise of a perishable inventory and fluctuating demand. A form of dynamic pricing is to charge higher fees for excessively crowded ports. Charging demand fees can influence cruise ships to avoid high-peak seasons and balance demand.This ensures that adequate fees are received for maintenance and operation of facilities and municipal services that are often stressed during peak periods. During off-peak seasons, discounts can also incentivize cruise ships and tourists to avoid highly congested time period. Finally, demand charge models similar to commercial billing of electricity can be applied to other services supplied to cruise ships and cruise passengers when experiencing the destination's natural and cultural heritage.

6.5 Strategy 5: Position responsible tourism as an innovative pillar of the region's cruise tourism promotion

Sustainable travel is becoming mainstream, with nearly every major travel company committing to some type of environmental or social initiative. Travellers are increasingly interested in environmental and social aspects of their experience and seek authenticity. Authenticity should be properly valued and visitors should understand this value along with their contribution. This encompasses all types of travel, including cruise tourism and not just special interest travel. Furthermore, the natural and cultural heritage of destinations increasingly forms a part of their competitive positioning, as sun-and-sand destinations are ubiquitous. South-East Asia has the opportunity to position its tourism to contribute to environmental conservation and heritage preservation, to the point where tourist visits make positive contributions to the planet and local communities. In the case of large-scale cruise tourism, there are fewer opportunities to have authentic experiences with the host community and experience pristine natural environments compared to small group tour and special interest travel products. However, cruise tourism can position itself in the region for to provide responsible tourism initiatives and invert its scale of impact to enact positive change.



Tactic 5.1 Build awareness of responsible tourism for cruise passengers

Efforts should be made to educate cruise passengers that they will share the destination experience simultaneously with thousands of other passengers over a short period of time. Their behaviour collectively affects the destinations. Cruise passengers should be made aware of the possible actions to be responsible travellers while they are at each destination. Destination briefings can

be held aboard cruise ships prior to arrival at a port of call, which will enable cruise passengers to learn about the environmental and cultural heritage of the host destination to encourage them to respect and value their experience.

Cruise lines should also model the behaviour that they expect from their passengers and exhibit their own sustainable and responsible tourism behaviour. They should educate their guests on how they themselves are working in the destination to be good environmental stewards, respectful of local culture, supporting natural and cultural heritage and improving the livelihoods of the local communities.

Destinations should identify opportunities to promote responsible tourism to visitors during the experience, for example, by embedding messaging and educational opportunities within cruise terminals. Collectively, increased awareness and education will help cruise passengers understand the relationship of their activities to natural and cultural heritage.

As Asia grows as a primary source market in South-East Asia, the opportunity exists to welcome new travellers as well as educate them to be responsible travellers and build a culture of responsible tourism.

Tactic 5.2 Change the perspective of entrance fees to heritage sites into "experience fees" and position them as "heritage crowdfunding efforts"

Much like heritage site management had not been viewed from yield management techniques, entrance fees had not been viewed as payment for experiences. Movie tickets, for example, are not seen as entrance fees paid to sit in a theater. South-East Asia's experiences are much better than movies.

Responsible tourism can be built by increasing visitor understanding of the benefits their fees provide to the destination in terms of heritage preservation and economic activity. Promotion campaigns could help passengers understand what their cruise port fees pay for and how they benefit the destination acting as an impulse for visitors to continue their contribution to the destination. Cruise lines also have a responsibility to make sure that the fees they negotiate for their passengers are in support of the protection of the cultural and natural heritage that they visit. How cruise port fees are allocated should be transparent and easily available to guests with cruise lines again modeling the behaviour that they expect from their guests.

Fee awareness similarly can be applied for heritage attractions, promoting the contribution of the visitor to its conservation and/or preservation. Turning an entrance fee from a perceived expense and bureaucratic hassle into compensation for experiencing the attraction can bring awareness to the importance of its preservation. Many travelers strive to accumulate experiences and pride themselves in having visited a number of well-known sites. Yet they do not consider the cumulative contribution they have made in paying the fees to site managers to accumulate these experiences.

Taking the concept further, visitation of heritage sites can be perceived as a form of *heritage crowdfunding,* whereby the visitor is recognized for supporting the ongoing preservation of an attraction and group of attractions. Heritage crowdfunding will directly engage visitors on the concepts of responsible travel. Heritage crowdfunding can address the issues of overcrowding

of sites during large scale visitation. Through this lens, cruise passengers and other stakeholders can view the positive impact of mass visitation. The visitor satisfaction, social media content and economic benefits of thousands of cruise passenger's crowdfunding for the preservation of a heritage site through visitation has immense potential. Further funding efforts can be embedded and mechanisms put in place to recognize travellers specifically for the fees they have paid to fund heritage sites through visitation across the region. Finally, crowdfunding also brings a connotation of capacity limits on visitation, since funding mechanisms generally have goals and do not seek unlimited sources of revenue generation.

Tactic 5.3 Embed natural and cultural heritage conservation initiatives and approaches into marketing efforts

Tourists should understand the intangible value of the experiences at a destination. It forms a primary motivation for their visit. This concept should be further expounded and promoted as valuing heritage, with the goal of translating traveller interest into actively valuing and respecting destination experiences accordingly. When proper fee structures, carrying capacity limitations, site preservation and management are in place for shore excursions, they can be promoted as the experience of valuing heritage. For example, an excursion of Ha Long Bay can be promoted as *valuing the natural heritage of Ha Long Bay.*

Opportunities should be identified and demonstrated where visitors can contribute (directly or indirectly) to these efforts. Destinations and cruise lines can create interesting content from these initiatives and build support through social media campaigns for various heritage conservation efforts.

Tactic 5.4 Provide access to local communities to experience their own heritage

Optimized entrance and tour fees may make local participation cost-prohibitive. Given cruise tourism's hyper-seasonal nature (i.e. a day when a cruise ship is docked versus a day it is not), opportunities will exist to offer experiences to residents at reduced or nominal cost. Efforts should be made to offer affordable experiences to local communities, educators and policymakers, similar to how they are made for familiarization trips among the travel trade (FAM tours should be adapted for this type of "iFAM" tour). Local communities should be the first stakeholders to become familiarized with the destination's attractions, so that they become destination brand ambassadors, value their own heritage and seek to protect it and benefit from tourism's development.

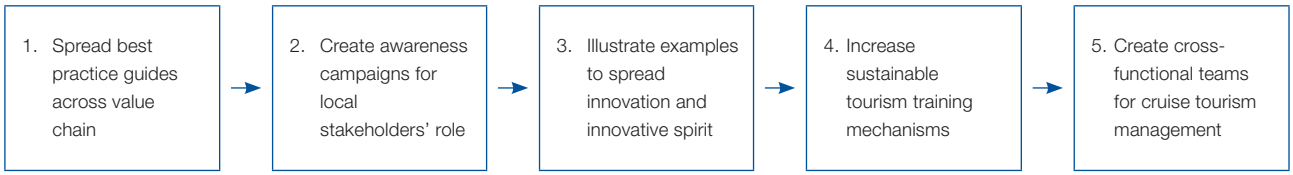
This type of engagement can even be built into operating structures of the attractions and activities. Routine visits for educational, special needs and local residents can be encouraged as part of internal social responsibility programmes. Likewise, a cruise passenger visiting an attraction together with a local resident is an opportunity for increased authenticity.

Tactic 5.5 Seek inclusive linkages between cruise ship crew and destinations

Growth in cruise tourism in South-East Asia affords a unique opportunity as the majority of cruise ship crew, especially line-level staff, originate from the region. Opportunities can be explored to further engage this "local" crew to build awareness of heritage preservation and the positive contribution of tourism to local economies.

6.6 Strategy 6: Stimulate innovation and a regional interest in improving sustainable tourism

As sustainable development addresses fundamental concerns of human survival on the planet while at the same time involving complex issues, it can be daunting for stakeholders to engage in dialogue and actions relating to sustainability. Anxiety may exist to change behaviour and various topics can be overwhelming. Several actions exist that each entity across the value chain can take to improve performance. The region can build awareness of sustainable tourism as an inclusive and iterative concept that involves the entire value chain and can be utilized for benefit in everyone's respective organization.



Tactic 6.1 Create, consolidate, or spread quick best practices guides for businesses related to cruise tourism

To demonstrate the value of embedding sustainability concepts, destination managers can share quick how-to guides of actions that can be taken by businesses, such as installing energy efficient lighting and low-flow water fixtures, donating items to local communities and separating waste. Many resources already exist; destinations can reduce these into a handful of simple, actionable items.

Tactic 6.2 Create awareness campaigns for stakeholders to become participants in sustainable tourism

In addition to training and product development, programmes can be developed to involve staff and communities across the value chain as the drivers of sustainable tourism for the role they play. Destination-wide commitment campaigns can be developed, for example for staff to become recognized as part of the "sustainable cruise destination crew" or "sustainability ambassadors" or pledging to "keep it green" and foment a culture of positive change.

Tactic 6.3 Illustrate examples of innovation happening within the destination and regionally that can be tied to the concepts of sustainable tourism

Many new innovative solutions to sustainability-related challenges frequently arise. These types of innovation should be showcased through the value chain and demonstrate tangible and interesting value that sustainable tourism can provide. These do not need to be complex case studies; they can be a simple message of what was done and how it created a benefit and more importantly giving praise and recognition to the people involved in the action.

Tactic 6.4 Increase training mechanisms for sustainable tourism within cruise value chain

Concepts and best practices relating to sustainable tourism and cruise operations should be embedded into current training and capacity building channels, so that the entire value chain understands its contribution to responsible tourism and values the heritage in its own respective backyard. Staff in port reception facilities, sightseeing and ground handlers can be receive training to regarding the unique patrimony of the destination. This is especially important for tour guides and service providers to heritage sites and protected areas. Additionally, new channels and training formats should be sought. Content for trainings can be derived from the information outlined and referenced in this research. Examples of current channels where this type of training could be embedded include:

- Sustainability components within the CLIA regional workshops and agent trainings;
- Sustainability components within cruise tourism travel agencies trainings;
- Sustainability components within sightseeing and tour guide capacity building;
- Cruise components with in the China Responsible Tourism Forum; and
- Crowd management components within heritage preservation and attractions management capacity building.

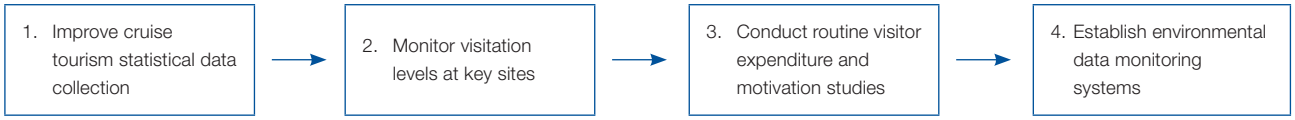
Tactic 6.5 Create cross-functional working groups or committees to address cruise tourism across the value chain

At a destination level, a dedicated sustainable cruise committee or council organized with members from both the public and private sectors can ensure that the various stakeholders collaborate toward common goals and carry forth ongoing discussions on the development of sustainable tourism. A dedicated cruise tourism committee can ensure that frequent and easy dialogue can happen among the stakeholders by providing the right platform for the following:

- Communicating regularly;
- Mapping goals and objectives and find common goals to work toward;
- Partnering on initiates that provide value for all parties involved to increase collaboration;
- Discussing challenges and sharing best practices;
- Developing or adopting standards and guidelines; and
- Engaging with local stakeholders to address related issues and impacts.

6.7 Strategy 7: Integrate sustainable cruise tourism components into data collection, monitoring and performance measurement

General efforts are underway to improve the systems and quality of data collection for tourism and specifically cruise tourism within South-East Asia. Stakeholders realize the value of routine collection and monitoring of segmented visitor arrivals and revenues, cruise capacity and itineraries and source markets. As data collection systems and monitoring are being developed, opportunity exists to embed sustainability performance measurement. These opportunities help embed routine monitoring of impacts that will be critical to a destination's long-term vitality.



Tactic 7.1 Improve general cruise tourism statistical data collection and reporting

The benefits and impacts of cruise tourism can only be monitored and evaluated effectively if a destination has accurate data available. Demonstrated in this research, tourism arrivals are not the sole indicator of performance for a destination. In some cases, arrivals beyond a certain threshold may not be optimal. However, carrying capacity studies and limits are only of use if visitation is monitored. Destinations should structure balanced performance measurement systems that enable analysis from multiple angels. Arrivals, length of stay and tourism receipts should be normalized to understand spend per visitor and segment this for cruise passengers.

Tactic 7.2 Monitor visitation levels at key destination attractions and sites visited by cruise passengers

Though seemingly simplistic, capturing accurate visitation data for key attractions and sites is a fundamental, yet difficult, first step to understand the impacts of operations, control visitation and optimize fee structures. Destination managers should review the processes in place at key attractions to monitor visitation levels, upgrade visitor registration mechanisms and ensure the data are tracked historically then transmitted to appropriate stakeholders routinely.

