

BASIC DISASTER MANAGEMENT IN CAMBODIA

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National Committee for Disaster Management

Outline

- Disaster situation
- Disaster management system
- Dissemination of Forecasting and Early Warning Information
- Strategic goal
- The way forward
- Challenges



Disaster Situation

Natural disasters:

- Flood
- Drought
- Storm
- Lightning

Human-made disasters:

- Fire
- Pandemics
- River bank collapse



Flood

■ 2000

- 21 provinces-capital, 131 districts, 883 communes.
- 3,448,629 people affected.
- 347 people died, 80% children.
- 317,975 homes damaged.
- Total damages: US\$ 150 M.



■ 2001

- 14 provinces, 84 districts, 595 communes.
- 2,121,952 people affected.
- 62 people died, 70% children.
- 2,251 homes damaged.
- Total damages: US\$36 M.



■ 2002

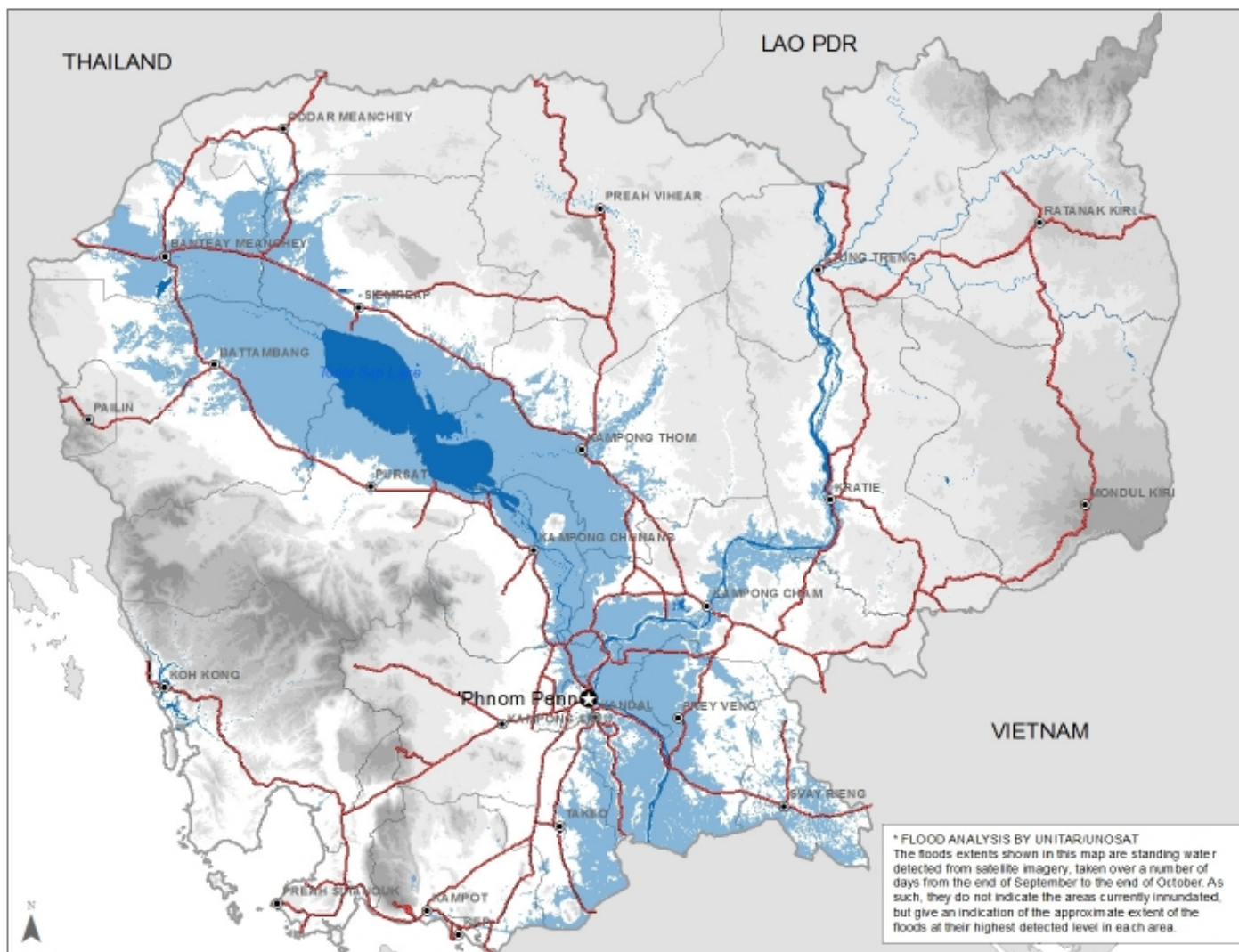
- 7 provinces, 41 districts.
- 1,439,964 people affected.
- 29 people died.
- 40,027 ha of rice crops affected
- 1,082 homes destroyed.
- Total damages: US\$19 M.







■ 2011

- 18 provinces, 122 districts, 687 communes
- 1,771,085 people affected.
- 250 people died, 70% children.
- 1297 homes destroyed.
- 268,631 homes damaged.
- Total loss and damage: US\$451 M.



CAMBODIA : Flood affected areas in 2011



-  National capital
-  Provincial town
-  Provincial boundary
-  National road
-  Extent of Tonle Sap lake during dry season (Nov to Apr)
-  Flood extent *

Map Doc Name: FloodExtent_Adm2_141211
 Creation Date: 14 December 2011
 Web Resources:
 Map Data Source(s):
 Flood analysis by UNITAR/UNOSAT

Disclaimer: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.



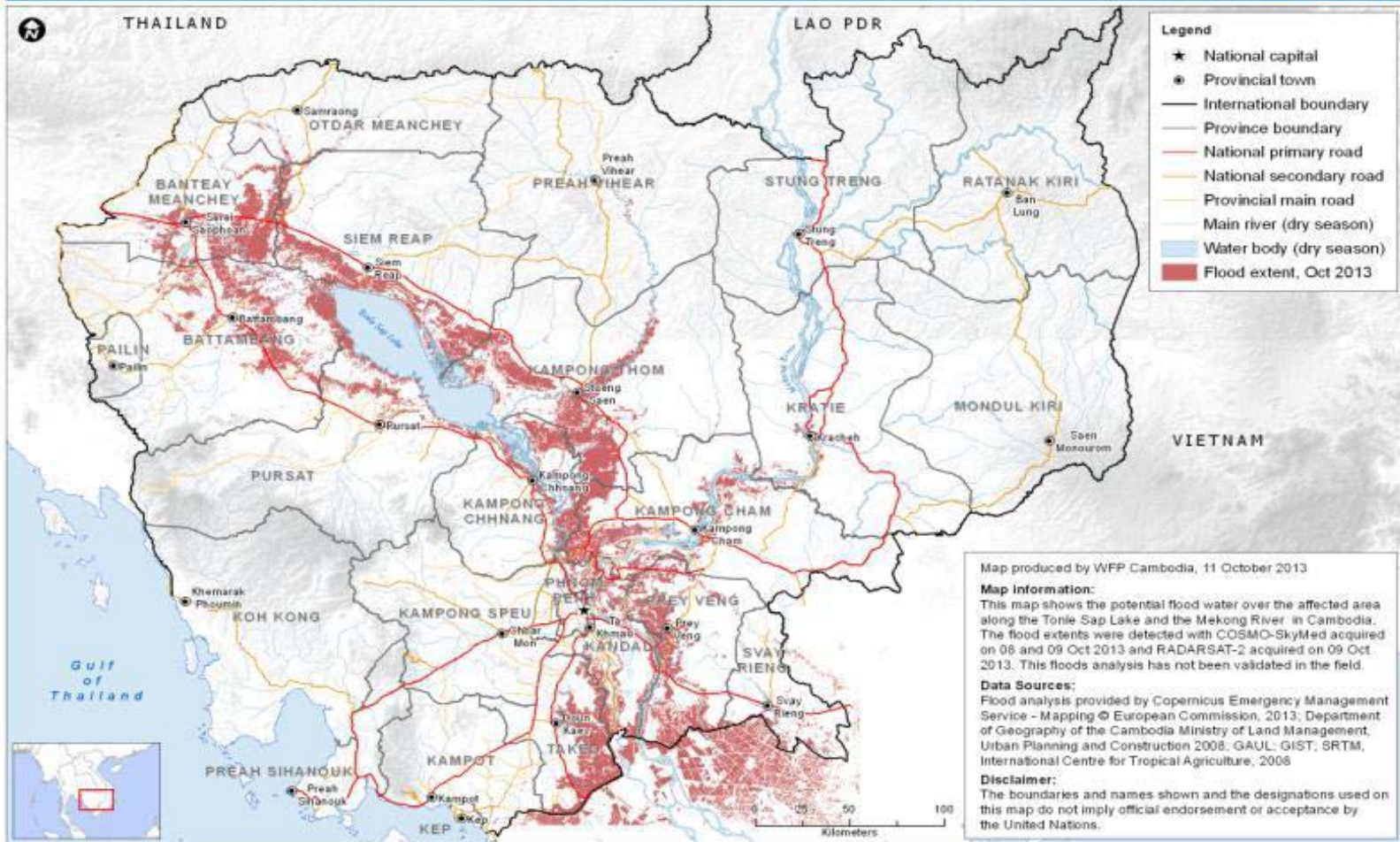
* FLOOD ANALYSIS BY UNITAR/UNOSAT
 The floods extents shown in this map are standing water detected from satellite imagery, taken over a number of days from the end of September to the end of October. As such, they do not indicate the areas currently inundated, but give an indication of the approximate extent of the floods at their highest detected level in each area.

