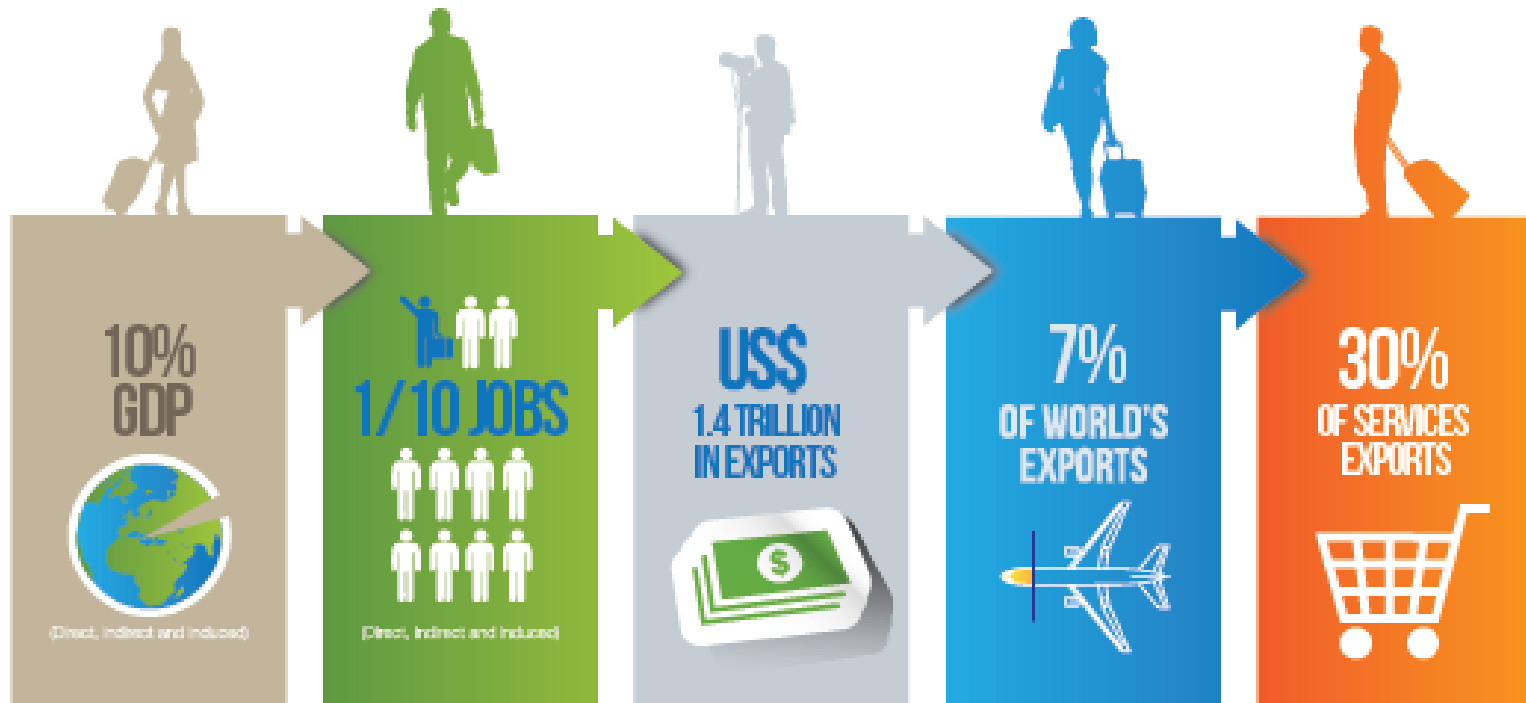

Tourism and Climate Change Adaptation

Implications for Southeast Asia?

