Hotel Resilient
Objective:
Improve disaster risk management and strengthen resilience in hotels/resorts and throughout tourism destinations

Approach and Outputs:
1. Hotel Resilient Steering Committee and Expert Group
2. Promotion and agenda setting
3. Publication of the scoping study ‘Developing strategies to strengthen the resilience of hotels to disasters’
4. Handbook on the multi-hazard risk management standard module (standards, checklist, tools etc.)
The Multi-hazard Risk Management Standard Module:

- Development in a participatory approach in the field to ensure the product is tailored to demands of hotels/resorts

- **Selected destinations:** Bohol & Cebu in the Philippines

- **Major components:** risk assessment, preventive structural and non-structural measures, business continuity planning

- Focus on natural and technological hazards
Next steps:

- Draft version of standard module was reviewed with stakeholders (Field trips to Philippines in February and April)
- Revised version will be validated in Philippines in May
- Pilot to further test the standard module and ensure its global applicability
- 2-3 tourism destinations in the region will be selected based on an Expression of Interest
- Standard Module will be launched as open source tool
Technical Partner:

Karlsruher Institut für Technologie

Consortium members:

Bournemouth University

The University of Queensland, Australia

Griffith University

risklayer

With support from the German Government through
The Hotel Resilient Multi-hazard Risk Management Standard Module within the framework of the

GI:DRM
Global Initiative on Disaster Risk Management

With support from the German Government through

Dr. Bijan Khazai
Objective

• Standards for the multi-hazard risk assessment of hotels and resorts buildings.

• Standards for the design of safety systems and management processes for making hotels and resorts more resilient.
Core Criteria for Standards

**Open**: standards and methodology of how information is synthesized, are open and fully documented.

**Defendable**: results are reproducible and methodology is validated.

**Marketable**: implemented easily, clear marketing advantage and economically viable, consumer information tool.
Piloting Analysis and Use Case Demonstration

Multi-hazard Risk Management Module Guidelines

Consultation and Communication

Testing and validating draft standards

Testing, Validation and Promotion

Adjustment & Upscaling

First Final Draft

Workshop

Feb 23

Revising & Adjusting Standards

Kick-off Workshop

Feb 01

First Draft

Drafting Standards

Pre-Kick-off

Feb 01

Establish PRINCIPLES of hotel resilience

Develop FRAMEWORK for evaluating resilience

Establish PROCESS for implementing standards

Resilience Context
Resilience Context

- Building on existing international standards:
  - ISO31000 Risk Management
  - ISO22310 Business Continuity Management
  - ISO 22320 Emergency Management
  - FEMA 454 (Earthquakes)
  - FEMA 543 (Flooding and High Winds)
  - Others

- Building on existing initiatives:
  - Ready, Set, Go! (Earthcheck)
  - TsunamiReady
  - Perry Johnson Hurricane Preparedness
  - REDAS Rapid Visual Screening
  - Saferplace Cristal Standards
  - Global Infrastructure Basel SuRe
  - LEED
  - HACCP (Hazard Analysis and Critical Control Points) Certification
BSM Methodology
3 Categories & 18 sub-categories

Categories

BUILDINGS

S Y S T E M S

M ANAGEMENT

B1 General Information
B2 Site/Location
B3 Grounds
B4 Design
B5 Structure
B6 Architectural Elements
S1 Fire Protection
S2 Critical Infrastructure
S3 Evacuation System
S4 Communication
S5 Emergency Response
S6 Environmental Safety
M1 Roles and Responsibilities
M2 Training and Drills
M3 Disaster Prep & Response Plan
M4 Evacuation Plan
M5 Communication Plan
M6 Business Continuity Plan

Communication Plan
M5.1 Staying informed of local weather updates/emergency warnings
M5.2 Disseminating emergency warnings to guests and staff
M5.3 Communicating with guests and staff before and after a crisis
M5.4 Communicating with external and organizations stakeholders
M5.5 Communicating with media
M5.6 Back-up communication plan
BMS (BUILDING, SYSTEMS AND MANAGEMENT) METHODOLOGY

Categories

BUILDINGS

SYSTEMS

MANAGEMENT

Steps

Hazard Model

Multi-Hazard Score

Vulnerability Screening

Multi-Risk Score

Requirements Audit

Resiliency Rating
### Performance-based calculation of risk

- Risk scores on a scale from 0 to 100 are obtained in terms of *goals* and *performance criteria*:
  - **L**: Life Safety
  - **U**: Usability
  - **R**: Recovery Time

