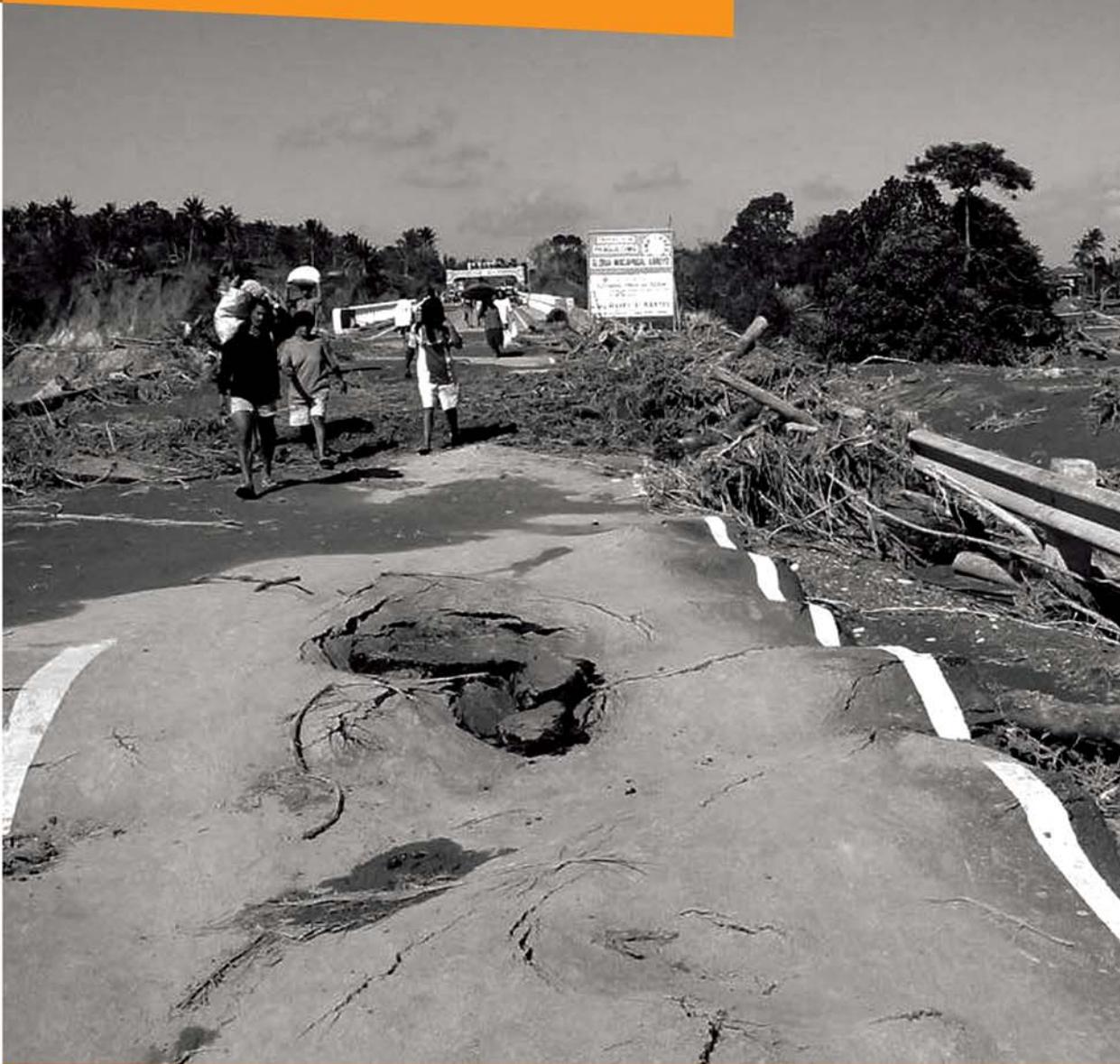


# Towards Mainstreaming Disaster Risk Reduction into the Planning Process of Road Construction



A Priority Implementation Partnership between the National Disaster Coordinating Council and the Department of Public Works and Highways, Philippines

Under the Regional Consultative Committee on Disaster Management (RCC) Program on Mainstreaming Disaster Risk Reduction into Development in Asia

