March 13, 2015

Enhancing Disaster & Climate Resilience in Asia’s Key Tourism Destinations – Concept & Pilot Proposal

This document outlines a proposal to enhance resilience to natural disasters in key tourism destinations in Asia. The region is highly vulnerable to natural disasters: the tsunami in 2004 devastated not only Banda Aceh communities but also caused severe destruction in key tourism centers in Thailand, Sri Lanka, and the Maldives; storms and storm surges regularly cause damage and flooding in coastal areas in the Philippines, Indonesia and others – frequently disrupting tourism operations.

Our intent in this document is to outline a pilot project, that if successful would build enhanced resilience capacity in the pilot locations as well as develop the tools methodologies and approaches for rolling our the effort to other tourism hotspots in Asia. Contrary to looking at making an individual hotel, airport or other individual assets as safe and resilient as possible, we propose to work with a network of local stakeholders in the proposed pilot locations towards making destinations safer and more resilient. This destination approach will benefit local communities and livelihoods, safeguard local employment, and protect assets, while preserving the beauty of Asia’s top tourist destinations.

1) Project Context

The tourism sector plays an important role in the economies of many developing countries in Asia (Table 1). In countries with places of natural beauty, tourism contributes to a significant portion of national income and employment. However, these localities are often also the sites of multiple natural hazard risks.

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP, 2013</th>
<th>% of Total Employment, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct contribution</td>
<td>Total contribution</td>
</tr>
<tr>
<td>Maldives</td>
<td>47.8</td>
<td>94.1</td>
</tr>
<tr>
<td>Thailand</td>
<td>9.0</td>
<td>20.2</td>
</tr>
<tr>
<td>The Philippines</td>
<td>4.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.1</td>
<td>9.2</td>
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Table 1: Contribution¹ of tourism to respective national economies²

¹ Total contribution includes: (i) direct spending on travel and tourism by tourists, locals and local governments; (ii) related private and public sector investment and spending by supporting industries such as hotel security and sanitation services; (iii) impact of spending by those directly or indirectly employed by the travel and tourism sector

² Including the following:

- Direct contribution: Spending by tourists, locals, and local governments on travel and tourism services.
- Total contribution: Includes direct contribution, related private and public sector investment and spending, and impact of spending by those directly or indirectly employed by the travel and tourism sector.
As key tourist destinations, these provinces and municipalities are even more dependent on the tourism sector for income and employment than national averages would suggest. Bali alone, for example, is targeting US$5.5 billion in tourist revenues for 2014, compared against Indonesia’s total direct tourism revenues for 2013 of US$10 billion. In 2011, Phuket accounted for 30% of Thailand’s US$4.3 billion in direct revenues from the sector.

Natural disasters can severely disrupt these tourism-dependent hotspots through a sudden drop in tourist arrivals and damage to the infrastructure critical to the sector. The region is prone to extreme events like earthquakes, flooding, volcanic eruptions, tropical storms, storm surges, and tsunamis.

The year after the 2004 Boxing Day tsunami, for example, occupancy rates in Phuket fell 57%, while 94 of the 149 hotels in Phang Nga were either demolished by the tsunami or closed due to falling tourist arrivals (See Figure 1).

As a consequence of the same catastrophic tsunami event, tourist arrivals to the Maldives dropped dramatically and took approximately three years to recover (See Figure 2).

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2 World Travel and Tourism Council, 2014 Country Reports
http://www.wttc.org/focus/research-for-action/economic-impact-analysis/country-reports/


4 http://www.china.org.cn/world/Off_the_Wire/2014-02/10/content_31425771.htm

5 Rosa (2012), “The Boxing Day Tsunami and its effects on Thailand’s tourism”.
The region is also increasingly afflicted by long-term changes like sea-level rise and land subsidence, as well as climate change effects (e.g. extreme precipitation triggering landslides and flooding etc.). Losses from these changes are often not captured as they occur over a long period of time.

Resilience to natural disasters and long-term climate change is therefore paramount in these tourist locations.