<table>
<thead>
<tr>
<th>Performance Class</th>
<th>Life Safety (L)</th>
<th>Usability (U)</th>
<th>Recovery Time (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (70 – 100)</td>
<td>No Injuries</td>
<td>Fully Usable</td>
<td>4hrs</td>
</tr>
<tr>
<td>B (50 – 70)</td>
<td>Minor Injuries</td>
<td>Minor Impairment</td>
<td>3 days</td>
</tr>
<tr>
<td>C (30 – 50)</td>
<td>Moderate Injuries</td>
<td>Moderately impaired</td>
<td>30 days</td>
</tr>
</tbody>
</table>
| D (0 – 30)        | Loss of life                  | Major impairment           | > 30 days         
|                   | Serious Injuries              |                            |                   |

*acceptance criteria to be validated*
• Combine model-based risk calculations with information obtained from hotels

• Step-by-step guidance for conducting assessments

Information on hazards is provided to the assessors for each site based on verifiable hazard and risk models for that area.
Reporting Risk Ratings

Risk is shown in terms of total risk and de-aggregated risk score for each hazard scenario.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Earthquakes</th>
<th>Flood</th>
<th>Wind</th>
<th>Landslide</th>
<th>Fire</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Shaking</td>
<td>31</td>
<td>36</td>
<td>20</td>
<td>14</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Ground Failure</td>
<td>64</td>
<td>64</td>
<td>49</td>
<td>55</td>
<td>51</td>
<td>48</td>
</tr>
<tr>
<td>Riverine</td>
<td>49</td>
<td>55</td>
<td>51</td>
<td>97</td>
<td>48</td>
<td>48</td>
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<tr>
<td>Coastal</td>
<td>51</td>
<td>97</td>
<td>48</td>
<td>48</td>
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<td></td>
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<tr>
<td>Hurricane</td>
<td>97</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other High Wind</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
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</tr>
<tr>
<td>Rainfall</td>
<td>48</td>
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<td>48</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake induced</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
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<tr>
<td>Technological</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arson</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td>48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazard

Vulnerability

Life Safety

Usability

Recovery
## From Risk to Resiliency Rating

<table>
<thead>
<tr>
<th>Does not qualify for certification</th>
<th>Risk: The total risk score fall under the acceptable threshold on life safety, usability and recovery time.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resilience: The building has taken few or no steps to maintain continuity of operations and/or has taken little or no action to ensure that key functions will not be significantly affected by an event.</td>
</tr>
<tr>
<td>Minimum requirements to meet certification needs</td>
<td>The building has taken minimum required steps to maintain continuity of operations and/or ensuring that key functions will not be significantly affected by an event.</td>
</tr>
<tr>
<td>Exemplary actions for highest resilience rating</td>
<td>The building has taken exemplary action in addition to fulfilling all minimum requirements to ensure continuity of operations and an emergency management plan and ensuring that key functions will not be interrupted by an event.</td>
</tr>
</tbody>
</table>
From Risk to Resiliency Rating

Use a "credit system" for Systems and Management Categories.

<table>
<thead>
<tr>
<th>M5 Communication Plan</th>
<th>Credits 1-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5.1 Intent</td>
<td></td>
</tr>
<tr>
<td>M5.2 Requirements</td>
<td></td>
</tr>
<tr>
<td>M5.3 Exemplary Performance</td>
<td></td>
</tr>
<tr>
<td>M5.4 Issues to consider</td>
<td></td>
</tr>
<tr>
<td>M5.5 Resources</td>
<td></td>
</tr>
</tbody>
</table>

Minimum requirements are needed to obtain certification

Exemplary performance increase the resilience rating
18 hotels and resorts in Bohol and Cebu

Validation of Draft Standards: February 23 – March 8
Training Needs: April 4 - 8
Key Informant Interviews

Institutions

- Hotels and Resorts
- Hotel Associations
- LGUs and DRM Officers
- Travel Agency
- Insurance Commission
- Mega Cebu
- Lapu Lapu Tourism Office
- Cebu Chamber of Commerce
- Department of Tourism
- Tourism Infrastructure and Enterprise Zone (Flagship Projects)
- Philippine Hotel Owners Association
- Department of Trade and Industry
- Department of Science and Technology
- Department of Public Works and Highways
Key findings so far

• Value System – Survival

• Expert input into “ad hoc” but tested procedures and processes

• Locally adaptable; globally applicable

• Keep it simple

• Destinations level approach
Thank you!

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In partnership with:

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