Tactic 7.3 Conduct routine visitor expenditure and motivation studies

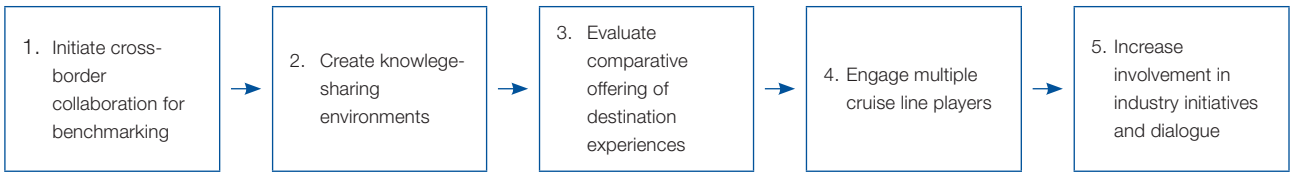
Key components of the performance measurement system, destinations should survey visitor expenditure and satisfaction, particularly of visitation sites. This will enable managers to understand the optimum visitation levels from a managerial perspective of capacity. Visitor feedback is important for identifying opportunities for improving operations and services.

Tactic 7.4 Establish environmental monitoring mechanisms to assess environmental quality and marine health in areas of cruise activity

Though cruise lines operate with environmental management systems and shipboard technology to minimize discharge and other impacts, accidents and downstream impacts do occur. Policymakers should ensure that adequate monitoring systems are in place, with associated costs as part of the overall destination maintenance and operation structure to receive cruise ships. This can include monitoring of air quality in port areas, water quality in waterways and port areas and impacts to species in natural heritage sites.

6.8 Strategy 8: Create a regional network for data-driven collaboration in sustainable cruise tourism

Cruise tourism is based on packaging a set of experiences within the ship and across the ports of call in structured itineraries. Destination managers tend to boast and promote their destination in isolation for what it offers the visitor. In the case of cruise tourism, the destination will be considered as part of the itinerary in combination with other ports of call. Given this interdependence, destinations should cooperate and collaborate to foment cruise tourism. This can extend beyond promotional efforts into managerial approaches. All destinations that receive cruise ships and cruise passengers will have logistical structures, regulations, policies, operating procedures, fee structures, facilities and engagement that need to be managed. These create many processes and within them challenges. Other industry research and recommendations for the region have echoed this general opportunity for regional collaboration;[1] Destinations can enhance the collaboration opportunity to share best practices and collectively benchmark the myriad of issues relating to managing sustainable cruise tourism.



Tactic 8.1 Initiate cross-border collaboration and coordination to benchmark policies and data on key issues

Destinations should leverage the community created vis-à-vis the supra-national nature of cruise tourism to benchmark policies, performance, regulations, procedures and specifications across ports as a form of seeking out best practices and learning collectively. Examples of benchmarking opportunities:

- Port fees, taxes and structures;
- Cruise passenger spend and leakage (amount of visitor spend actually remains in the destination);

1 Asia Cruise Association, Cruise Lines International Association and Chart Management Consultants PTY LTD (2013), *The Cruise Industry in Asia 2013 and Beyond,* ACA (CLIA Asia).

- Policies and approaches for preservation of cultural sites and management of visitor flows to ease congestion;
- Monitoring systems;
- Value chains;
- Destination-level visitor flow maps;
- Waste disposal infrastructure, procedures and regulations, as well as mapping of waste streams from ships across itineraries;
- Visitor arrivals attributed to cruise passengers with multi-country itineraries; and
- Site visits among peers to other cruise destinations within the region and abroad.

Tactic 8.2 Create knowledge-sharing environments for sharing best practices

While strategy 6 focuses on the engagement and inclusion of value chain staff and stakeholders for building a culture of sustainable tourism among destinations, this should be accompanied by a mechanism to enable the sharing of best practices and a general support network to overcome challenges. Existing data platforms can enable collection and catalyze the spread of best practices in other destinations. Innovation comes from every corner of the globe. Knowledge sharing should include mechanisms for capturing and catalyzing innovation outside the region.

In addition to more structured mechanisms for data, additional engagement activities can be performed to stimulate cooperation, such as routine calls, facilitated roundtables and social media channels for cruise tourism sustainability professionals in each respective destination to collaborate and support each other on common challenges.

Tactic 8.3 Evaluate cruise destinations and activities in a regional itinerary context to strengthen each destination's unique offering

Destination managers should study the other ports of call within common and potential itineraries for their offering to cruise passengers. Activities that do not offer unique experiences may cannibalize the region's visitation and stimulate predatory competition for choosing ports of call, rather than complementary route building.

Studying each destination within a regional itinerary context will stimulate the best practice of valuing and promoting the unique natural and cultural heritage of each port of call.

Tactic 8.4 Engage cruise lines of varying sizes and cruise types to understand needs and opportunities

In discussions with several cruise line executives during the preparation of this research, several examples were presented where destinations would develop cruise terminal facilities inadequately, either over-building without sufficient market demand, or constraining supply by constructing insufficient space or in waterways inadequate for handling ships of certain sizes. In turn, destinations will let certain facilities fall behind the growing demand for the port. Cruise lines can be the primary conduit of best practice sharing across the globe and should be engaged to discuss the challenges and opportunities routinely. This should extend beyond the berthing

and tendering of cruise ships to the management of the value chain and visitor experience. Engagement should extend beyond the development or shore operations department liaising with the tourism promotion board or port authority, to maximize the wealth of expertise built among the community. It is also important to engage in discussions with more than one cruise company to understand the range of opportunities, rather than just the opportunity of particular interest to one specific company.

Tactic 8.5 Become involved in global and regional industry initiatives, associations and dialogue

In addition to benchmarking and destination-level value chain collaboration, destination managers and other players in the cruise tourism value chain have the opportunity to leverage the current landscape of resources to help improve in their planning, product development, management and operations. A sample listing of these complementary channels have been compiled in annex VI.

Conclusion

South-East Asia is home to a vast array of the world's natural and cultural heritage. Tourism boomed in the past decade and has continued an upward trajectory alongside economic development of South-East Asia. Cruise tourism should be a central focus for sustainable development given its potential to continue outpacing overall tourism growth in arrivals, and because of its effects on intensifying visitor flows within destinations. This is true not only for the potential risk of negative impacts, but also from the opportunities afforded from cruise tourism's scale to build awareness of responsible travel to many tourists. Destinations should consider a strategic approach to cruise tourism when implementing best practices for sustainable development. Continued tourism growth in all segments and an increasing appreciation for protecting natural and cultural heritage while benefiting local communities, enables a destination management approach of controlling demand rather than a traditional goal of just increasing visitor arrivals. This report provided a situational analysis, resources and strategies for contemplating this approach, to serve as a basis for discussion and development among regional policymakers and destination managers.

2016 marks an opportune moment for setting the course for cruise tourism development in South-East Asia. The infrastructure that is built and itineraries that are developed will determine the role cruise tourism plays in each destination and influence its neighbouring destinations. Cruise tourism itineraries involve regional integration, and this aspect can be championed into regional collaboration rather than devolve to predatory competition. And while cruise lines seek the development of cruise terminals and port reception facilities, visitors seek unique aspects of natural and cultural heritage and not the attractiveness of the cruise terminal. Destinations should protect the intrinsic value from a viewpoint of long-term viability and vitality for future generations. Sustainable tourism has the opportunity to extend this viewpoint across the value chain, offering all players introspection on the role of cruise lines and cruise passengers.

Engendering a large-scale, global tourism industry was the sector's 20th century overarching success. Controlling tourism demand and mitigating its impacts will be its 21st century challenge. Cruise tourism will be one of the focal points of this shift in the way we experience the planet.

Annex I

South-East Asia port mapping

Port		UNESCO heritage sites accessible by shore excursion	ASEAN heritage parks[1]	Baseline water stress level[2] (%)	Flood occurrence[2]	Drought severity[2]	Ground-water stress[2]
Brunei	Bandar Seri Begawan			1. Low (< 10)	3. Medium to high (4–9)	1. Low (< 20)	1. Low (< 1)
India	Andaman Nicobar Islands			No data	No data	No data	No data
Indonesia	Bali	Cultural Landscape of Bali Province		5. Extremely high (> 80)	3. Medium to high (4–9)	1. Low (< 20)	No data
	Semarang (Tanjung Mas)	Borobudur Temple Compounds Prambanan Temple Compounds Sangiran Early Man Site		4. High (40–80)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
	Surabaya			5. Extremely high (> 80)	4. High (10–27)	2. Low to medium (20–30)	1. Low (< 1)
	Komodo	Komodo National Park		Arid and low water use	1. Low (0–1)	1. Low (< 20)	No data
Malaysia	Penang			4. High (40–80)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
	Port Klang			5. Extremely high (> 80)	3. Medium to high (4–9)	1. Low (< 20)	2. Low to medium (1–5)
	Kota Kinabalu (Sabah)	Kinabalu Park		2. Low to medium (10–20)	3. Medium to high (4–9)	1. Low (< 20)	No data
	Langkawi			5. Extremely high (> 80)	2. Low to medium (2–3)	1. Low (< 20)	No data
	Malacca	Melaka and George Town, Historic Cities of the Straits of Malacca		3. Medium to high (20–40)	4. High (10–27)	2. Low to medium (20–30)	No data
	Kuching (Sarawak)			1. Low (< 10)	3. Medium to high (4–9)	1. Low (< 20)	No data

Port		UNESCO heritage sites accessible by shore excursion	ASEAN heritage parks[1]	Baseline water stress level[2] (%)	Flood occurrence[2]	Drought severity[2]	Ground-water stress[2]
Myanmar	Coco Islands (Port of Refuge)			No data	No data	No data	No data
	Thanlyin (Syriam)		Meinmhala Kyun Wildlife Sanctuary, about 3 hours away	3. Medium to high (20–40)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
	Kyaukphyu			1. Low (< 10)	3. Medium to high (4–9)	1. Low (< 20)	No data
	Thilawa			3. Medium to high (20–40)	4. High (10–27)	1. Lowv (< 20)	1. Low (< 1)
	Yangon	Pyu Ancient Cities	Meinmhala Kyun Wildlife Sanctuary Lampi Kyun Wildlife Reserve, about 3 hours away	1. Low (< 10)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
	Dawei			1. Low (< 10)	1. Low (0–1)	1. Low (< 20)	No data
Philipines	Manila	Baroque Churches of Philippines	Mount Makiling Nature Reserve	3. Medium to high (20–40)	5. Extremely high (> 27)	1. Low (< 20)	No data
	Cebu			3. Medium to high (20–40)	3. Medium to high (4–9)	1. Low (< 20)	No data
	Puerto Princesa	Tubbataha Reefs Natural Park Puerto-Princesa Subterranean River National Park	Tubbataha Reefs Natural Park	5. Extremely high (> 80)	2. Low to medium (2–3)	1. Low (< 20)	No data
	Boracay			No data	No data	No data	No data
	Davao	Mount Hamiguitan Range Wildlife Sanctuary	Apo Natural Park	4. High (40–80)	4. High (10–27)	2. Low to medium (20–30)	No data
	Bohol			5. Extremely high (> 80)	2. Low to Medium (2–3)	1. Low (< 20)	No data
	Subic Bay			No data	No data	No data	No data
	Zamboanga			3. Medium to high (20–40)	4. High (10–27)	1. Low (< 20)	No data
Singapore	Singapore Cruise Center		Bukit Timah Nature Reserve Sungei Buloh Wetland Reserve	5. Extremely high (> 80)	3. Medium to high (4–9)	1. Low (< 20)	No data
	Marina Harbour Center			5. Extremely high (> 80)	3. Medium to high (4–9)	1. Low (< 20)	No data

Port		UNESCO heritage sites accessible by shore excursion	ASEAN heritage parks[1]	Baseline water stress level[2] (%)	Flood occurrence[2]	Drought severity[2]	Ground-water stress[2]
Thailand	Phuket			1. Low (< 10)	4. High (10–27)	1. Low (< 20)	2. Low to medium (1–5)
	Bangkok (Laem Cahbang)	Historic City of Ayutthaya Dong Phayayen-Khao Yai Forest Complex	Khao Yai National Park	3. Medium to high (20–40)	4. High (10–27)	2. Low to medium (20–30)	1. Low (< 1)
	Ko Samui			1. Low (< 10)	4. High (10–27)	1. Low (< 20)	2. Low to medium (1–5)
	Krabi		Tarutao National Marine Park, 3 hours drive from Krabi Ao Phang-Nga Nation Park, 1 hour drive from Krabi	1. Low (< 10)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
Viet Nam	Ho Chi Minh City (Phy My)			4. High (40–80)	4. High (10–27)	1. Low (< 20)	1. Low (< 1)
	Hanoi	Central Sector of the Imperial Citadel of Thang Long, Hanoi Citadel of the Ho Dynasty Trang An Landscape Complex		2. Low to medium (10–20)	4. High (10–27)	1. Low (< 20)	2. Low to medium (1–5)
	Nha Trang			5. Extremely high (> 80)	4. High (10–27)	1. Low (< 20)	2. Low to medium (1–5)
	Hue/Da Nang (Chan May)	Complex of Hué Monuments Hoi An Ancient Town My Son Sanctuary		3. Medium to high (20–40)	5. Extremely high (> 27)	1. Low (< 20)	No data
	Cai Lanh (Ha Long Bay)	Ha Long Bay		No data	No data	No data	No data
	Phu Quoc			No data	No data	No data	No data

Sources: 1) ASEAN Centre for Biodiversity (2015), Biodiversity Information Sharing Service (online) available at: chm.aseanbiodiversity.org (15-01-2015).

