

# Learning from Cyclone Nargis:

## Lessons for Environment, livelihoods and DRR

Making Development Sustainable

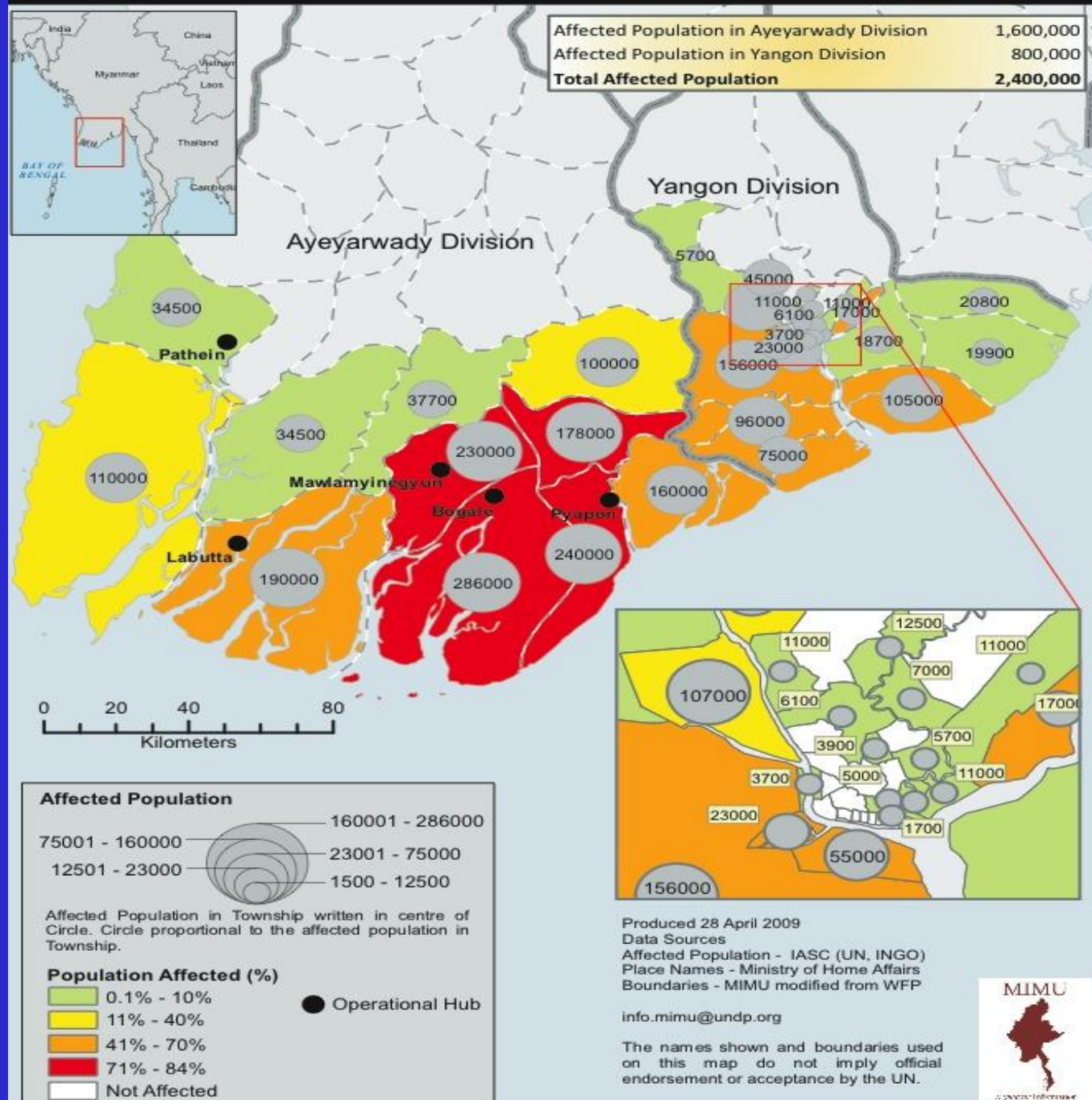
Massey University, 3 December, 2010

Post-conflict and disaster Management Branch,  
United Nations Environment Programme

# Nargis Impacts

- 140,000 killed;
- 450,000 homes destroyed
- 4,000 schools damaged or destroyed
- 75% of health facilities destroyed

## Population Affected by Cyclone Nargis



# Environmental impacts of Cyclone Nargis

## Some direct environmental impacts of Nargis:

- ❖ Damaged 35,000 ha of natural and planted mangroves;
- ❖ Pollution of surface and groundwater sources - 43% of ponds damaged;
- ❖ Salination and erosion of agricultural lands - 63% of paddy flooded by storm surge;
- ❖ Impact on fisheries by winds & storm surge;
- ❖ Sedimentation;
- ❖ Waste generation - debris from shelters, jetties.

