

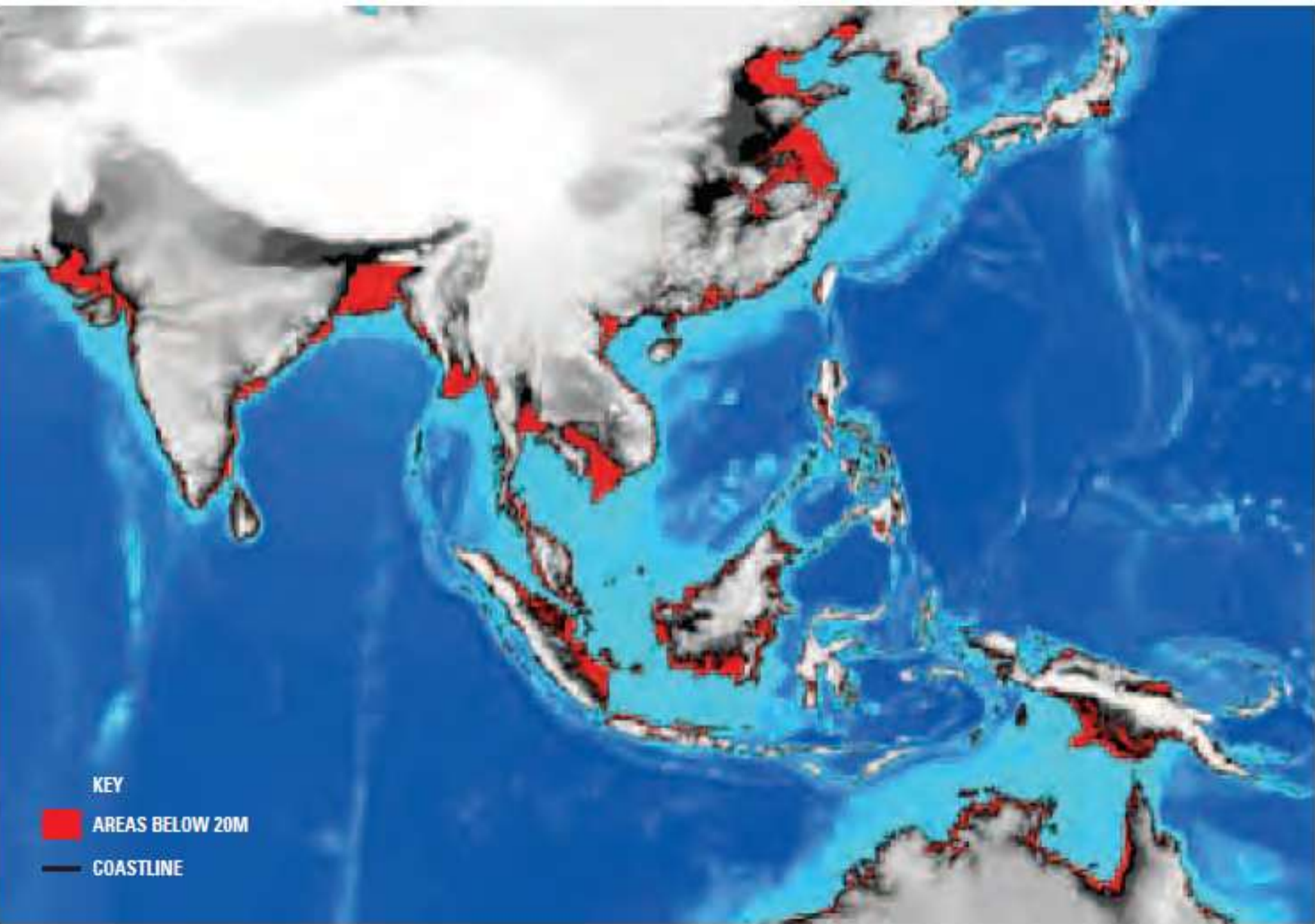
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# **Coastal Adaptation and Sea-level Rise**

## **Experience from UN-Habitat CCCI in Asia-Pacific**

**Liam Fee, UN-Habitat**







April 15, 2008



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# Climate Change and Urbanization

## A two-way relationship

### **Objective of CCCI:**

To enhance climate change mitigation and adaptation capacity of cities in developing & least developed countries.

### **Urbanization and Climate Change are closely linked:**

Globally, the reduction of greenhouse gas emissions can only be achieved if Cities are active partners in the process (up to 80 percent of GHG are related to urban consumption). In developing countries urban transport, building and construction are the fastest growing GHG emitting sectors.