Janto S. Hess

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WHY TOURISM MATTERS

© World Tourism Organization (UNWTO) July, 2017

Southeast Asia (2016):

- 11.8% of GDP – US\$ 301.1bn
- 9.7% of total employment

Source: WTTC, 2017

Climate Change Impacts on tourism



Climate change effect	Tourism impacts	Exacerbating factors
Sea-level rise	Coastal erosion, beach loss	Clearing coastal areas of vegetation , poorly planned sea walls and ports
A changing storm regime and rainfall patterns	Damage to tourism facilities, increased insurance and operations costs, business interruption	Developing tourism infrastructure in hazard-prone areas , poor quality of building design and materials
Biodiversity changes (e.g. ocean acidification)	Loss of natural attractions and species from destinations, especially for coral reefs	Pollution, poor waste and waste-water management , disturbance of animals in protected areas, reduction of and damage to natural habitats
Warmer temperatures	Heat stress for tourists, increased cooling costs, coral bleaching	Inadequate building design, reduction of tree cover and natural shading options

Source: Hess & Kelman, 2017

Climate Change Impacts on Tourism

Thailand is facing its worst water shortage in two decades ...with water rationing being imposed in some provinces and hotels told to minimise their laundry loads. (Reuters, 2016)



Tourists urged to holiday in the Philippines after Typhoon Haiyan

Tourists in temple rescued ...Almost 200 tourists had to be rescued by helicopters and boats (The Phnom Penh Post, 2011)

As the aid effort in the Philippines continues, the tourism industry is urged to visit the country as a way of helping the recovery effort

Koh Samui is suffering a severe shortage of water ...two of the islands five filtration plants are set to shut down (Koh Samui News, 2016)

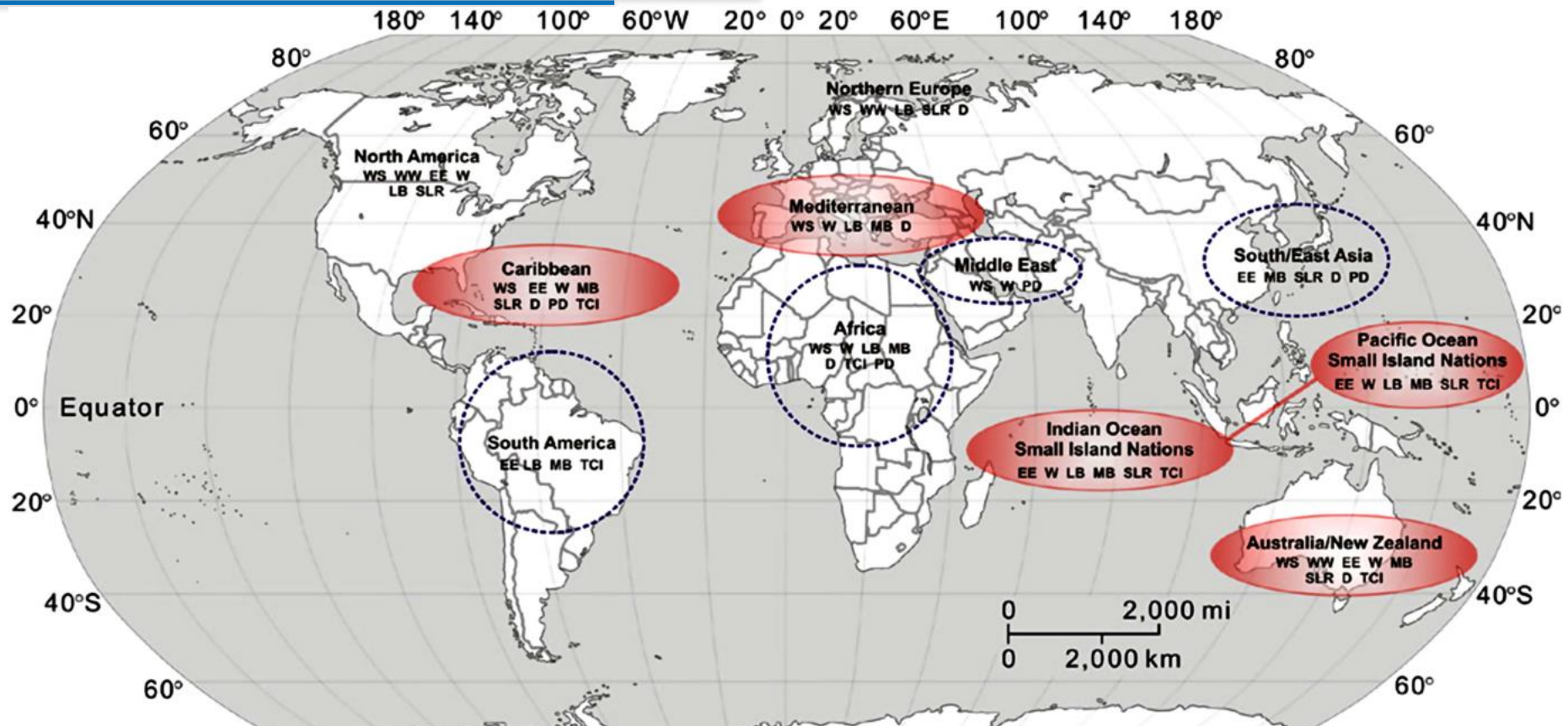
Elephant dies from exhaustion after carrying tourists to Cambodia's Angkor Wat ...The animal had been working for 40 minutes in searing heat before she collapsed. (Independent, 2016)

