Thematic Session 2

Innovation in Reconstruction 2.0

10 May 2011
Geneva, Switzerland

Standardising M&E for Disaster Recovery with Satellite Technology

Dr. Beverley Adams, ReBuilDD

World Reconstruction Conference
Recovering and Reducing Risks after Natural Disasters

GFDRR
ISDR
Global Platform for Disaster Risk Reduction

Monitoring & Evaluating Recovery with Satellite Technology

Standardise

Transparent

REBUILDD

Independent

Efficient

Accountable

www.rebuildd.org

REBUILDD

Remote sensing for Built environment
Disasters and Development

World Reconstruction Conference

Dr. Beverley Adams, Director

ImageCat, Ltd.

- Satellite technologist & founder, ImageCat Ltd & eCityRisk

Prof. Robin Spence, Director

UNIVERSITY OF CAMBRIDGE

- Internationally recognised Risk Management expert

Steve Jones, Strategic Advisor

the humanitarian centre

- International development consultant with extensive post-disaster experience

Dr. Stephen Platt, Director

CAMBRIDGE ARCHITECTURAL RESEARCH LIMITED

- Social scientist with expertise in surveys and data analysis

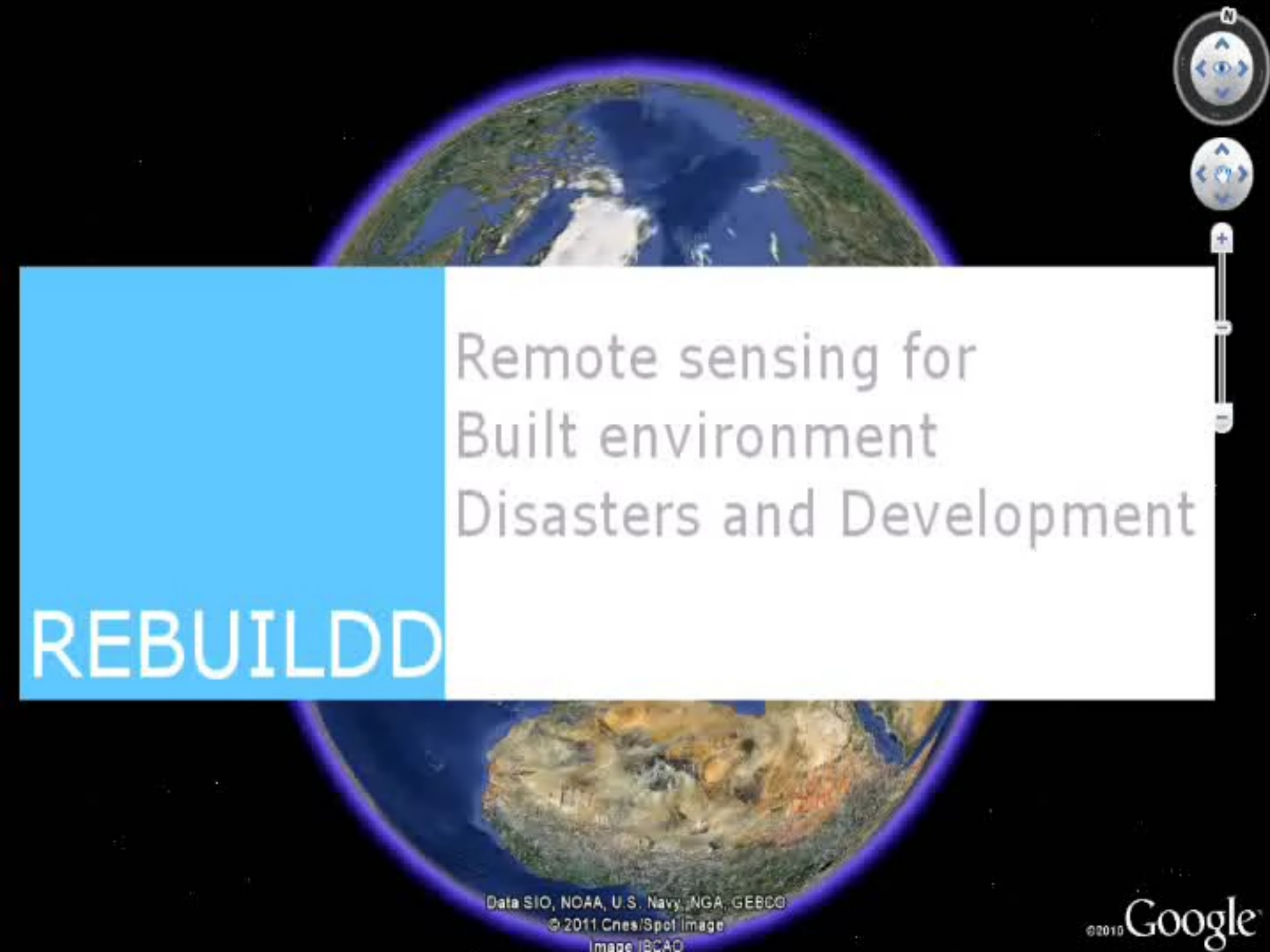
There is a lack of a standard, independent and replicable approach by which progress made during the relief and recovery phases can be measured,

monitored and evaluated

(Shelter Centre Meeting, 2006)

Recovery M&E Problems

- How to evaluate Governance and thus promote Public/Social Accountability?
- How to systematically monitor recovery across an impact zone, or identify reconstruction projects that are going off track?
- How to promote best practise by comparing progress of development projects against other projects?