### **Climate Change and Sustainable Development:**

Climate Change impacts on cities, key urban sectors, ecosystems and livelihoods. The urban poor are severely affected . Local initiatives are often disconnected from national action plans

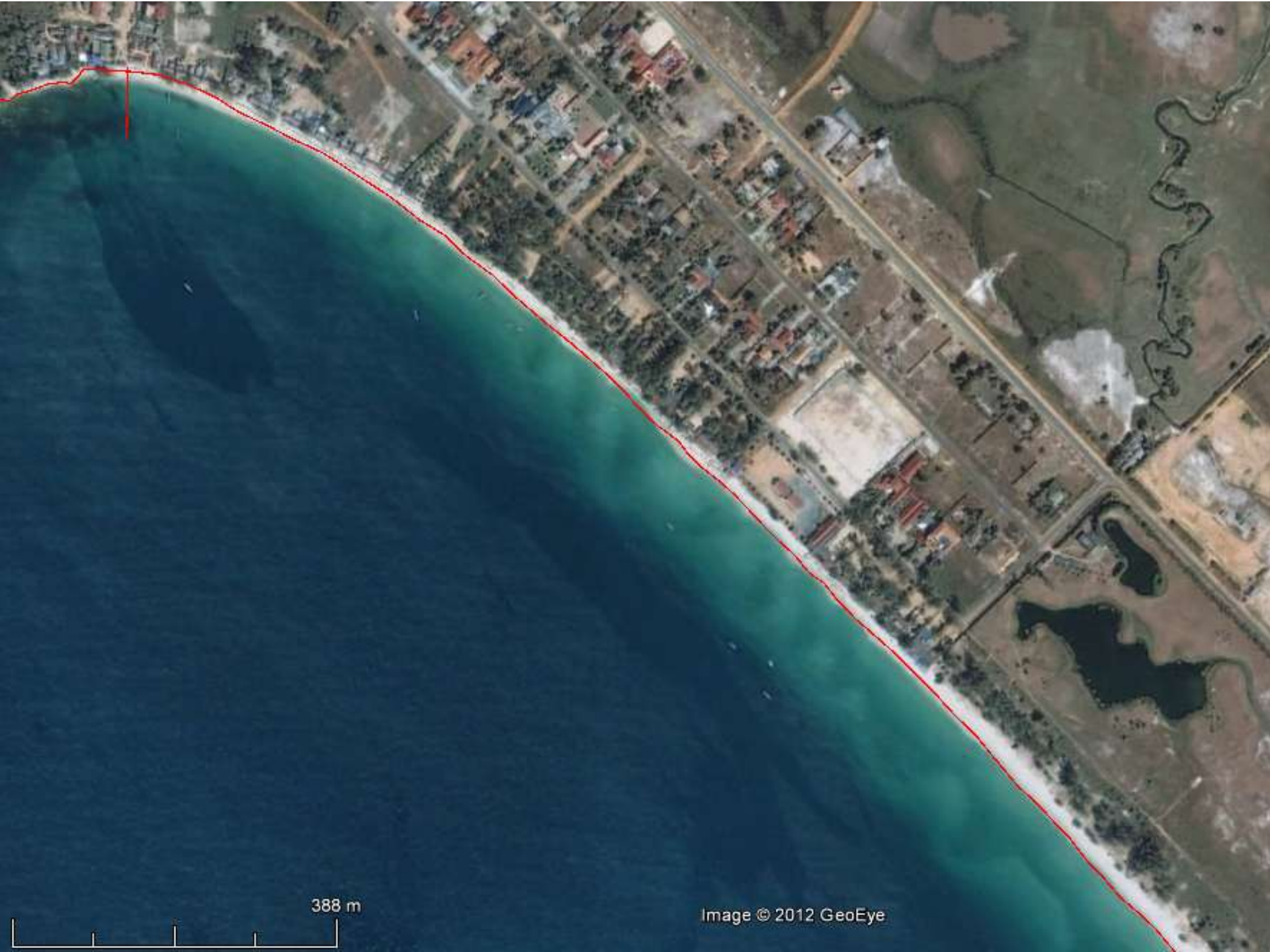


# CCCI Programme

- **Global Level**
  - Presence at CoP
  - Development of tools/knowledge products
- **Regional Level**
  - Training
  - Workshops
- **National**
  - Climate into urban, urban into climate
- **City**
  - City capacity, governance
  - Directly addressing vulnerability







388 m

Image © 2012 GeoEye



In Occheauteal, erosion increases towards the pier. South of pier, erosion is as much as 12 m.



# Climate and non-climate factors











- Waste water and storm water from homes and businesses on the shore is the primary driver of erosion
- Understanding this allows us to move to adaptation and building resilience



Tracks of heavy equipment which plowed sand from the beach to the backshore area in Otress Beach.

# Ecosystem Based Adaptation

- EbA is cheaper than traditional engineering actions

Adaptation action	Assumed % damage avoided		
	50%	25%	10%
 Replant mangroves	\$77	\$38	\$15
 Replant stream buffer	\$146	\$73	\$29
 Monitoring & enforcement	\$1,498	\$749	\$300
 Reduce upland logging	\$2,035	\$1,018	\$407
 Reduce coral extraction	\$2,988	\$1,494	\$598
 Build sea walls	\$15	\$8	\$3
 Reinforce rivers	\$96	\$48	\$19
 Increase drainage	\$140	\$70	\$28

Cost of damage avoided per dollar spent (FJD)

# “Take-homes”

1. Urban/economic development onshore are also drivers of coastal vulnerability
  1. Therefore effective development planning/implementation **is** climate smart adaptation
2. That Ecosystem Based Adaptation is a more cost-effective option than traditional infrastructure based options, and has greater co-benefit

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