Flood Report in 2013

- **By October 18, 2013**
 - 20 Capital and provinces; 132 Districts; 770 Communes affected
 - **377,354 families affected**
 - **168 people died** (73 out of 168 children and 50 women) and 29 injured
 - **31,314 families evacuated**
 - 231,484 homes affected, 287 damaged
 - 334,284ha of rice crops affected & 63,235ha damaged
 - 1242 schools, 533 pagodas, and 78 health centers affected
 - 264 livestock dead and 72,648 evacuated
 - 440,572 m of national and province roads affected and 3,693,252m rural roads
 - Total loss and damage: **US\$356 M**



Overview of Flood Extent in Cambodia, October 2013



Drought

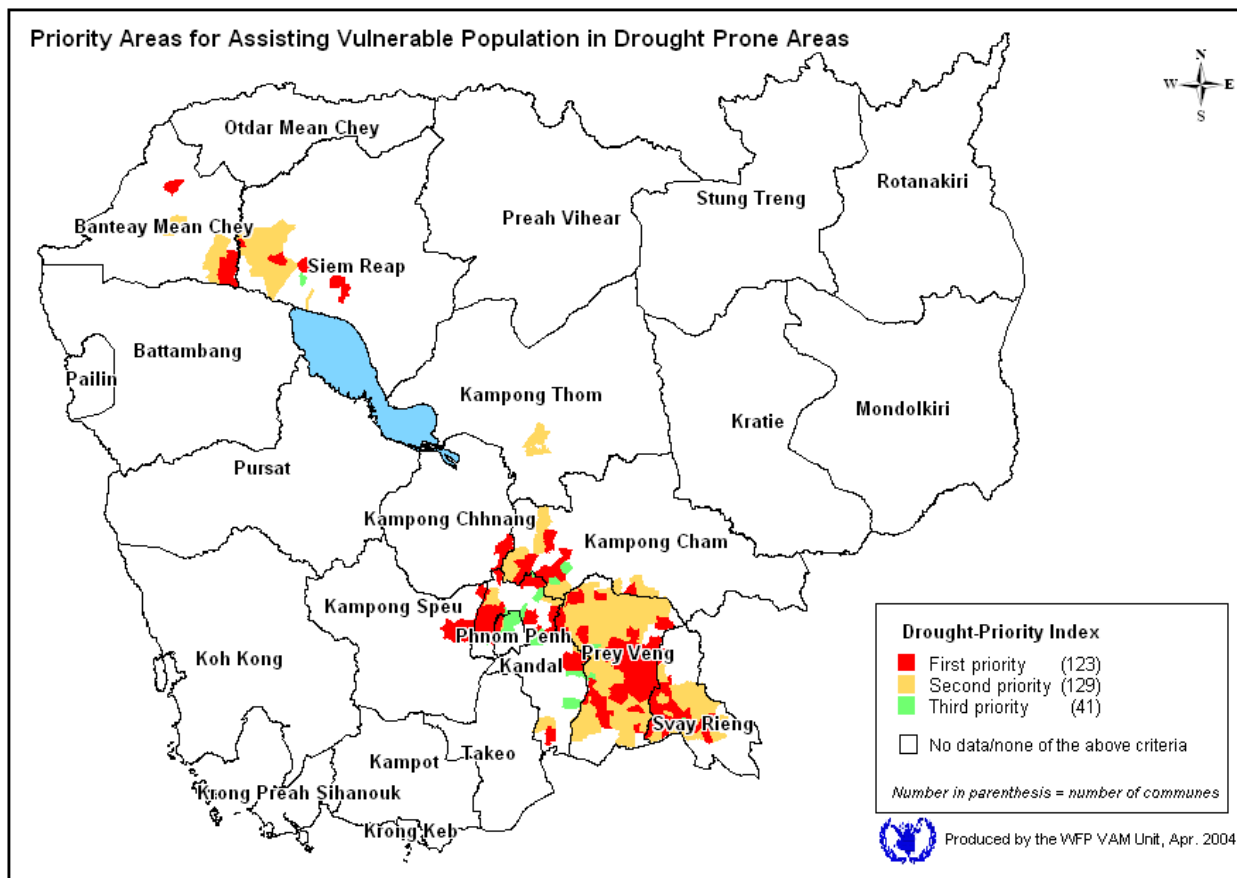


2001

- 12 provinces affected
- 132,711 families affected
- 53,987 ha of rice crops destroyed.
- 8,250 ha of subsidiary crops destroyed.

2002

- 10 provinces-cities, 76 districts, 420 communes affected.
- 442,419 families affected.
- 62,702 ha of rice crops destroyed.



2004

- 11 provinces-cities affected.
- 344,356 families affected.
- 247,393 ha of rice crops damaged.

2007

- 2 provinces-cities affected.
- 5,663 ha of rice crops destroyed.

2009

- 13 provinces affected.
- 57,965 ha of rice crops and 2,621 ha destroyed.

2010

- 12 provinces affected.
- 14,103 ha of transplanted rice affected and 3,429 damaged.
- 5,415 ha of subsidiary crops damaged.

2013

- 30 ha of rice crops damaged.
- 11,764 ha of rice crops affected.



Storm - Typhoon Ketsana

Year	Impacted Element	Died	Injured	Affected
Sep 2009	Areas affected: 14 provinces, 73 districts, 336 communes			
	People	43	67	1 80,000
	Total affected: US\$ 132 M			



Source: NCDM, 2009



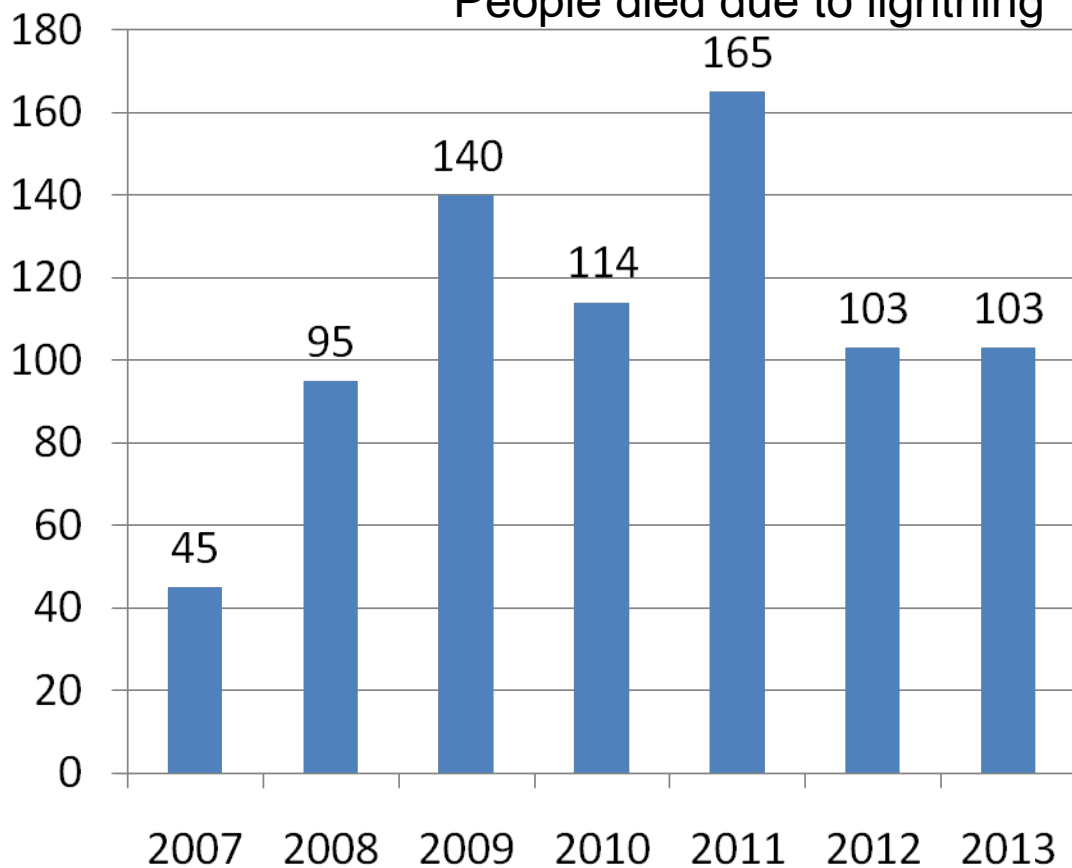
Provinces Affected by Typhoon KETSANA

Storm Report in 2013

Year	Impacted Element	Died	Injured	Damaged
By Sep 05, 2013	Areas affected: 111 districts, Occurred: 154 times			
	People	29	110	
	Homes			8,224
	Schools			45
	Other buildings			12

