GLOBAL PROGRAM FOR SAFER SCHOOLS

Assessment, Recovery and Resilience of Educational Infrastructure in Nepal

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Fall 2015 Meeting of the GFDRR Consultative Group
October 29, 2015
Damaged school in Nepal, April 2015
Impact of the April 25 Earthquake

• 9,000 affected schools
• 20,000 collapsed classrooms
• 30,000 damaged classrooms

School in Sindhupalchok, May 2015
Impact of the April 25 Earthquake

• 479 students dead
• 45 teachers dead
Planning the Recovery...

Key Cooperation in the Education Sector
Reinforced concrete frames

Metallic frame with stone masonry walls

Confined masonry

Historic brick masonry walls

Brick masonry walls

Unreinforced stone masonry walls
Planning the Recovery...

Priority Pillars of the Trust Fund

Pillar I
SIDA - STRUCTURAL INTEGRITY AND DAMAGE ASSESSMENT

Pillar II
PIP - PRIORITIZED INVESTMENT PLAN

Pillar III
MANAGEMENT AND POLICY REFORM

Australian Government
Department of Foreign Affairs and Trade

Collapsed school in Sindhupalchok, May 2015
Planning the Recovery...

A Rational Approach

Emergency Response

April 25, 2015

2 months

RVA

Planning Phase

10 months

SIDA

- Post-earthquake Educational Infrastructure Baseline

Reconstruction Phase

> 12 months

DE

PIP

Regulatory and Institutional Reforms

Key:

RVA – Rapid Visual Assessment
SIDA – Structural Integrity and Damage Assessment
PIP – Prioritized Investment Plan
DE – Design
Planning the Recovery...

SIDA – Structural Integrity and Damage Assessment

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<th>Aims</th>
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<tr>
<td>• Prioritized Investment Plan (PIP)</td>
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<td>• Baseline for long-term risk assessment and DRM</td>
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<td>• Web-based platform</td>
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<th>Initial Scope</th>
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<tr>
<td>• <strong>Phase 1: 8 districts</strong></td>
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<td>3,120 schools</td>
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<tr>
<td>133 higher educational facilities</td>
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<td>• <strong>Phase 2: 6 districts</strong></td>
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<td>2,639 schools</td>
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<td>41 higher educational facilities</td>
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Planning the Recovery…

SIDA – Design of SIDA

• Participation of local and international experts

• Field work planned and executed by local engineers

• All process designed in collaboration with local authorities

Nepali engineers conducting SIDA, September 2015
2.6 Is there a landslide risk?

**Purpose:**
This provides information on whether there is a known landslide risk on/near the school site.

**Guidance:**
This information should be gathered during the interview with the school contacts and through observation during the site campus walk around. This will include evidence of previous landslides, heavy erosion, whether mitigation measures have been constructed such as a retaining wall, stabilisation of slope. If there is a risk of landslides further details should be sort, such as, history of last landslide event (year).

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**Unstable soils:** In seismic areas, sites with known or suspected soils that could become unstable in an earthquake are at risk to landslides.

- Deep cuts into a slope weakens its stability.
- Retaining walls can help stabilize slopes weakened from cuts.

Ref: Towards Safer School Construction – A community-based approach, 2015
Ref: Guidance Notes on Safer School Construction, GFDRR, 2009

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**SIDA Guide**

**SIDA App**
Planning the Recovery...

SIDA – Pilot Tests
Planning the Recovery…

SIDA – Training of surveyors
Planning the Recovery...

Strategy for the PIP – Prioritization of the Recovery

Desk Top Study

- RVA
  - General School Campus data
- Condition State Assessment
  - Partial collapse, severe and minor damage to structural and non-structural elements
- SIDA
  - School Campus
  - Exposure and Building Vulnerability Assessment and Condition

Desktop Hazard Assessment (exposure Assessment)

If site inappropriate
- Relocate
  - Inappropriate Structural Typology
  - Total Collapse
  - Uneconomic to retrofit

If site in appropriate
- Economic to retrofit and repair
  - Retrofit
  - Repair
  - Reconstruct
Planning the Recovery...

SIDA – Progress to date

14 priority districts: 14%

- 795 schools
- 2,400 buildings

All impacted districts: 4%

GFDRR
Global Facility for Disaster Reduction and Recovery
Planning the Recovery...

SIDA – Challenges

- Shortage of fuel
- Remote areas
- Landslides
- Floods
- Weather
Long-term agenda...for a resilient recovery

Challenges:

- School reconstruction financing strategy
- School retrofitting program
- Assessment countrywide
- Institutional capacity
- Regulatory framework reforms
- Community engagement
Working towards a resilient recovery!!

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Students at a collapsed school in Nepal, May 2015