QuickTime™ and a  
decompressor  
are needed to see this picture.

QuickTime™ and a  
decompressor  
are needed to see this picture.

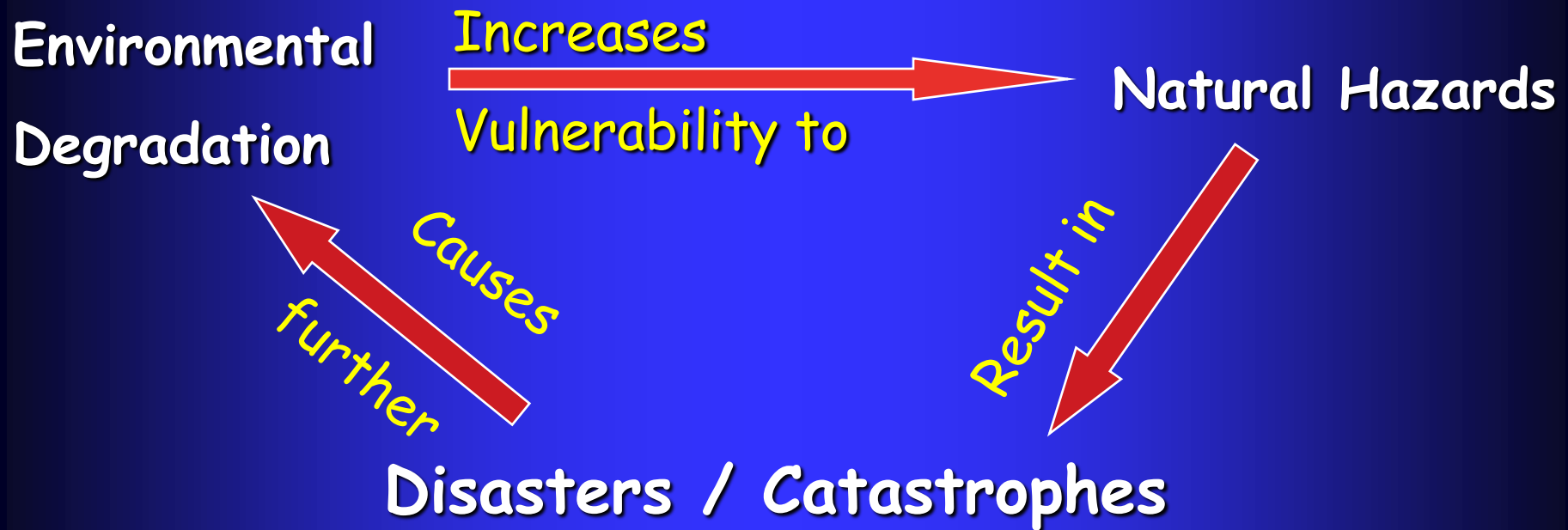
# Why were the environmental impacts of Cyclone Nargis so significant?

Environment & natural resources underpin livelihoods:

- ✓ Agriculture - paddy rice & other cash crops;
- ✓ Subsistence home gardens;
- ✓ Forest resources -  
timber, fuel, food & incomes;
- ✓ Fisheries - commercial and subsistence;
- ✓ Secondary Natural  
resources-based industries  
such as fish processing, etc;
- ✓ Salt production.

# Learning from Cyclone Nargis

The Vicious Circle of environmental degradation,  
Hazards and disasters





# Learning from Cyclone Nargis

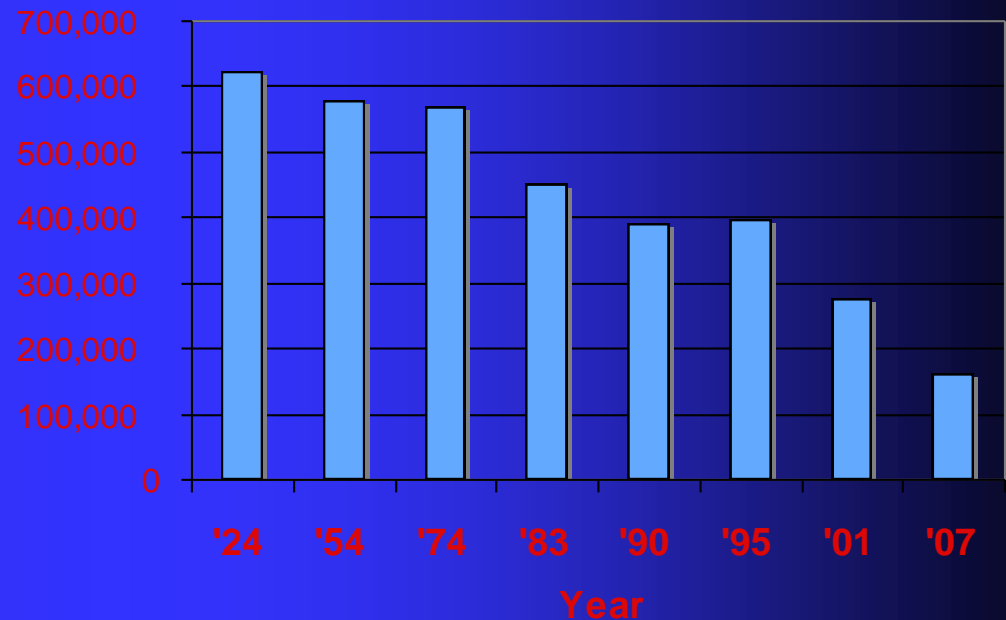
Natural Hazards turn into disasters when:

