



# Lessons Learnt from 2015 Flood Response Operation in Myanmar

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**The Republic of the Union of Myanmar**

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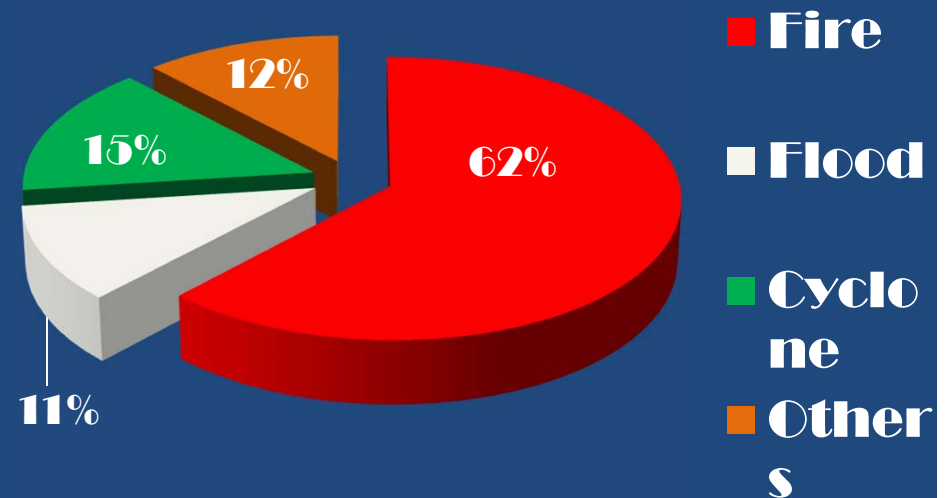
- Lessons Learnt through EOC Operation in Flood response in Myanmar

