

Mainstreaming Disaster and Climate Risks into Investment Decisions – Learning from Lao PDR

Lao PDR

East Asia & Pacific
(developing only)

GDP at market prices (current US\$)
\$12.00 billion 2014

Income level

Lower middle income

Population, total
6.689 million 2014

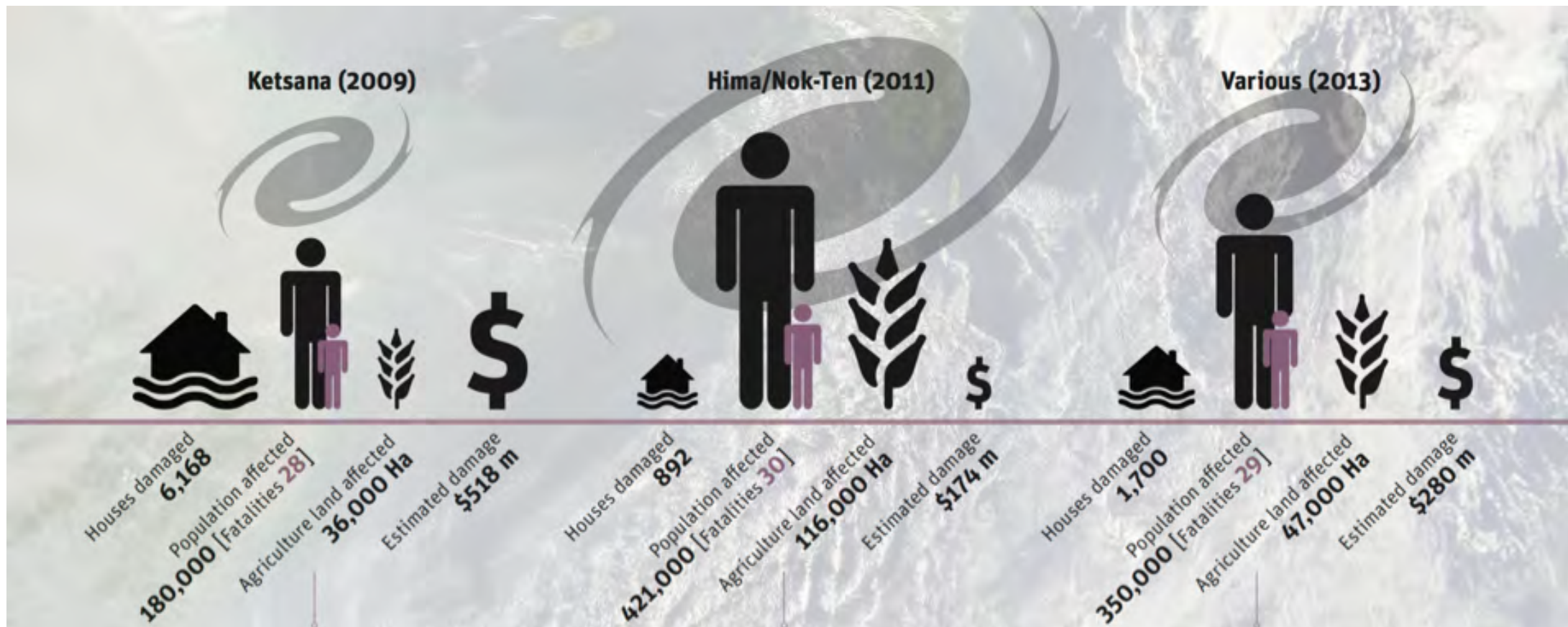


Population	6.689 million	2014
GDP	\$12.00 billion	2014
GDP growth	7.5%	2014
Inflation	4.1%	2014



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As We Grow, Disaster Risks Increase !



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Do science and policy processes provide major contributions to reducing disaster risk ?

Sendai Framework for Disaster Risk Reduction 2015 - 2030

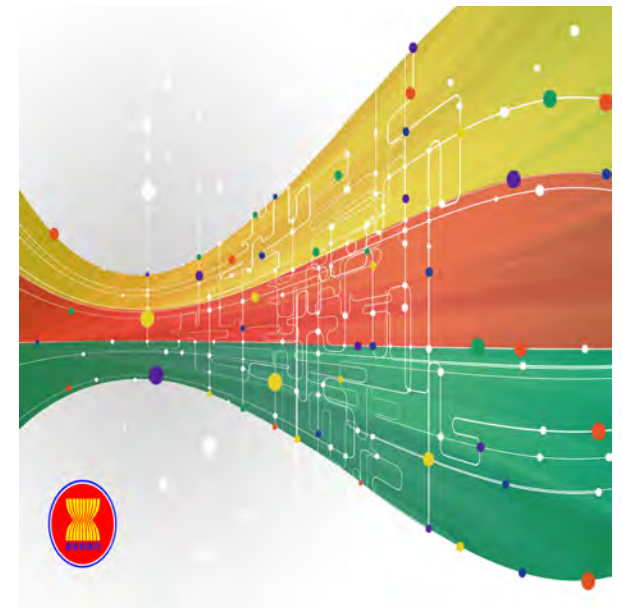


AADMER WORK PROGRAMME 2016-2020

*Launched at the 28th Meeting of the ASEAN Committee on Disaster Management
26-28 April 2016 in Semarang, Indonesia*

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BRIDGING SCIENCE AND PRACTICE IN DISASTER RISK MANAGEMENT



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Key Lessons

We need to '**lead from the top**' and ensure that the **voices of the vulnerable** are loudly ringing in our ears when we make decisions related to DRR. Whether that be in a local community-based project, or nationally when deciding on future policy frameworks.