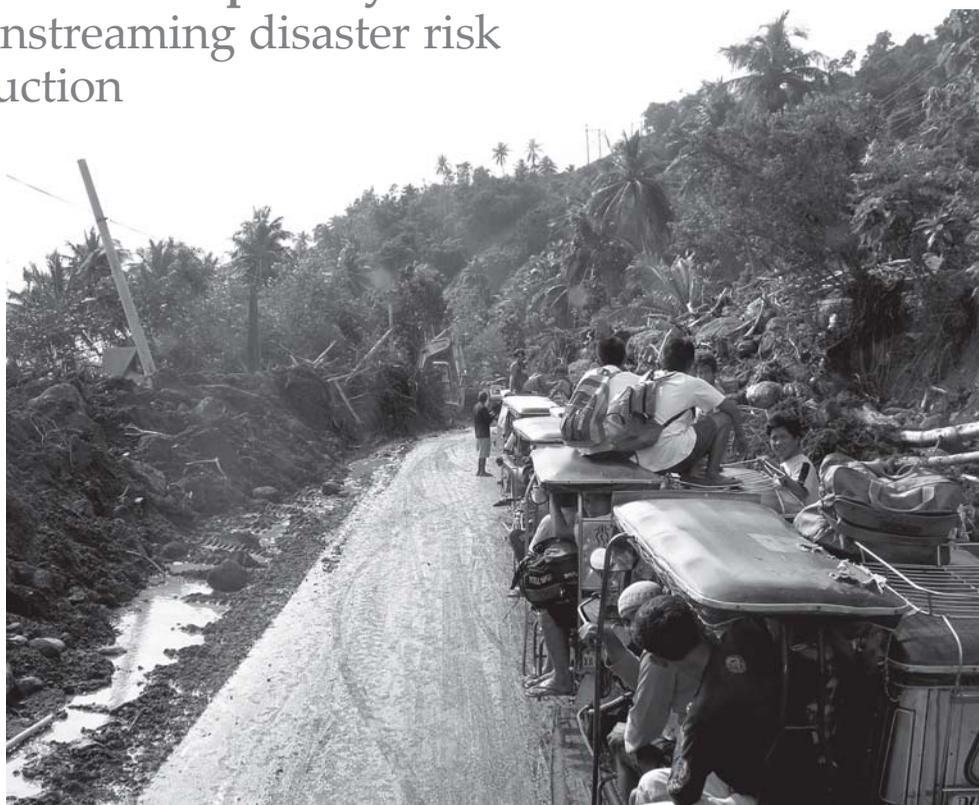
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# Road Sector a priority for mainstreaming disaster risk reduction



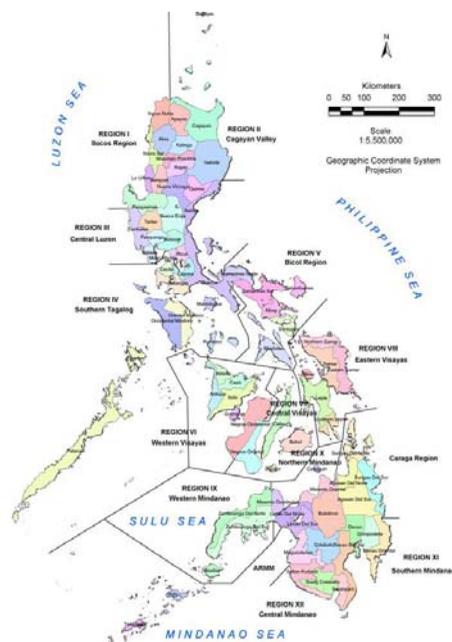
## BACKGROUND

The Regional Consultative Committee (RCC) on Disaster Management under its program on Mainstreaming disaster risk reduction into development (MDRD) have identified Roads and Infrastructure, Agriculture, Education, Health, Housing and Financial Services as priority sectors to initiate mainstreaming disaster risk reduction. With the massive infrastructure development in Asia underpinned by the investment in highways, roads and bridges, prioritizing the Road Sector is certainly a necessity.

In the RCC which comprises of heads of the National Disaster Management Offices of 26 Asian Countries, members had submitted expression of interest (EoI) to mainstream of disaster risk reduction into particular sectors depending on the development priorities of their country.

The National Disaster Coordinating Council (NDCC) of the Philippines which is a member of the RCC expressed interest in taking-up MDRD into road sector in partnership with the Department of Public Works and Highways (DPWH), the agency responsible for national road construction in the country.

Accordingly in the first quarter of 2006, the Priority Implementation Partnership for mainstreaming disaster risk reduction into the planning process of road construction in the Philippines was started by NDCC and DPWH. The partnership was technically supported by the Asian Disaster Preparedness Center (ADPC) with financial support from UN International Strategy for Disaster Reduction (UN/ISDR) through Swedish International Development Cooperation Agency (SIDA).



source: Mapping Philippine Vulnerability to Environmental Disasters - Manila Observatory/Department of Environment and Natural Resources (DENR)

Floods and earthquakes make the road system in the Philippines prone to landslides, road slips, embankment scouring and other sediment related disasters. Roads are often closed for several days when hit by such disasters causing disruption in transportation services that affects the access of passengers, goods and services.