Too hot to work: climate change 'puts south-east Asia economies at risk' ... Rising temperatures and humidity due to climate change are likely to increase the number of days with unsafe "heat stress", putting south-east Asia at great risk of significant drops in productivity. (The Guardian, 2015)



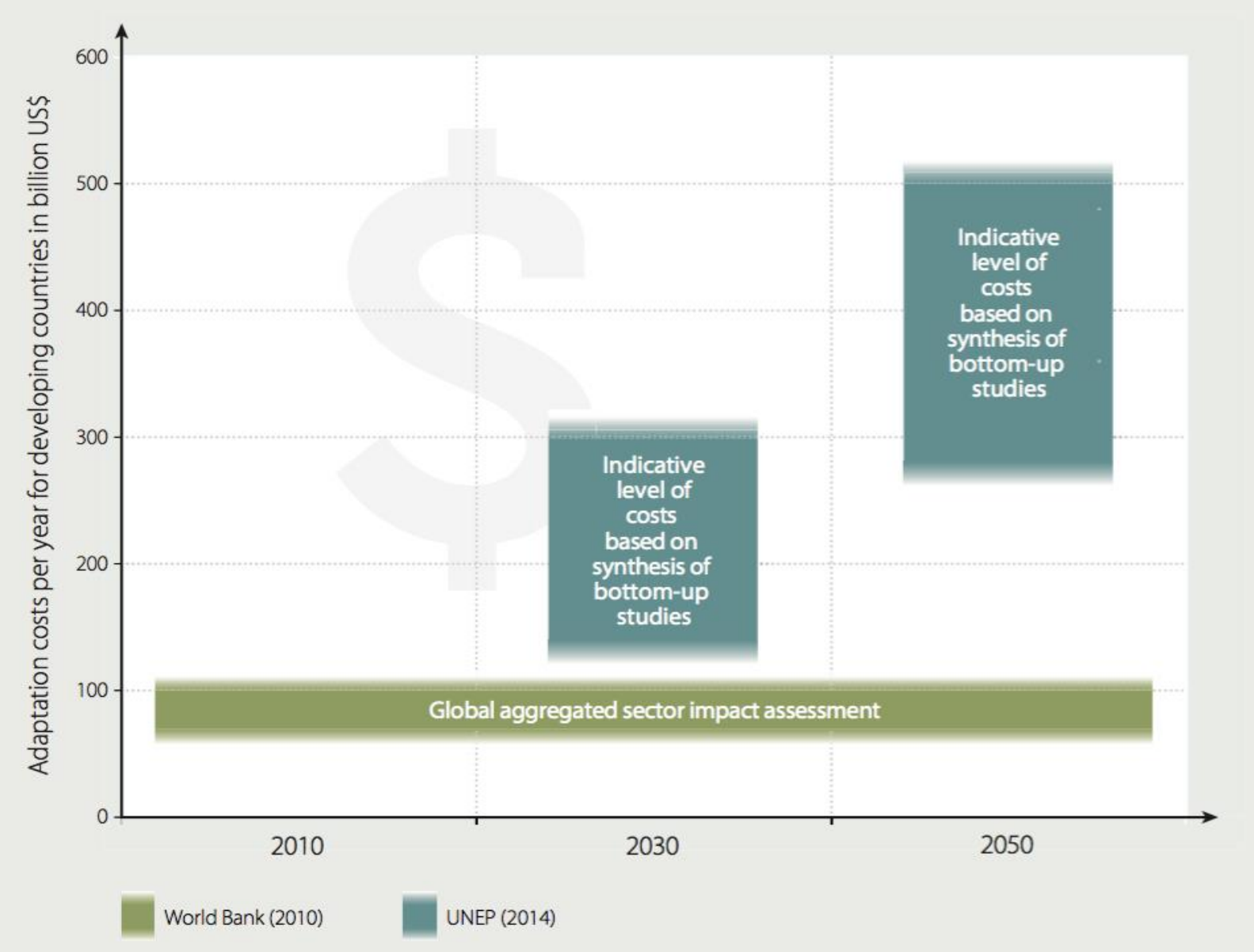
Thailand closes dive sites over coral bleaching crisis ...In a rare move to shun tourism profits for environmental protection, 10 popular dive sites have been shut down... to slow a coral bleaching crisis (Guardian, 2016)