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Background



Project Title: Mainstreaming Disaster and Climate Risk Management into Investment Decisions

Donor: World Bank - Acting Administrator of the Grant Fund
Fund Provided By: Government of Japan under the Japan Policy and Human Resources Development (PHRD) Technical Assistance (TA) Program

Amount: USD 2.7 M

Project Duration: February 2012 to January 2016

Project Coordination: Ministry of Planning and Investment
Implementing Partners: Ministry of Public Works and Transport
Ministry of Agriculture and Forestry

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Key Focus- Application of Risk Assessment for Effective Investment Decision

- Integrating climate and disaster risk management into strategic national and sectorial planning and development policies;
- Improving the consideration of disaster and climate resilience in the implementation of public infrastructure;
- Enhancing the human and institutional capacity through training at national, provincial, district, and community level in the design and implementation of resilient infrastructure; and
- Demonstrating the implementation of strategic structural and non-structural measures to enhance resilience by means of Pilot Studies in two risk-prone provinces.



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Disaster Risk Assessment

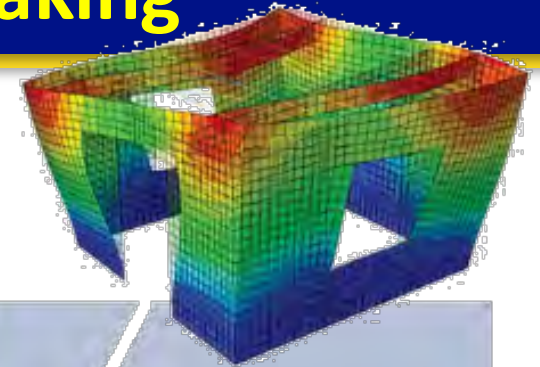
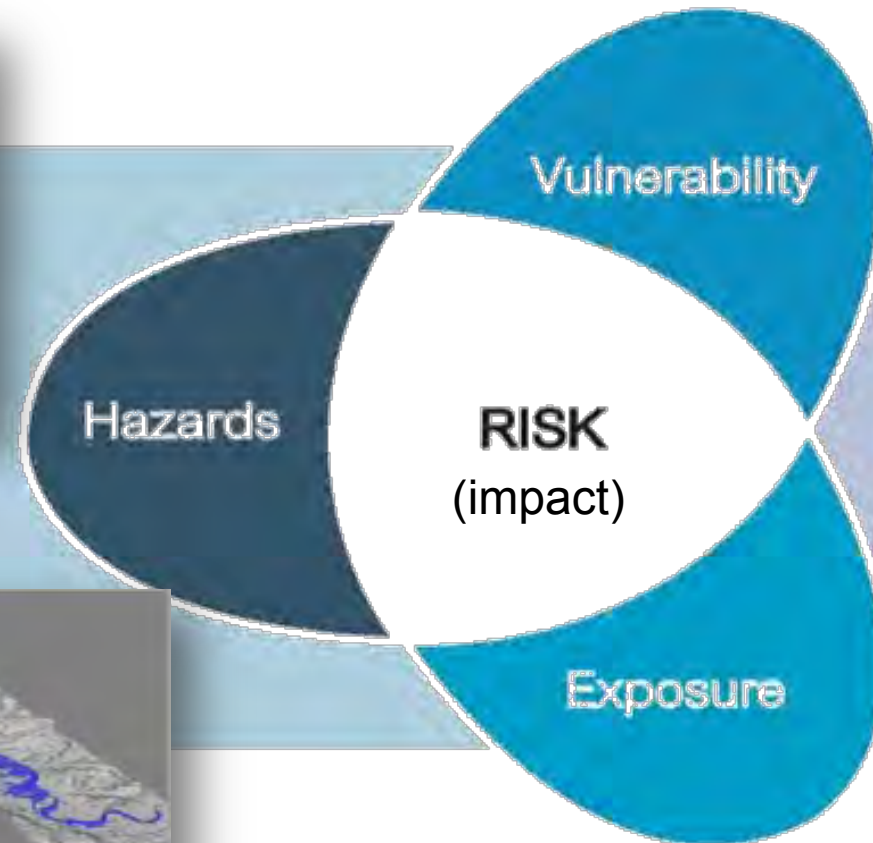
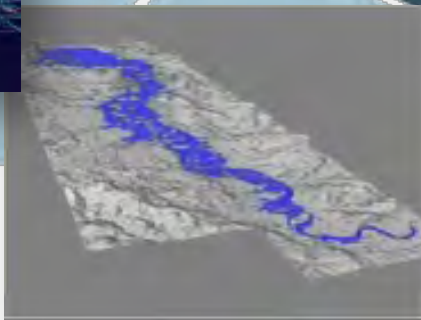
a scientific approach for effective policy making