**Part (1)**  
**Myanmar and Major Disasters**

# Hazard Vulnerability

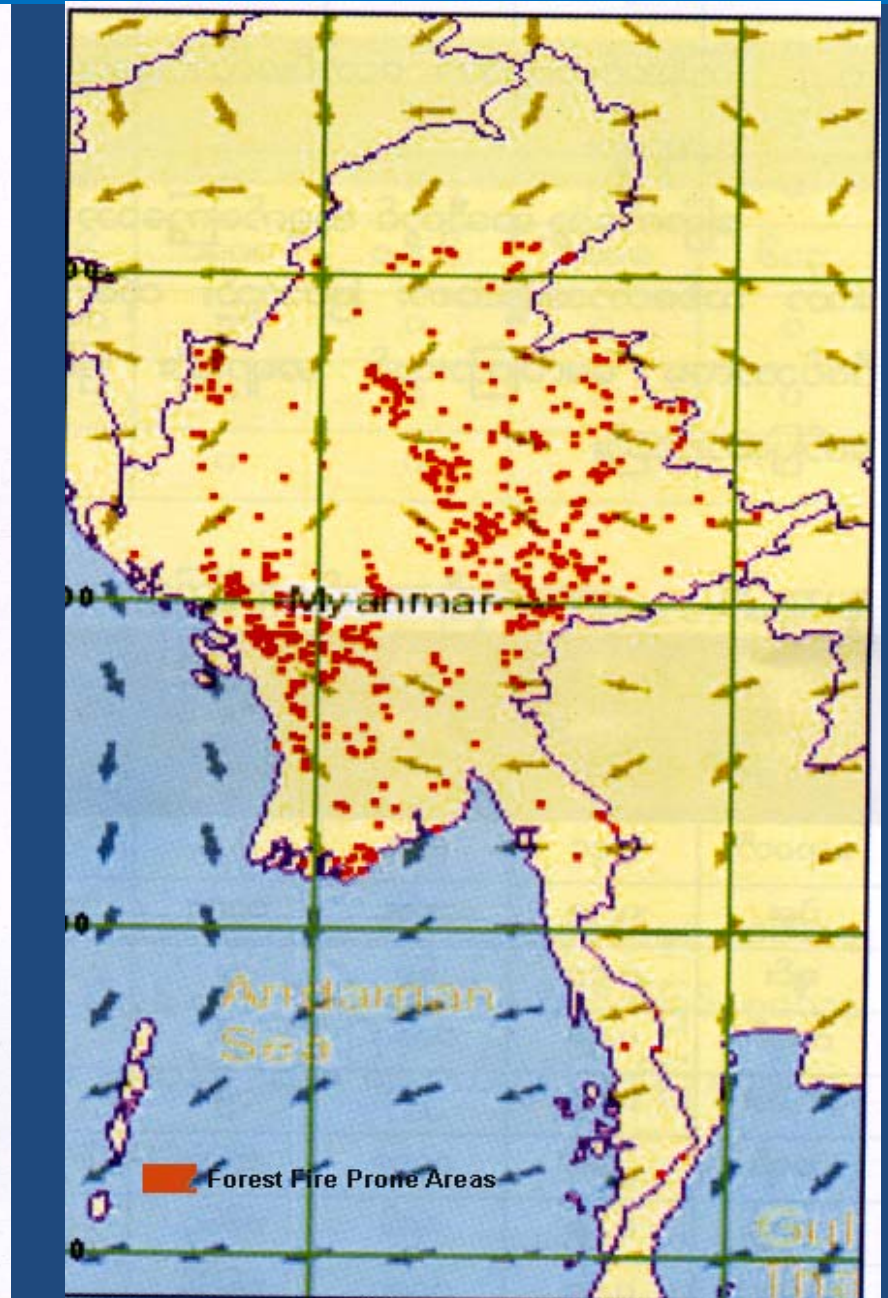
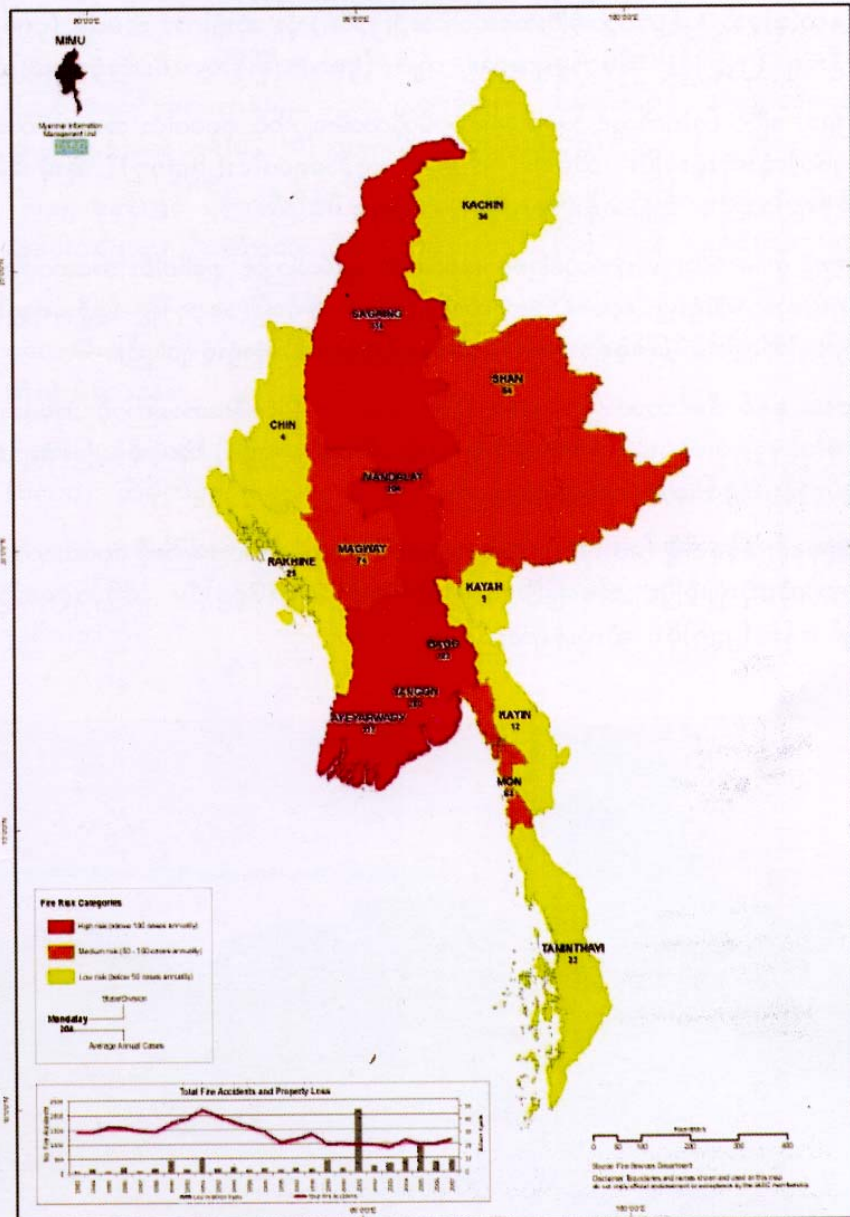
- Myanmar is prone to multiple natural hazards
- Fire is the most frequent disaster in Myanmar and accounts for 62 % from 1990 to date
- Storms account for 15%
- Floods represent 11%
- Other disasters including earthquake, landslide, etc account for 12%