Remote sensing for
Built environment
Disasters and Development
REBUILDD
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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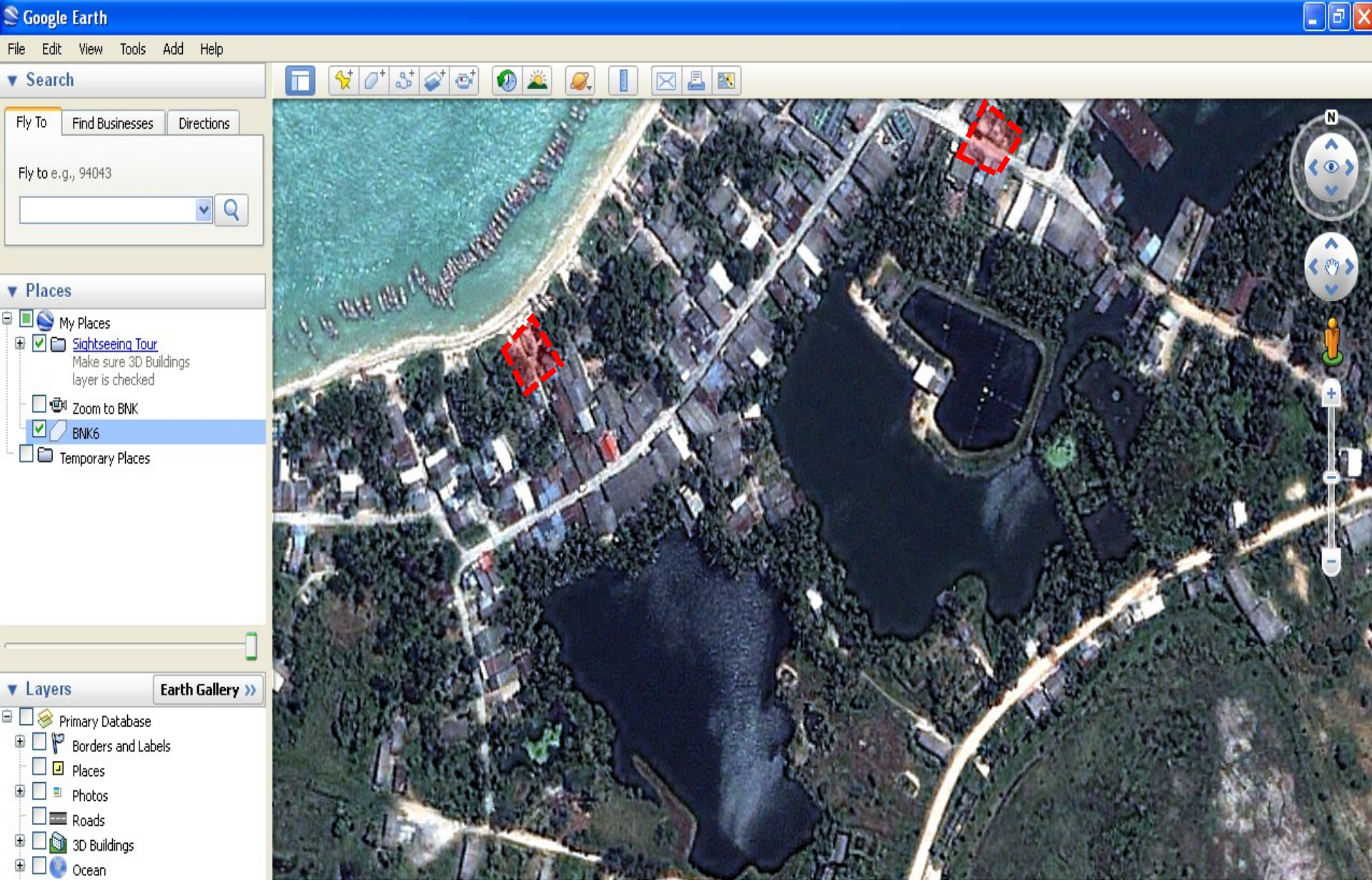
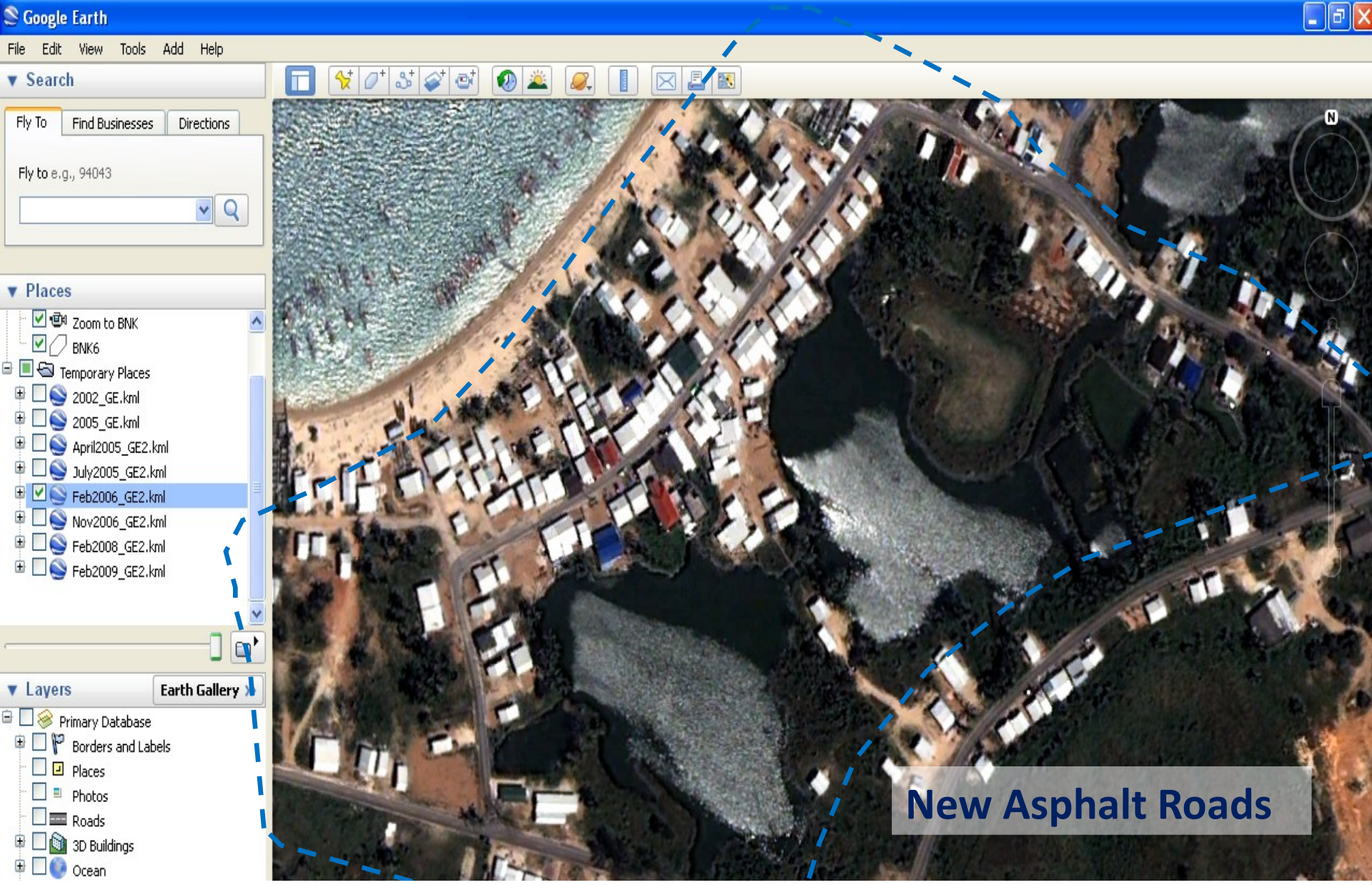
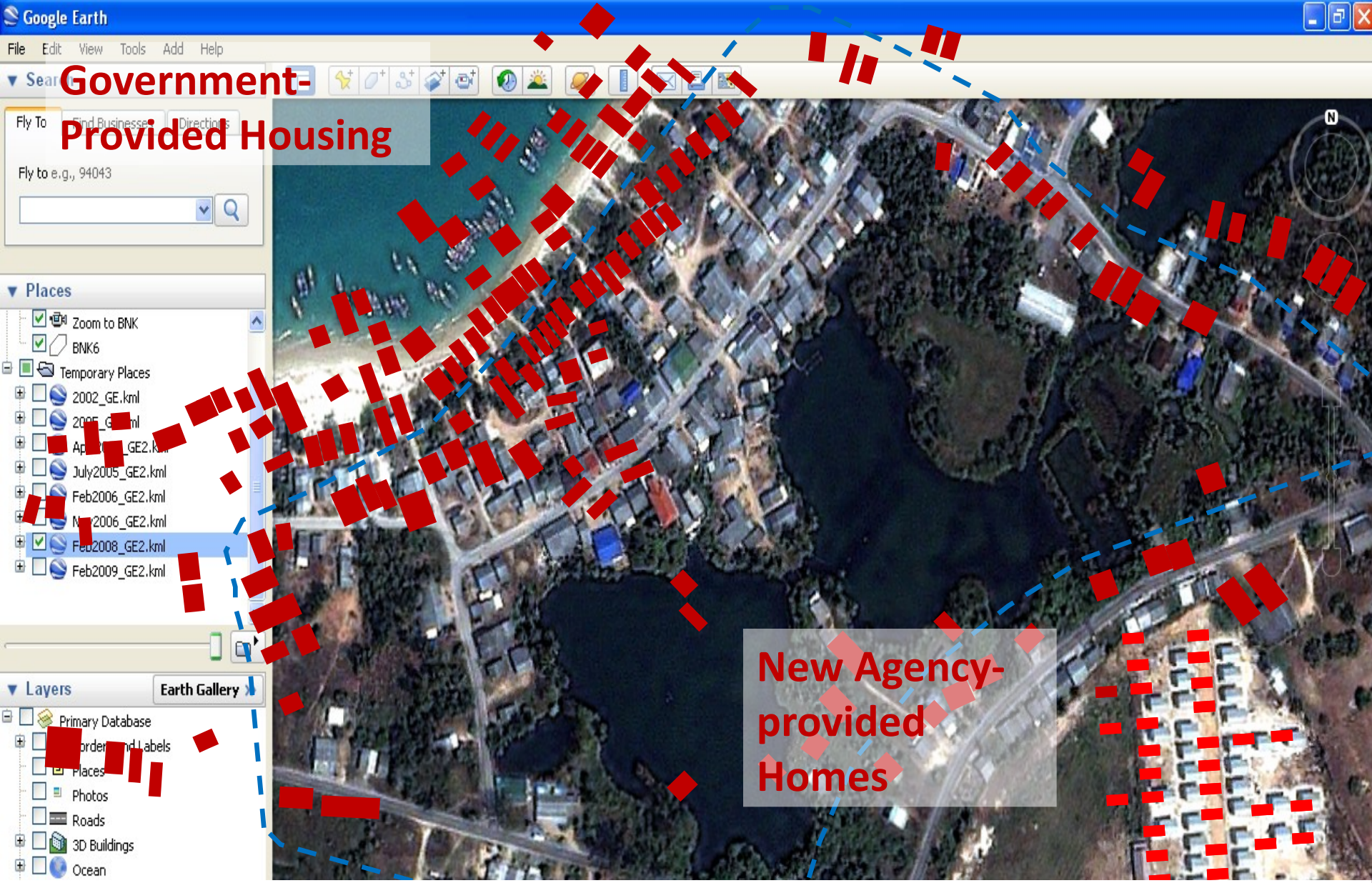