engineering

field tests



hazard models



geospatial database

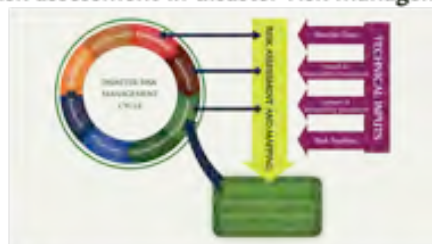


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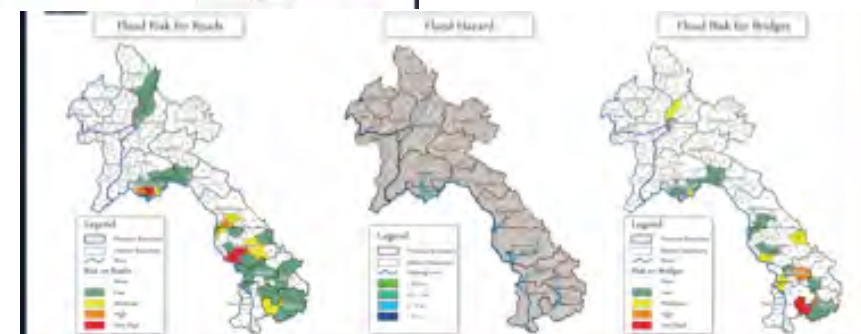
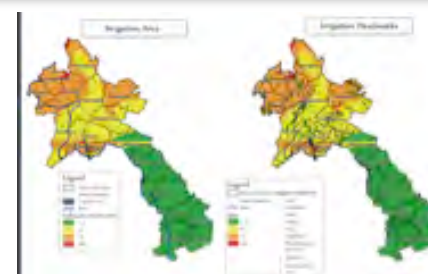
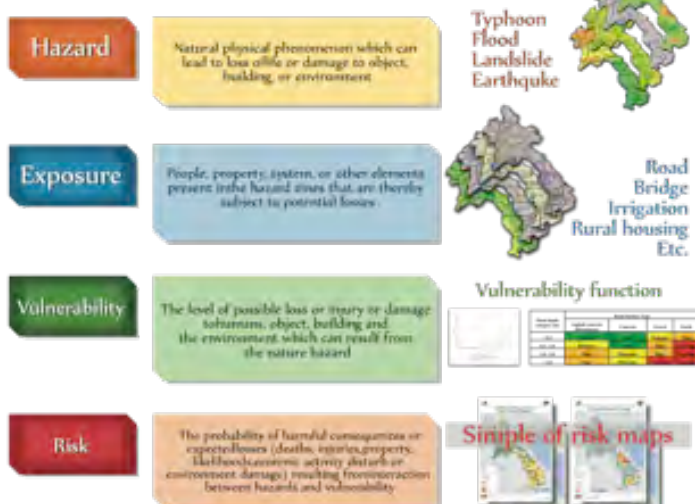
1- Key Messages: Risk identification: Foundation for Sustainable Disaster Risk Management (DRM)/Climate Risk Management (CRM)

Risk Assessment Methodology

Role of risk assessment in disaster risk management cycle



Basic components of risk assessment



2- Key Messages: Robust Risk Assessments Rely on an Investment in Scientific Data Sets

National level



District level: Boikhnan and Beng District



The "Ministry of Disaster Prevention and Relief Risk Management Information System" project aims to strengthen the institutional authority to monitor disaster risk management (DRM) and disaster response activities at the public infrastructure, community, and local levels. As a part of these ongoing efforts, risk assessment of transport, agriculture, rural housing, and urban land use patterns was carried out.

A national level risk assessment report was submitted separately. Terms of Reference (TOR) states that "risk assessment of typical provinces, provincial towns, and cities for local area impact from natural and man-made hazards".

Two conducting regions were selected taking into consideration the topography, climate and history of disasters, along with consideration that the Project Management Unit (PMU) was based during the implementation period from 1st September, 2013. The areas selected were Boikhnan District in Bakhmetong province and Beng district in Chumphon province.

Risk Atlas

Formed by the World Bank, the government has been developed with the technical assistance from Asian Disaster Preparedness Center (ADPC), Thailand, and funded by the Ministry of Planning and Investment (MPI) and PMU. The Risk Atlas is acting as a national atlas of the grant funds provided by the Government of Japan under the Japan Policy and Human Resource Development Technical Assistance Program to support the Government of Laos in its efforts to strengthen its institutional authority and engineering capacity at national and sub-national levels. The main goal of the Government of Laos PMU under the supporting Disaster and Climate Risk Management Information System (DCRIS) is to improve disaster risk management and climate change adaptation, including infrastructure investments, thereby potentially decreasing the vulnerability of the population and national economy to the effects of climate change and natural hazards.

The government has built a web-based technology, which is an open source platform for data mining and visualization, with the goal of making government data available to the public in Laos PMU. It is dedicated to displaying the data and providing the access to government data and information related to disaster risk management at the national level in Laos PMU.