Major Disasters in Myanmar(%)  
from 1990 to date

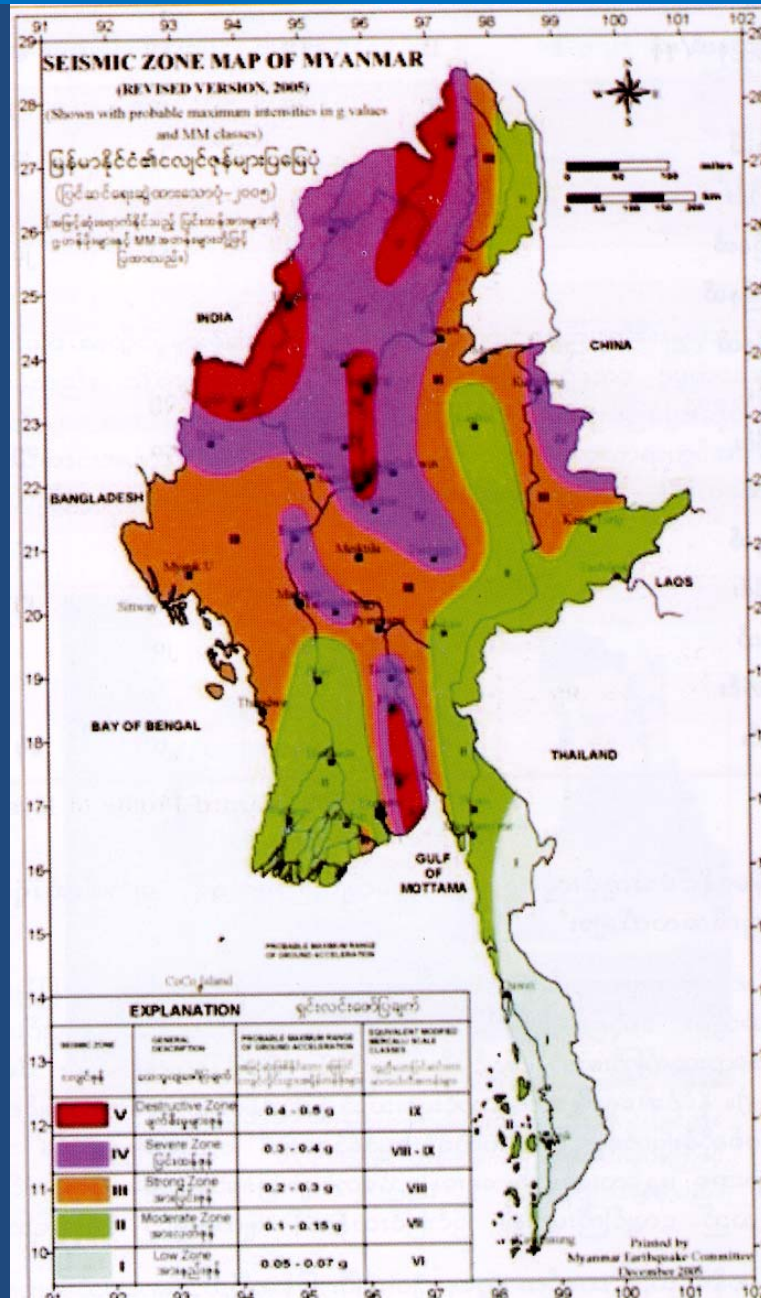


# Fire Prone Areas in Myanmar

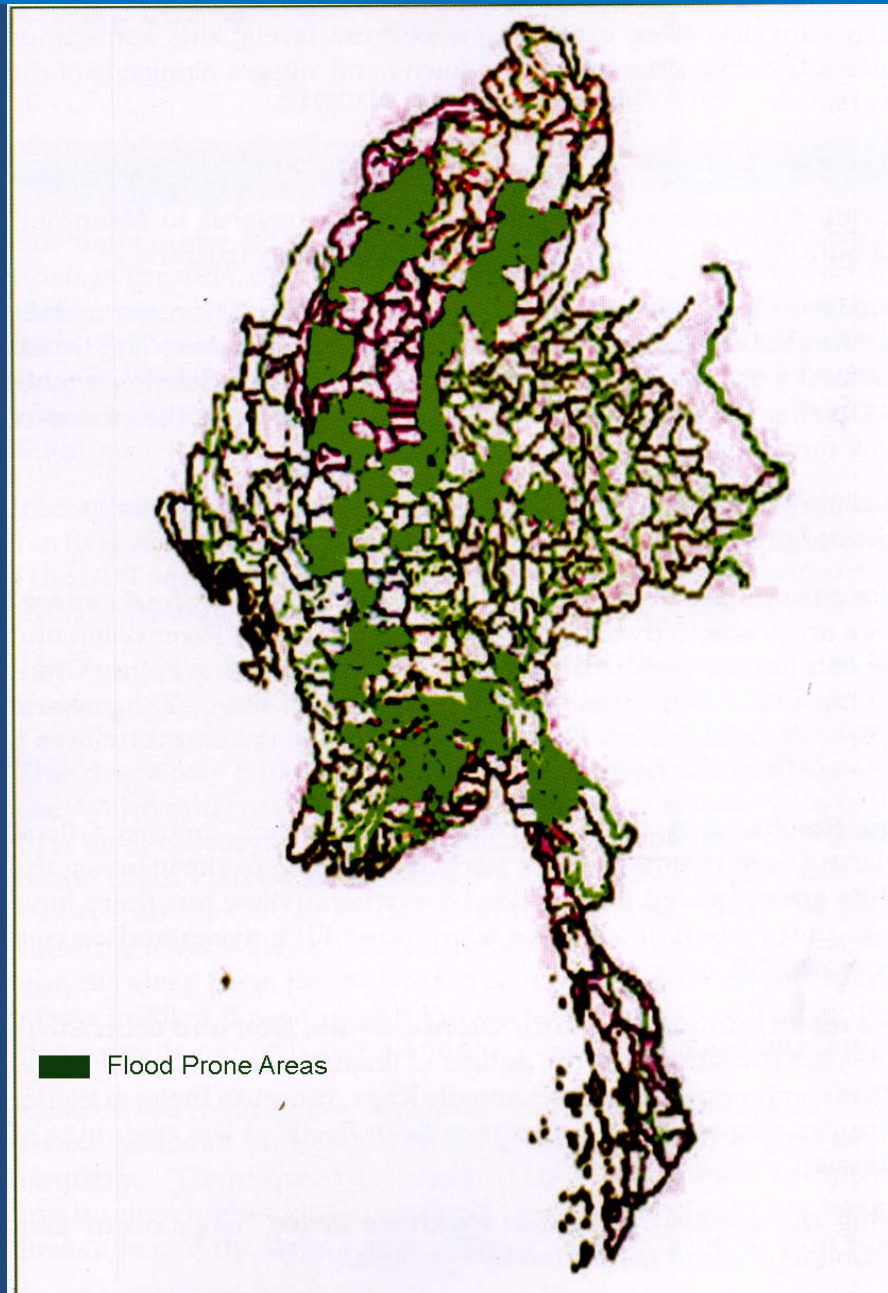
Fire Risk Map  
(Based On Fire Cases From 1983 - 2007)