Lightning

មនុស្សស្លាប់ដោយសារនូវភ្លៀង
People died due to lightning



■ ចំនួនមនុស្សស្លាប់
No. of people died

Fire

2011

- 199 cases in 21 provinces-cities.
- 347 houses and 12 apartments damaged.
- 2 garment firms, 8 warehouses, 2 gas stations, 2 rice mills and 567 stalls in markets on fire.
- 10 people died and 12 injured.

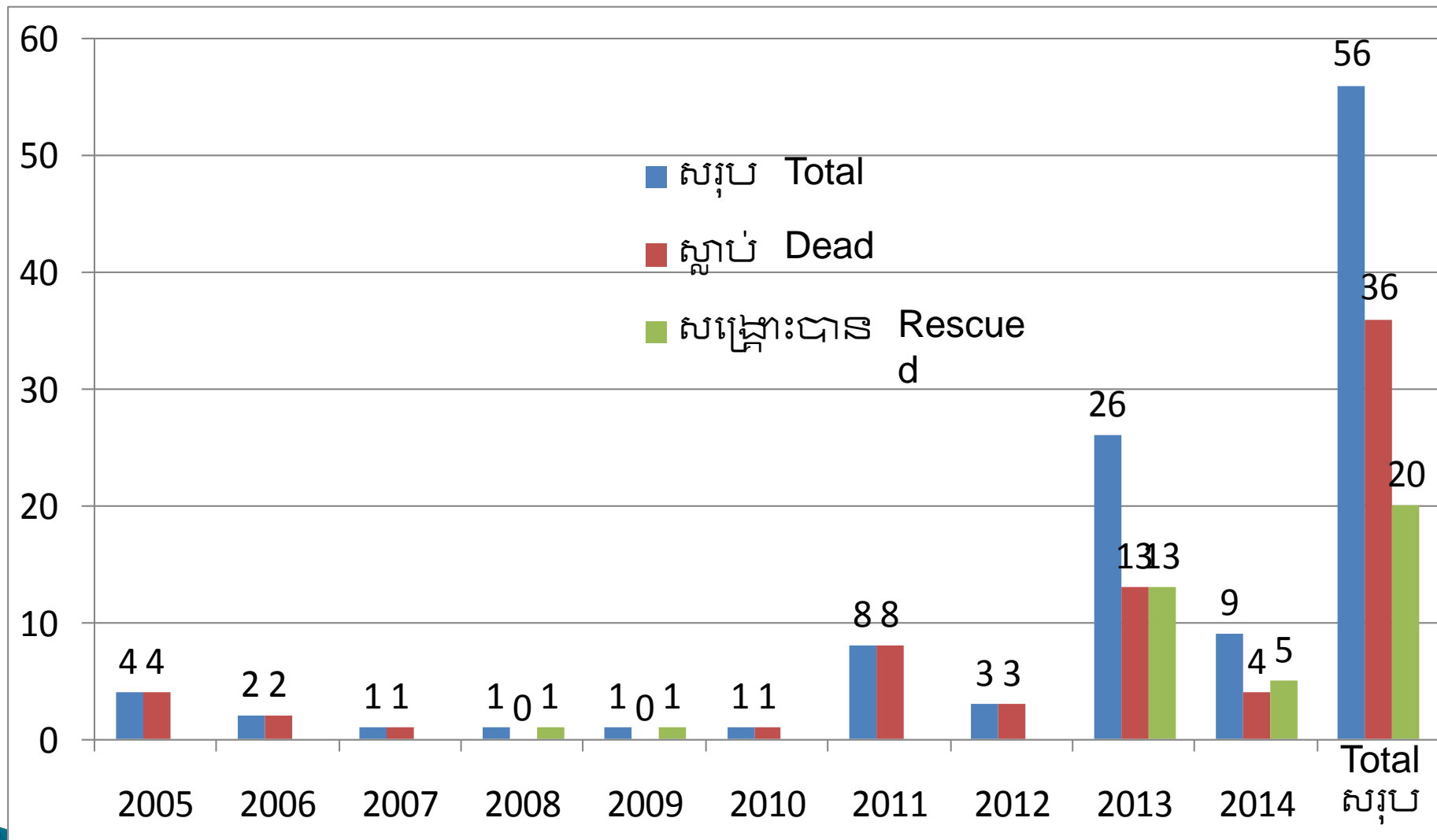
2012

- 284 cases in 21 provinces-cities.
- 601 houses damaged, 132 stalls in markets on fire.
- 5 rice warehouses and 4 handicraft houses on fire
- 18 people died and 46 injured.

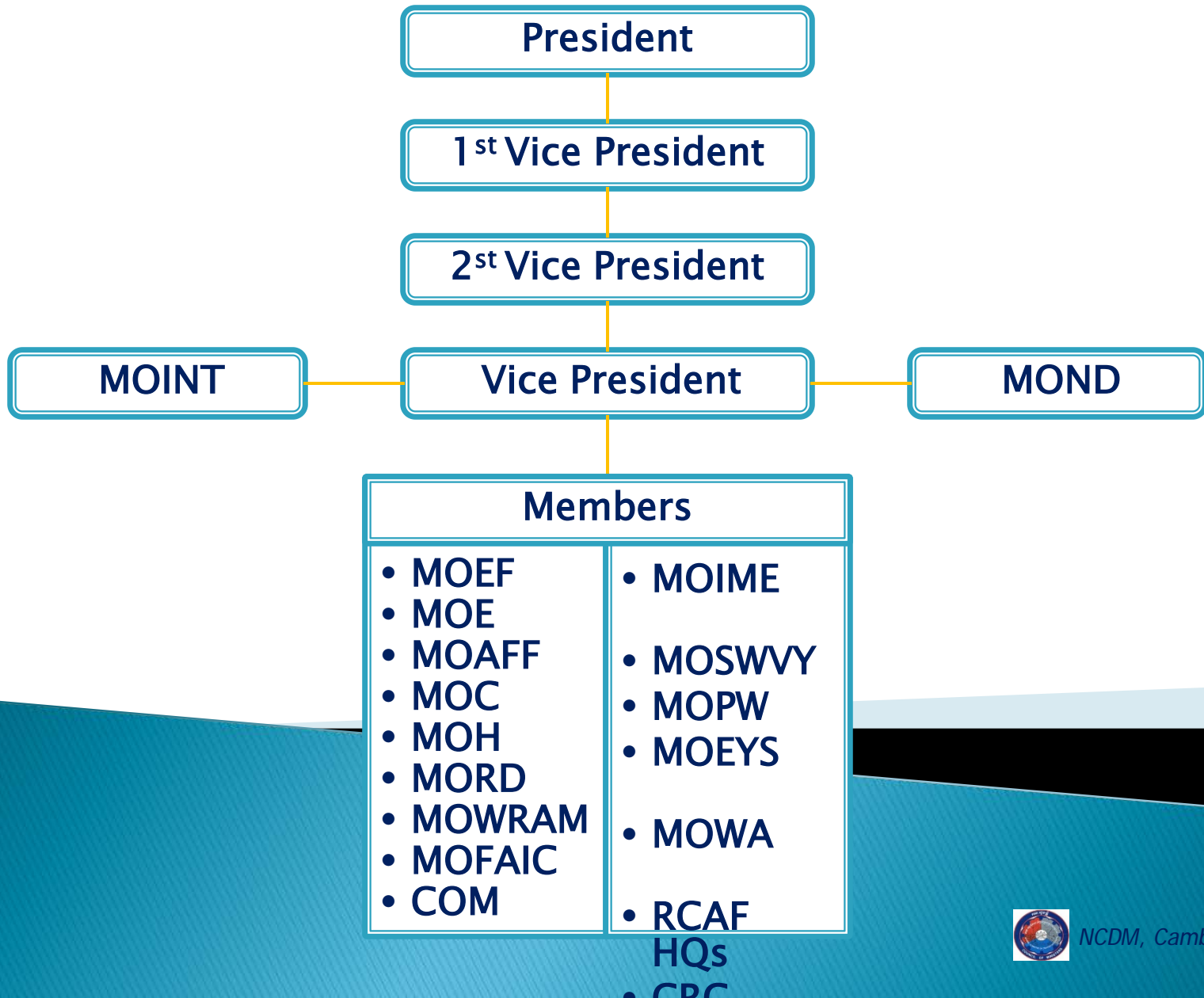
2013

- 391 cases through country.
- 606 houses and 424 stalls on fire.
- 9 warehouses, 8 mill and handicraft houses, 4 gas stations and 2 administrative buildings on fire.
- 103 ha of bushes and 116 ha of sugar cane fields on fire.
- 54 tons of husked rice, 182 tons of rice and 15 tons of rubber damaged.
- 25 people died and 24 injured.