2) Aqueduct (2015), *Water Risk Atlas,* World Resources Institute (online), available at: www.wri.org/our-work/project/aqueduct (26-02-2015).

Annex II

UNESCO World Heritage Sites in South-East Asia

World heritage list		Category	Description
Cambodia	Angkor	Cultural Site	Contains the remains of the different capitals of the Khmer Empire, from the 9th to the 15th century. The site includes the Temple of Angkor Wat and, at Angkor Thom, the Bayon Temple.
	Temple of Preah Vihear	Cultural Site	Dedicated to Shiva, the Temple is composed of a series of sanctuaries linked by a system of pavements and staircases.
Indonesia	Borobudur Temple Compounds	Cultural Site	Buddhist temple, dating from the 8th and 9th centuries, located in central Java.
	Komodo National Park	Natural Site	Volcanic islands that are inhabited by 5,700 giant lizards, called Komodo dragons (the only location to find Komodo dragons). The landscape includes rugged hillsides of dry savannah, pockets of thorny green vegetation, white sandy beaches and the blue waters surging over coral.
	Prambanan Temple Compounds	Cultural Site	Constructed in 10th century, largest temple compound in Indonesia dedicated to Shiva.
	Ujung Kulon National Park	Natural Site	Located in the south-western tip of Java on the Sunda shelf, includes the Ujung Kulon peninsula and offshore islands and encompasses the natural reserve of Krakato, contains the largest remaining area of lowland rainforests in the Java plains. Home to numerous endangered plants and animals including the Javan rhinoceros.
	Sangiran Early Man Site	Cultural Site	The first hominid fossil was discovered at this site. Later, 50 fossils of Meganthropus palaeo and Pithecanthropus erectus/Homo erectus were found, representing half of all the world's known hominid fossils.
	Lorentz National Park	Natural Site	Largest protected area in South-East Asia, incorporates a continuous, intact transect from snowcap to tropical marine environment, including extensive lowland wetlands.
	Tropical Rainforest Heritage of Sumatra	Natural Site in Danger	Makes up three national parks: Gunung Leuser National Park, Kerinci Seblat National Park and Bukit Barisan Selatan National Park. The protected area is home to an estimated 10,000 plant species, including 17 endemic genera; more than 200 mammal species; and 580 bird species of which 465 are resident and 21 are endemic.
	Cultural Landscape of Bali Province	Cultural Site	Consists of five rice terraces and their water temples that cover 19,500 ha. The temples are the focus of a cooperative water management system of canals and weirs.

World heritage list		Category	Description
Malaysia	Gunung Mulu National Park	Natural Site	Located on the island of Borneo, Gunung Mulu National Park is most studied tropical karst area in the world. The site is home to 295 km of explored caves that are home to millions of cave swiftlets and bats. The Sarawak Chamber, 600 m by 415 m and 80 m high, is the largest known cave chamber in the world.
	Kinabalu Park	Natural Site	Located on the island of Borneo, the highest mountain between the Himalayas and New Guinea. The site has been designated as a Centre of Plant Diversity for South-East Asia and is rich in species with examples of flora from the Himalayas, China, Australia, Malaysia.
	Melaka and George Town, Historic Cities of the Straits of Malacca	Cultural Site	Melaka exhibits the early stages of this history originating in the 15th century Malay sultanate and the Portuguese and Dutch periods beginning in the early 16th century. George Town represents the British era from the end of the 18th century with both commercial and residential buildings.
	Archaeological Heritage of the Lenggong Valley	Cultural Site	The site includes four archaeological sites in two clusters which spans about 2 million years. There are also open air and cave sites with Palaeolithic tool workshops.
Myanmar	Pyu Ancient Cities	Cultural Site	Pyu Ancient Cities includes the remains of three brick, walled and moated cities of Halin, Beikthano and Sri Ksetra located in vast irrigated landscapes in the dry zone of the Ayeyarwady (Irrawaddy) River basin. The three cities are partly excavated archaeological sites. Remains include excavated palace citadels, burial grounds and manufacture sites, as well as monumental brick Buddhist stupas, partly standing walls and water management features
Philippines	Baroque Churches of Philippines	Cultural Site	Four churches, the first of which was built by the Spanish in the late 16th century, are located in Manila, Santa Maria, Paoay and Miag-ao.
	Tubbataha Reefs Natural Park	Natural Site	The site is an atoll reef with a very high density of marine species; the North Islet serving as a nesting site for birds and marine turtles.
	Rice Terraces of the Philippine Cordilleras	Cultural Site	The terraces are located in the remote areas of the Philippine Cordillera mountain range on the northern island of Luzon, Philippine archipelago. The terraces are the product of the Ifugao ethnic group, a minority community that has occupied these mountains for thousands of years.
	Historic Town of Vigan	Cultural Site	Vigan is the best-preserved example of a planned Spanish colonial town in Asia. Its architecture reflects the coming together of cultural elements from elsewhere in Philippines, China and Europe.
	Puerto-Princesa Subterranean River National Park	Natural Site	This park features a limestone karst landscape with an underground river. The site also contains a full 'mountain-to-sea' ecosystem and has some of the most important forests in Asia.
	Mount Hamiguitan Range Wildlife Sanctuary	Natural Site	The site provides critical habitat for a range of plant and animal species. The property showcases terrestrial and aquatic habitats at different elevations and includes threatened and endemic flora and fauna species.

World heritage list		Category	Description
Thailand	Historic City of Ayutthaya	Cultural Site	Founded in 1350, Ayutthaya became the second Siamese capital after Sukhothai. The city was destroyed by the Burmese in the 18th century. Known for the prang (reliquary towers) and gigantic monasteries.
	Historic Town of Sukhothai and Associated Historic Towns	Cultural Site	Sukhothai was the capital of the first Kingdom of Siam in the 13th and 14th centuries. The city is known for a number of monuments illustrating the beginnings of Thai architecture.
	Thungyai-Huai Kha Khaeng Wildlife Sanctuaries	Natural Site	The sanctuaries are home to 77% of the large mammals (especially elephants and tigers), 50% of the large birds and 33% of the land vertebrates to be found in this region.
	Ban Chiang Archaeological Site	Cultural Site	The site is considered the most important prehistoric settlement so far discovered in South-East Asia. The site is home to the earliest evidence of farming in the region and of the manufacture and use of metals.
	Dong Phayayen-Khao Yai Forest Complex	Natural Site	The complex spans 230 km between Ta Phraya National Park on the Cambodian border in the east and Khao Yai National Park in the west. The site is home to more than 800 species of fauna, including 112 mammal species, 392 bird species and 200 reptile and amphibian species. It is internationally important for the conservation of globally threatened and endangered mammal, bird and reptile species.
Viet Nam	Complex of Hué Monuments	Cultural Site	Hué was the political, culture and religious centre under the Nguyen dynasty until 1945. The Perfume River winds through the Capital City, the Imperial City, the Forbidden Purple City and the Inner City.
	Ha Long Bay	Natural Site	Ha Long Bay, in the Gulf of Tonkin, includes 1,600 islands and islets. Most of the islands are uninhabited and unaffected by a human presence.
	Hoi An Ancient Town	Cultural Site	Hoi An Ancient Town is a well-preserved example of a South-East Asian trading port dating from the 15th to the 19th century. Its buildings and its street plan reflect the influences, both indigenous and foreign, that have combined to produce this unique heritage site.
	My Son Sanctuary	Cultural Site	The site includes remains of a series of impressive tower-temples that was the religious and political capital of the Champa Kingdom for most of its existence.
	Phong Nha-Ke Bang National Park	Natural Site	The site is the oldest major karst area in Asia. It is subject to massive tectonic changes, which creates the park's karst landscape is extremely complex with many geomorphic features of considerable significance.
	Central Sector of the Imperial Citadel of Thang Long, Hanoi	Cultural Site	The Thang Long Imperial Citadel was built in the 11th century by the Ly Viet Dynasty. It was constructed on the remains of a Chinese fortress dating from the 7th century, on drained land reclaimed from the Red River Delta in Hanoi. It was the centre of regional political power for almost 13 centuries without interruption. The archaeological site represents South-East Asian culture, combining influences from China in the north and the ancient Kingdom of Champa in the south.
	Citadel of the Ho Dynasty	Cultural Site	The citadel buildings represent a new style of South-East Asian imperial city, including neo-Confucianism from the late 14th century.
	Trang An Landscape Complex	Mixed Site	Trang An's landscape is made of limestone karst peaks permeated with valleys, some of which are submerged and surrounded by steep, almost vertical cliffs. The property also includes Hoa Lu, the old capital of Viet Nam in the 10th and 11th centuries AD, as well as temples, pagodas, paddy-field landscapes, with villages and sacred sites.

Source: United Nations Educational Scientific and Cultural Organization (2015b).

Annex III

Common cruise ship/port waste disposal best practices by MARPOL Annex

Annexes	Types of waste	Best practice for disposal
Annex I	Oil	Every ship of 400 gt and above shall be provided with and maintain an Oil Record Book, that records the transfer of al oil and oily liquids, including oil.[a]
	Bilge oil	Every ship of 400 gt and above shall be provided with and maintain an Oil Record Book, that records the transfer of al oil and oily liquids, including bilge oil.[a]
	Bilge water	Bilge water should be pumped over to reception facilities or bilge barges designed for collecting bilge water.
		International conventions (i.e. MARPOL) allow discharge of this treated bilge water so long as the oil remaining in the water does not exceed 15 ppm and that it does not leave a visible sheen on the surface of the water when the ship is proceeding en route (underway to allow for dispersion). The oil removed from the water is held onboard for reuse or disposal ashore. In accordance with the MARPOL Convention and associated regulations, every ship of 400 gt and above shall be provided with and maintain an Oil Record Book, that records the transfer of all oil and oily liquids, including fuel oil, lubricating oil, waste oil, oily sludge and oily bilge water.[a]
	Oil sludge	Every ship of 400 gt and above shall be provided with and maintain an Oil Record Book, that records the transfer of all oil and oily liquids, including oily sludge.[a]
		Contractor and downstream facilities meet appropriate environmental management standards.[b]
Annex III	Hazardous	Appropriately categorize and land in accordance with the local requirements and only where an acceptable handling/disposal practice is in place.[a, b]
	Medical waste	When disposing of pharmaceuticals, the method used is to be consistent with established and applicable regulations. Furthermore, most regulatory jurisdictions have a posting of listed pharmaceuticals that must be considered hazardous waste once the date has expired or the item is no longer acceptable for patient use. Stocks of such listed pharmaceuticals should, when possible, be returned to the vendor prior to the date of expiration. Pharmaceuticals that are being returned and have not reached their expiration date are shipped using ordinary practices for new products. All expired listed pharmaceuticals are to be handled in accordance with established guidance. For example, in the United States of America, the Environmental Protection Agency (EPA) has issued a report that clarifies the fact that residuals, such as epinephrine, found in syringes after injections are not considered an acutely hazardous waste, by definition and may be disposed of appropriately in sharps containers.[c]
		Employ one or more of the following practices when disposing of pharmaceuticals:[a] – Establish a reverse distribution system for returning unexpired, unopened non-narcotic pharmaceuticals to the original vendor; – Appropriately destroy narcotic pharmaceuticals onboard the ship, in a manner that is witnessed and recorded; – Offload listed pharmaceuticals in accordance with local regulations. Listed pharmaceuticals are hazardous wastes with chemical compositions that prevent them from being incinerated or disposed of through the ship's wastewater treatment plant; and/or – dispose of other non-narcotic and non-listed pharmaceuticals through onboard incineration or landing ashore.