Private sector-led efforts that tackle certain components of the tourism industry such as the Hotel Resilient certification scheme have already been undertaken, and are at various stages of implementation. In Bali, for example, the Indonesian Ministry of Tourism and Creative Economy and the Bali Hotels Association (BHA) have, together with partners, implemented a Tsunami Ready programme for hotels. The Tsunami Ready Toolbox provides practical and advice and background information on hazard risk, allows individual hotels to perform self-assessments on their risk profiles, and gives suggestions for standard operating procedures during tsunami events.

To complement these ongoing efforts, we propose a local multi-stakeholder approach, which seeks to enhance the resilience of the destination as a whole. As such we propose to create plausible natural disaster event scenarios that could occur based on the latest science and investigate, with representatives from the hotel industry, transportation sector, emergency response services and public utilities providers etc., the level of preparedness of the destination and how this and overall resilience can be enhanced.

2) Objectives

The objectives of this project are threefold:
Objective 1:
Develop tangible resilience plans for two tourism destinations. The four destinations listed below are likely candidates for the pilot, but final choice of pilot locations will be driven by the enthusiasm of influential local collaborators to convene the necessary stakeholders and rally support behind the pilot efforts.

- Boracay or Cebu (The Philippines)
- Phuket (Thailand)
- Bali (Indonesia)
- Maldives

Objective 2:
Build local capacity and disaster management experience in the following areas:
- A strong knowledge base for effective discussion and policymaking through the conduct of hazard vulnerability assessments
- Experience, frameworks and tools to structure and facilitate subsequent discussions on resilience to disasters and environmental change encompassing different scales and scopes

Objective 3:
Develop a handbook that documents methodology, tools and templates of the project such that it can be rolled out and replicated in other tourism destinations; this includes how to:
- ... best map and assess location-specific disaster-risk and climate event hazards and vulnerabilities, integrating the best available knowledge from local resources and science
- ... revisit and upgrade existing disaster risk response and management plans and identify gaps in current capacity and infrastructure preparedness
- ... develop tangible action and financial plans to enhance local destination resilience
- ... mobilize resources (financial and human capital) and provide implementation governance to close the resilience gaps in a timely manner
- ... create effective policy change as necessary to sustain long-term resilience efforts

3) Project Scope

For each chosen pilot location, specific geographic boundaries will be defined. All possible geo-hazards that could pose a significant disruptive or fundamental long-term risk to the destination will be considered and included in the resilience plan development: earthquakes, tsunamis, flooding, storms & storm surges, landslides, extreme drought, precipitation and temperature, volcano eruptions, ground subsidence, and sea level change.

Depending on the specific location, some of these hazards will be mapped in greater detail than others.
Critical stakeholders that will be integrated in the local pilot projects include: mayor’s or local governor’s offices; key companies in the local tourism sector such as hotels and key attractions; relevant labour organizations; local tourism representatives; representatives of key local infrastructure assets such as airports, airlines, hospitals, local transport, etc.; local or regional disaster risk management agencies; international organizations working on disaster risk response or infrastructure projects (e.g. ADB, UN-organizations, NGO’s).

In the pilot locations we will integrate and co-ordinate our efforts with ongoing efforts such as the Hotel Resilient certification programme and the Tsunami Ready initiative in Bali wherever possible.

4) Approach

We will first identify the two pilot locations and create their disaster resilience programs, together with local stakeholders, following a five-step process:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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| 1. Identify 2 pilot locations | • Conduct on-site meetings at target locations to gauge support for programme implementation  
• Identify local champions  
• Develop specific roadmap for implementation  
• Source for project funding |
| **Sep-Dec 2014** | |
| 2. Hazard mapping and vulnerability assessment | • Access databases to create hazard maps and scenarios  
• Hold technical workshop with local researchers and technical staff, creation of hazard scenarios  
• Conduct exposure and vulnerability assessment  
• Formulate comprehensive disaster scenarios |
| **Feb-May 2015** | |
| 3. Tabletop exercises, assessment of response plans | • Conduct tabletop exercises with stakeholders  
• Assess disaster management plans and stakeholder coordination |
| **Jun-Jul 2015** | |
| 4. Gap identification and development of action plans | • Identify gaps and specific leverage points and stakeholders that can influence the system  
• Hold workshop to develop action plan, institutional and policy frameworks and resources needed to fill gaps |
| **Jul-Sept 2015** | |
| 5. Resource mobilisation and capacity building | • Assist with mobilisation of relevant resources and specific actions needed for capacity building  
• Writing and publishing of Process Handbook |
| **Oct-Jan 2015** | |

**Figure 4: Pilot Location Process Steps**
Details of the five process steps can be found in the appendix to this proposal.