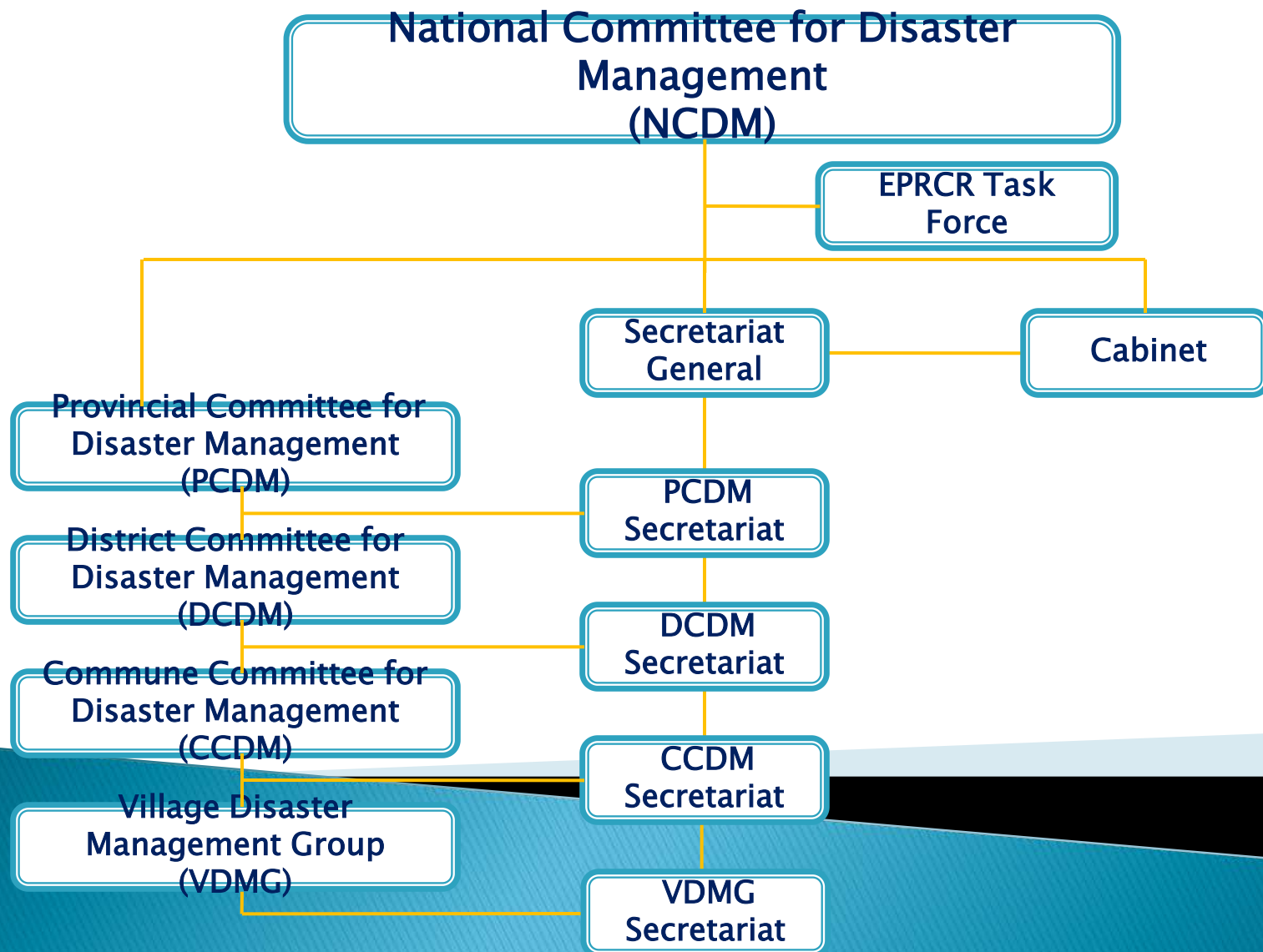
ជំងឺផ្លូវសាធារណៈ (H5N1) Avian Influenza (H5N1)



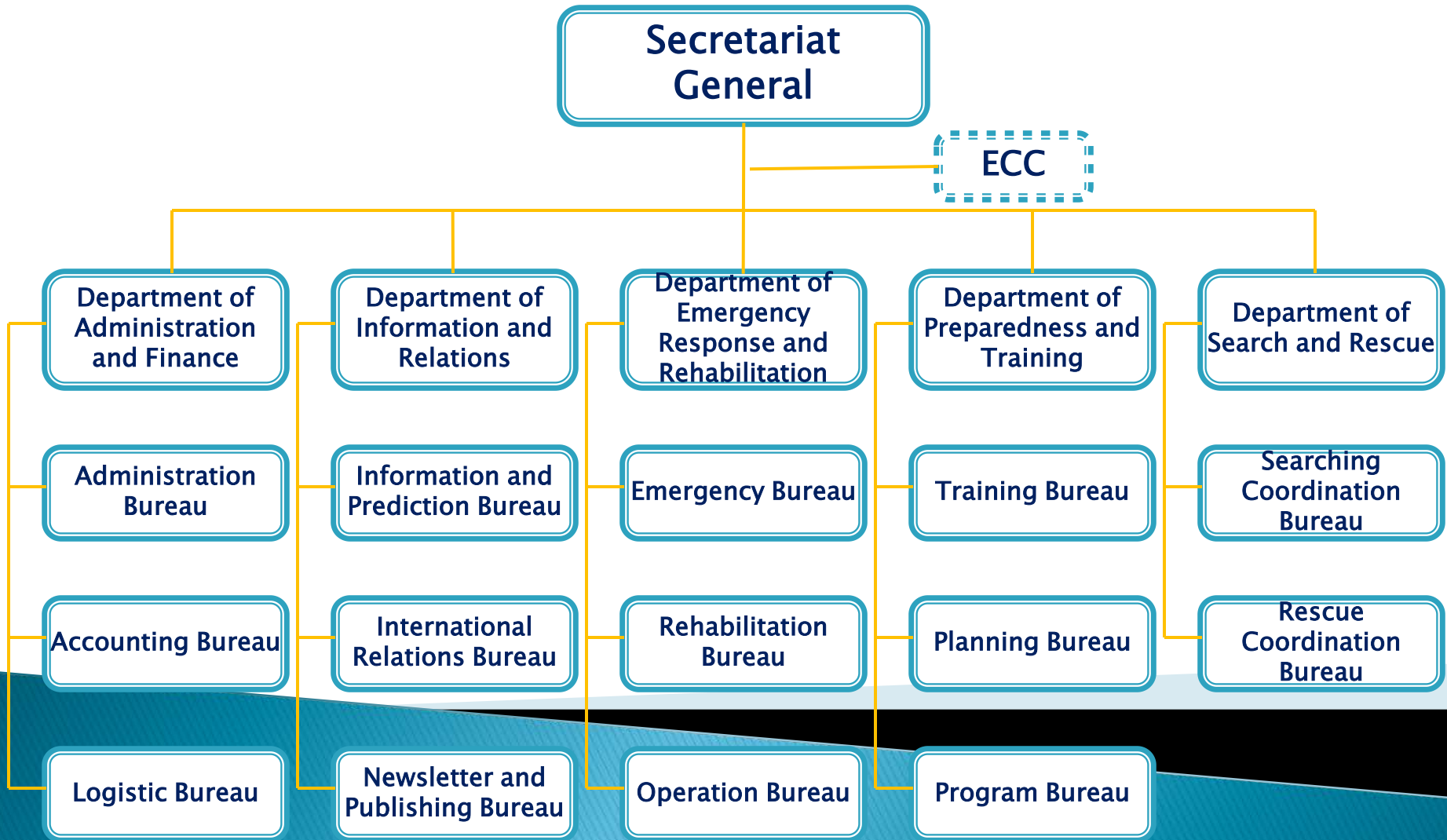
Disaster Management System in Cambodia (NCDM)