Annexes	Types of waste	Best practice for disposal
Annex III	Solvents, paint and varnish	This material is classified as hazardous or special waste and is only to be disposed of ashore as required by law or regulation/to licensed waste contractor and facilities that meet environmental management standards.[a, b]
	Photo waste	Photo chemical waste shall not be discharged overboard or comingled with any other waste water. Otherwise, they are to treat al photo processing and x-ray development fluid waste (treated or untreated) as a hazardous waste and land ashore in accordance with local legislation.[a]
	Dry cleaning fluid	Shipboard dry cleaning facilities typically use a chlorinated solvent and produce a small amount of waste. This waste is comprised of dirt, oils, filters material and spent solvent. This material is classified as hazardous or special waste and is only to be disposed of ashore as required by law or regulation.[a]
	Oily rags and filters	Dispose of ashore as required by law or regulation.[a]
	Pyrotechnics	The supplier should be able to dispose of these when expired, in accordance with applicable laws and through the use of related specialist facilties.[d]
	Aerosols	Waste contractor and facilities are licensed to dispose and meet an environmental management standard, applicable for hazardous waste standards if considered hazardous waste.[c]
	Batteries	Spent batteries are to be collected and returned for recycling and/or disposal in accordance with prevailing regulations. Discarded batteries are to be isolated from the other waste streams to prevent potentially toxic materials from inappropriate disposal. The wet-cell battery-recycling programme is to be kept separate from the dry-battery collection process. Intact wet-cell batteries are to be returned to the supplier, when possible. Dry-cell batteries are to be manifested to a licensed firm for recycling.[c]
	Incinerator ash	Incinerator ash is to be landed ashore in accordance with applicable local and national requirements.[a]
	Fluorescent tubes mercury lamps	To prevent human exposure and contamination of the environment, these lamps are to be handled in an environmentally safe manner. Recycling of mercury from lamps and other mercury containing devices is the preferred handling method and is encouraged by various authorities. The recycling of fluorescent lamps and high intensity discharge (HID) lamps keeps potentially hazardous materials out of landfills, saves landfill space and reduces raw materials production needs. Disposal of the glass tubes can be accomplished by processing with shipboard lamp crusher units that filter and absorb the mercury vapor through a high efficiency particulate air (HEPA) filter and activated carbon, or by keeping the glass tubes intact for recycling ashore. The intact lamps or crushed bulbs are classified when they are shipped to a properly permitted recycling facility; as such, testing is not required. The filters are to be disposed of as hazardous waste, in accordance with applicable laws and regulations.[a]
	Cooking oil	Waste cooking oil is typical strained to remove debris and then collected and landed ashore for recycling in the bio-diesel market where feasible. Otherwise, it may be collected in onboard storage tanks and landed ashore with engine oily residues. It may be directly incinerated or burned as fuel to make steam or electricity on board.[a]
Annex IV	Sewage/waste water	Fully with national and local requirements in planning wastewater discharges where permitted.a
	Sewage/black water	Process all sewage through a sewage treatment system that is certified in accordance with international regulations, prior to discharge. For ships not using onshore reception facilities and traveling regularly on itineraries beyond the territorial water of coastal states, discharge is to take place only when the ship is more than 4 nmi from the nearest land and traveling at a speed of not less than six knots.[a]
		Treated blackwater beyond 12 nmi at a speed of six knots or greater discharge to sea.[b]

Annexes	Types of waste	Best practice for disposal
Annex IV	Grey water	Ships not using onshore reception facilities and traveling regularly on itineraries beyond the territorial waters of coastal States, grey water may only be discharged while the ship is underway and proceeding at a speed of not less than 6 knots and at a distance not less than 4 nmi from the nearest land or such other distance as agreed to with authorities having local jurisdiction or provided for by local law except in an emergency or where geographically limited.[a]
Annex V	Garbage/solid waste	Operational wastes mean all solid wastes that are collected on board during normal maintenance or operations of a ship.[a]
	Glass-crushed/ mixed	Glass bottles, jars and other glassware are to be crushed for recycling. Some member lines and larger vessels separate glass by color to further increase the recycling potential of the waste stream.[a]
	General scrap metal	Separate by type and landed ashore for recycling, where local recycling facilities exist.[a]
	Asbestos panels	Contractors are licensed to remove and follow an environmental management standard.[b]
	Paper and cardboard	Paper, cardboard and other combustibles are to be recycled when local recycling facilities are available shore side, but some volume may be incinerated aboard to avoid large accumulation of these combustible materials, as that would present an increased fire hazard.[a]
	Mixed plastics	Plastics are separated and recycled whenever possible. No person onboard any ship may discharge into the sea, or into the navigable waters of the United States, plastic or garbage mixed with plastic, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags. All garbage containing plastics must be discharged ashore or incinerated.[a]
	Steel cans	Separate by type and landed ashore for recycling, where local recycling facilities exist. Cans are collected and sorted onboard to separate out the aluminum cans that have a high market recycling value. Cans are crushed on board, stored and off-loaded for recycling.[a]
	Aluminum cans	Aluminum (soda cans and deck chairs), galley tins and other metals, such as copper, brass, bronze, Cu-Ni, scrap and steel are separated by type and brought ashore for recycling to local recycling facilities.[a]
	Food waste	Some port locations have regulations for controlling different types of disease that may be carried by foreign food wastes and materials that have been associated with them. These regulations may require incinerating, sterilizing or other special treatment of garbage to destroy possible pest and diseases organisms. Such garbage should be kept separate from other garbage and retained for disposal in port in accordance with the laws of the receiving country.[a]
	Electrical equipment	To dispose of these products in a sound manner, collect and recycle used electronic equipment generated aboard with reputable vendors known to properly handle this waste.[a]
	Compactable garbage	Send to a licensed waste contractor and/or processing/disposal facility that also meets an environmental management standard.[b]

Note: Relevant MARPOL Annex II waste types also generally fall under multiple annexes, most commonly Annex I and Annex III, and as such have not been included in the above table.

Sources: a) Cruise Lines International Association (n.d.), *Waste Management Practices and Procedures* (online), available at: www.cruising.org/about-the-industry/regulatory/environmental-protection/waste-management (18-01-2015).

b) Royal Caribbean Cruises Ltd. (2011), *Waste Stream Operations* (online) available at: www.royalcaribbean.com/content/en_US/pdf/waste_stream_chart.pdf (18-01-2015).

c) United States Environmental Protection Agency (2008), Cruise Ship Discharge Assessment Report, EPA, Washington, D.C.

d) International Maritime Organization (2014), *Consolidated Guidance for Port Reception Facility Providers and Users* (online), available at: www.imo.org (12-10-2015).

Annex IV

Ocean Health Index of South-East Asian Countries

Conservation International launched the Ocean Health Index (OHI), which monitors the vitality of coastal areas across ten vectors that are highly relevant and at times include tourism. This table represents the performance across these vectors in 2015 compared with 2014. Destinations can incorporate the OHI as an example of free monitoring systems available through secondary data collection.

		Brunei	Cambodia	Indonesia	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Overall index score	**2015**	**63.43**	**54.20**	**60.91**	**69.97**	**55.08**	**59.03**	**61.17**	**71.49**	**58.91**
	Change vs. 2014	**-2%**	**-1%**	**21%**	**11%**	**-25%**	**10%**	**4%**	**13%**	**-15%**
Food provision	2015	27.22	7.92	76.31	60.90	2.07	75.32	79.49	89.35	28.71
	Change vs. 2014	1%	-1%	42%	-25%	-2847%	n/a	6%	12%	-210%
Artisanal fishing opportunities	2015	75.44	65.28	45.67	63.63	47.58	58.82	71.49	68.86	50.46
	Change vs. 2014	-13%	-1%	-9%	26%	-41%	1%	16%	-23%	-41%
Natural products	2015	n/a	20.47	84.97	95.95	99.99	88.49	25.13	89.20	83.97
	Change vs. 2014	n/a	2%	n/a	11%	9%	n/a	-250%	87%	19%
Carbon storage	2015	65.59	51.75	50.21	65.41	74.96	62.39	91.02	66.03	41.81
	Change vs. 2014	-1%	0%	-12%	24%	13%	55%	32%	-38%	-58%
Coastal protection	2015	98.68	59.84	58.80	76.36	46.25	53.92	27.51	37.97	66.27
	Change vs. 2014	0%	0%	71%	23%	-64%	4%	-96%	26%	43%
Livelihoods and economies	2015	79.69	74.90	71.28	79.69	96.11	44.95	96.36	85.81	74.21
	Change vs. 2014	0%	0%	61%	11%	17%	-71%	53%	-12%	-16%
Tourism and recreation	2015	22.58	63.61	22.49	72.18	8.80	26.42	62.50	58.58	30.39
	Change vs. 2014	-24%	-1%	-69%	70%	-718%	-44%	58%	-8%	-94%

		Brunei	Cambodia	Indonesia	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Sense of place	2015	54.22	54.33	72.77	38.59	33.99	53.40	30.86	71.81	77.07
	Change vs. 2014	0%	1%	18%	-84%	-15%	19%	-69%	57%	9%
Clean water	2015	61.82	63.73	50.15	66.84	58.60	49.49	44.93	65.49	56.92
	Change vs. 2014	-13%	-8%	-22%	12%	-8%	-13%	-7%	21%	3%
Biodiversity	2015	85.62	80.14	76.43	80.16	82.42	77.12	82.39	81.80	79.24
	Change vs. 2014	0%	0%	3%	5%	3%	5%	7%	0%	-3%

Source: Ocean Health Index (2015), www.oceanhealthindex.org (26-03-2015).

Annex V

Responsible travel applications to cruise passengers

Responsible Tourism Guiding Principle	Application for cruise passengers
Maximise local economic benefits by increasing linkages and reducing leakages, by ensuring that communities are involved in and benefit from, tourism. Wherever possible use tourism to assist in poverty reduction by adopting pro-poor strategies.	Seek activities and the purchase of souvenirs that will give benefits to local communities. Request this type of activity and service from cruise lines.
Market tourism in ways which reflect the natural, cultural and social integrity of the destination and which encourage appropriate forms of tourism.	Research and inquire about any environmental or culturally sensitive issues that may arise at the cruise itinerary's ports of call; comment via social media and other commentary channels about the realities of destination experiences in comparison to how they are marketed.
Provide appropriate and sufficient support to small, medium and micro enterprises to ensure tourism-related enterprises thrive and are sustainable.	Inquire about opportunities to support SMEs through purchase of goods and services. Inquire about the cruise lines' support of SMEs within destinations.
Be sensitive to the host culture, maintaining and encouraging social and cultural diversity.	Research and inquire about local cultures and customs prior to arrival. Be sensitive during shore activities. Do not throw money out into sea if local inhabitants approach the ship. Do not ask to take the photograph of a local inhabitant if it is against their custom.
Use resources sustainably and reduce waste and over-consumption.	Recycle waste appropriately whenever recycling is available. Do not purchase handicrafts, artifacts, or goods that are linked to endangered species, habitat loss, child or compulsory labor, or armed conflicts.
Manage natural diversity sustainably and where appropriate restore it, and consider the volume and type of tourism that the environment can support and respect the integrity of vulnerable ecosystems and protected areas.	Inquire about the carrying capacity of natural and cultural heritage sites visited, do not visit attractions that have been known to have unsustainable visitation levels.
Promote education and awareness for sustainable development – for all stakeholders.	Research and inquire about educational opportunities regarding sustainable tourism.

Source: Responsible Tourism Guiding Principles adapted from: Cape Town Conference on Responsible Tourism in Destinations (2002).

Annex VI

Complementary initiatives and projects relevant to cruise tourism in South-East Asia

Initiative/project	Entity/Partners	Description
Action 2020 South-East Asia	Action 2020 South-East Asia	"Action2020 is the world's largest concerted corporate sustainability initiative. Backed by scientific research, it sets the agenda for business action on sustainability to 2020 and beyond – at global, regional and national levels." http://action2020.org.
ASEAN Center for Biodiversity map of ASEAN Heritage parks	ASEAN Center for Biodiversity map of ASEAN Heritage parks	"Since its establishment, ACB has achieved a considerable deal and has built up an increasing international reputation. Specific activities have included a number of actions in the field of policy coordination and capacity building, such as regional workshops on urban biodiversity, on climate change and biodiversity, on transboundary cooperation, the enforcement of bio-safety regulations, the preparation of biodiversity indicators, a gap analysis on marine protected areas and many others. These activities have been conducted in different locations across the ASEAN." http://chm.aseanbiodiversity.org.
ASEAN Ports Association	ASEAN Ports Association	"The Association is presently composed of regular and associate members collectively recognized as members by the Association. Regular members are those national port authorities and/or the country ports with the government retaining majority interest. Corporatized or privatized ports comprise associate members. These Members determine programmes of work and priorities, annual budgets and other affairs of the Association; elect the Chairman and the Vice-Chairman; and, attend special meetings to discuss matters on proposals, recommendations or reports of the Working Committee or Technical Committees. "To enhance its collective strength, membership of the Association was expanded with the admission of ports in Brunei Darussalam in 1984, Viet Nam in 1996, Cambodia in 2003 and Myanmar in 2005." www.aseanportsassociation.org.
Asia Cruise Fund	Hong Kong Tourism Board (HKTB) and Taiwan Tourism Bureau (TTB)	"The regional co-operation fund will comprise contributions from participating ports and be used to subscribe cruise companies for developing and marketing cruise products." www.discoverhongkong.com.