Before Tsunami



Before Tsunami

+2 days



Before Tsunami

+2 days +4 months

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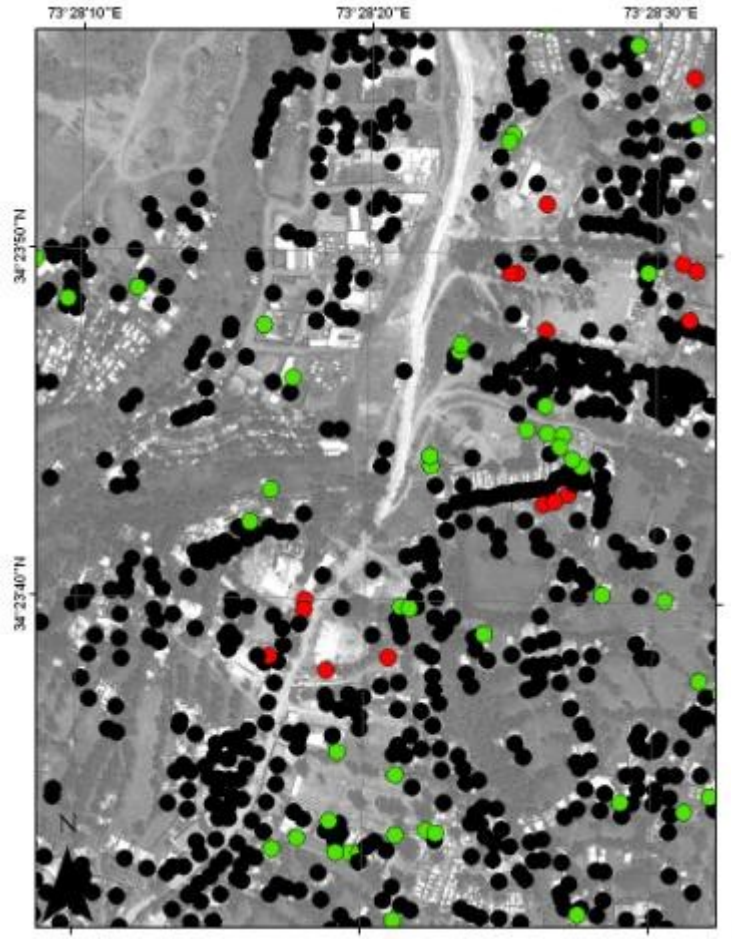
Standardised Indicators