The government is developed based on the three-tier perspective (national, provincial, and district) and designed as a common data format using open-source software. It provides users the ability to search and filter data by location, date, and disaster type, and to download the data in various formats (e.g., PDF, Excel, etc.).

GIS for Disaster Risk Reduction Capacity Building

GeoNode training



Basic QGIS training



Having completed Risk Assessment training, during the past two 3 days, this four day training is designed to introduce the concept of QGIS on first day, second day review the content, third day how to use QGIS data for making maps, and fourth day how to update the GIS database for Risk Assessment and fourth and final day how to use QGIS data for national Risk Assessment with sample by group work.

- Past disaster impacts, estimations of future disaster events, baseline exposure and critical infrastructure, and demographic and socioeconomic information.
- Collection and validation of high-resolution data to inform development planning and DRM programs at the local level
- Capacity building across all levels of government and in technical institutions to contribute to producing, sharing, and using risk information.

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3- Key Messages: Integrate Risk Identification into the Decision-Making Process



Manual
For
Public Investment
Project Management
(Version 4.1)



Ministry of Planning and Investment

May, 2015



Risk identification and analysis – integral part of Official Public Investment Project Management Procedure

- ✓ Project Proposal For Feasibility Study and/or Basic/Detailed Design
- ✓ Project Proposal For Infrastructure Projects
- ✓ Project Proposal For Feasibility Study and Construction Projects

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4- Key Messages: Strengthen institutional frameworks and coordination across sectors to develop and use risk information



- **Technical Working Group (TWG)** from line ministries: **Key Actors** in the development of the *risk assessment, policy, strategic and technical DRM mainstreaming guidelines*
- TWG : Technical and Management Forum for:
 - ✓ **Lao context deliverables**
 - ✓ **on-the-job training opportunity**
 - ✓ **Knowledge sharing and transfer**
 - ✓ **Ownership and sustainability of the mainstreaming process**

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5- Key Messages: Knowledge and Technical Capacity Improve the Ability to Implement Risk-Informed Development



- As part of the risk assessment process, tools and data are needed to quantify the drivers of risk
- Different needs and constraints in the area of risk identification
- Sharing the results of risk identification between government agencies and with a wider range of stakeholders is crucial

6- Key Messages: Long-term Investment in Human Resources Development Ensures Resilient Infrastructure Development



- Invest in in-country technical capacity and scientific knowledge of disaster risks
- Bridge the gap between national and community-level risk identification activities
- Create positive incentives for sharing information

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TURNING GOOD SCIENCE INTO GOOD DECISION MAKING

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Transport Sector : Technical Guidelines on Resilient Road Infrastructure in Lao PDR

- ☐ Road classification and key elements
- ☐ Impacts from climate change and disaster events
- ☐ Design and construction options
- ☐ Exposure assessment
- ☐ Risk identification
- ☐ Design consideration
 - Site selection, Sub-surface conditions, Drainage improvements, Pavement structure design, Hydraulic design for culverts



Irrigation Sector : Technical Guidelines on Resilient Irrigation Infrastructure in Lao PDR



Types of Headworks considered

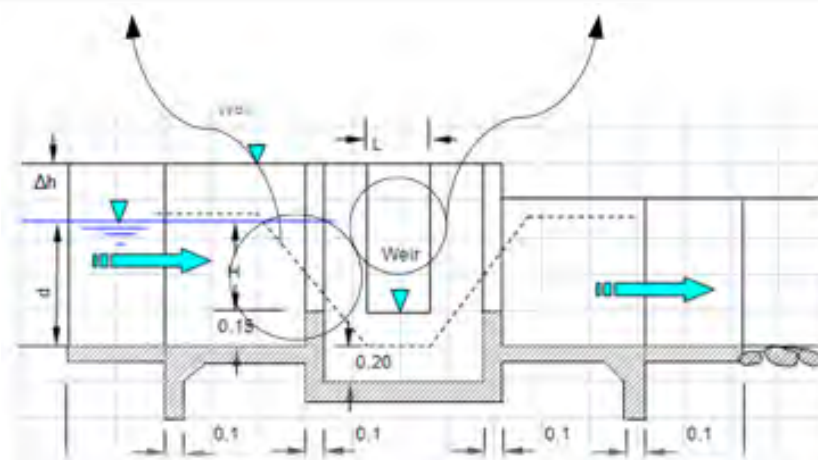
- Dams
- Intakes
- Pumps (diesel & electric)
- Reservoirs
- Sluice Gates
- Weirs

Source: Department of Irrigation (DoI)