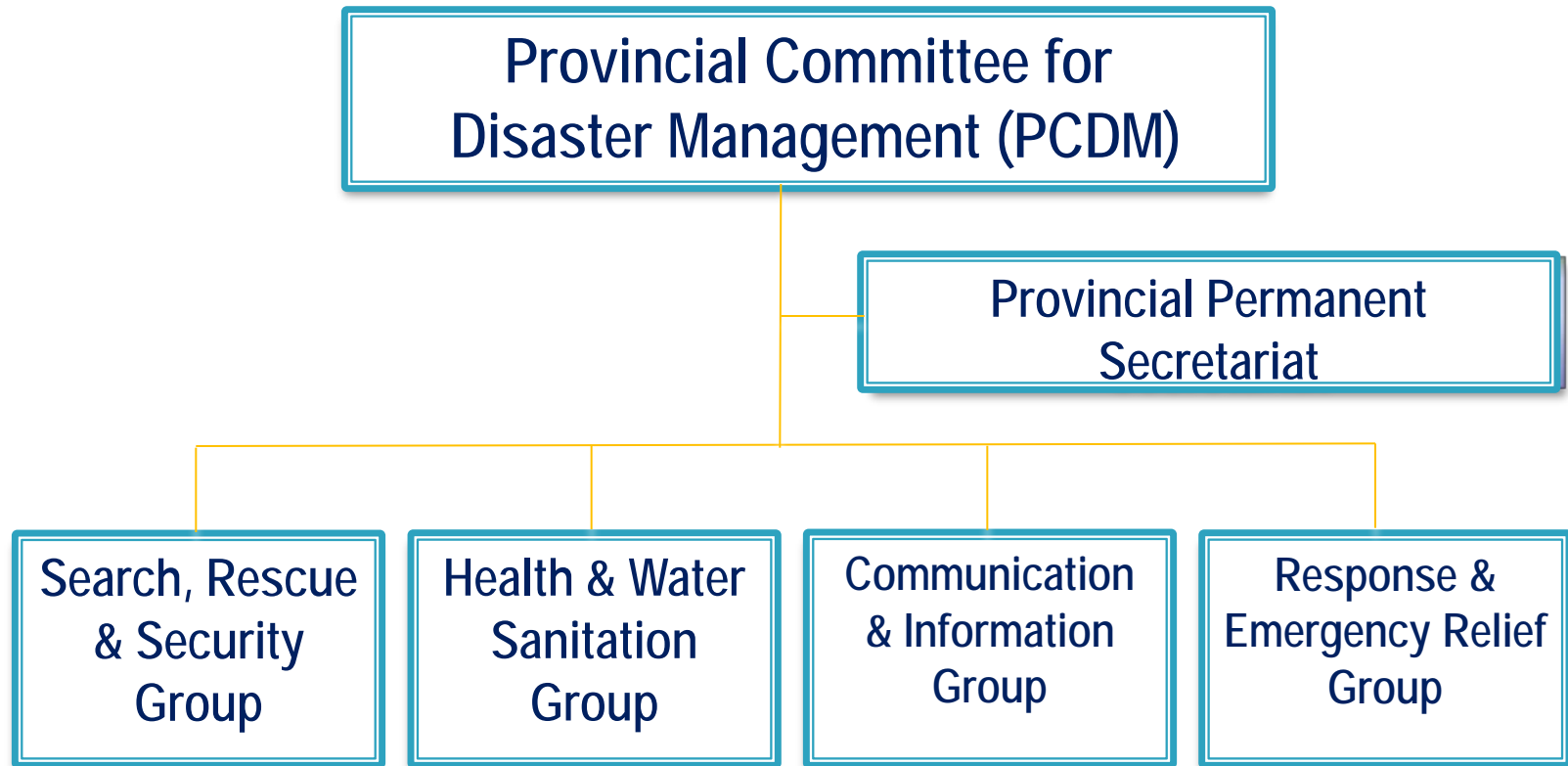
NCDM Mechanism Structure



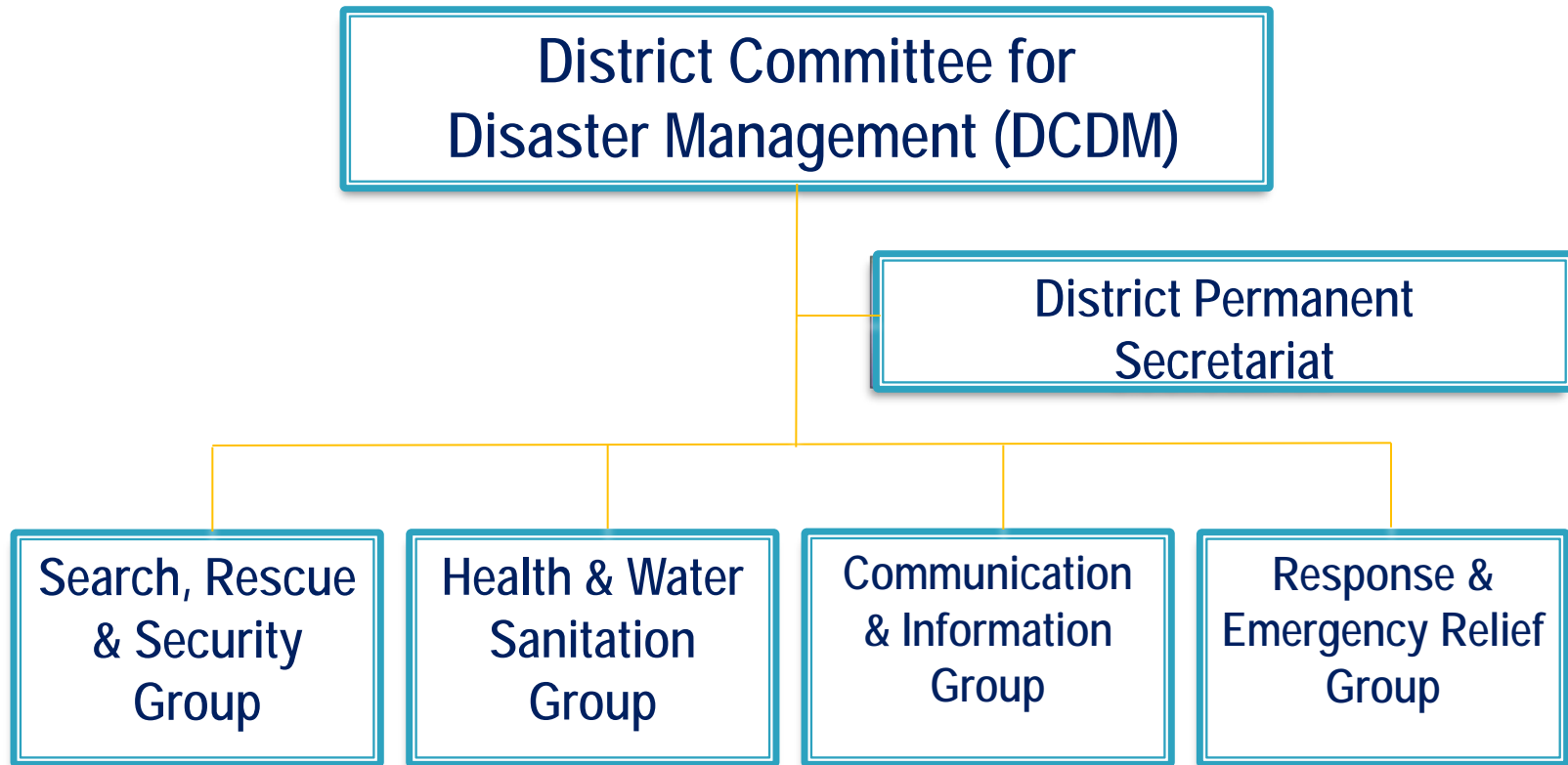
NCDM Secretariat General Organization Chart