The impact of flooding and typhoons in creating havoc to the country's economy as well as to damage to property is recognized in the Medium Term Philippine Development Plan of 2001-2004 and accordingly the DPWH has also aligned its policies and strategies.

# Priority Implementation Partnership (PIP) – a Process towards mainstreaming disaster risk reduction

Similar to other countries, the Road sector in the Philippines also works in close collaboration with various government departments like Planning, Finance, Environment and Local Government. While the development of national roads (30,000 km of length) is under the jurisdiction of DPWH, the remaining road network (172,000 km of length) falls under the concern of local government units.

In addition, road projects are based on area development plans produced by the National Economic Development Agency (NEDA) and the Regional Development Councils (RDC). Similarly the feasibility reports prepared for each road project undergoes an environmental and a social impact assessment led by the Department of Environment and Natural Resources (DENR).

In order to mainstream disaster risk reduction, further collaboration is required with NDCC and technical agencies responsible for producing hazard information related to natural disasters like the Philippines Institute of Volcanology and Seismology (PHIVOLCS), Philippines Atmospheric, Geophysical and Astronomical Services Administration (PAGASA).

## A MULTI-AGENCY TECHNICAL WORKING GROUP TAKES THE LEAD

With this understanding, the PIP formed a technical working group of the NDCC at the beginning with multi-agency membership to steer the process of implementation of mainstreaming disaster risk reduction into the planning process of road construction.

### PIP Technical Working Group comprises:

- Chairperson; Planning service, DPWH
- Co-chairperson; Planning division, NDCC
- Members
- Bureau of research and standard, DPWH
- Bureau of design and bridge division, DPWH
- Philippines Institute of Civil Engineer
- Department of Environment and Natural Resources
- Philippines Institute of Volcanology and Seismology
- Philippines Atmospheric, Geophysical and Astronomical Services Administration
- Asian Disaster Preparedness Center

## PIP LOOKED INTO

The technical working group engaged in consultation and decided on the following activities for initiating mainstreaming. Since it was realized that the ultimate aim of mainstreaming could only be achieved by bringing change in the entire system, which road projects are developed, designed, constructed and maintained. Hence this particular partnership would emphasize on understanding the existing



procedure of road planning and identifying the windows of opportunity to introduce disaster risk reduction. Accordingly the scope of activities was detailed as follows:

- Documentation of existing procedure for development of road projects with respect to hazards;
- Documentation of contents of pre feasibility/ feasibility report of road projects in the country over the past 20 years;
- Analysis of past damage to road infrastructure;
- Identification of specific steps that can be taken for incorporating hazard considerations in project development and approval process;
- List of future priority projects for construction of roads in the Philippines.

The technical working group met frequently over the PIP implementation period to look at the mentioned activities above and developed the final report which details recommendations for integrating DRR into the planning process of new road construction in the Philippines.

## BROADER CONSULTATION

The findings of the PIP were shared during a national workshop held in February 2007, in which a wide range of stakeholders participated including the Government, technical agencies, UN agencies and the Asian Development Bank. The recommendations were discussed in detail and future steps were identified.



## KEY FINDINGS

- DPWH adopts a basic “one size fits all” format for feasibility studies of road projects that does not specifically require assessment of disaster risks. During detailed design, disaster risk reduction aspects are incorporated into the project if required.
- Mostly national budgets do not provide funds for surveys and investigations at the feasibility study stage, and it is therefore unusual for disaster risk reduction measures to be incorporated at early stages of project preparation.
- Externally funded projects are prepared to higher standards, particularly in relation to environmental assessments (where disaster risk aspects are described if required by the particular agency) and resettlement planning.
- There is uneven application of building codes and design standards between national and local roads.
- Absence of one fixed format for collecting information on damage to roads and bridges from natural hazards prepared by district-level offices.
- Hydrological data are available for major river basins in the Philippines but these information have not uniformly been processed to provide flow/stage relationships for different return periods, which could be used for road design.

## Recommendations

- DPWH needs to have a standard on project identification and preparation procedures to eliminate quality discrepancies between nationally and externally funded projects and to pave the way for mainstreaming disaster risk reduction in road projects.
- Feasibility reports should include assessments of the impact of potential disasters.
- An enhanced natural hazard/impact assessment component should be included in the EIA for nationally-funded and foreign-assisted projects
- The existing system for monitoring road needs to be improved to allow for the recording of damage caused by natural disasters.
- Standard formats and reporting standards should be introduced for monitoring and for collecting damage data from the impact of natural disasters on roads.
- Capacity of staff to assess the impact of natural disasters needs to be increased, particularly at the regional and district levels.