# Seismic Zone in Myanmar



# Flood Prone Areas in Myanmar

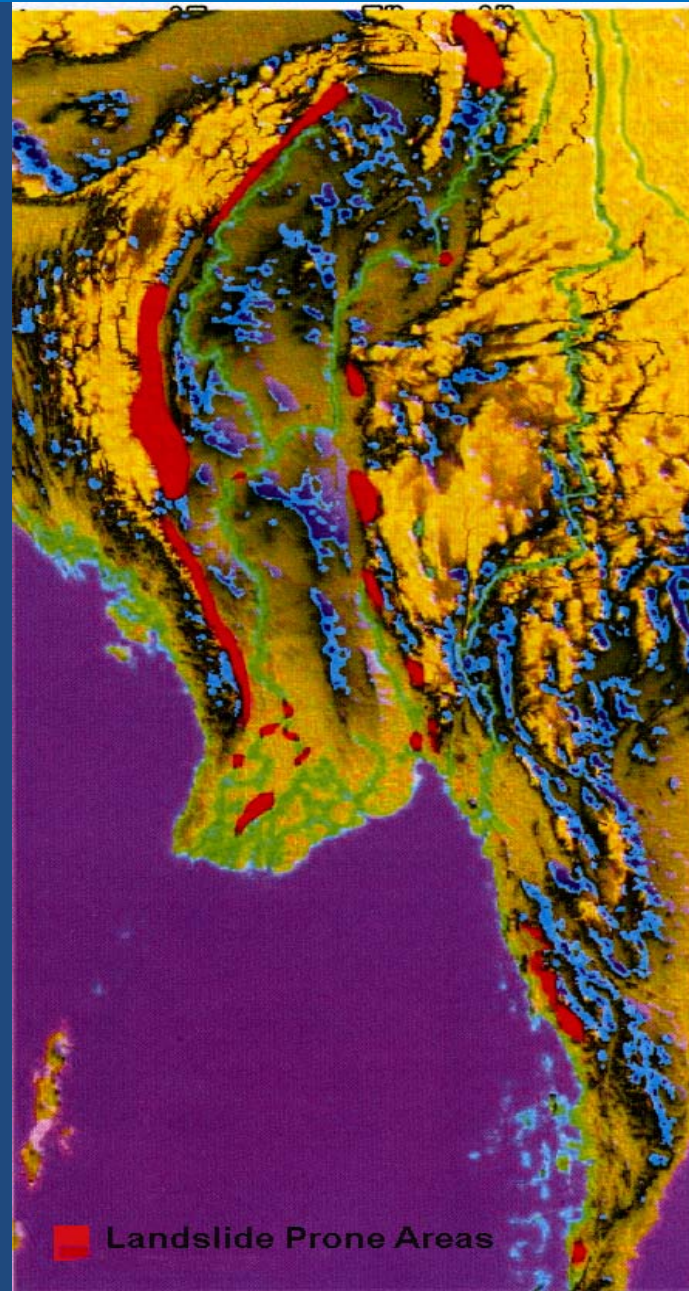


# Drought Prone Areas in Myanmar

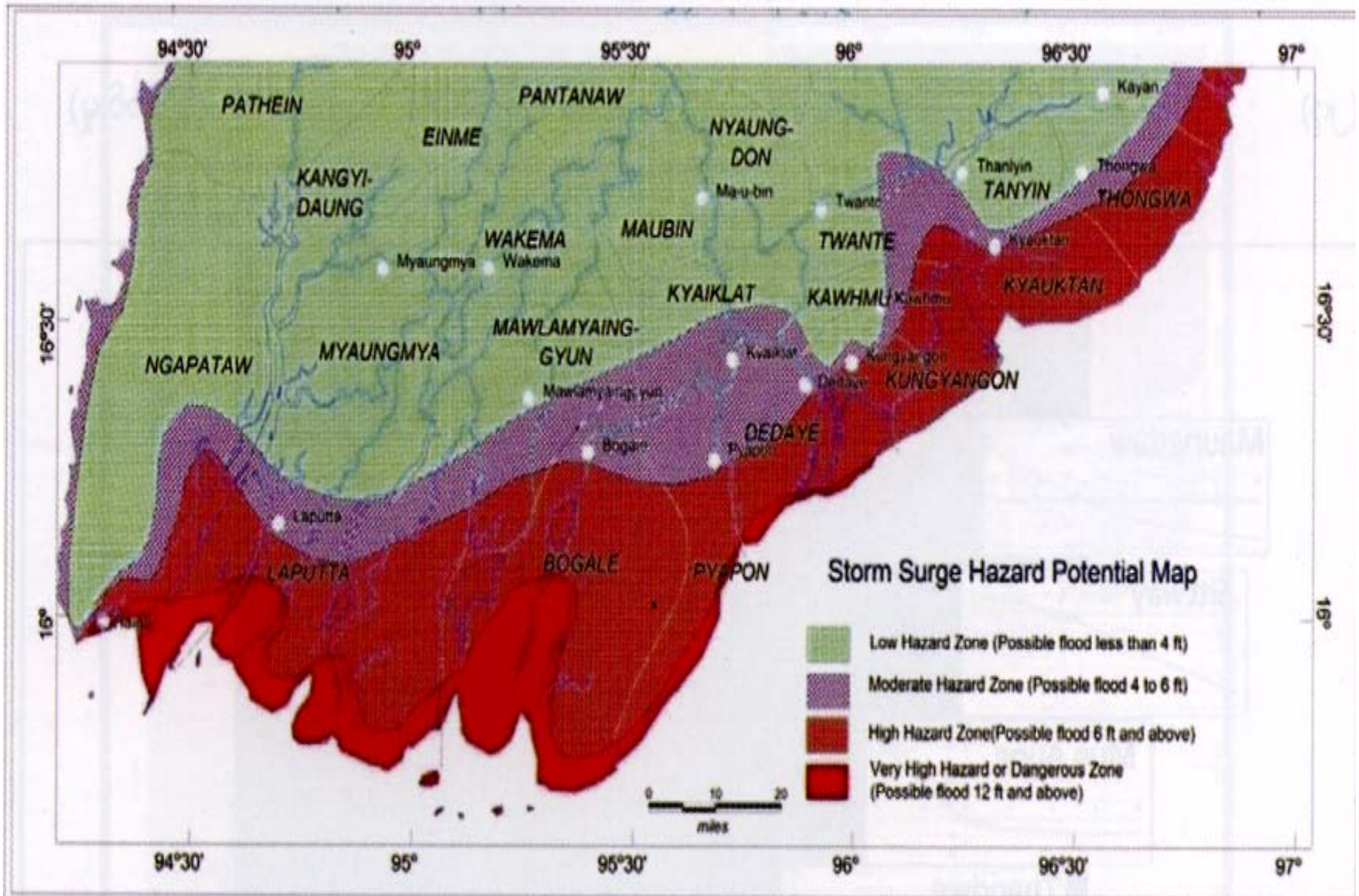




# Landslide Prone Areas in Myanmar



# Storm Surge Prone Areas in Ayeyarwady Delta



# Major Disasters in Myanmar

N o.	Date	Disaster	Damage and Loss
1	26-12-2004	Tsunami	-
2	2/3-May-2008	Cyclone Nargis	Death - (138,373) people Damage and Loss - (11.7)Trillion Kyats
3	22-10-2010	Cyclone Giri	Death – 57 people Damage and Loss - (0.024)Trillion Kyats
4	24-3-2011	Tahlay Earthquake	Death – 76 people, Injury – 100 people Damage and Loss - (3031.30)Million Kyats
5	19/20-10-2011	Magway Flash Flood	Death & lost – 161 people Damage and Loss - (15465.25)Million Kyats
6	11-11-2012	Tabaikkyin Earthquake	Death – 18 people, Injury – 114 people Damage and Loss - (8140.12)Million
7	2015 June to August	Severe flood in 12 States and Regions	Death – 172 people, affected – over 1.6 million people, Initial Damage and Loss – (204152.77) Million Kyats