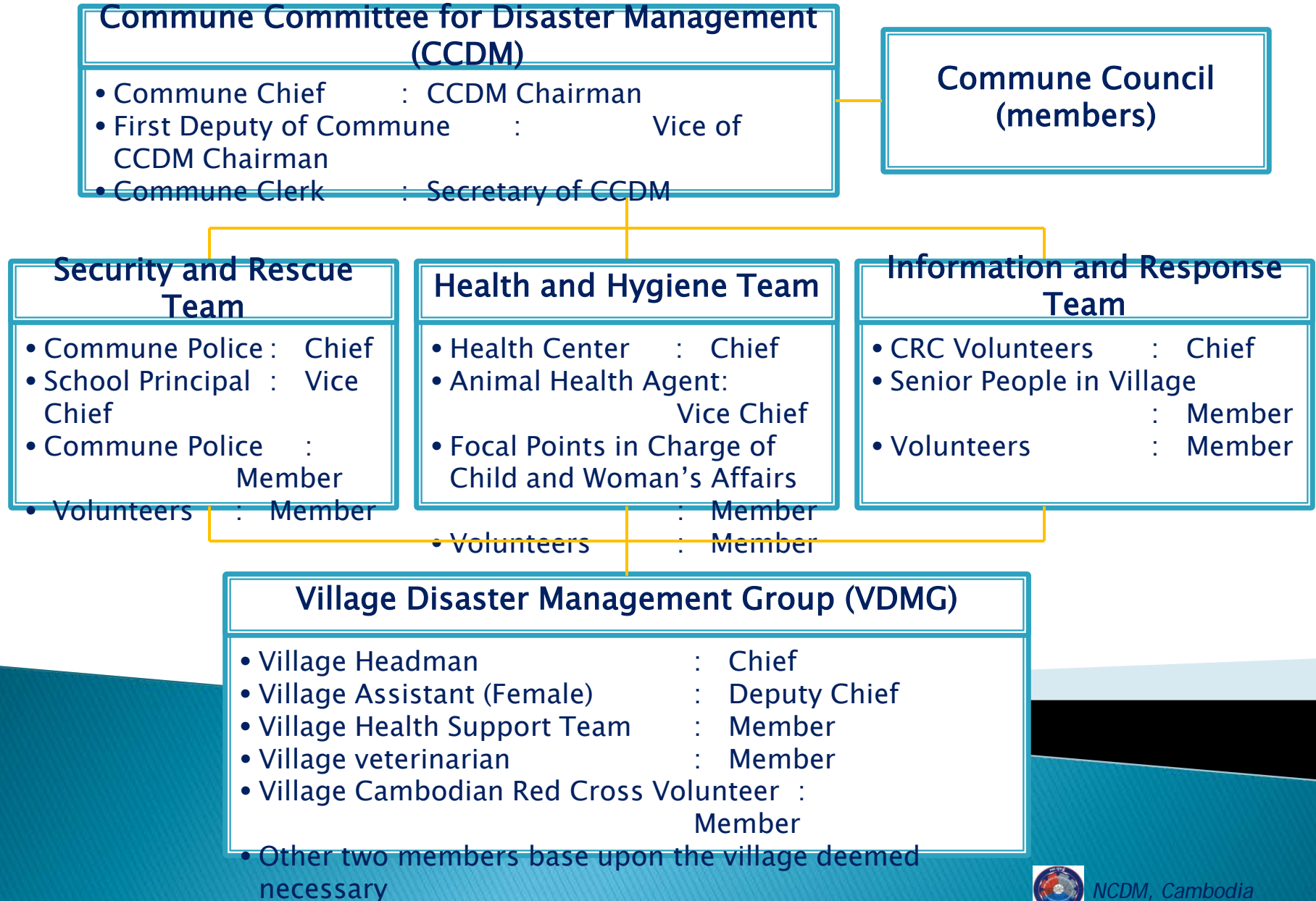
PCDM Mechanism Structure



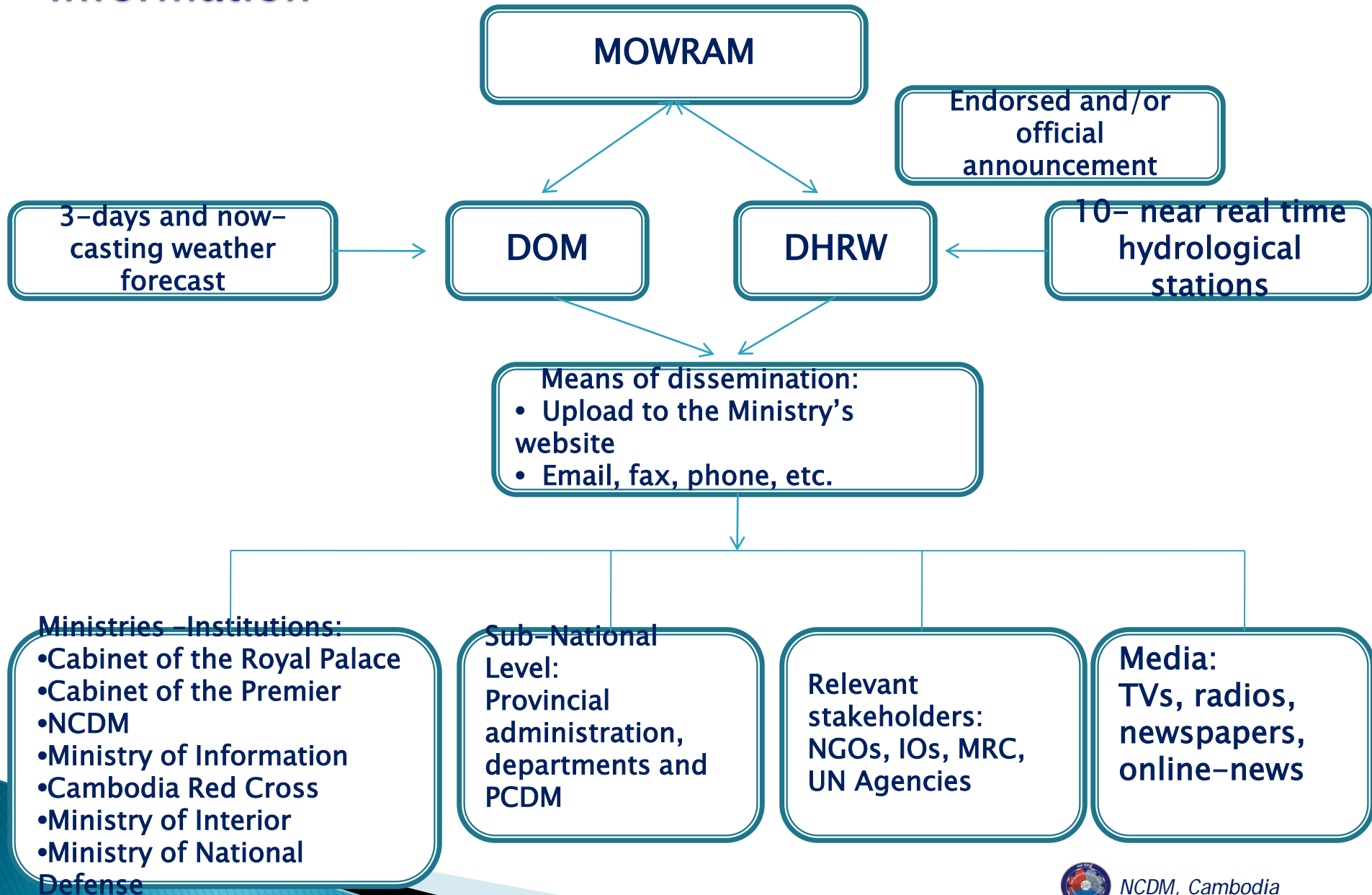
DCDM Mechanism Structure



Commune Emergency Coordination Mechanism



Dissemination of Forecasting and Early Warning Information

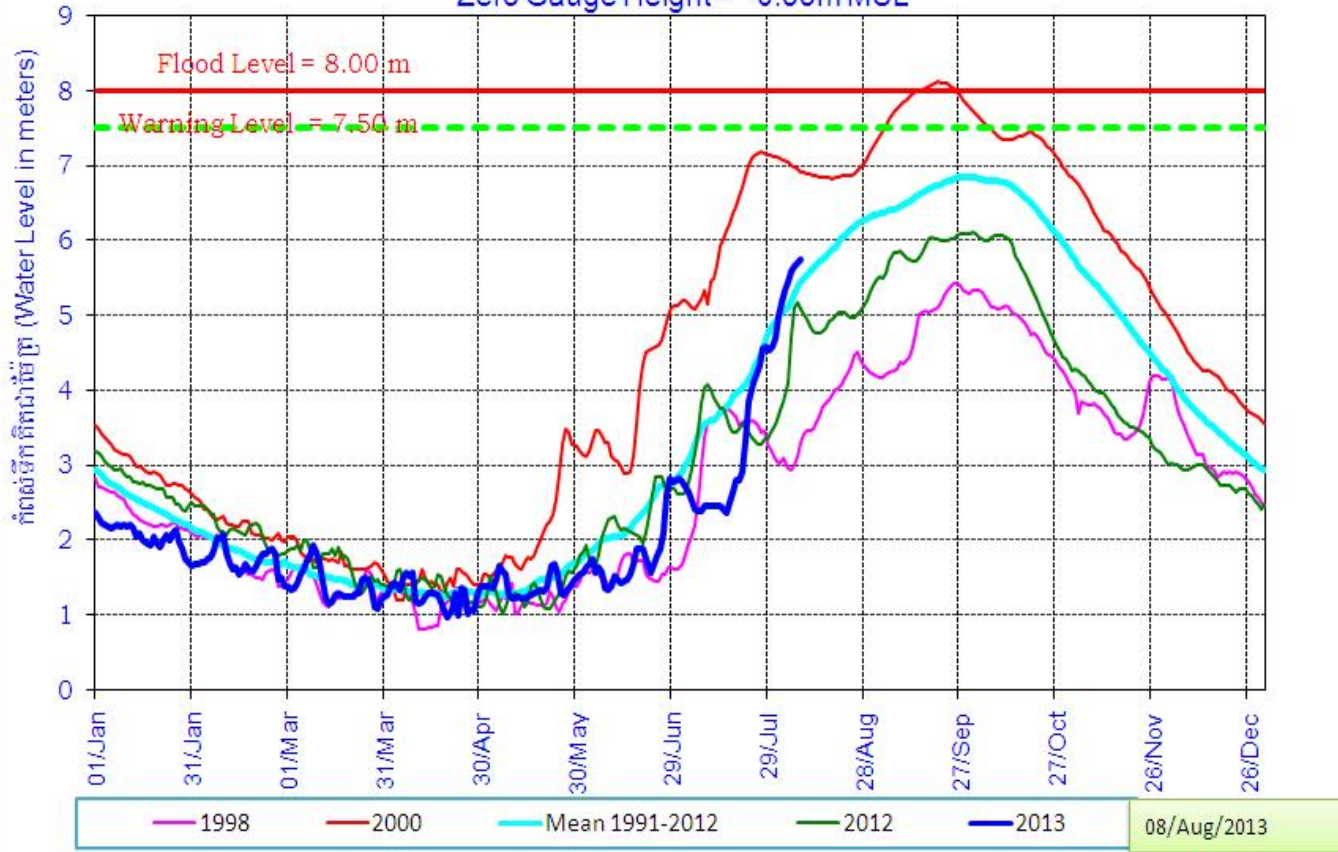


Flood Early Warning Information in Community





ប្រាហ្វិកសំពត់ទឹកនៅ ស្ថានីយធនសាស្ត្រ ព្រៃបេកខ្ពស់-អូកល្បឿន (Water Level Hydrographs of the Mekong River at Neak Loeng) ឆ្នាំ 1998, 2000, 2011-2012-2013
Zero Gauge Height = -0.33m MSL