Initiative/project	Entity/Partners	Description
Asia Cruise Terminal Association (ACTA)	ACTA	Members include Port of Jeju, Port of Kanazawa, Port of Keelung, Port of Kobe, Port Klang Cruise Centre, Port of Sakai, Singapore Cruise Centre Pte. Ltd. Port of Subic Bay, Shanghai Wusongkou International Cruise Terminal Development Co., Ltd. Mission: "ACTA is to engage all cruise terminal operators and relevant industry stakeholders to build the region as a world-class cruise playground through raising standards across pertinent areas like operations, safety, security, customer service and marketing." Vision: "To grow the region into one of the world's most compelling cruise destinations for cruise liners from around the world." www.asiacruiseterminal.org.
Clean-Sea	Clean-Sea	"Marine litter, of which plastic is a main component, is explicitly identified as a descriptor for determining Good Environmental Status (GES) under the Marine Strategy Framework Directive (MSFD). Europe aims to achieve GES by 2020 and CleanSea – the first European framework programme research project dedicated to the marine litter issue – is providing key scientific knowledge and tools for marine litter monitoring and action plans." www.cleansea-project.eu/drupal/index.php.
Control and Management of Ships' Ballast Water and Sediments (BWM)	International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM)	"The Ballast Water Management Convention, adopted in 2004, aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing standards and procedures for the management and control of ships' ballast water and sediments." www.imo.org.
Cruise Gateway North Sea	Cruise Gateway North Sea	"CRUISE GATEWAY 'towards sustainable growth of cruise shipping in the North Sea Region' is a project within the Interreg IV B North Sea Region Programme and started 1st October 2010. 14 Partners coming from Germany, Belgium, Denmark, the Netherlands, Norway, Sweden and the UK are working on this project, consisting of joint lobbying and marketing, the building of a regional maritime identity and innovative ideas for passenger excursions." www.cruisegateway.org.
Cruise Lines International Association (CLIA)	CLIA	"The nonprofit Cruise Lines International Association (CLIA) is North America's largest global cruise industry organization in terms of cruise line, industry suppliers and travel agency membership. CLIA represents the interests of member cruise lines, 100 Executive Partners and more than 14,000 Travel agencies. CLIA participates in the regulatory and policy development process while supporting measures that foster a safe, secure and healthy cruise ship environment." www.cruising.org.
Environmental Ship Index (ESI)	ESI	"Voluntary system designed to improve the environmental performance of sea going vessels. "It provides numerical representation of the environmental performance of ships regarding air pollutants and CO2 (scores Nox and Sox emissions). "Enables ports and other interested parties to stimulate ships to improve their environmental performance." http://esi.wpci.nl/Public/Home.

Initiative/project	Entity/Partners	Description
Green Bunkering	Green Bunkering	"Stakeholders consisting of the Port of Goteborg, Swedish Coast Guard, Environmental Protection Department of the County Administrative Board of Vastra Gotaland and the regional bunker industry came together to increase safety during bunker operations and thereby also improve environmental protection." http://cnss.no/wp-content/uploads/2011/06/Green-Bunkering.pdf.
Green Fins	Green Fins	"Green Fins, internationally coordinated by Reef-World, are the only recognised environmental set of standards with a comprehensive management approach to provide guidance and support for business owners and national authorities to promote best practices." www.greenfins.net.
Green Star	Green Star	"Green Star is an internationally recognised sustainability rating system. From individual buildings to entire communities, Green Star is transforming the way our built environment is designed, constructed and operated. Launched by the Green Building Council of Australia in 2003, Green Star is Australia's only national, voluntary, rating system for buildings and communities." www.gbca.org.au/green-star.
GreenPort	GreenPort	Green Port provides business information on environmental best practice and corporate responsibility centered around marine ports and terminals, including shipping, transport and logistics. It is the respected source of business information, which our clients trust to deliver their marketing message. It provides readers with authoritative editorial prepared by writers who are experts in their field in an easy to use layout. www.greenport.com.
Global Sustainable Tourism Council (GSTC)	GSTC	"The Global Sustainable Tourism Council (known as the GSTC or the Council) serves as the international body for establishing and managing standards for sustainable tourism. The GSTC is independent and neutral, serving the important role of managing its global baseline standards for sustainability in travel and tourism." www.gstcouncil.org.
International Association of Dredging Companies (IADC)	IADC	"Provide guidance for environmental protection and improve the environmental performances of a dredging project. – Dredging Management Practices for the Environment; and – Dredging around coral reefs." www.iadc-dredging.com/en/84/dredging/facts-about.
International Maritime Organization (IMO, United Nations specialized agency)	IMO	"Responsible for the safety and security of shipping and the prevention of maritime pollution by ships. "Main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented. "Covers all aspects of international shipping – including ship design, construction, equipment, manning, operation and disposal." www.imo.org.
MARPOL Annex I – Prevention of Pollution by Oil	MARPOL	Measures to prevent pollution by oil. Includes measures around building safe oil tankers as well as safely operating them to reduce oil spills. www.imo.org.

Initiative/project	Entity/Partners	Description
MARPOL 73/78	MARPOL	Regulations on garbage and sewage management. www.imo.org.
MARPOL Annex V	MARPOL	"The revised Annex V generally prohibits the discharge of all garbage into the sea, except as provided otherwise in regulations 4, 5 and 6 of the Annex, which are related to food waste, cargo residues, cleaning agents and additives and animal carcasses." www.imo.org.
MARPOL Annex IV	MARPOL	"Regulations regarding the discharge or sewage into the sea from ships provision of facilities at ports and terminals for the reception of sewage requirements for survey and certification." www.imo.org.
Port Safety and Health and Environmental Management Code	Port Safety and Health and Environmental Management Code	"The PSHEM Code was prepared by the GEF/UNDP/IMO Regional Programme of Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), in collaboration with the following international non-governmental organizations representing the port industry: – International Association of Lighthouse Authorities (IALA); – International Association of Ports and Harbours (IAPH); – International Labor Organization (ILO); – Organization for Economic Co-operation and Development (OECD)"; – Permanent International Association of Navigation Congresses (PIANC); – United Nations Committee on Trade and Development (UNCTAD);and – United Nations Environment Programme (UNEP). www1.port.co.th/pshems/about.htm.
Sustainable Transport (all modes of transport including aviation, marine, ferry, rail and road)	UN Secretary-General Ban Ki-moon tasked High-level Advisory Group comprised of government, civil society and private sector leaders	"Solutions to promote public health and safety, environmental protection and economic growth through sustainable transport. Objective is to find sustainable transport solutions to alleviate poverty and support sustainable growth and sustainable urbanization." https://sustainabledevelopment.un.org/topics/sustainabletransport/highleveladvisorygroup.
Sustainable Shipping Initiative (SSI)	SSI	"SSI comprises of companies from across the industry and around the world and NGOs (Forum for the Future and WWF). Objective of SSI is to establish a new sustainable approach to the maritime sector." http://ssi2040.org.
Shippingefficiency.org	Carbon War Room	"It is an international not-for-profit organization that seeks to accelerate the adopting of business solutions that reduce carbon emissions at gigantic scale and advance the low-carbon economy) and RightShip (hip-vetting specialist promoting safety and efficiency in the global maritime industry). Its objective is to increase information flow and transparency around the efficiency of the international shipping fleet. ShippingEfficiency.org enables anyone to tell an efficient, low-emission ship from a less efficient one, for the first time. Using a simple search function, users can pull up an "A to G" rating for around 60,000 existing ships, including the majority of the world's container ships, tankers, bulk carriers, cargo ships, cruise ships and ferries." www.shippingefficiency.org.

Initiative/project	Entity/Partners	Description
Sustainable Cruise: Increasing Waste Management Efficiency on Board	The European Commission through LIFE+, the European programme for supporting environmental projects	The aim of the project is to provide stimulus for the implementation of the EU Directive on waste on board ships and to create incentives for waste reduction, recycling collection and reuse." www.sustainablecruise.eu.
Sustainable Destination Alliance for the Americas	Sustainable Travel International	"Launched in March 2014, the Sustainable Destinations Alliance for the Americas (SDAA) is the largest-scale effort to date through which public and private entities have united to focus on destination sustainability in the Americas." http://sustainabletravel.org/sdaa.
The Asian Cities Climate Change Resilience Network (ACCCRN)	ACCCRN	A network of ten core cities in India, Indonesia, Thailand and Viet Nam, experimenting with a range of activities that will collectively improve the ability of the cities to withstand, to prepare for and to recover from the projected impacts of climate change. The approaches taken are determined by the local needs and priorities of each city. http://acccrn.net.
The project ASEAN	ASEAN Secretariat, APA, GIZ and PEMSEA, Financed by the German Federal Ministry for Economic Cooperation and Development (BMZ)	"Supports selected ports in the ASEAN region to improve the quality and efficiency of their Safety, Health and Environmental management. The project aims to achieve sustainable development through capacity development, providing technical assistance in Safety, Health and Environment (SHE [also EHS: environmental health and safety, editor's note]) and creating environmental awareness with a focus on long-term growth. Social, economic and environmental factors must be integrated holistically to achieve sustainability, without having one adversely affecting the other." www.sustainableport.org.

Annex VII

Global sustainable tourism criteria for hotels and tour operators and for destinations

Table VII.1 **Global sustainable tourism criteria for hotels and tour operators**

A. Demonstrate effective sustainable management.	
A.1	The organization has implemented a long-term sustainability management system that is suitable to its reality and scale and that considers environmental, sociocultural, quality, health and safety issues.
A.2	The company is in compliance with all relevant international or local legislation and regulations (including, among others, health, safety, labor and environmental aspects).
A.3	All personnel receive periodic training regarding their role in the management of environmental, sociocultural, health and safety practices.
A.4	Customer satisfaction is measured and corrective action taken where appropriate.
A.5	Promotional materials are accurate and complete and do not promise more than can be delivered by the business.
A.6	Design and construction of buildings and infrastructure…
A.6.1	…comply with local zoning and protected or heritage area requirements.
A.6.2	…respect the natural or cultural heritage surroundings in siting, design, impact assessment and land rights and acquisition.
A.6.3	…use locally appropriate principles of sustainable construction.
A.6.4	…provide access for persons with special needs.
A.7	Information about and interpretation of the natural surroundings, local culture and cultural heritage is provided to customers, as well as explaining appropriate behaviour while visiting natural areas, living cultures and cultural heritage sites.
B. Maximize social and economic benefits to the local community and minimize negative impacts.	
B.1	The company actively supports initiatives for social and infrastructure community development including, among others, education, health and sanitation.
B.2	Local residents are employed, including in management positions. Training is offered as necessary.
B.3	Local and fair-trade services and goods are purchased by the business, where available.
B.4	The company offers the means for local small entrepreneurs to develop and sell sustainable products that are based on the area's nature, history and culture (including food and drink, crafts, performance arts, agricultural products, etc.).
B.5	A code of conduct for activities in indigenous and local communities has been developed, with the consent of and in collaboration with the community.
B.6	The company has implemented a policy against commercial exploitation, particularly of children and adolescents, including sexual exploitation.
B.7	The company is equitable in hiring women and local minorities, including in management positions, while restraining child labor.

B.8	The international or national legal protection of employees is respected and employees are paid a living wage.
B.9	The activities of the company do not jeopardize the provision of basic services, such as water, energy, or sanitation, to neighboring communities.
B.10	Tourism activity does not adversely affect local access to livelihoods, including land and aquatic resource use, rights-of-way, transport and housing.
C. Maximize benefits to cultural heritage and minimize negative impacts	
C.1	The company follows established guidelines or a code of behaviour for visits to culturally or historically sensitive sites, in order to minimize visitor impact and maximize enjoyment.
C.2	Historical and archeological artifacts are not sold, traded, or displayed, except as permitted by law.
C.3	The business contributes to the protection of local historical, archeological, culturally and spiritually important properties and sites and does not impede access to them by local residents.
C.4	The business uses elements of local art, architecture, or cultural heritage in its operations, design, decoration, food, or shops; while respecting the intellectual property rights of local communities.
D. Maximize benefits to the environment and minimize negative impacts	
D.1	Conserving resources
D.1.1	Purchasing policy favors environmentally friendly products for building materials, capital goods, food and consumables.
D.1.2	The purchase of disposable and consumable goods is measured and the business actively seeks ways to reduce their use.
D.1.3	Energy consumption should be measured, sources indicated and measures to decrease overall consumption should be adopted, while encouraging the use of renewable energy.
D.1.4	Water consumption should be measured, sources indicated and measures to decrease overall consumption should be adopted.
D.2	Reducing pollution
D.2.1	Greenhouse gas emissions from all sources controlled by the business are measured and procedures are implemented to reduce and offset them as a way to achieve climate neutrality.
D.2.2	Wastewater, including gray water, is treated effectively and reused where possible.
D.2.3	A solid waste management plan is implemented, with quantitative goals to minimize waste that is not reused or recycled.
D.2.4	The use of harmful substances, including pesticides, paints, swimming pool disinfectants and cleaning materials, is minimized; substituted, when available, by innocuous products; and all chemical use is properly managed.
D.2.5	The business implements practices to reduce pollution from noise, light, runoff, erosion, ozone-depleting compounds and air and soil contaminants.
D.3	Conserving biodiversity, ecosystems and landscapes
D.3.1	Wildlife species are only harvested from the wild, consumed, displayed, sold, or internationally traded, as part of a regulated activity that ensures that their utilization is sustainable
D.3.2	No captive wildlife is held, except for properly regulated activities and living specimens of protected wildlife species are only kept by those authorized and suitably equipped to house and care for them.
D.3.3	The business uses native species for landscaping and restoration and takes measures to avoid the introduction of invasive alien species.

D.3.4	The business contributes to the support of biodiversity conservation, including supporting natural protected areas and areas of high biodiversity value.
D.3.5	Interactions with wildlife must not produce adverse effects on the viability of populations in the wild; and any disturbance of natural ecosystems is minimized, rehabilitated and there is a compensatory contribution to conservation management.