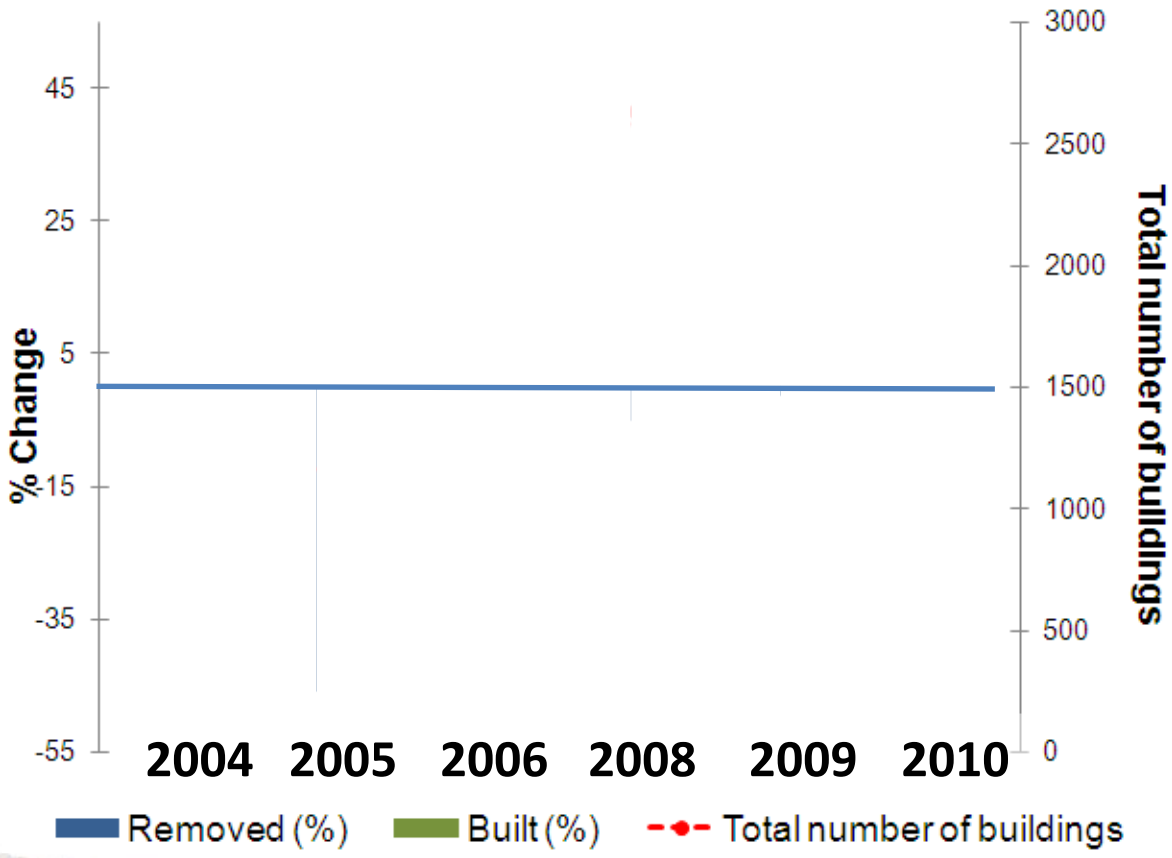
Sector	Performance Indicator
1. **Transport**	a. Road Condition (Km)
	b. Accessibility Analysis
	c. Reconstruction of bridges and transport facilities
	d. Presence of vehicles
2. Buildings / Shelter	a. Removal and construction of buildings
	b. Change in urban land use and morphology
	c. Quality of dwelling reconstruction
3. Transitional Shelters and IDPs	a. Temporary dwellings and shelters
	b. Location of population
4. Environment	a. Change in Land Cover and public open space
5. Services	a. Administration, education, healthcare and religious facilities
	b. Power, Water and Sanitation (WATSAN) Facilities
6. Livelihoods	a. Recovery of livelihoods

Accurate Measures of Recovery

	Pre-disaster	+ 6 months	+ 4 years
IDPs	N/A	3,200	192
# Buildings	1,170	1,210	1,700
Functioning Roads (Km)	46	28	54
# School Buildings	10	11	27
# Health Facilities	1	0	2
#Temples	1	1	2
Shrimp Pond Area (Km^2)	610	640	710
Pier Length (m)	540	300	450
Mangrove Area (Km^2)	790	690	870
Urban Green Space Area (Km^2)	15	3	15