Water Level:
7.50m → emergency
announcement
8.00m → flooding



The Use of Early Warning Information



Flood level information board

Water level pole built in at the rice field





Radio



TV



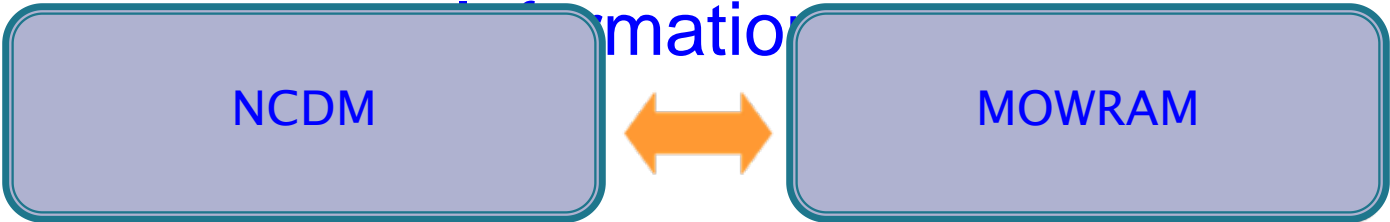
Water level pole in villages



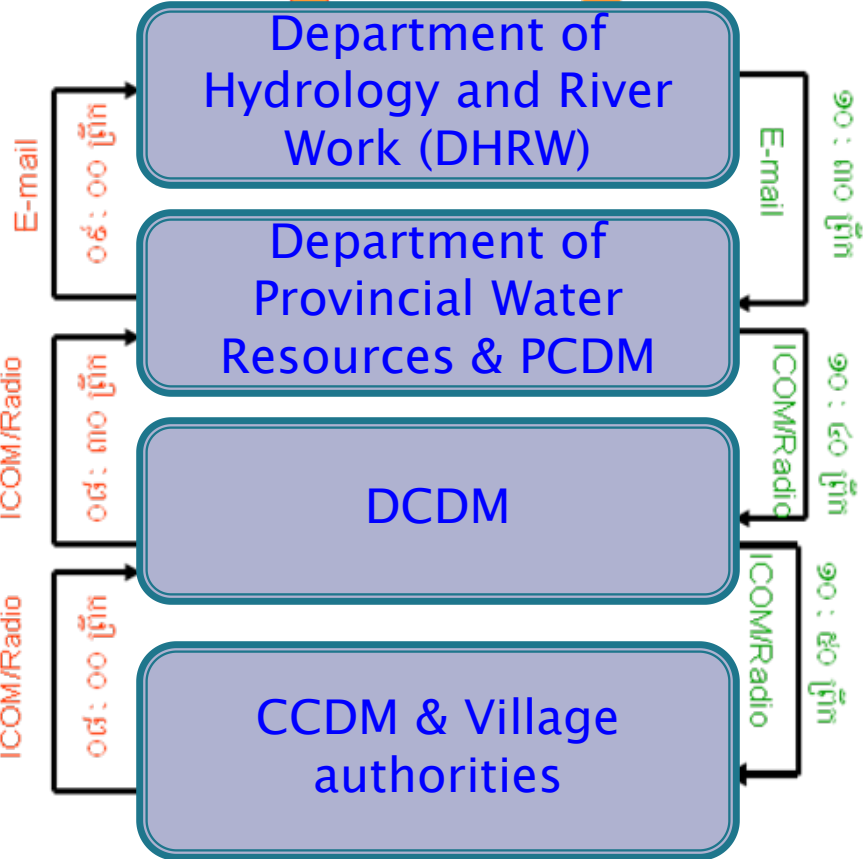
House column as water level



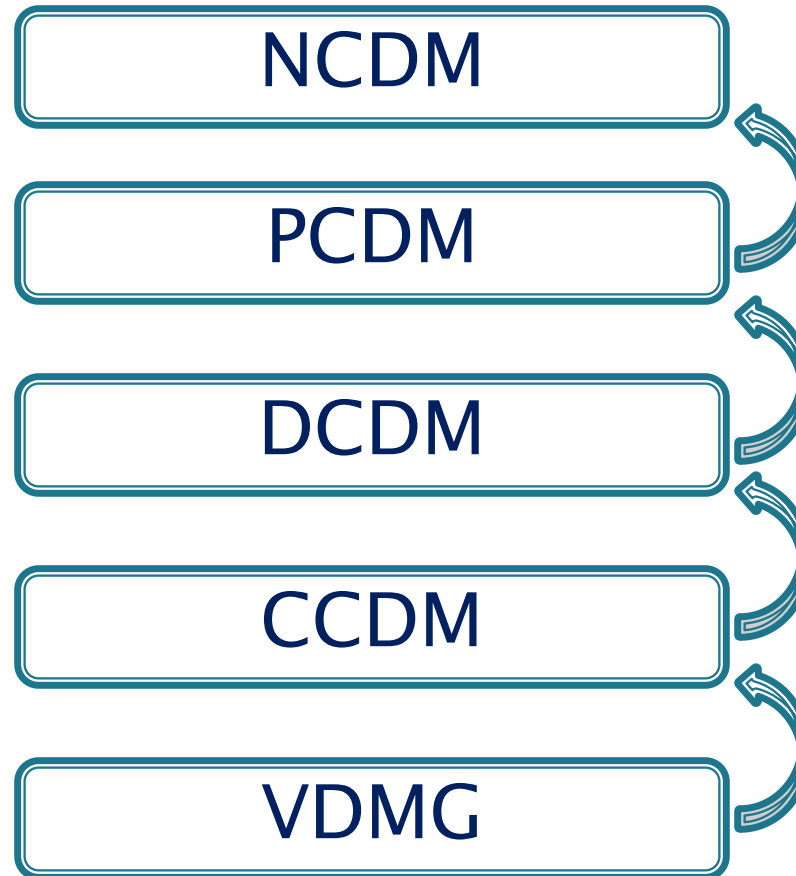
Flow of Receiving



Water



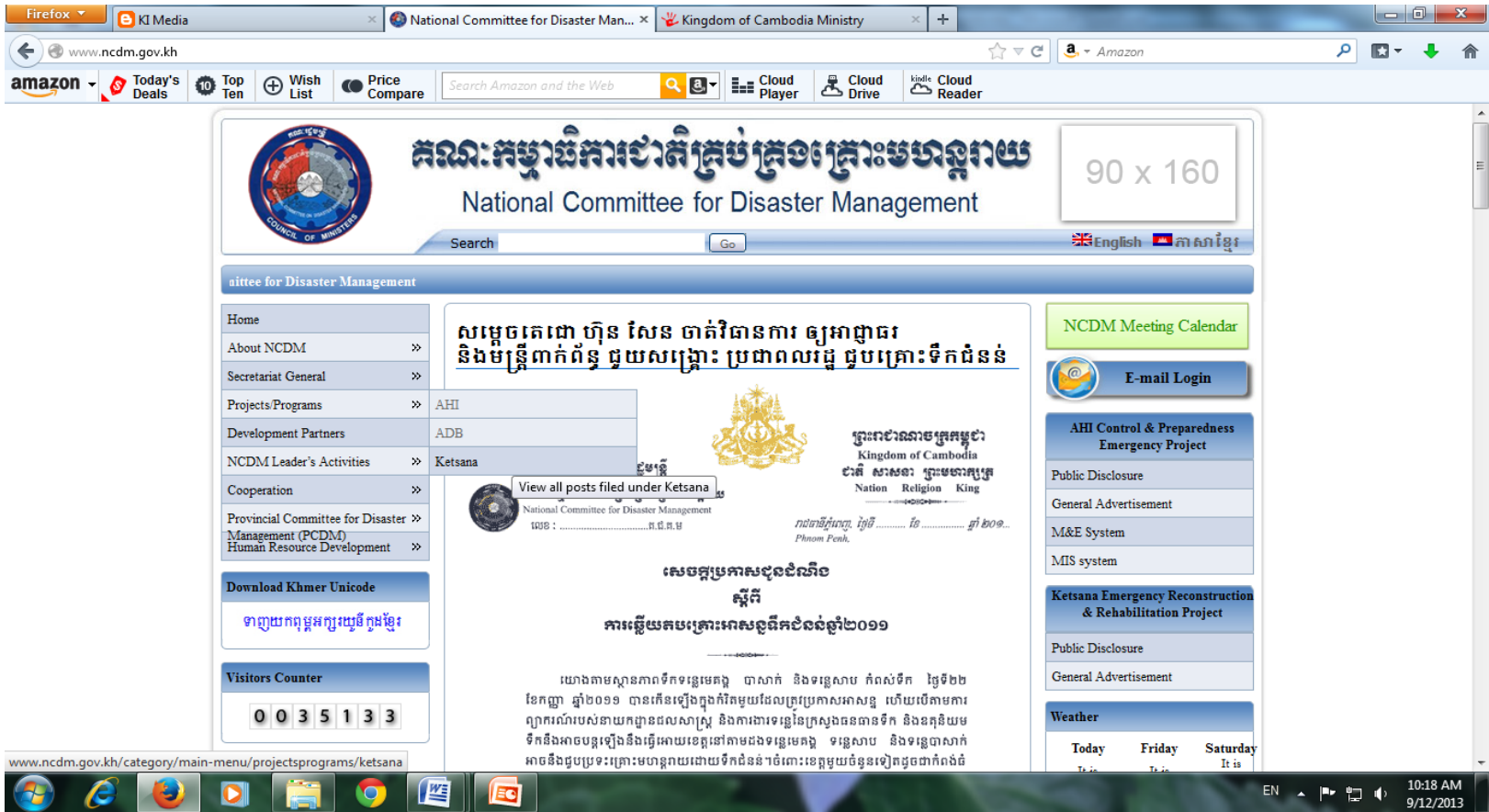
Information Collected during disaster



The Way Forward

- The Law on Disaster Management created 2015.
- Review National Action Plan for Disaster Risk Reduction (NAP-DRR) 2019-2023.