Source: Global Sustainable Tourism Council (2014).

Table VII.2 **Global sustainable tourism criteria for destinations**

Section A: Demonstrate sustainable destination management	
A1	**Sustainable destination strategy** The destination has established and is implementing a multi-year destination strategy that is publicly available, is suited to its scale that considers environmental, economic, social, cultural, quality, health and safety and aesthetic issues and was developed with public participation.
A2	**Destination management organization** The destination has an effective organization, department, group, or committee responsible for a coordinated approach to sustainable tourism, with involvement by the private sector and public sector. This group is suited to the size and scale of the destination and has defined responsibilities, oversight and implementation capability for the management of environmental, economic, social and cultural issues. This group's activities are appropriately funded.
A3	**Monitoring** The destination has a system to monitor, publicly report and respond to environmental, economic, social, cultural, tourism and human rights issues. The monitoring system is reviewed and evaluated periodically.
A4	**Tourism seasonality management** The destination dedicates resources to mitigate seasonal variability of tourism where appropriate, working to balance the needs of the local economy, community, cultures and environment, to identify year-round tourism opportunities.
A5	**Climate change adaptation** The destination has a system to identify risks and opportunities associated with climate change. This system encourages climate change adaptation strategies for development, siting, design and management of facilities. The system contributes to the sustainability and resilience of the destination and to public education on climate for both residents and tourists.
A6	**Inventory of tourism assets and attractions** The destination has an up-to-date, publicly available inventory and assessment of its tourism assets and attractions, including natural and cultural sites.
A7	**Planning Regulations** The destination has planning guidelines, regulations and/or policies that require environmental, economic and social impact assessment and integrate sustainable land use, design, construction and demolition. The guidelines, regulations and/or policies are designed to protect natural and cultural resources, were created with local inputs from the public and a thorough review process, are publicly communicated and are enforced.
A8	**Access for all** Where appropriate, sites and facilities, including those of natural and cultural importance, are accessible to all, including persons with disabilities and others who have specific access requirements. Where such sites and facilities are not immediately accessible, access is afforded through the design and implementation of solutions that take into account both the integrity of the site and such reasonable accommodations for persons with access requirements as can be achieved.

A9	**Property acquisitions** Laws and regulations regarding property acquisitions exist, are enforced, comply with communal and indigenous rights, ensure public consultation and do not authorize resettlement without prior informed consent and/or reasonable compensation.
A10	**Visitor satisfaction** The destination has a system to monitor and publicly report visitor satisfaction and, if necessary, to take action to improve visitor satisfaction.
A11	**Sustainability standards** The destination has a system to promote sustainability standards for enterprises consistent with the GSTC Criteria. The destination makes publicly available a list of sustainability certified or verified enterprises.
A12	**Safety and security** The destination has a system to monitor, prevent, publicly report and respond to crime, safety and health hazards.
A13	**Crisis and emergency management** The destination has a crisis and emergency response plan that is appropriate to the destination. Key elements are communicated to residents, visitors and enterprises. The plan establishes procedures and provides resources and training for staff, visitors and residents and is updated on a regular basis.
A14	**Promotion** Promotion is accurate with regard to the destination and its products, services and sustainability claims. The promotional messages treat local communities and tourists authentically and respectfully.
Section B: Maximize economic benefits to the host community and minimize negative impacts	
B1	**Economic monitoring** The direct and indirect economic contribution of tourism to the destination's economy is monitored and publicly reported at least annually. To the extent feasible, this should include visitor expenditure, revenue per available room, employment and investment data.
B2	**Local career opportunities** The destination's enterprises provide equal employment, training opportunities, occupational safety and fair wages for all.
B3	**Public participation** The destination has a system that encourages public participation in destination planning and decision making on an ongoing basis.
B4	**Local community opinion** Local communities' aspirations, concerns and satisfaction with destination management are regularly monitored, recorded and publicly reported in a timely manner.
B5	**Local access** The destination monitors, protects and when necessary rehabilitates or restores local community access to natural and cultural sites.
B6	**Tourism awareness and education** The destination provides regular programmes to affected communities to enhance their understanding of the opportunities and challenges of tourism and the importance of sustainability.
B7	**Preventing exploitation** The destination has laws and established practices to prevent commercial, sexual, or any other form of exploitation and harassment of anyone, particularly of children, adolescents, women and minorities. The laws and established practices are publicly communicated.

B8	**Support for community** The destination has a system to enable and encourage enterprises, visitors and the public to contribute to community and sustainability initiatives.
B9	**Supporting local entrepreneurs and fair trade** The destination has a system that supports local and small- and medium-sized enterprises and promotes and develops local sustainable products and fair trade principles that are based on the area's nature and culture. These may include food and beverages, crafts, performance arts, agricultural products, etc.
Section C: Maximize benefits to communities, visitors and culture; minimize negative impacts	
C1	**Attraction protection** The destination has a policy and system to evaluate, rehabilitate and conserve natural and cultural sites, including built heritage (historic and archaeological) and rural and urban scenic views.
C2	**Visitor management** The destination has a visitor management system for attraction sites that includes measures to preserve, protect and enhance natural and cultural assets.
C3	**Visitor behaviour** The destination has published and provided guidelines for proper visitor behaviour at sensitive sites. Such guidelines are designed to minimize adverse impacts on sensitive sites and strengthen positive visitor behaviours.
C4	**Cultural heritage protection** The destination has laws governing the proper sale, trade, display, or gifting of historical and archaeological artifacts.
C5	**Site interpretation** Accurate interpretive information is provided at natural and cultural sites. The information is culturally appropriate, developed with community collaboration and communicated in languages pertinent to visitors.
C6	**Intellectual property** The destination has a system to contribute to the protection and preservation of intellectual property rights of communities and individuals.
Section D: Maximize benefits to the environment and minimize negative impacts	
D1	**Environmental risks** The destination has identified environmental risks and has a system in place to address them.
D2	**Protection of sensitive environments** The destination has a system to monitor the environmental impact of tourism, conserve habitats, species and ecosystems and prevent the introduction of invasive species.
D3	**Wildlife protection** The destination has a system to ensure compliance with local, national and international laws and standards for the harvest or capture, display and sale of wildlife (including plants and animals).
D4	**Greenhouse gas emissions** The destination has a system to encourage enterprises to measure, monitor, minimize, publicly report and mitigate their greenhouse gas emissions from all aspects of their operation (including emissions from service providers).
D5	**Energy conservation** The destination has a system to encourage enterprises to measure, monitor, reduce and publicly report energy consumption and reduce reliance on fossil fuels.

D6	**Water Management** The destination has a system to encourage enterprises to measure, monitor, reduce and publicly report water usage.
D7	**Water security** The destination has a system to monitor its water resources to ensure that use by enterprises is compatible with the water requirements of the destination community.
D8	**Water quality** The destination has a system to monitor drinking and recreational water quality using quality standards. The monitoring results are publicly available and the destination has a system to respond in a timely manner to water quality issues.
D9	**Wastewater** The destination has clear and enforced guidelines in place for the siting, maintenance and testing of discharge from septic tanks and wastewater treatment systems and ensures wastes are properly treated and reused or released safely with minimal adverse effects to the local population and the environment.
D10	**Solid waste reduction** The destination has a system to encourage enterprises to reduce, reuse and recycle solid waste. Any residual solid waste that is not reused or recycled is disposed of safely and sustainably.
D11	**Light and noise pollution** The destination has guidelines and regulations to minimize light and noise pollution. The destination encourages enterprises to follow these guidelines and regulations.
D12	**Low-impact transportation** The destination has a system to increase the use of low-impact transportation, including public transportation and active transportation (e.g., walking and cycling).

Source: Global Sustainable Tourism Council (2014).

Annex VIII

Examples of sustainable development and cultural heritage valuation in South-East Asian national tourism planning and policies

Brunei

"Brunei promotes a clean and pollution free environment and is characterized by the absence of traffic jams, un-crowded streets and a healthy lifestyle guided by spirituality".[1]

Cambodia

Within Cambodia, sustainable tourism is recognized as the country's "green gold". The minister of tourism advises the tourism sector to promote "cultural and nature-based' tourism resources, which actively contribute to protection and conservation of the natural habitat and the preservation and development of the cultural and historical heritage".[2]

"The policies for tourism are based on three basic principles: (a) the development of tourism should be sustainable, anchored in the rich cultural heritage, history, and the exquisite nature of Cambodia's terrain, but more importantly, development that contributes to poverty reduction; (b) active and creative promotion of tourism to make Cambodia a preferred "culture and nature" tourist destination in the region and the rest of the world; and (c) apart from increased tourist arrivals, increase the number of days tourists stay, and the amount they spend, in the country and diversify their destinations. In addition, conscious efforts will be made to ensure that appropriate benefits of tourism go to people living in the vicinity of tourist destinations, both to reduce poverty and improve their livelihoods."[3]

Indonesia

In order to boost tourism, Indonesia embarked on a campaign to promote tourism to locals: *pariwisata nusantara.* This significantly increased tourism and caused the country to tap into different populations within the country. The introduction of low-cost airlines and increase in car and motorcycle ownership significantly increased domestic tourism within Indonesia. This has significantly assisted with the lack of international tourism for the country. The main goal of Indonesia's sustainability policy has been to sustain livelihood and increase growth.[4]

1 World Tourism Organization (2013), *Domestic Tourism in Asia and the Pacific,* UNWTO, Madrid, p. 13.

2 World Tourism Organization (2015b), *UNWTO Report – Initial Situation Analysis on River-based Tourism in ASEAN Countries,* UNWTO, Madrid, pp. 15–16.

3 International Monetary Fund (2006), *Cambodia: Poverty Reduction Strategy Paper* (online), available at: www.imf.org (12-10-2015).

4 World Tourism Organization (2013), p. 23.

"The Ministry of Tourism of Indonesia has launched an extremely interesting and dynamic website with an interactive travel forum, which is extremely active". Tourist information centers offer guests the ability to explore natural environments. Many of the areas in the country are not commercially exploited which allows for future sustainable development.[5]

Malaysia

Malaysia's political stability and economic progress has caused the country to significantly to tourism. Aggressive marketing and campaigning has assisted in growing both domestic and international tourism in Malaysia.[6]

"Malaysia has a clear vision of its future, propelled by the New Economic Model (NEM) and its three-pronged objective of achieving:

- A high income economy with a GNI per capita USD 15,000–20,000 by the year 2020;
- An inclusive society that "enable[s] all communities to fully benefit from the wealth of the country"; and
- Growth and development that is sustainable, i.e., that "meet[s] present needs without compromising future generations".[7]

Myanmar

"Myanmar tourism is under the patronage of Ministry of Hotels and Tourism and has come a long way since the reform period started some years ago. An interesting and informative web page welcomes the visitor with a gentle greeting from his Excellency the Minister of Tourism. The vision and mission are summarized below which is of primary importance to river-based tourism:

a) A national level commitment towards systematic development of sustainable tourism with focus on local community support;
b) Further that tourism in Myanmar should aim towards longer staying visitors while still welcoming traditional sightseeing tours; and finally
c) That the future of tourism should be based on strong public and private partnership creation for the benefit of the entire country and its diverse population".[8]

Myanmar's tourism federation aims to develop sustainable tourism for the long term.

5 World Tourism Organization (2015b), p. 19.

6 World Tourism Organization (2013), p. 30.

7 Gyles-McDonnough, M. (2014), *Tourism and Community Development: Opportunities to Advance Inclusive and Sustainable Development in Malaysia,* speech, UNDP, Kuala Lumpur, 08-10-2014 (online) available at: www.my.undp.org (27-02-2015).

8 World Tourism Organization (2015b), p.30.

Philippines

Philippine's tropical and cultural heritage has made the country ideally suited for tourism. The structure and policies of Philippine tourism is regulated at the national level and led by the Department of Tourism. Overall the Department of Tourism has heavily utilized the nation's access to Internet, mobile devices and social media to boost domestic tourism. Puerto Princesa City as grown significantly as a tourism destination and is voted as one of the new Seven Wonders of the World. This is partly due to policies to invest in tourism-oriented destinations. Puerto Princesa has been noted as a "planned 'green tourism' sustainable venture".[9]

Singapore

"Singapore Tourism Board (STB) is responsible for sustainable tourism at the national level. Other agencies responsible for the planning and management of sustainable resources in Singapore include the Urban Redevelopment Board (URA), National Parks Board (NParks) and the National Heritage Board (NHB)". Singapore's Tourism Board is under a strategic framework called Tourism 21 Blueprint. This framework specifically addresses "the creation of thematic zones, community-based tourism development and development of nature-based tourism."[10]

Thailand

The Tourism Authority of Thailand has embarked on a regional effort to promote tourism through festivals, events and products. Over the past decade, domestic tourism has expanded past traditional destinations away from the city to natural environments. Community Based Tourism destinations "offer a warm welcome, pleasant climate, tasty food, clean and safe services, unusual highlights, fun activities and opportunities to study local community development achievements are best positioned to attract a diversity of Thai visitors".[11] CBT has proven to increase funds to support conservation, social and cultural initiatives.