**Part (2)**  
**Current Disaster Management  
System in Myanmar**

# National Institution for Disaster Management

National Natural Disaster Management Committee

National Disaster Management  
Work Committee

Information Sub-Committee

Emergency Communication Sub-  
Committee

Initial Damage and Loss and Emergency  
Relief Sub-Committee

Damage and Loss Confirmation Sub-  
Committee

Transportation and Road Clearance Sub-  
Committee

Mitigation and Emergency Shelter Sub-  
Committee

Health Care Sub-Committee

Security Sub-Committee

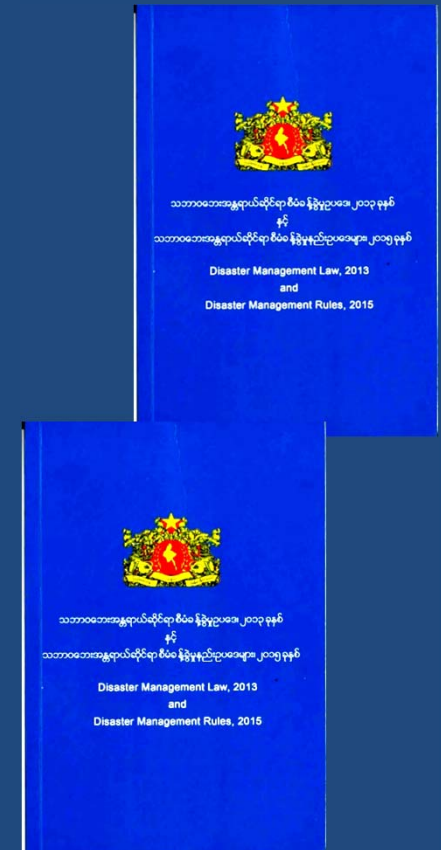
Search and  
Rescue Work  
Committee

Recovery  
Coordination  
Work  
Committee

International  
Relations Work  
Committee

# Disaster Management Law

- The Disaster Management Law was ratified by the Government on 31<sup>st</sup> July, 2013 and Disaster Management Rules were prescribed by Ministry of Social Welfare , Relief and Resettlement on 7<sup>th</sup> April, 2015.



# Standing Order on Disaster Management

## တည်မြဲအမိန့်ရေးဆွဲထုတ်ပြန်ခြင်း

အစိုးရသားသဘာဝဘေးကင်းရေးနှင့်အန္တရာယ်ကင်းရှင်းရေးဦးစီးဌာနသည် သဘာဝဘေးကြုံတပ်ကာကွယ်ရေး၊ ကြိုတင်ပြင်ဆင်ရေး၊ ကယ်ဆယ်ရေးစောင့်ရှောက်ရေး၊ ပြန်လည်ထူထောင်ရေးနှင့် သဘာဝဘေးဒဏ်ခံနိုင်စွမ်းမြှင့်တင်ရေးများကို ပိုမိုထိရောက်စွာဆောင်ရွက်နိုင်ရန် သဘာဝဘေးဆိုင်ရာ တည်မြဲအမိန့်ကို ၂၀၀၉ ခုနှစ်၊ ဇန်နဝါရီလက ထုတ်ပြန်ခဲ့သည်။



- Published in January 2009
- Includes the actions to be taken by the Government Agencies in the course of disaster management
- At the present, updating SO aligning with DM Law and regulations is in process

## **National Social Protection Strategic Plan**

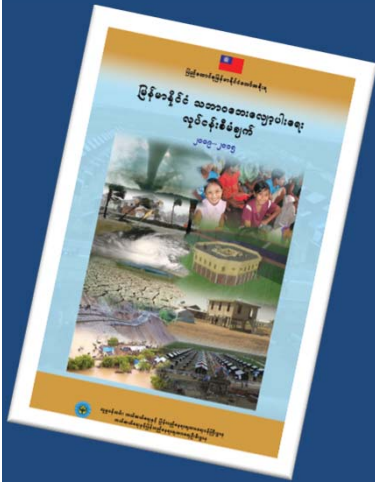
**Myanmar National Social Protection Strategic Plan which integrated Disaster Risk Reduction was developed in December 2014.**

## **Community Disaster Resilience Framework**

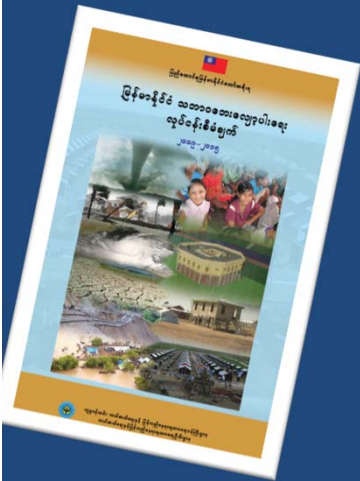
**The National Framework for Community Disaster Resilience is under development in cooperation with Asia Development Bank (ADB).**



# Myanmar Action Plan on Disaster Risk Reduction (MAPDRR)



MAPDRR incorporates DRR related projects to be implemented by the Stakeholders concerned, interpreting the Hyogo Framework for Action (HFA) and ASEAN Agreement on Disaster Management and Emergency Response (AADMER).



Efforts have been made to integrate MAPDRR into National Development Programme aiming to pursue sustainable development.

**Reviewing the progress of MAPDRR implementation and updating the activities being undertaken .**

# End – to – End Early Warning System

- For effective dissemination of Early Warning Messages to the end users, Relief and Resettlement Department (RRD) is now collaborating with Meteorology and Hydrology Department, General Administration Department and JICA for setting up end – to–end EWS in some of the disaster-prone townships of Ayeyarwady Region and Rakhine State.
- The project needs to be expended to other vulnerable townships in Myanmar