## Next Steps

for mainstreaming disaster risk reduction into road sector in the Philippines

In order to take forward the momentum gained under the PIP, the technical working group has identified the following next steps to realize the recommendations:

- Identifying two pipeline road projects in a hazard prone area of the Philippines. The two projects would be at different stages namely a pipeline project without a feasibility study and a pipeline project with a feasibility study completed.
- Integrating disaster risk reduction (DRR) into the planning process of two identified pipeline project.
- Capacity building of officials from DPWH responsible for conducting feasibility studies on how to integrate DRR.

## Learning

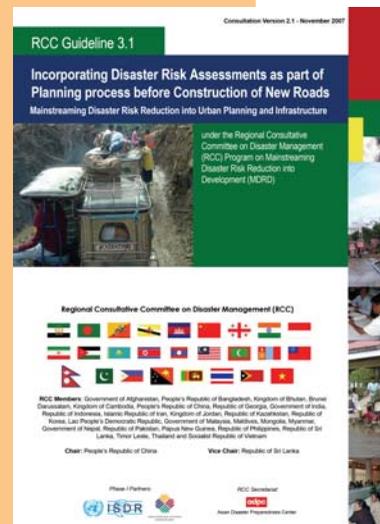
The key to successful integration of disaster risk reduction on road projects lies in the planning phase of the project cycle which includes project identification and preparation of the feasibility study.

Assessing the possible impact on the project of natural disasters or other hazards at this stage means that the appropriate risk reduction measures can be included in the scope, layout and arrangement of the project's major components—and that these measures will be allowed for in the cost estimate.

If such measures are not included at the planning phase, their inclusion at the later stages is unlikely, or could be costly and inconvenient (i.e. possibly requiring a supplementary budget).

Attempting to include risk reduction measures at the design stage (after major elements of the project have been decided and the budget has been allocated) cannot adequately satisfy the need for disaster risk reduction.

*The key to successful integration of disaster risk reduction on road projects lies in the planning phase...*



### Experience of PIP incorporated in the RCC Guideline on mainstreaming disaster risk reduction into Infrastructure

- To share the experience gained during the process of implementation of the PIP with the remaining RCC member countries, the technical working group represented by DPWH and NDCC participated in a regional technical workshop on developing the RCC Guideline on incorporating disaster risk assessments as part of planning process before construction of new roads. The lessons learned from the PIP acted as the guiding approaches for initiating mainstreaming disaster risk reduction.

## Regional Consultative Committee on Disaster Management (RCC)

The RCC comprises of members who are working in key Government positions in the National Disaster Management Offices of countries of the Asian region. To date, 26 countries are represented by 30 RCC Members from the Asia and Pacific regions, namely, Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, China, Georgia, India, Indonesia, Iran, Jordan, Kazakhstan, Korea, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand, Timor Leste and Vietnam.

## RCC Program on Mainstreaming Disaster Risk Reduction into Development Policy, Planning and Implementation in Asia (RCC MDRD)

A key priority identified by the RCC is the integration of disaster risk considerations into development planning. To initiate action on this agreed direction, the RCC Program on Mainstreaming Disaster Risk Reduction into Development Policy, Planning and Implementation (MDRD) was launched at the 4<sup>th</sup> RCC meeting in Bangladesh in March 2004. The RCC 5 adopted the Hanoi RCC 5 statement on Mainstreaming Disaster Risk Reduction into Development in Asian Countries which prioritizes mainstreaming of DRR to be initiated in National development planning process as well as Sectoral development. It identified six priority sectors namely Agriculture, Education, Health, Housing, **Urban Planning and Infrastructure** and Financial services for mainstreaming of DRR. The program has five components for implementation:

- Component 1: Developing Guidelines and Tools for MDRD
- Component 2: Undertaking Priority Implementation Partnerships (PIP) in MDRD in RCC Member Countries
- Component 3: Showcasing good practice on MDRD and Monitoring Progress
- Component 4: Advocacy for Building awareness and Political Support to MDRD
- Component 5: Mobilizing Partnerships for ongoing and sustainable implementation

The Hanoi RCC 5 statement identified the following sub themes within the Urban Planning and Infrastructure to initiate mainstreaming of disaster risk reduction:

- **Introducing Disaster Risk Impact Assessments into the construction of new roads and bridges;**
- Promoting the use of hazard risk information in land-use planning and zoning programs

This case study highlights the experience of undertaking a Priority Implementation Partnership on incorporating disaster risk impact assessments into the construction of new roads in the Philippines, implemented by the National Disaster Coordinating Council (NDCC) and Department of Public Works and Highways (DPWH) with support from Asian Disaster Preparedness Center (ADPC), UN International Strategy for Disaster Reduction (UN/ISDR) and Swedish International Development Cooperation Agency (SIDA).

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