In recent years, the TAT has reported a trend in a desire for pristine destinations and ecotourism.[12]

"In 2001, the Prime Minister of Thailand reversed past policy of distancing Thailand from Myanmar and pursued a policy of conciliation, cooperation and public support. Thai businesses were encouraged to invest in Myanmar, Thailand agreed to construct a bridge across the border to boost trade and tourism and began a hydroelectric dam project on the Salween river. Thailand decided to channel water from Myanmar to solve its needs for irrigation and drinking water and as a source of electrical power."[13]

9 World Tourism Organization (2013), pp. 15–35.

10 United Nations (1999), *Natural resource aspects of sustainable development in Singapore,* UN (online), available at: www.un.org (26-02-2015).

11 World Tourism Organization (2013), p. 39.

12 World Tourism Organization (2013), p. 534.

13 World Tourism Organization (2015b), p. 108.

Viet Nam

Viet Nam's geographical and political position has greatly influenced tourism policies. "Geographically Viet Nam is a longitudinal country with the length from north to south extending over 2,000 km. Mountains and hills account for three quarters of the surface area while the coastline extends to over 3,200 km with thousands of islands 80% of Viet Nam's tourism is concentrated in the coastal areas with beaches and the sea playing a preponderant role."[14]

The Greater Mekong Sun-Region in Viet Nam is one example of the balance between economic growth and environmental protection. "Precision agriculture, efficient water supply and reuse and clean energy fuels are already part of the green growth agenda in the region, they simply need appropriate policy signals and regulatory incentives in order to be implemented."[15]

14 World Tourism Organization (2013), p. 40.

15 World Tourism Organization (2015b), p. 51.

Annex IX

Coral reefs in protected areas of South-East Asia

This annex is a compilation of protected areas with coral reefs found in South-East Asia, as identified in the United Nations Environmental Programme World Atlas of Coral Reefs in 2001. The significance of this annex is first as a resource for destination policymakers to visualise the breadth and depth of current protected areas and coral reefs that may be affected by cruise tourism which will need monitoring systems. Secondly, it is to understand the potential scope of other coral reef areas in South-East Asia that are not encompassed by this cataloguing at present.

For further reading please see Annex IV which provides a brief overview of the status of the status of ocean health, including coral reefs, in each country in South-East Asia.

The IUCN designation refers to the IUCN Protected Areas Categories System which classifies protected areas according to their management objectives.

Brunei

General country status and threats:

There are no fringing reefs on the mainland, but there is development around Pelong Rocks and Pulau Punyit.
Least threatened reef community in the region due to low commercial exploration, pollution and sediment.

Protected areas with coral reefs	IUCN designation	Size (km²)
n/a	n/a	n/a

Cambodia

General country status and threats:

Coral communities on the mainland coast and some fringing reef structures around the islands. Some 70 hard corals have been recorded at the Koh Tang island group and in a few places coral cover is reported to reach over 50%.

Coral communities had recovered from a previous bleaching threat.

Biodiversity:
Reef area km: < 50
Coral diversity: na/337
Mangrove area km: 851
Number of mangrove species: 5
Number of seagrass species: 1
Very low on mainland where communities are overtaken with massive coral structures.

Protected areas with coral reefs	IUCN designation	Size (km²)
n/a	n/a	n/a

Indonesia

General country status and threats:

Poorly developed reefs surrounding Sumatra due to significant riverine input and mangrove community. The Kepulauan Seribu patch reef chain is one of the best known complexes. Offshore from the east coast lies Indonesia's longest continuous barrier reef system, the Sunda Barrier Reef, some 630 km long, on the edge of the Sunda Shelf. Blast and cyanide fishing amongst them, are employed in all areas, including many remote reefs and atolls. Collection of fish and corals for export in the ornamental and aquarium trade is considerable. Indonesia is the world's largest exporter of corals under the regulations of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Coastal development, deforestation and sediment discharge has led to has led to reef destruction (includes agricultural activates).

Biodiversity:
Reef area km: 51,020
Coral diversity: 443/581-602
Mangrove area km: 42,550
Number of mangrove species: 45
Number of seagrass species: 13

Protected areas with coral reefs	IUCN designation	Size (km²)
Arakan Wowontulap	Nature Reserve (Ia)	138
Bali Barat	National Park (II)	777.27
Baluran	National Park (II)	250
Bunaken	National Park (II)	890.65
Dolangan	Game Reserve (IV)	4.63
Gili Meno/Gili Air/Gili Trawangan	Recreation Park (V)	29.54
Gunung Api Banda	Recreation Park (V)	7.35
Karang Bolong	Nature Reserve (Ia)	0.01
Karang Gading Langkat Timur Laut	Game Reserve (IV)	157.65
Kepulauan Aru Tenggara	Nature Reserve (Ia)	1140
Kepulauan Banyak	Recreation Park (V)	2275
Kepulauan Kapoposang	Recreation Park (V)	500
Kepulauan Karimata	Nature Reserve (Ia)	770
Kepulauan Karimun Jawa	National Park (II)	1,116.25
Kepulauan Padaido	Recreation Park (V)	18,300
Kepulauan Seribu	National Park (II)	1,080
Kepulauan Wakatobi	National Park (II)	13,900
Komodo	National Park (II)	1,733
Leuwang Sancang	Nature Reserve (Ia)	33.07
Morowali	Nature Reserve (Ia)	2,250
Pananjung Pangandaran	Nature Reserve (Ia)	4.19
Pati-Pati	Game Reserve (IV)	35
Pinjam/Tanjung Mantop	Game Reserve (IV)	16.13

Protected areas with coral reefs	IUCN designation	Size (km²)
Palau Anak Krakatau	Nature Reserve (Ia)	250.35
Palau Besar	Recreation Park (V)	30
Palau Bunaken	Nature Reserve (Ia)	752.65
Palau Dua	Nature Reserve (Ia)	0.6
Palau Kasa	Game Reserve (IV)	9
	Recreation Park (V)	11
Palau Moyo	Hunting Park (VI)	22.5
	Nature Reserve (Ia)	60
Palau Pombo	Nature Reserve (Ia)	0.02
	Recreation Park (V)	9.98
Palau Rambut	Nature Reserve (Ia)	0.18
Palau Sangalaki	Recreation Park (V)	2.8
Palau Sangiang	Nature Reserve (Ia)	7
Palau Semama	Game Reserve (IV)	2.2
Palau Weh	Recreation Park (V)	39
Sabuda Tararuga	Game Reserve (IV)	50
Take Bone Rate	National Parik (II)	5,307.65
Taman Laut Banda	Recreation Park (V)	25
Tanjung Amelango	Game Reserve (IV)	8.5
Teluk Kelumpang/Selat Luat/Selat Sebuku	Nature Reserve (Ia)	666.5
Teluk Kupang	Recreation Park (V)	500
Teluk Laut Cenderwasih	National Park (II)	14,535
Teluk Maumere	Recreation Park (V)	594.5
Tujuh Belas Palau	Nature Reserve (Ia)	99
Ujung Kulon	National Park (II)	1,229.56
Komodo National Park	World Heritage Site	1,735
		2,193.22
Ujung Kulon National Park and Krakatau National Reserve	World Heritage Site	1,230.51

Malaysia

General country status and threats:

There is relatively little reef development along the mainland coast of Peninsular Malaysia, but reefs occur around all the offshore islands.

Threats include destructive fishing using explosives off coast of Sabah, sedimentation from logging activities and pollution associated with industry agriculture and urban development.

Biodiversity:
Reef area km: 3,600
Coral diversity: 281/568
Mangrove area km: 6,424
Number of mangrove species: 36
Number of seagrass species: 12

Protected areas with coral reefs	IUCN designation	Size (km²)
Bako	National Park (II)	22.28
Palau Aur	Marine Park (II)	97.45
Palau Besar	Marine Park (II)	84.14
Palau Chebeh	Marine Park (II)	44.92
Palau Ekor Tebu	Marine Park (II)	40.06
Palau Goal	Marine Park (II)	45.7
Harimau	Marine Park (II)	49
Palau Hujung	Marine Park (II)	52.36
Palau Jahat	Marine Park (II)	45.2
Palau Kaca	Marine Park (II)	42.5
Palau Kapas	Marine Park (II)	21.33
Palau Kuraman	Marine Park (II)	66.95
Palau Labas	Marine Park (II)	44.78
Palau Lang Tengah	Marine Park (II)	61.5
Palau Lembu	Marine Park (II)	46.13
Palau Lima	Marine Park (II)	43.9
Palau Mensirip	Marine Park (II)	46.6
Palau Mentinggi	Marine Park (II)	43.99
Palau Nyireh	Marine Park (II)	14.4
Palau Payar	Marine Park (II)	54.91
Palau Pemanggli	Marine Park (II)	87.9
Palau Penyu (Turtle Islands)	Park (II)	17.4
Palau Perhentian Besar	Marine Park (II)	91.21
Palau Perhentian Kecil	Marine Park (II)	81.7
Palau Pinang	Marine Park (II)	48.9
Palau Rawa	Marine Park (II)	50.8

Protected areas with coral reefs	IUCN designation	Size (km²)
Palau Redang	Forest Reserve (unassigned)	n/a
Palau Redang	Marine Park (II)	127.5
Palau Rusukan Besar	Marine Park (II)	44.7
Palau Rusukan Kecil	Marine Park (II)	48.5
Palau Segantang	Marine Park (II)	44.19
Palau Sembilang	Marine Park (II)	60.6
Palau Sepoi	Marine Park (II)	44.57
Palau Sibu	Marine Park (II)	42.6
Palau Sibu Hujung	Marine Park (II)	11.83
Palau Sipadan	Bird Sanctuary (unassigned)	0.15
Palau Sri Buat	Marine Park (II)	77.2
Palau Susu Dara	Marine Park (II)	14.28
Palau Tengah	Marine Park (II)	51.49
Palau Tenggol	Marine Park (II)	24
Palau Tiga	Park (II)	158.64
Palau Tinggi	Marine Park (II)	101.8
Palau Tioman	Marine Park (II)	251.15
Palau Tioman	Wildlife Reserve (II)	71.6
Palau Tokong Bahara	Marine Park (II)	45.13
Palau Tulai	Marine Park (II)	63.05
Tanku Abdul Rahman	Park (II)	49.29
Turtle Islands Heritage	Protected Area (Unassigned)	1,368.44

Myanmar

General country status and threats:

Reefs are most developed on the outermost islands and are thought to be similar to those around the offshore islands of Thailand. Over 100 km offshore from the southern part of the Mergui Archipelago lie the Burma Banks, a series of seamounts which rise up from over 300 m to flat tops some 15–22 m below the surface and are reported to have significant hard coral cover. Reefs are also reported at some of the islands off the Bay of Bengal coast and up to the border with Bangladesh.

Threats are relatively low due to slow development – this has created a thriving habitat for larger fish.

Biodiversity:
Reef area km: 1,870
Coral diversity: 77/ 277
Mangrove area km: 3,786
Number of mangrove species: 24
Number of seagrass species: 3

Protected areas with coral reefs	IUCN designation	Size (km²)
Lampi	Marine National Park (II)	3,890
Moscos Island	Game Sanctuary (unassigned)	49.21

Philippines

General country status and threats:

Fringing reefs are well developed around the Batanes and Babuyan Islands, although live coral cover on the former is reported as low (less than 25%). Around Luzon itself reefs are by no means continuous. There are no recorded reefs in the far northwest and the first to appear on this coast are fringing structures around the Hundred Islands, an area in the Lingayen Gulf.

Destructive fishing, including the use of cyanide, has resulted in reef destruction.