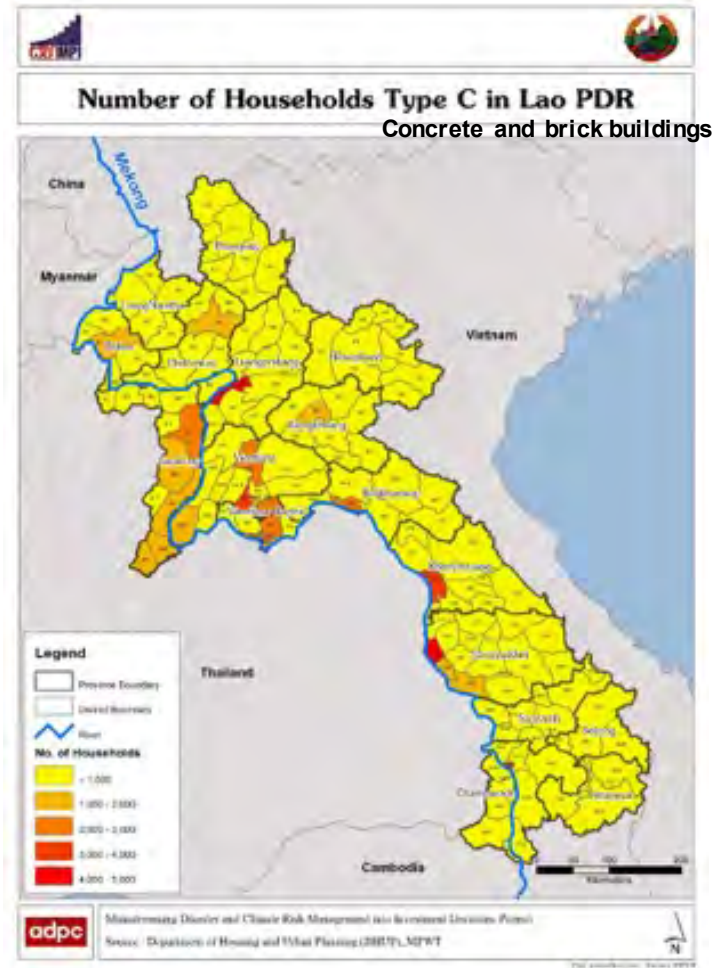
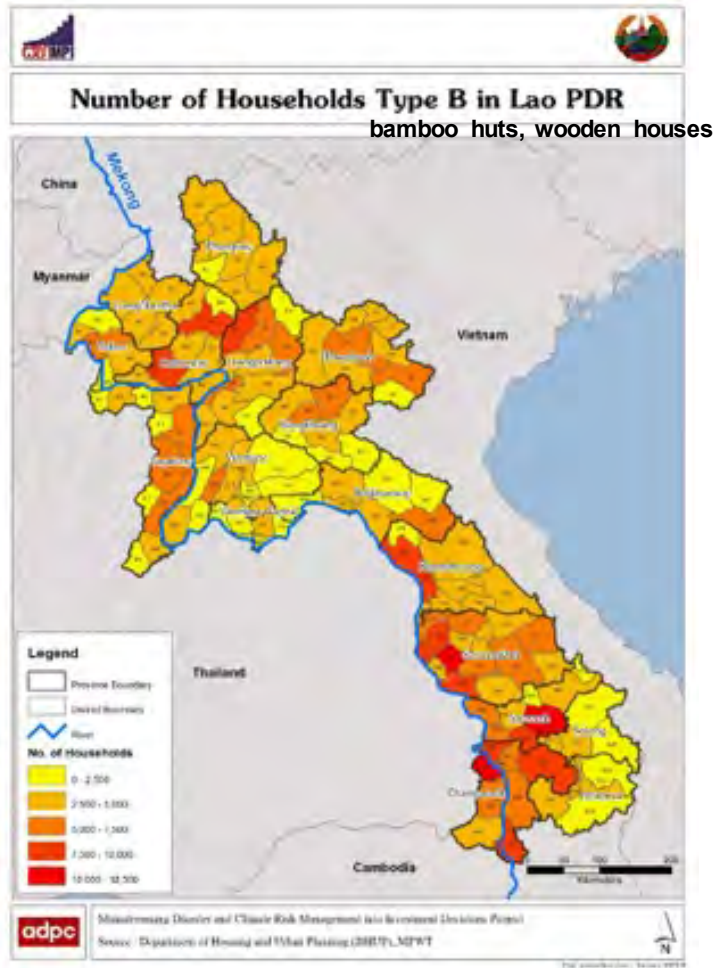
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Irrigation Sector : Technical Guidelines on Resilient Irrigation Infrastructure in Lao PDR

- ❑ Knowledge of construction practitioners to make irrigation infrastructure in Lao PDR resilient to climate change impacts
- ❑ Focus on the key irrigation structure elements that were most damaged from floods and earthquakes



Rural Housing Sector : Technical Guidelines on Resilient Rural Housing Construction in Lao PDR

