South Asia Regional South-to-South Learning Workshop
Geo hazard Risk Management for Transport

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Integrated Disaster Risk Management
Concept and Practice
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Hazards need not become disasters. But they do due to their interaction with exposure and vulnerability conditions.

Direct physical losses from disasters are following a steady upward trend and rising more rapidly than the regional GDP.

World Risk Report, 2016
Climate change, rapid urbanization, poverty and unsustainable pattern of development are major drivers of disaster risks.

**Critical infrastructures**, while important in sustaining normal function of society are also disaster risk drivers.

*World Risk Report, 2016*
Critical Infrastructure

Energy: electricity, gas, oil

Information technology and telecommunication

Transport and traffic: air transport, maritime transport, inland waterways transport, rail transport, road transport, logistics

Health: medical services, pharmaceuticals and vaccines, laboratories

Water: public water supply, public sewage disposal
Critical Infrastructure

Food: food industry, food trade

Finance and insurance: banks, stock exchanges, financial service providers

State and administration: government and public administration

Media and culture: broadcasting, print and electronic media.
Critical Infrastructure

Transport system
• Failure of transport system brings disasters.
• Occurrence of natural disasters causes failure/damage to the transit system.

Considerable interdependencies: The breakdown of one sector can lead to disturbances in other sectors and trigger a cascade of failures or damage.

World Risk Report, 2016
True development can not be sustained if disaster and climate risks are not addressed, and if critical infrastructure are not maintained, monitored and managed.

Disaster risks need to be managed in an integrated and holistic manner

WRR,2014
Integrated Disaster Risk Management is an approach

**Vision** – well protected and resilient communities & nations.

**Principles:**
- Some development initiatives bring potential disaster risk, but also provide opportunities to enhance resilience;
- DRM investments may fail and even intensify disaster risk;
- The need to increase investments to address outstanding risk and to avoid potential long-term risks.
Integrated Disaster Risk Management

**Disaster risk reduction** (Prevention, mitigation, preparedness, response recovery)

**Climate change adaptation** (coping and adapting with the consequences of changing climate)

**Public and private disaster risk sensitive investments**
(development of funding strategies)
“Saurpani, in the Nepalese District of Gorkha, was no longer accessible. There was no shelter in the village, and food supplies had run out. The road to Kathmandu, five hours away by car, was blocked by rocks and boulders. The last miles to the village were to be taken on foot, with a backpack for the barest necessities. 

......the roads in the remote mountain regions were blocked by landslides and avalanches, telephone lines were destroyed, and power supply was cut off......

....As was the case in the two earthquakes in Nepal, susceptible infrastructure and logistical conditions often contribute to extreme natural events turning into humanitarian disasters”.

WRR, 2016
Application of IDRM in Road transport

• Prevention and mitigation
  Ex. Road asset management, monitoring and maintenance
• Preparedness in transport sector

• Emergency response
• Recovery: repairs, reconstruction, rehabilitation
Application of IDRM in Road transport

Can we aim for disaster resilient road transport system?

Adhikari 1st South-South Workshop, 2016