Biodiversity:
Reef area km: 25,060
Coral diversity: 421/577
Mangrove area km: 1,607
Number of mangrove species: 30
Number of seagrass species: 19

Protected areas with coral reefs	IUCN designation	Size (km²)
Agan-an	Municipal Marine Reserve (IV)	0.06
Andulay	Municipal Marine Reserve (IV)	0.06
Apo Island	Protected Landscape/Seascape (V)	6.91
Apo Reef	National Park (II)	116.77
Basdiot	Fish Sanctuary (n/a)	0.01
Batanes	Protected Landscape/Seascape (V)	2,135.78
Bien Unido	Fish Reserve (n/a)	n/a
Bio-os	Municipal Marine Reserve (IV)	0.08
Boilsong	Municipal Marine Reserve (IV)	0.1
Bongalonan	Municipal Marine Reserve (IV)	0.2
Cabugan	Municipal Marine Reserve (IV)	0.07
Cabulotan	Municipal Marine Reserve (IV)	0.06
Cagayan Island	Other Area (Unassigned)	n/a
Calag-calag	Municipal Marine Reserve (IV)	0.07
Cangmating	Municipal Marine Reserve (IV)	0.06
Caohagan	Marine Reserve/Tourist Area (n/a)	n/a
Carbin Reef	Municipal Park (n/a)	2
Danjugan Island	Private Reserve (Unassigned)	0.43
El Nido	Marine Reserve (Unassigned)	950
Fortune Island	Marine Reserve/Tourist Area (n/a)	n/a
Fugo Islands	Marine Reserve/Tourist Area (n/a)	n/a
Guidolman	Other Area (Unassigned)	n/a
Hila-Itan	Municipal Marine Reserve (IV)	0.06
Hulao Hulao Reef	Municipal Marine Reserve (IV)	n/a

Protected areas with coral reefs	IUCN designation	Size (km²)
Agan-an	Municipal Marine Reserve (IV)	0.06
Initao	National Park (Unassigned)	0.57
Lassuan	Marine Reserve/Tourist Area (n/a)	n/a
Macahulom	Municipal Park (n/a)	10
Malaga	Municipal Marine Reserve (IV)	0.08
Malusay	Municipal Marine Reserve (IV)	0.06
Masinloc and Oyon Bay	Municipal Marine Reserve (IV)	0.06
Moalboal/Pescador	Park (Unassinged)	75.68
Nothern Sierra Madre	Natural Park (II)	3,195.13
Okiot	Municipal Marine Reserve (IV)	0.01
Olango Island Complex	Wildlife Sanctuary (Unassigned)	9.2
Panglao Island – Balicasag Area	Marine Reserve/Tourist Area (Unassigned)	n/a
Poblacion	Municipal Marine Reserve (IV)	0.04
Polo Tayabas	Municipal Marine Reserve (IV)	0.02
Saavedra	Fish Sanctuary (n/a)	0.01
San Jose	Municipal Marine Reserve (IV)	0.1
Sombrero Island	Marine Reserve/Tourist Area (Unassigned)	n/a
St Paul Subterranean River	National Park (II)	57.53
Sumilon Island	Marine Park (Unassigned)	0.23
Sumilon National Fish	Sanctuary (n/a)	0.01
Talibon	Fish Reserve (n/a)	n/a
Tambobo	Municipal Marine Reserve (IV)	0.06
Tandayag	Municipal Marine Reserve (IV)	0.06
Tinaogan	Municipal Marine Reserve (IV)	0.25
Tabbataha Reefs	Marine Park (Unassigned)	332
Tulapos	Fish Sanctuary (n/a)	0.14
Turtle Islands	Wildlife Sanctuary (VI)	2,429.67
Olango Island Wildlife Santuary	Ramsar Site	58
Palawan Biosphere Reserve	UNESCO Biosphere Reserve	11,508
Puerto Galera Biosphere Reserve	UNESCO Biosphere Reserve	235.45
Puerto Princesa Subterranean River National Park	World Heritage Site	202.02
Tubbataha Reef Marine Park	World Heritage Site	332
Tubbataha Reeds National Marine Park	Ramsar Site	332.2

Singapore

General country status and threats:

Steady decline of coral reefs due to bleaching events and increasing sediment loads. Land reclamation around larger areas has also caused a decline.

Biodiversity:
Reef area km: < 100
Number of mangrove species: 31
Number of seagrass species: 11
Fringing reef communities are found around many of the southern islands, despite the typically relatively turbid waters and 197 species of hard coral have been identified in the country.

Protected areas with coral reefs	IUCN designation	Size (km²)
Southern Islands	Marine Nature Area	n/a

Thailand

General country status and threats:

Mainly surrounding offshore islands; however harsh conditions have limited the number of reefs in the Gulf of Thailand. Reef structures are reported from the Adang Rawi group in the south and around the Surin Islands, a southerly extension of the Mergui Archipelago.

Bleaching has affected up to 60% of existing coral reefs. Sedimentation is also a problem on mainland reefs, while fishing has destroyed smaller reef communities. Abandoned shrimp farms have also threatened reef development.

Biodiversity:
Reef area km: 2,130
Coral diversity: 238/428
Mangrove area km: 2,641
Number of mangrove species: 35
Number of seagrass species: 15
Limited due to harsh conditions.

Protected areas with coral reefs	IUCN designation	Size (km²)
Ao Phang Nga	National Park (II)	400
Hat Chao Mai	National Park (II)	231
Hat Noptiarat Thara – Mu Ko Phi Phi	National Park (II)	390
Khao Laem Ya – MI Ko Samet	National Park (V)	131
Khao Sam Roi Yot	National Park (II)	98
Mu Ko Ang Thong	National Park (Unassigned)	102
Mu Ko Chang	National Park (II)	650
Mu Ko Lanta	National Park (II)	134
Mu Ko Libong	Non-Hunting Area (III)	447
Mu Ko Petra	National Park (II)	494
Mu Ko Similan	National Park (II)	128
Mu Ko Surin	National Park (II)	135
Sirinath	National Park (II)	90
Tarutao	National Park (II)	490

Viet Nam

General country status and threats:

Deforestation linked to the use of defoliants during the Viet Nam war has caused massive erosion and heavy sedimentation offshore. Heavy fishing has also threatened reef habitats.

Biodiversity:

Reef area km: 1,270
Coral diversity: 278/364
Mangrove area km: 2,525
Number of mangrove species: 29
Number of seagrass species: 9
Biodiversity is greatest in the south-central areas where some 277 coral species have been recorded; in the north only 165 species are recorded.

Protected areas with coral reefs	IUCN designation	Size (km^2)
Cat Ba	National Park (II)	152
Con Dao	National Parik (II)	150
Ha Long Bay	UNESCO World Heritage Site	1,500

Source: United Nations Environment Programme (2001), pp. 259–286.

Annex X

Sample cruise itineraries in South-East Asia

Descriptions	Itineraries
3 Nights Weekend Cruise[1]	Day 1: Singapore, Singapore Day 2: Kuala Lumpur (Port Klang), Malaysia Day 3: Cruising Day 4: Singapore, Singapore
4 Nights Port Klang and Phuket Cruise[1]	Day 1: Singapore, Singapore Day 2: Kuala Lumpur (Port Klang), Malaysia Day 3: Phuket, Thailand Day 4: Cruising Day 5: Singapore, Singapore
5 Nights Thailand Explorer Cruise[1]	Day 1: Singapore, Singapore Day 2: Cruising Day 3: Bangkok (Laem Chabang), Thailand Day 4: Ko Samui, Thailand Day 5: Cruising Day 6: Singapore, Singapore
10 Nights Brunei, Philippines and Taiwan Province of China	Day 1: Hong Kong, China Day 2: Cruising Day 3: Taipei (Keelung), Taiwan Province of China Day 4: Cruising Day 5: Manila, Philippines Day 6: Boracay, Philippines Day 7: Puerto Princesa, Philippines Day 8: Kota Kinabalu, Malaysia Day 9: Bandar Seri Begawan, Brunei Day 10: Cruising Day 11: Singapore, Singapore
8 Days Indochine Reflections Cruise[2]	Day 1: Singapore, Singapore (overnight) Day 2: Cruising Day 3: Ko Samui, Thailand Day 4: Bangkok (Laem Chabang), Thailand Day 5: Sihanoukville, Cambodia Day 6: Cruising Day 7: Ho Chi Minh City, Viet Nam (overnight)

Descriptions	Itineraries
9 Days Malaysia Thailand Grand Adventure[3]	Day 1: Singapore, Singapore Day 2: Penang, Malaysia Day 3: Langkawi, Malaysia Day 4: Kuala Lumpur (Port Klang), Malaysia Day 5: Singapore, Singapore Day 6: Bangkok (Laem Chabang), Thailand Day 7: Ho Chi Minh City, Viet Nam Day 8: Ko Samui, Thailand Day 9: Singapore, Singapore
11 Days South-East Asia Cruise[3]	Day 1: Singapore, Singapore Day 2: Cruising Day 3: Bandar Seri Begawan (Muara), Brunei Day 4: Cruising Day 5: Nha Trang, Viet Nam Day 6: Ho Chi Minh City, Viet Nam Day 7: Cruising Day 8: Sihanoukville, Cambodia Day 9: Bangkok (Laem Chabang), Thailand Day 10: Ko Samui, Thailand Day 11: Singapore, Singapore
17 Days Grand Asia Cruise[3]	Day 1: Beijing (Tianjin), China Day 2: Cruising Day 3: Busan, Republic of Korea Day 4: Nagasaki, Japan Day 5: Cruising Day 6: Shanghai, China Day 7: Cruising Day 8: Cruising Day 9: Hong Kong, China Day 10: Hong Kong, China Day 11: Cruising Day 12: Cruising Day 13: Ho Chi Minh City (Phu My), Viet Nam Day 14: Cruising Day 15: Bangkok (Laem Chabang), Thailand Day 16: Cruising Day 17: Cruising Day 18: Singapore, Singapore

Descriptions	Itineraries
17 Nights Great Barrier Reef[4]	Day 1: Sydney, Australia
	Day 2: Cruising
	Day 3: Hamilton Island, Queensland, Australia
	Day 4: Cruising
	Day 5: Cairns, Australia
	Day 6: Great Barrier Reef Region
	Day 7: Sherrard Island Anchorage, Queensland, Australia
	Day 8: Cruising
	Day 9: Darwin, Australia
	Day 10: Cruising
	Day 11: Cruising
	Day 12: Cruising
	Day 13: Benoa (Denpasar), Bali, Indonesia
	Day 14: Cruising
	Day 15: Semarang, Java, Indonesia
	Day 16: Singapore, Singapore
	Day 17: Singapore, Singapore

Sources: 1) Royal Caribbean (2015), www.royalcaribbean.com.
2) Crystal Cruises (2015), www.crystalcruises.com.
3) Princess Cruises (2015), www.princess.com.
4) Holland America (2015), www.hollandamerica.com.

List of abbreviations

ACCCRN	The Asian Cities Climate Change Resilience Network
ACTA	Asia Cruise Terminal Association
ASEAN	Association of Southeast Asian Nations
APA	Asian Parliament Assembly
BMZ	Bundesministerium, für wirtschaftliche Zusammenarbeit und Entwicklung (Federal Ministry for Economic Cooperation and Development, Germany)
BWM	ballast water management
BWMS	ballast water management system
CBT	community based tourism
CEPF	Critical Ecosystem Partnership Fund
CESD	Center on Ecotourism and Sustainable Development
CLIA	Cruise Lines International Association
CO	carbon monoxide
CO_2	carbon dioxide
CSI	Clean Shipping Index
DMO	destination management organization
ECA	emission control area
EC	European Commission
EHS	environmental health and safety
EMS	environmental management system
EPA	United States Environmental Protection Agency
EPP	Entry Point Project
ESG	environmental, social and governance
ESI	Environmental Ship Index
EU	European Union
FAM Tour	familiarization tour
FCCA	Florida-Caribbean Cruise Association
FIT	frequent individual traveller
FSC	Forest Stewardship Council
GDP	gross domestic product
GIZ	Deutsche Gesellschaft für Internationale Zusammenar (German Federal Enterprise for International Cooperation)
GJ	gigajoule = 1 billion Joules = 277.77 kWh
GNI	gross national income
GSTC	Global Sustainable Tourism Council

gt	gross tonnage; gross tons
GTA	ground transportation area
HEPA	high-efficiency particulate air
HFO	heavy fuel oil
HID	high intensity discharge
HKTB	Hong Kong Tourism Board
IFC	International Finance Corporation
IMO	International Maritime Organization
INCAE	Instituto Centroamericano de Administración de Empresas (Central American Institute of Business Administration)
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
LAC	limits of acceptable change
LDC	least developed countries
LNG	liquefied natural gas
MARPOL	Marine Pollution see IMO: MARPOL = International Convention for the Prevention of Pollution from Ships (www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)
MCC	Malaysia Cruise Council
MGO	marine gas oil
MICE	Meetings, Incentives, Conventions and Exhibitions
NEM	new economic model
NGO	non-governmental organization
NHB	National Heritage Board
NKEA	National Key Economic Area
nmi	nautical mile = 1.852 km
NO_2	nitrogen dioxide
NPARKS	National Parks Board
NYK	Nippon Yusen Kabushiki Kaisha
OHI	Ocean Health Index
PATA	Pacific Asia Travel Association
PBMC	Phuket Marine Biological Center
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PWMP	Port Waste Management Plan
RCI	Royal Caribbean International
SDAA	Sustainable Destinations Alliance for the Americas
SFI	Sustainable Forestry Initiative
SME	small- and medium-sized enterprise
SO_2	sulfur dioxide
SPDA	South Pacific Destination Alliance
SSI	The Sustainable Shipping Initiative
STB	Singapore Tourism Board
STI	Sustainable Travel International

TAT	Tourism Authority of Thailand
TTB	Taiwan Tourism Bureau
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	World Tourism Organization
URA	Urban Redevelopment Board
VLCV	very large cruise vessels
VOC	volatile organic compound
WTTC	World Travel & Tourism Council
WWF	World Wildlife Fund

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Center on Ecotourism and Sustainable Development:	www.responsibletravel.org
Clean-Sea Entity:	www.cleansea-project.eu
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Green Fins:	www.greenfins.net
Green Port Entity:	www.greenport.com
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World Travel & Tourism Council:	www.wttc.org
World Wildlife Fund:	www.wwf.panda.org
WRI Aqueduct Tool	www.wri.org
Viet Nam Seaports Association	www.vpa.org.vn

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