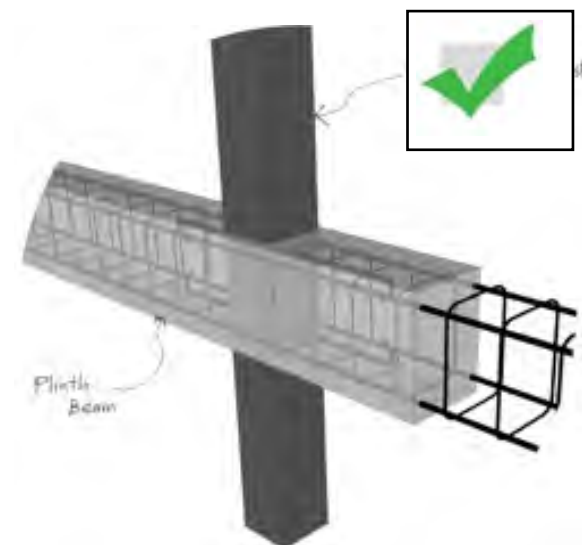


Source: Department of Housing and Urban Planning

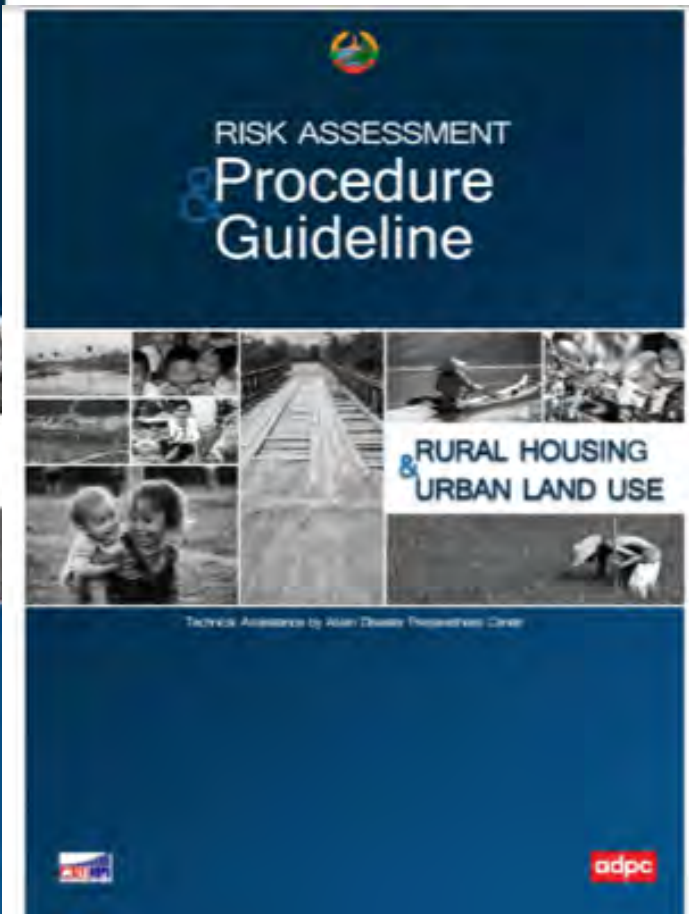
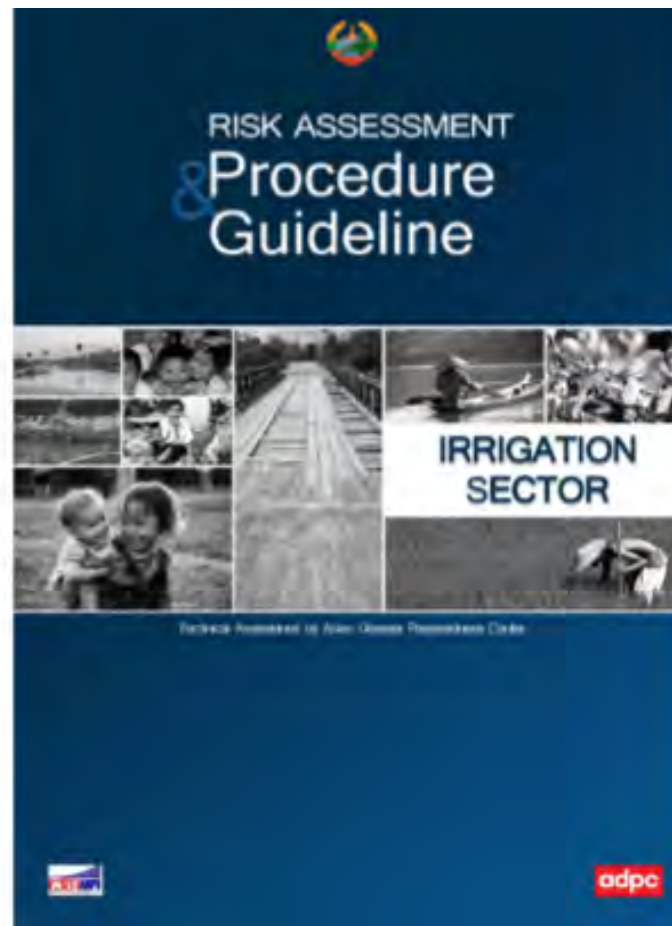
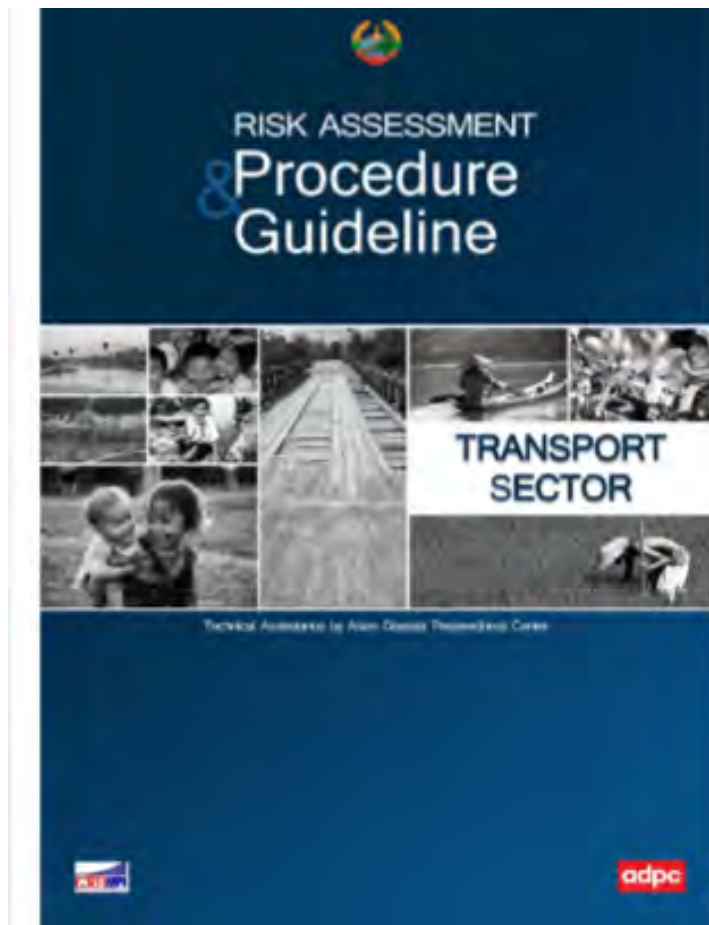
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Rural Housing Sector : Technical Guidelines on Resilient Rural Housing Construction in Lao PDR