Global Climate Change impacts on Tourism



High levels of investment in adaptation will be needed to maintain or increase visitor numbers

Global Adaptation Costs



Climate Change Adaptation is:

- “[t]he process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to **moderate or avoid harm or exploit beneficial opportunities...**”. Source: IPCC, 2014a, p. 118

Climate Change Adaptation of the Tourism Industry is:

- “the appropriate response to the measures taken to reduce the industry’s vulnerability in relation to climate change” or to exploit favourable opportunities. Source: Kaján & Saarinen, 2013, p. 179 based on; Becken & Hay, 2007; Patterson, Bastianoni, & Simpson, 2006

Adaptation Action

Natural Resource Management



Coral reef rehabilitation



Fixing leaky pipes

Water efficiency



Rainwater Harvesting/
water reservoirs

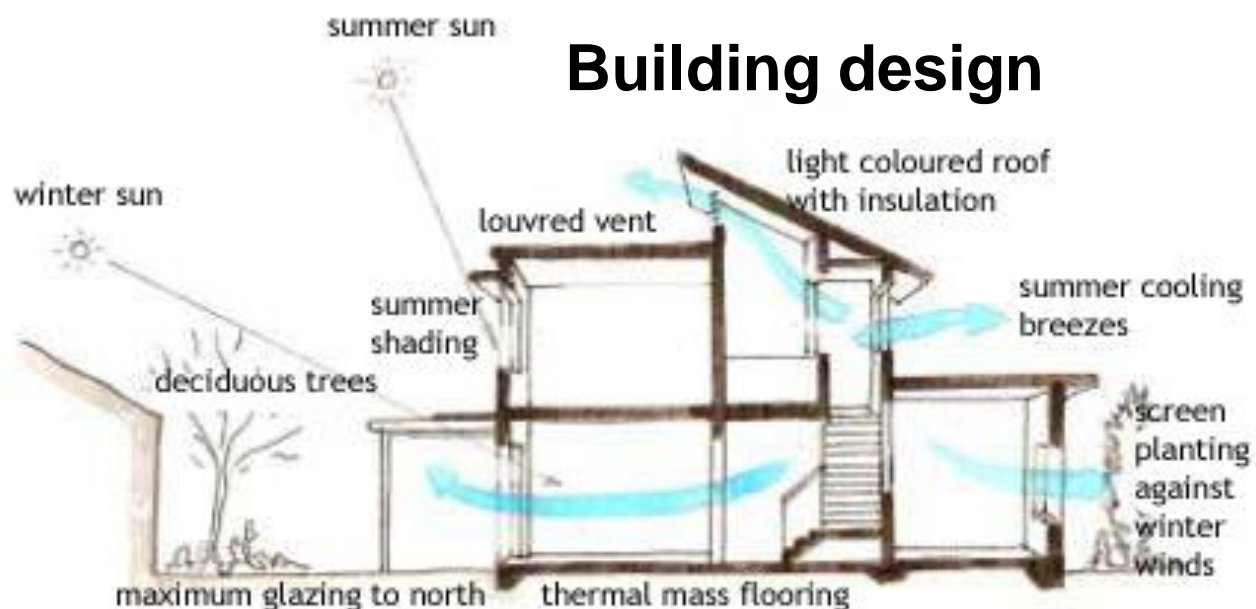


Cooling/Heating



Inverter AC,
Solar water
heater, ceiling
fan

Building design

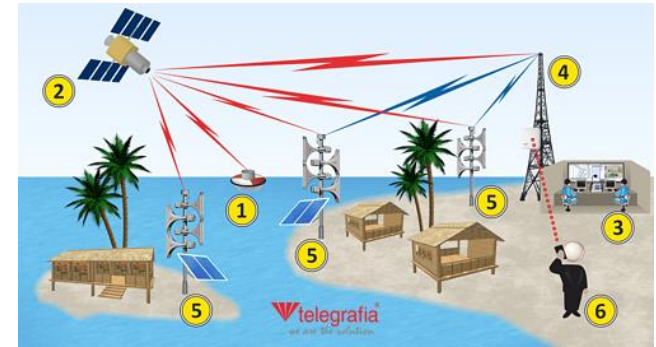


Adaptation Action

Early warning systems



Regulatory & incentive frameworks



Shoreline protection



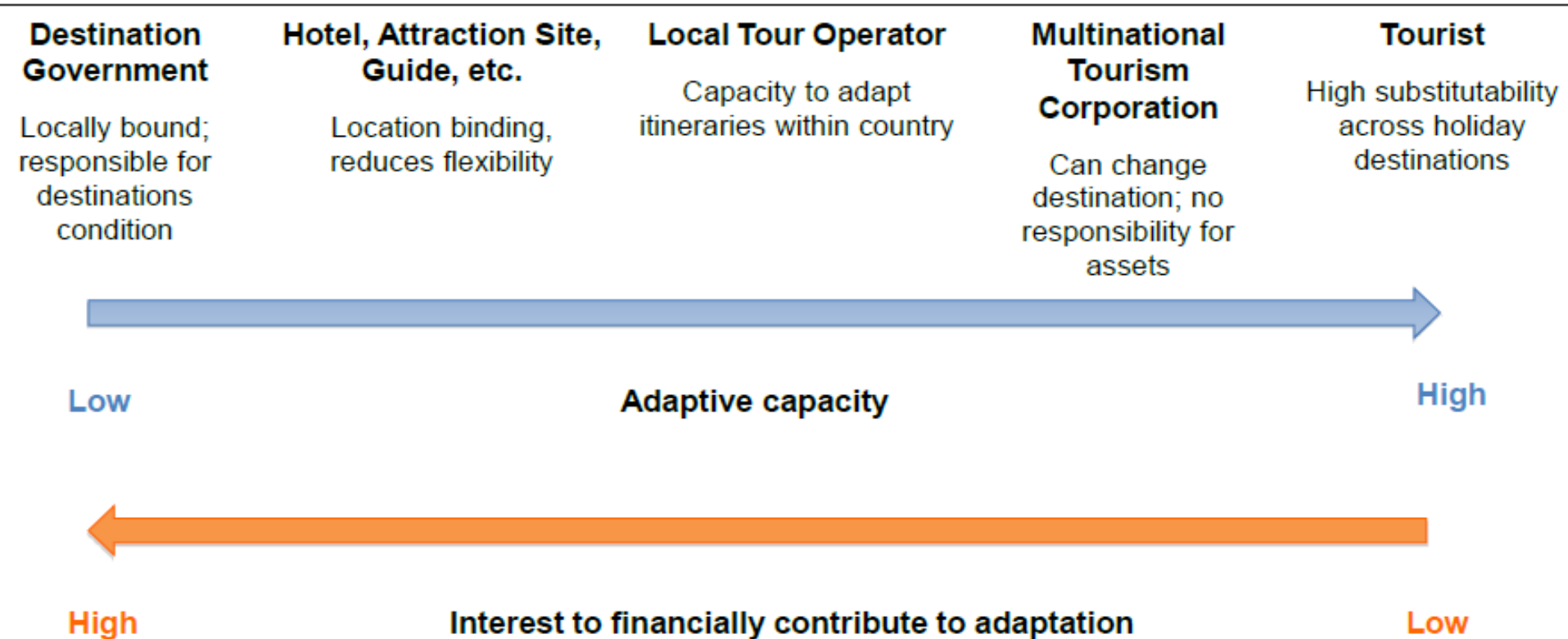
Risk transfer mechanisms



Barbados:
1.2 km
prime
location,
24.2m \$,
responsive
to CC & SLR

Adaptive Capacity of Tourism Stakeholders

Adaptive capacities of tourism stakeholders



Source: Hess et al., 2015 (based on Scott and Jones, 2006)

Thank you for your attention!