- ✓ Pre-existing environmental degradation results in loss of natural protection such as mangroves;
- ✓ Unsustainable resource management practices reduce a community's resilience to recover from disasters;
- ✓ Lack of investment leads to deterioration of man-made protective barriers such as embankments.

# Learning from Cyclone Nargis

Impacts of Nargis made worse by pre-existing environment degradation:

- ✓ Deforestation;
- ✓ Sea-water intrusion into drinking water sources;
- ✓ Over-fishing- commercial and subsistence;
- ✓ Land degradation;
- ✓ Erosion of embankments;
- ✓ Loss of 75% of original mangroves:



# Learning from Cyclone Nargis

## Causes of environmental degradation prior to Nargis:

### (1) Poverty-Environment Nexus

- ✓ Poverty limits choices for communities and especially for landless and leads to:
  - ✓ Loss of mangroves: for fuelwood, charcoal, paddy, shrimp farming;
  - ✓ Cutting of trees for timber, thatching, income;
  - ✓ Unsustainable farming practices;
  - ✓ Unsustainable fishing practices;
- ✓ Uncertainty over land/resource use rights.

QuickTime™ and a  
decompressor  
are needed to see this picture.



# Learning from Cyclone Nargis

Causes of environmental degradation prior to Nargis:

## (2) Lack of Capacity

- ✓ Weak civil society institutions;
- ✓ Lack of awareness and knowledge of sound resource management practices amongst communities;
- ✓ Lack of capacity amongst Local Authorities to support sound resource management practices in their districts
- ✓ Poor institutional capacity at all levels - national, regional and local levels.

# Learning from Cyclone Nargis

## Causes of environmental degradation prior to Nargis:

### (3) Governance

- ✓ Failure to reconcile development and environment priorities;
- ✓ Poor implementation and enforcement of laws;
- ✓ Inadequate coordination between sectoral Government agencies and between different levels of governance;
- ✓ Limited investment in agriculture sector, such as extension services, R&D, etc;
- ✓ Lack of reliable information on natural resources.

QuickTime™ and a  
decompressor  
are needed to see this picture.

# Learning from Cyclone Nargis

## Lessons from Nargis:

### (1) Sustainable livelihoods

- ✓ Ensure food security for those with access to land, and the landless;
- ✓ Focus on community-based initiatives that provide tangible benefits to communities;
- ✓ Provide alternatives to use of timber for fuel;
- ✓ Community participation in decision-making on natural resources;
- ✓ Strengthen civil society institutions;
- ✓ Capacity building for communities, CBOs & NGOs.

QuickTime™ and a  
decompressor  
are needed to see this picture.

# Learning from Cyclone Nargis

## Lessons from Nargis:

### (2) Enabling Environment

- ✓ Institutional strengthening for Government agencies and local authorities on environmental management;
- ✓ National land-use policy, coastal zone management and land-use plans;
- ✓ Enactment of Environment Law;
- ✓ Information and monitoring systems for natural resources;
- ✓ Equitable and transparent land tenure systems;
- ✓ Strengthen vertical and horizontal cooperation.

QuickTime™ and a  
decompressor  
are needed to see this picture.

# Learning from Cyclone Nargis

## Conclusions: Future steps

- ✓ **Government Response:**
  - ✓ Sectoral plans for recovery and reconstruction;
  - ✓ Myanmar Action Plan for Disaster Risk Reduction.
- ✓ **International Response - "Post-Nargis Recovery and Preparedness Plan (PONREPP)"::**
  - ✓ Emphasis on "Productive, Healthy and Protected lives" for communities
  - ✓ Environment as a cross-cutting issue, and integrated into all sectors.

QuickTime™ and a  
decompressor  
are needed to see this picture



# Learning from Cyclone Nargis

Thank You