Systematic Reporting

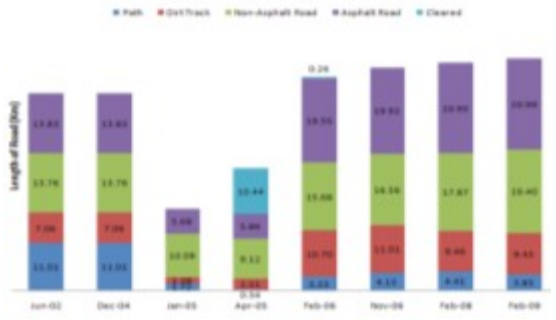




● Removed ● Constructed ● Still Standing

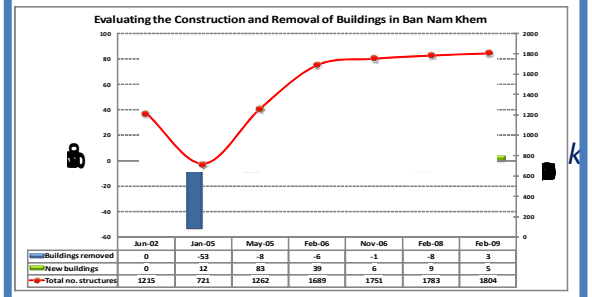
Single Indicator or Cross-sector

1a. TRANSPORT



Length of functioning road, by road type

2a. SHELTER

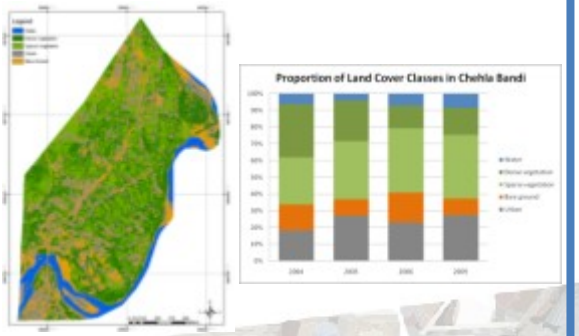


Changes in total numbers of buildings

3. TRANSITIONAL SHELTERS

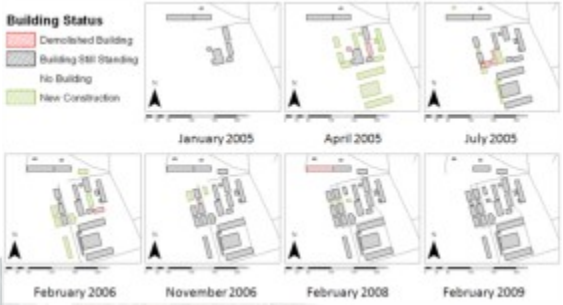
Population in transitional shelters (Government Statistics vs. Imagery)

4. ENVIRONMENT



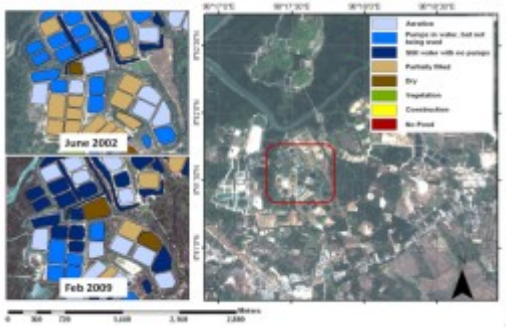
Changes in Environmental Land Cover

5a. SERVICES (EDUCATION)