- ❑ Emphasis on making housing resilient to flooding and storm events, as these hazards are most frequent and most damaging.



Bi-lingual : Policy Guideline on Mainstreaming DRM into Public Investment Project Process



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Transferring Knowledge : Risk Atlas for Lao PDR



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Welcome to the Multi Hazard Risk Information Portal of Ministry of Planning Investment (MHRI-MPI), Laos PDR.

The MHRI-MPI portal is a platform for hosting geospatial data of hazard and risk that can be used by a wide range of stakeholders. It is an easy-to-use interface allowing users for integrated creation of data and map visualizations, which is developed for Ministry of Planning Investment (MPI) under the Mainstreaming Disaster and Climate Risk Management into Investment Decision (MDCID) Project, with financial support from the World Bank who is acting as administrator of grant funds provided by Japan under the Japan Policy and Human Resources Development Technical Assistance Program to support the Government of Lao PDR (GoL).


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Earthquake Hazard
Layer from user 1, 1 year, 2 months ago
REQUIRED: A brief narrative summary of the data set.
27 views
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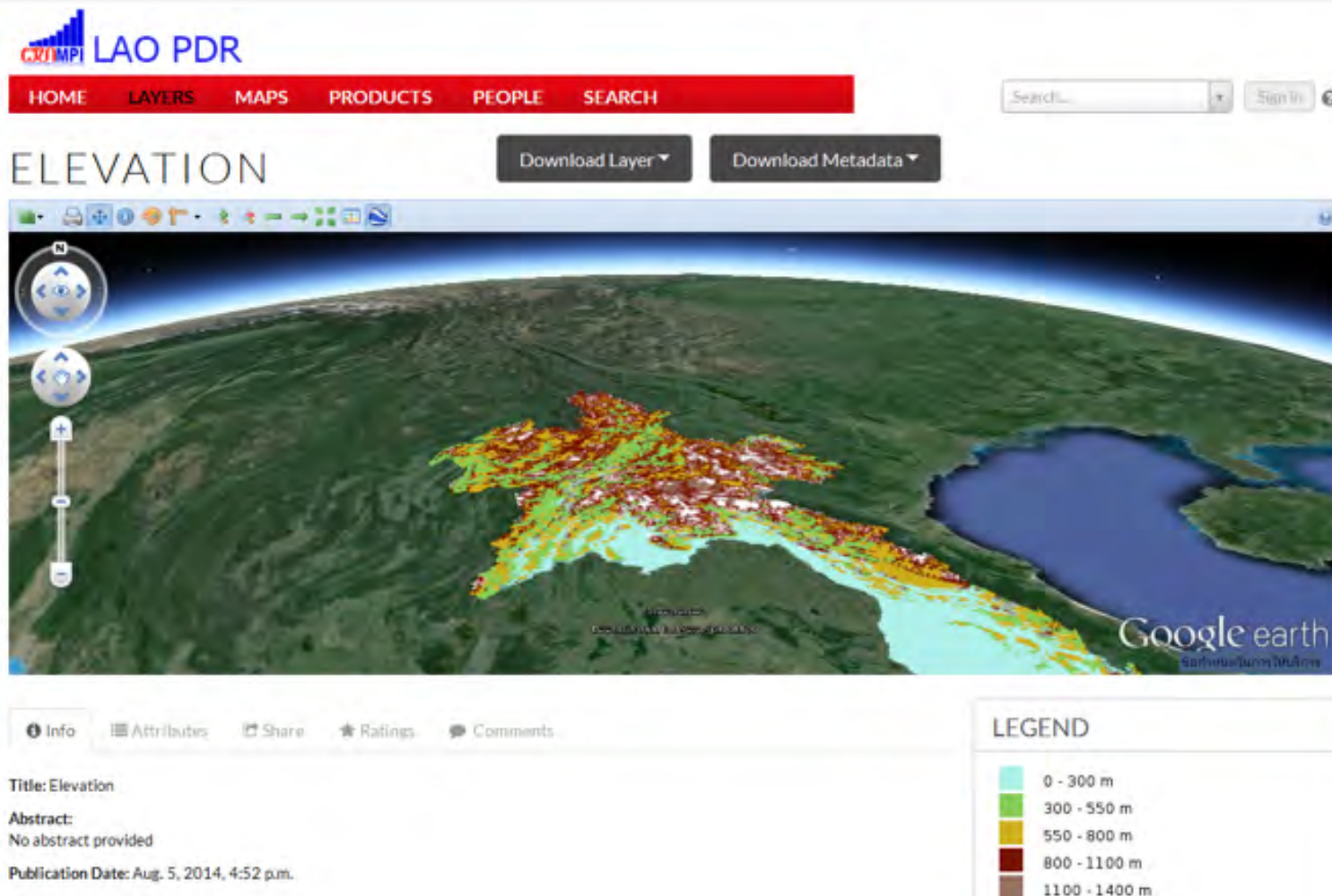
Elevation
Layer from user 1, 1 year, 3 months ago
No abstract provided
20 views
Average rating (0 votes)
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Flood Exposure map (road, irrigation headworks)
Map from user 1, 1 year, 2 months ago
Map shows the exposure of road and irrigation headworks to flood 100 year return period for Main river basin
31 views
Average rating (0 votes)
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Transferring Knowledge : Risk Atlas for Lao PDR