We will consolidate all developed templates, tools and methodologies used throughout the pilot into a cohesive ‘Resilience Plan Process Handbook for Tourism Destinations’. We expect this to be finalized by December 2015.

Parallel to the development of the handbook, we will socialize the findings and identify 3-5 additional tourism locations for the next phase of the regional program roll-out.

5) Proposed organisational structure

Steering Committee
Each pilot project will be led by a Steering Committee of not more than 15 members representing the different stakeholders involved in the destination’s tourism industry. They will be drawn from the generic stakeholder groups listed below.

- Local government: Governor’s and mayors’ offices
- Emergency response units
- Utilities companies
- Airport management
- Major hospital/ medical service provider for the destination
- Hotel management companies
- Hotel asset and land owners
- Local coast guard or navy
- Local academia and NGOs
- Andreas Schaffer, Sustainability Director, EOS
- Jainey Bavishi, Executive Director, R3ADY Asia-Pacific

Crucial to the effective function of the Steering Committee will be the participation of local government representatives and an influential “local champion” in good standing, possibly a key asset or hotel owner, for the political backing and social endorsement of the project.

Working Group
The Steering Committee will oversee a Working Group comprising:

- Local pilot destination liaison
- Project manager (Lucas Neo, EOS)
- Technical specialist – Geology (Wang Yu, EOS)
- Technical specialist – Seismology (Chan Chung-Han, EOS)
- Technical specialist – Tsunamis and coastal hazards (Li Linlin, EOS)

The Working Group will coordinate the technical geohazard assessments in the pilot locations, organize the various workshop sessions, and, with the help of the
local liaison, manage the working relationships with the project’s third-party collaborators and consultants.

6) Deliverables
The project will deliver resilience action plans for the chosen two tourism destinations, including:
- Mapping of the major geo-hazards and risks (short-term and long term)
- Vulnerability and impact assessment based on plausible disaster scenarios
- Assessment of current collective preparedness of the tourism cluster and disaster risk management plans of individual stakeholders
- Action plan to close potential gaps:
  - 5-year roadmap with specific projects and responsibilities
  - Resource plan outlining required financial and human capital
  - Proposal for implementation co-ordination and governance
- Activation support from R3ADY Asia-Pacific and EOS to mobilize resources

In addition we will develop a ‘Process Handbook for Resilience Planning in Tourism Destinations’ that synthesizes all tools, templates, methodologies necessary for driving the work required to develop comprehensive tourism destination plans in close collaboration with local stakeholders.
APPENDIX 1
Details of five process steps in pilot locations:

**Step 1: Establishing local stakeholder support and champion, funding, and developing local project roadmaps**

- Key deliverable: Project roadmap for each pilot location

In Step 1, meetings with local stakeholders to gauge their enthusiasm for implementing the programme will occur concurrently with meetings with foundations and bi-/multi-lateral organisations to secure funding for the project. The selection of the two pilot locations will depend heavily on the availability of a capable, enthusiastic, and influential local collaborator who can take the lead in organising the relevant local stakeholders. Strong stakeholder commitment from the outset will be important for the viability of the year-long process.

Once the pilot locations have been selected, an introductory workshop in each location involving the local stakeholders, EOS and R3ADY Asia-Pacific will be convened. The key output from these discussions will be the joint development of a roadmap detailing how the programme will be implemented in the respective pilot locations. It will consider the local contextual factors, existing capacities, and profiles of the participating stakeholders.

**Step 2: Mapping of extreme events and vulnerability assessment**

**Hazard mapping**

- Key deliverable: Hazard maps and scenarios

Step 2 begins with a spatial representation of likely hazards and long-term threats to the tourism sector in the target location. Among other activities, this will involve accessing hazard databases for past extreme events and gathering up-to-date, forward-looking geo-information such as maps of active faults, volcanic activity and likely storm paths. These activities will be performed in collaboration with local geophysics research institutes and supplemented by on-site assessments if necessary. The mapping of historical and likely hazards will create a hazard profile for the destination and provide a sound scientific basis for vulnerability analysis and loss analysis going forward.