# RRD's Actions across the D M Circle

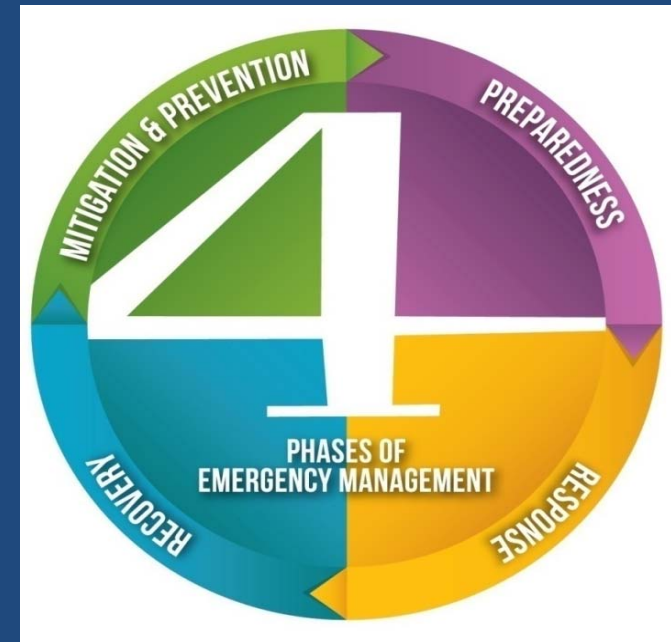
## RRD's functions in four phases of DM circle

- **Preparedness**

- Stockpiling relief materials
- Developing Disaster Preparedness Plans
- Hazard Mapping and Risk monitoring
- Awareness raising
- Capacity developing
- Drills and Exercises
- Disaster Monitoring (EOC)

- **Response**

- Early warning dissemination (cooperated with DMH & GAD)
- Provision of relief aids (cooperated with GAD)
- Social Protection to vulnerable groups affected by disasters
- Coordination and cooperation with UN Country Team
- Mobilizing the humanitarian assistances & emergency relief from international communities
- Reporting and technical advices to NNDMC and AHA Centre



# RRD's Actions across the D M Circle

## RRD's functions in four phases of DM circle

- **Recovery**
  - Serve as secretariat of NNDMC (via Ministry)
  - Coordination with UN Agencies, INGOs and LNGOs for short-term and long-term recovery interventions
  - Cooperation with line ministries, State/Region Government, Sub-committees under NNDMWC (via Ministry) to help ensure their lives Building-Back-Better
- **Mitigation & Prevention**
  - Developing DM laws and regulations
  - Policy advocating to mainstream DRR into every development activities
  - Risk Assessment and management (in collaboration with UN Agencies that signed MOU)



# Activities in International Day for Disaster Reduction (IDDR)



# Capacity Building Trainings for Government Officials



# Disaster Risk Reduction Workshops



# Community based awareness programs





# Disaster Reduction Youth Volunteer Programmes



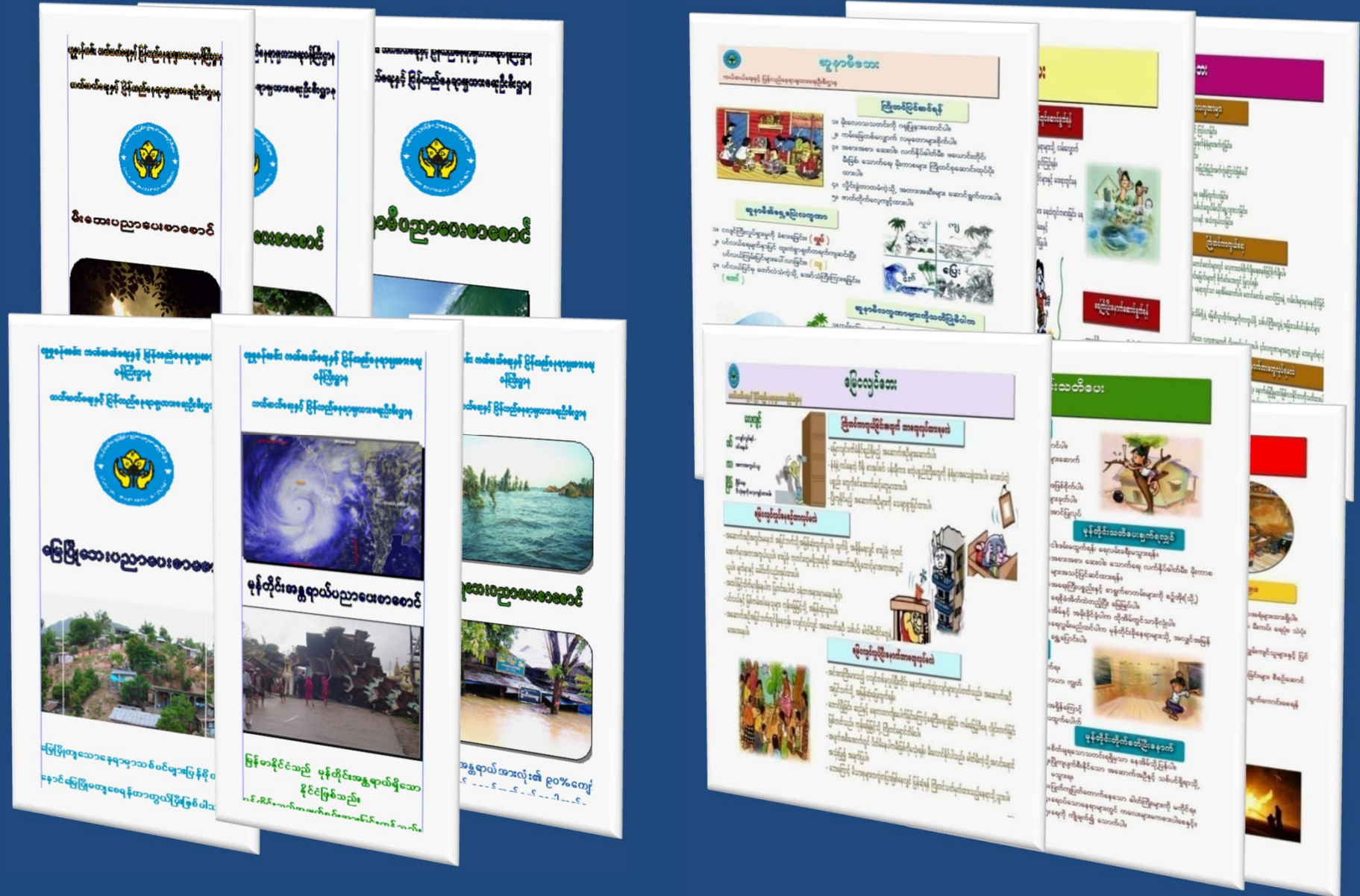
# Simulation Exercises and Drills



တတိယအကြိမ်ဆူနာမီသတိပေးနှိုးဆော်ချက်ကြောင့် ကျေးရွာနေ  
ပြည်သူများ Cyclone Shelter သို့ ခို့လှုံ့ရန်ပြေးလွှာနေပုံ