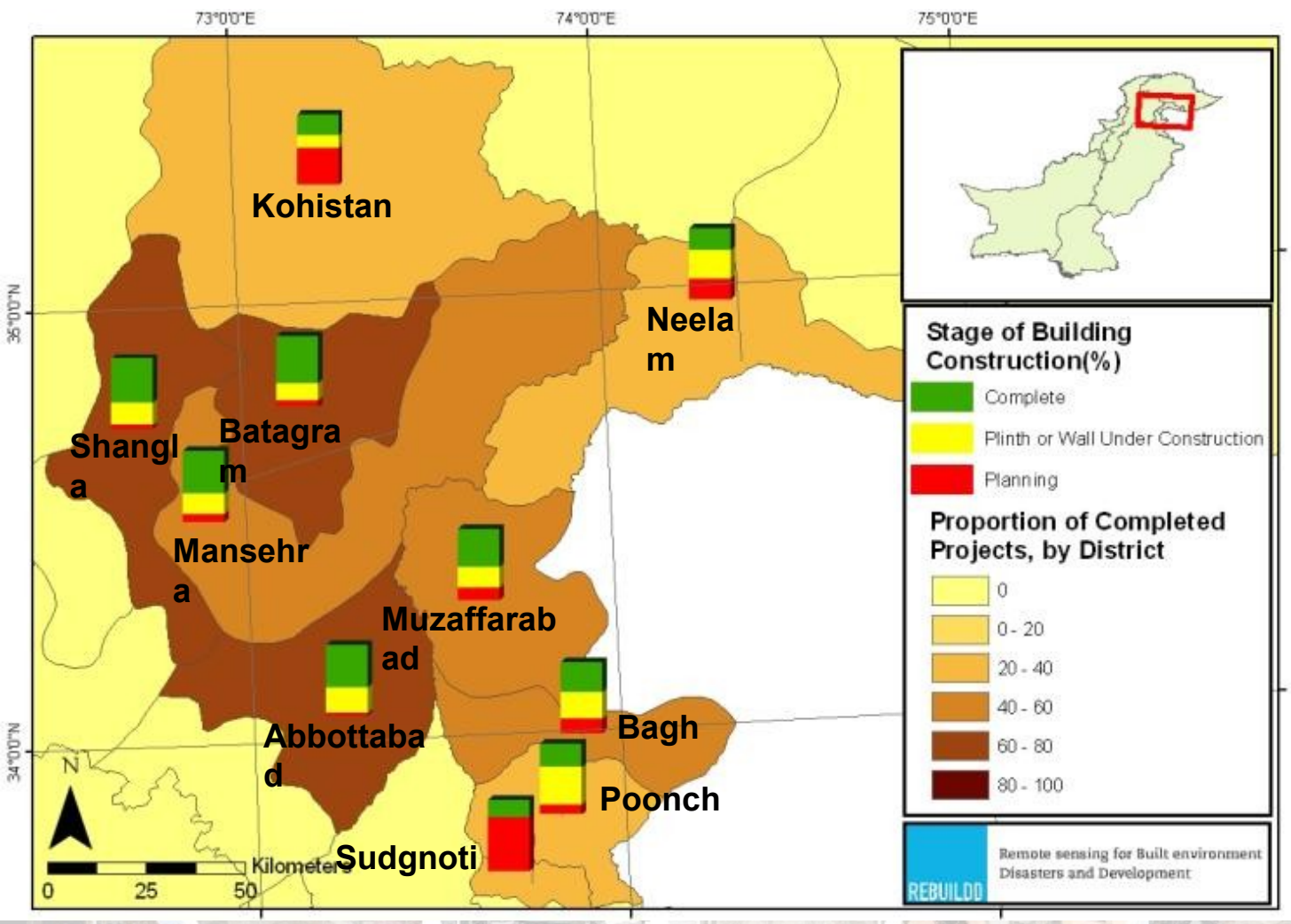
Evolution of permanent & temporary buildings

6a. LIVELIHOOD



Productivity of shrimp aquaculture

Fully Scalable



Satellite Imagery

Ground Survey

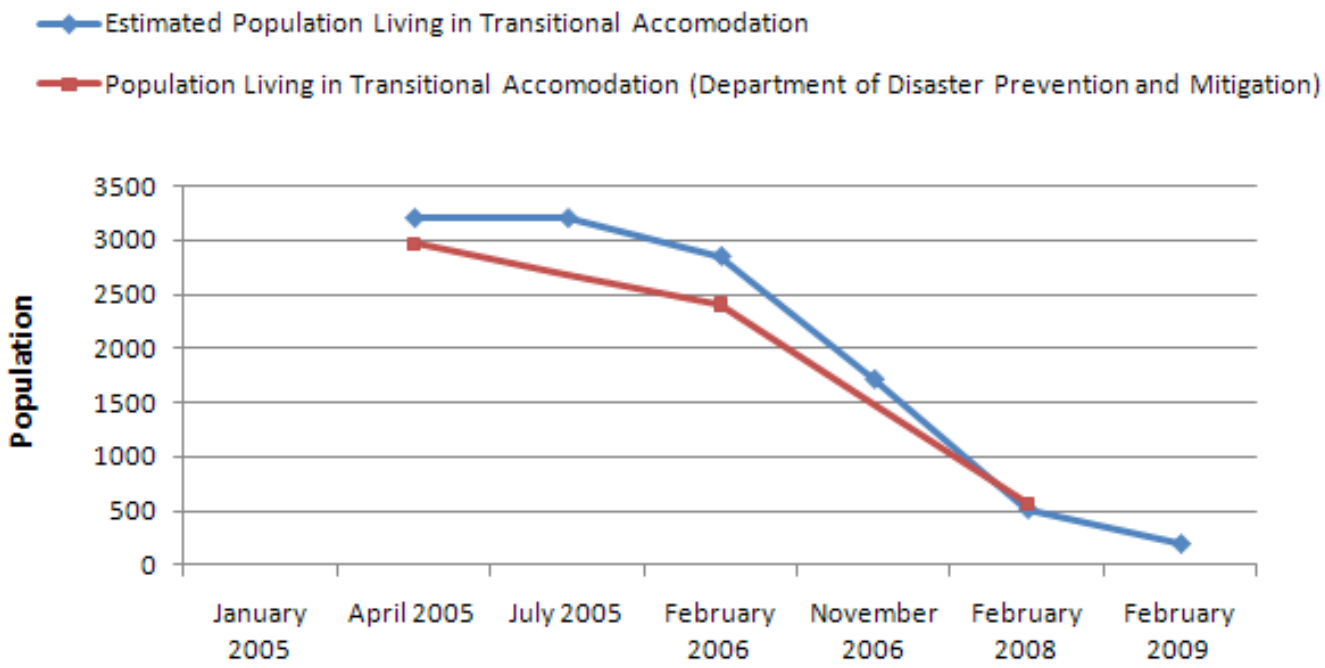
First stage: plinth complete

Second stage: walls complete

Third stage: building complete

Validation

Estimated Population Living in Transitional Accommodation versus Statistics supplied by DDPM