With the hazard profiles of the two pilot locations created, a second workshop will convene researchers from EOS, R3ADY Asia-Pacific’s membership, and local institutes, as well as local stakeholders. It will verify the mapping work and produce scenarios detailing the magnitude, intensity and duration of each probable natural hazard in the respective locations.

**Vulnerability analysis**

- Key deliverable: Disaster vulnerability of target locations (interim report, published)

With the hazard maps and scenarios of likely hazard events, the exposure of critical infrastructure to physical damage will be determined. The analysis of
exposures will be supplemented by meetings with the governor’s office, key businesses and other relevant authorities in the pilot location. Damages and losses will be benchmarked against those from recent events and developed in consultation with representative businesses, hotel associations, tourism boards and insurance loss adjustors familiar with the local context. They will include physical damage to critical infrastructure as well as foregone revenue due to disruptions to regular business operations. They will also include projections for new and upcoming projects.

Taken together, the hazard scenarios, exposures, and resultant estimated losses will form the disaster vulnerability scenarios that will be compiled and published as an interim report.

**Step 3: Multi-stakeholder tabletop exercise and assessment of disaster response**
- Key deliverable: Preliminary data on disaster management plans and coordination

The vulnerability scenarios will form the basis of multi-stakeholder tabletop exercises. These will take place as part of a three-day workshop held on location. Figure 5 below shows an overview of possible scenarios, using Bali and Phuket as target locations.

![Figure 5: Hazard scenarios applied to Bali and Phuket](image)

Each tabletop exercise will be based on a scenario. In the case of scenarios depicting the aftermath of extreme events, the setting will take place two or three days after the event, when businesses and the relevant authorities begin to
take stock of the damage done. Workshop participants will be given information about the hazard, diminished capacity of critical infrastructure and financial losses. The discussion among stakeholders will then centre on getting their various operations, and the sector as a whole, back up and running. This discussion is expected to reveal the strengths and shortcomings of their disaster management plans, as well as highlight the linkages between institutions and the roles they play in the coordination process.

**Step 4: Identification and analysis of gaps in disaster preparation and response**

- Key deliverable: Chart of collective disaster management response with gaps highlighted

The outcomes of the tabletop exercises from the third workshop will then be consolidated and reviewed, along with the location’s formal plans for disaster risk management (if any). These will be verified and supplemented by follow-up interviews with various stakeholders to ensure that the gap analysis captures both formal and informal disaster response processes. This information can then be charted, highlighting key stakeholders, relationships, and leverage points. Frameworks for this gap analysis will be developed to assess the current disaster management plans (if any) within the tourism sector at various levels, including their downstream implementation. The interdependencies and coordination of operations during the emergency response and recovery phase will also be assessed. This framework will draw upon existing resources like those from the UNISDR, UNEP’s guidebook on DRM for coastal tourism destinations, and JICA’s Area Business Continuity framework, adapted to fit the local context and to promote discussion among workshop participants.

**Step 5: Formulation of an action plan, resource mobilisation, and capacity building**

- Key deliverable: Action plan for enhancing collective disaster response, resource mobilisation and capacity building; concept notes for immediate project opportunities

In the final module of activities, the group will then convene for a fourth workshop to formulate an action plan that will tackle the shortcomings and capitalise on the strengths identified in current institutional arrangements. Stakeholders will then commit to concrete steps that can lead to active disaster management and planning becoming a permanent consideration in planning processes in the future. While specific outcomes will largely depend on the local context, they could take the shape of a comprehensive disaster management plan, a roadmap of capacity building towards such a plan, or the formation of a multi-stakeholder disaster management committee for the sector. Regardless of the form that the next steps take, however, immediate project opportunities involving the stakeholders at hand will be identified and framed before the end of the workshop, with plans made for them to be pursued by the relevant parties. This will maintain the momentum built during the workshop in the run-up to fulfilling the next steps set by the participants.