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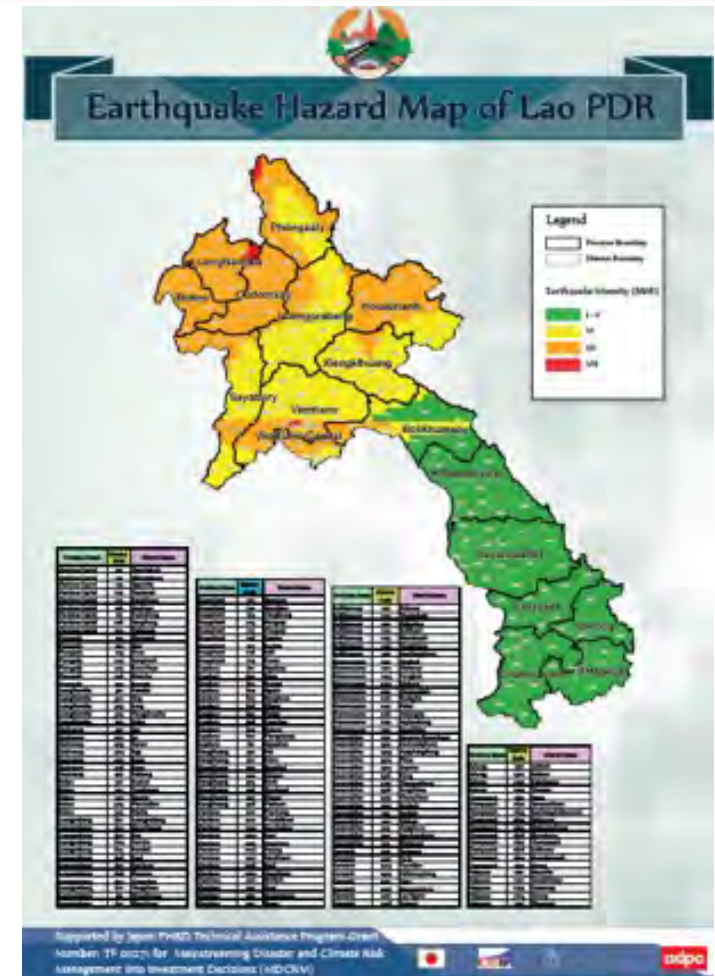
Disseminating through Web-platform

A web platform
for hosting the
hazard and risk



Way Forward

Utilization of risk assessment and DRM mainstreaming and technical guidelines by the government agencies for future development of policies, strategies, plans, programs and projects to ensure disaster resiliency at the national and local levels



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Way Forward

- Strengthening the data and information collection and management by using the risk assessment guidelines to support future update of risk assessment at national level
- Local and site specific risk assessment in the other high risk areas of the country



Way Forward

- **Introduction of DCRM integrated curriculum to the other relevant training institutions and universities departments country-wide**
- **Advocacy on DRM mainstreaming to increase good understanding and guidance from the decision makers at different levels**
- **Regular knowledge exchange and experience sharing on DRM mainstreaming among the practitioners and stakeholders (nationally, regionally and globally)**

THANK YOU



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