ဆူနာမီဘေးအန္တရာယ်ကျရောက်မီရှိသည့် ဘေးလွတ်ကင်းရှေးရာသို့ အပြန်ဆုံးပြောင်းရွှေ့ရောက်ရှိနိုင်မည့် နည်းလမ်းများကို ဖော်ထုတ်ရရှိစေရန်လျှော့  
ပြောင်းမှုမပါဝင်ဘဲ ဆူနာမီကြိုတင်သတိပေးလေ့ကျင့်ခန်းကိုဆောက်တိုဘာလ ၁၄ ရက်နေ့တွင် မွန်ပြည်နယ်အတွင်းလေ့ကျင့်ဆောင်ရွက်ခဲ့ကြောင်း သတင်း  
ရရှိသည်။ အဆိုပါလေ့ကျင့်ဆောင်ရွက်မှုတွင် ပင်လယ်ကမ်းခြေရှိ မော်လမြိုင်မြို့နယ်ကျောက်တန်းရွာ၊ မေါင်မြို့နယ်အလုပ်ရွာ၊ သံဖြူဇရပ်မြို့နယ်ကော်ခဲခမ်း၊  
ယိပ်ရွာ၊ ရေဖြူနယ်ဒမ်းရွာတို့တွင် ဒေသခံပြည်သူများ၄၄၂၅ ဦးပါဝင်၍ အစည်းတို့ဖြင့် သရုပ်ပြလေ့ကျင့်ခဲ့ကြပြီး ကွန်မြူနယ်တို့တွင် ညွှန်ကြားသတင်း  
ပေးမှု၊ ထပ်ဆင့်အသိပေးဆော်ပြေမှု၊ ပြန်လည်သတင်းပို့မှုတို့၏ အသွားအပြန်တို့ကို စီမံခန့်ခွဲမှုတပ်ဖွဲ့ဝင်များဆောင်ရွက်ခဲ့ကြောင်း သိရသည်။  
ကော်တင်ဘာလ၁၄ရက်ကလည်း ဆီနီယသပုဗ္ဗရာအတွင်းဆူနာမီကြိုတင်သတိပေးခြင်း TABLE-TOP လေ့ကျင့်ခန်းကို ပြန်မာနိုင်ငံဆူနာမီဘေးအန္တရာယ်  
ကျရောက်နိုင်မည့် တနင်္သာရီတိုင်း၊ မွန်ပြည်နယ်၊ ရန်ကုန်တိုင်း၊ ဧရာဝတီတိုင်းနှင့်ရခိုင်ပြည်နယ်တို့တွင် ဆောင်ရွက်ခဲ့သည်။ ဖော်စပ်ရွှေ့ပြောင်း

# Distribution of Pamphlets and Posters



# Provisions of cash assistance to the local communities



# Disaster Management Training Centre (DMTC)



**Part (3)**

**Lessons Learnt through EOC  
Operation in Flood response in  
Myanmar**

# Impacts of severe flood and landslide in Myanmar



# Search and Rescue Activities during severe flood and landslide



Firefighters help landslide victims in village in Kayah State.



Photo by



# H.E. President and party provided relief and comfort to flood victims



## Disaster Management Centre

- According to Disaster Management Law, Disaster Management Centre has been set up at Ministry of Social Welfare, Relief and Resettlement under the leadership of Chairman of NDMWC and participation of representatives from sub-committees for emergency management in 2015 nation-wide floodings.



# National Disaster Management Centre

- During the emergency period, NDMC issued **Situation Reports** which mention all the update information about flood impacts, relief, response actions, remaining gaps and challenges
- Written in both English and Myanmar and submitted to Vice President's office and also distributed to line Ministries and organizations for necessary actions.
- NDMC released 6 reports within 2 months of emergency period.



**Situation Report 6 | 16 October 2015**  
**National Natural Disaster Management Committee**  
**Republic of the Union of Myanmar**

The report was jointly prepared by the Government of Myanmar, the UN system and humanitarian partners. The format covered by this report is September - 4 October. This will be the last Situation Report on the flood emergency issued by NDMC.

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**Headlines**




Credit: UNHA

On 22 September, President U Thein Sein visited Chin State, one of the areas most severely affected by floods and landslides in July and August. The President visited camps for people displaced by the floods and chaired a meeting with Chin State government officials in Haka, Capital of Chin State. Almost 3,000 homes were destroyed or damaged due to landslides. In the state and households need to be relocated as it is not safe for them to return and rebuild on the original sites.

The President urged local government authorities to make every effort to complete the task of relocating affected families and to swiftly develop a strategy for providing them with adequate infrastructure and basic amenities, such as water supply, electricity, schools and health facilities. Adequate temporary shelters are urgently needed before the winter season starts in mid-October. President U Thein Sein also provided clothes, blankets and solar lamps to landslide-hit communities.

On 30 September, President U Thein Sein visited Ayeeyarwaddy Region and inspected dams and embankments. He promised that the government would provide assistance to farmers who could not re-grow rice in time for the end of the rainy season, so they can grow alternative crops during the winter season. The President also encouraged local authorities and the government officials to restore river embankments to build resilience, to implement flood prevention measures and to raise the height of Nga Wun embankments.