Housing:
85% building count accuracy
(compared with field observations)

Transport:
96% accuracy
(compared with field observations)

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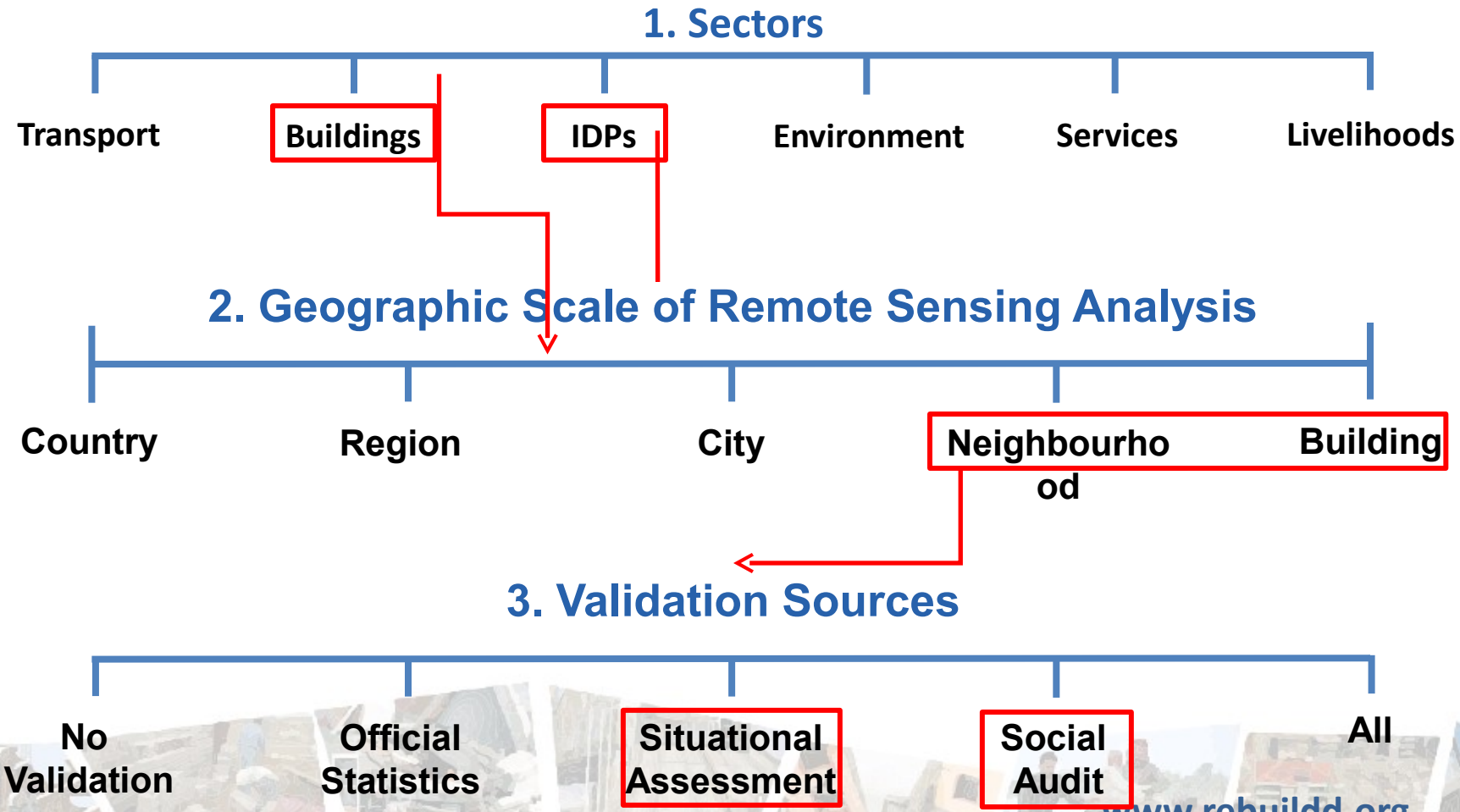
Tailored to End-user Needs

BritishRedCross REBUILDD



ReBuilDD's Journey

Upscale from project-level to country-level

Operational testing with British Red Cross, WB, & Chilean Government.

Work with early adopters to finalise commercial offering

2011 ->

Monitoring & Evaluating Recovery with Satellites

Become an Early Adopter:

Standardised

✉ info@rebuildd

Transparent

💻 www.rebuildd.o

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Independent

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Efficient

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