**ဆီလီနီဒီမော့ အဖွဲ့ဝင် ၅ ဦးသည် စစ်ကိုင်းတိုင်းဒေသကြီးရှိ အချို့ဒေသများကို ဖြစ်ပေါ်နေသည့် ရေဒဏ်များကို စစ်ဆေးရန်နှင့် ဖယ်လှယ်ရန်အတွက် နိုင်ငံတော်အဖွဲ့ဝင်များနှင့် တွေ့ဆုံဆွေးနွေးခဲ့သည်။**

Credit: The Union News Light For more info

**စစ်ကိုင်းတိုင်းဒေသကြီး** တစ်လွှားလုံးတွင် ရေဘေးကြောင့် ကျန်ရှိနေသော အခြားဒေသများနှင့်လည်း ပြန်လည်နေထိုင်ရန်အတွက် ဖြစ်ပေါ်နေသည့် ရေဒဏ်များကို စစ်ဆေးရန်နှင့် ဖယ်လှယ်ရန်အတွက် နိုင်ငံတော်အဖွဲ့ဝင်များနှင့် တွေ့ဆုံဆွေးနွေးခဲ့သည်။

ဗိုလ်ချုပ်မှူးကြီးက အချို့ဒေသများတွင် ရေဒဏ်များကြောင့် စစ်ကိုင်းတိုင်းဒေသကြီးအတွင်း ဖွင့်လှစ်နေသည့် ရေဒဏ်များကို စစ်ဆေးရန်နှင့် ဖယ်လှယ်ရန်အတွက် နိုင်ငံတော်အဖွဲ့ဝင်များနှင့် တွေ့ဆုံဆွေးနွေးခဲ့သည်။

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Headline Figures, 4 September 2015 - Data from UN/ICMCA, UN/IFC					
Affected State/Region	Destroyed Homes (thous.)	Flood-affected homes (partial and minor damage and destroyed)	Displaced Population	GDP per Capita (USD)	Pop. affected (thous.)
Bahma	13,761	128,407	94,145		526
Chin	2,935	3,718	21,418		367
Magway	2,123	42,974	418,976		1,093
Ayeyarwaddy	1,261	107,416	474,214		763
Manipur	414	44,340	305,400		1,004
Bago	268	44,687	175,316		800
Hambatan	255	4,431	18,977		526
Shan	128	564	5,325		434
Eastern	68	5,226	2,484		112
Mor	40	1,093	6,432		848
Kayah	1	1,220	7,420		800
Yangon	0	16,467	63,682		1,046
<b>Total</b>	<b>21,251</b>	<b>484,897</b>	<b>1,424,588</b>		<b>808 (overseas)</b>

# Damage and Loss by current severe flood and Landslide

NO	S/R	Damaged houses	Affected households	Affected people	Death toll
1	Sagaing	1974	96401	473329	45
2	Kachin	69	1485	7454	1
3	Shan	128	1032	5329	9
4	Mandalay	256	4693	18977	12
5	Chin	2951	3448	17924	12
6	Mon	45	1515	6632	-
7	Magway	414	63693	303694	2
8	Yangon	-	15674	63576	1
9	Rakhine	14130	18203	109707	62
10	Kayin	1	1471	7714	
11	Bago	281	87957	177315	5
12	Ayeyarwady	19118	126970	498759	1
13	Thanintharyi	3	137	587	-
14	Kayah	60	529	1840	22
	<b>Total</b>	<b>39,430</b>	<b>423,208</b>	<b>1,692,837</b>	<b>172</b>

# Newly Established EOC Infrastructure



# Functions of EOC

## Primary Functions of the EOC:

- ✓ Establish disaster response Command and Control
- ✓ Monitor the weather information
- ✓ Implement the NDMC priorities
- ✓ Facilitate national and international coordination
- ✓ Serve as the center point for disaster communications
- ✓ Perform information collection, analysis, and dissemination
- ✓ Facilitate logistics support and resource tracking for field operations

# H.E. Vice President U Nyan Tun observed EOC's functions



# The Secretary of NDMC supervised Flood Situation Monitoring





# Briefing with EOC team members from Various Organizations Concerned



# The Emergency Operation Centre (EOC)

## Recruitment for Rapid Response

- Members of NDMWCs
- Military Representatives
- Development partners
- MRCS, ASEAN-ERAT, AHA Center, HCT-UN OCHA Liaison, Cluster Leads and other International Teams
- Local NGOs and Private Organizations



# The Emergency Operation Centre (EOC)

## Functions of EOC

- Collecting necessary data for effective response
- Technical supports & advices to decision makers ensuring the emergency management, response and logistics
- First-track TA and Visa for international humanitarian actors
- Effective mobilization of assets and relief aids through multi-stakeholders cooperation
- Information management and emergency communication
- Quick decision-makings and implementations
- Reporting timely weather information and monitoring and evaluating river water level and disaster situation

# Contribution of humanitarian assistances



## Lessons Learnt from 2015 Nation-wider Flooding

- ~ Early warning information should be non-technical and should use demonstrative explanations
- ~ EW information should be disseminated through local authorities, CSOs, Community and Religious Leaders, Mass media, Communication Channels
- ~ Mutual trust and cooperation between the stakeholders and local community concerning with EW information should be strengthened
- ~ Law enforcement for evacuation and ensure basic needs for evacuees
- ~ SOPs need to be developed at all levels with regard to emergency communication and disaster relief
- ~ Do no harm during relief and response operations to the affected communities

## Lessons Learnt from 2015 Nation-wider Flooding

- ~ Safety of the victims as well as humanitarian actors is of prime concern
- ~ Early recovery should focus on the live-saving activities rather than infrastructure development
- ~ Providing relief aids should be more systematic and well-coordinated
- ~ Readiness of the Local Government and affected community in pre, during and post Disaster period lead to success
- ~ Standard format for data collection and reporting should be developed
- ~ Authorized organization for the public information and communication during disaster relief should be formed

# Recommendations

- ◆ **Strengthen coordination between township and village level administrative bodies for reaching EW to the end users**
- ◆ **Disaster relief exercises and drills are instrumental in identifying structural barriers and testing the operability of SOPs**
- ◆ **Bottom-up initiatives play crucial in addressing the needs and challenges in relief operation**
- ◆ **Effective civil-military cooperation can save many lives and provide emergency relief**
- ◆ **Enhance Communication Network amongst humanitarian actors**
- ◆ **Capacity improvement in dealing with data management and reporting**
- ◆ **Increase public awareness on Early Warning and practice evacuation procedure**
- ◆ **Private Sector Cooperation in information sharing and communication**

**THANK YOU  
FOR YOUR ATTENTION**