- Disaster management information system (DMIS) done – which 70% data (from 1996-2013) collected.
- Database of CamDi (DMIS) linked to NCDM website - <http://www.ncdm.gov.kh>
- Prism System established at NCDM





NCDM website:
<http://www.ncdm.gov.kh>

Cambodia Disaster Loss and Damage (CamDi)

Browser address bar: <http://192.30.33.11/DesInventar/results.jsp>

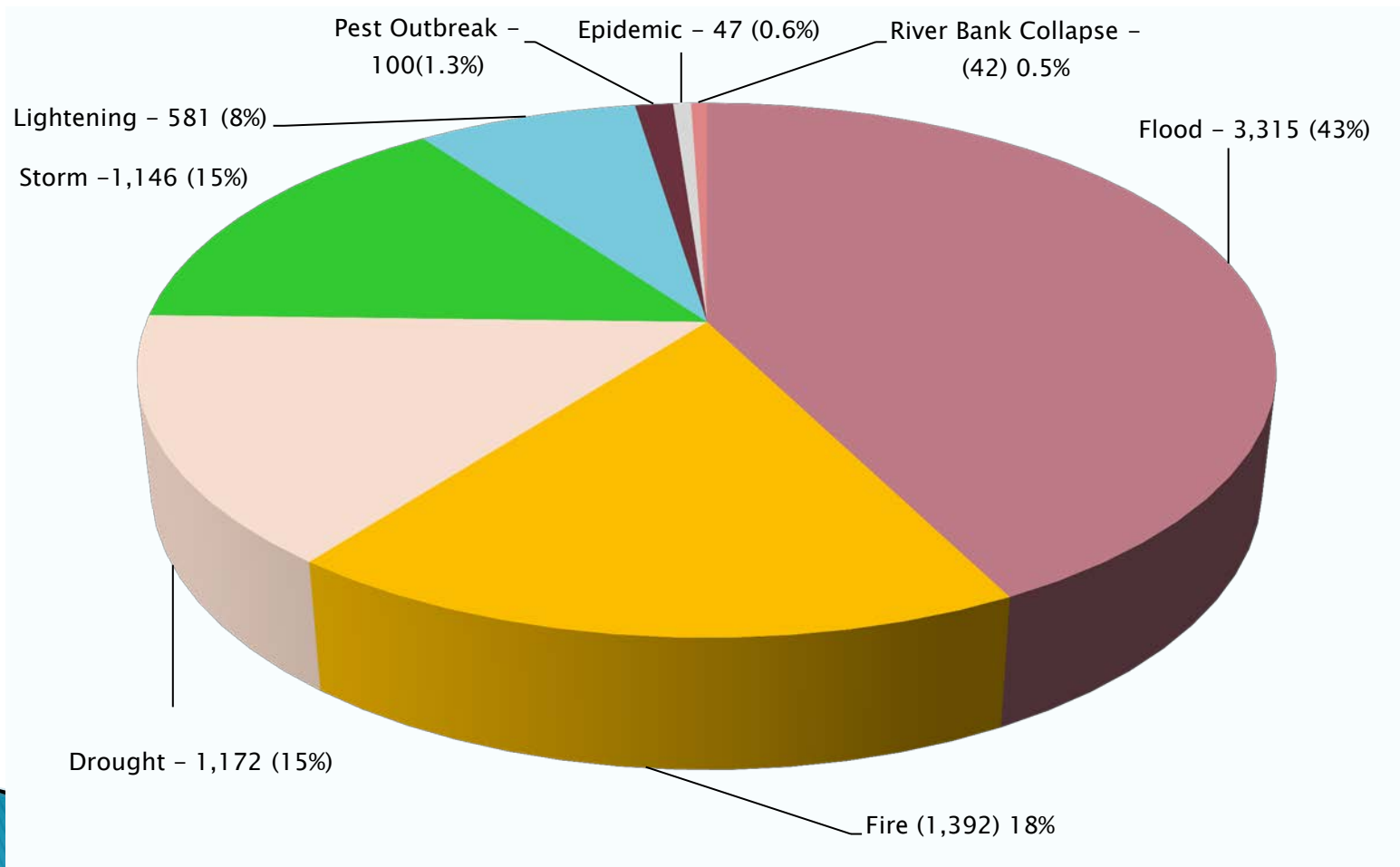
National Committee for Disaster Management
Disaster Loss Database (CamDi)

Navigation: Profile Query View data View map Charts Statistics Reports Thematic Crosstab English Data

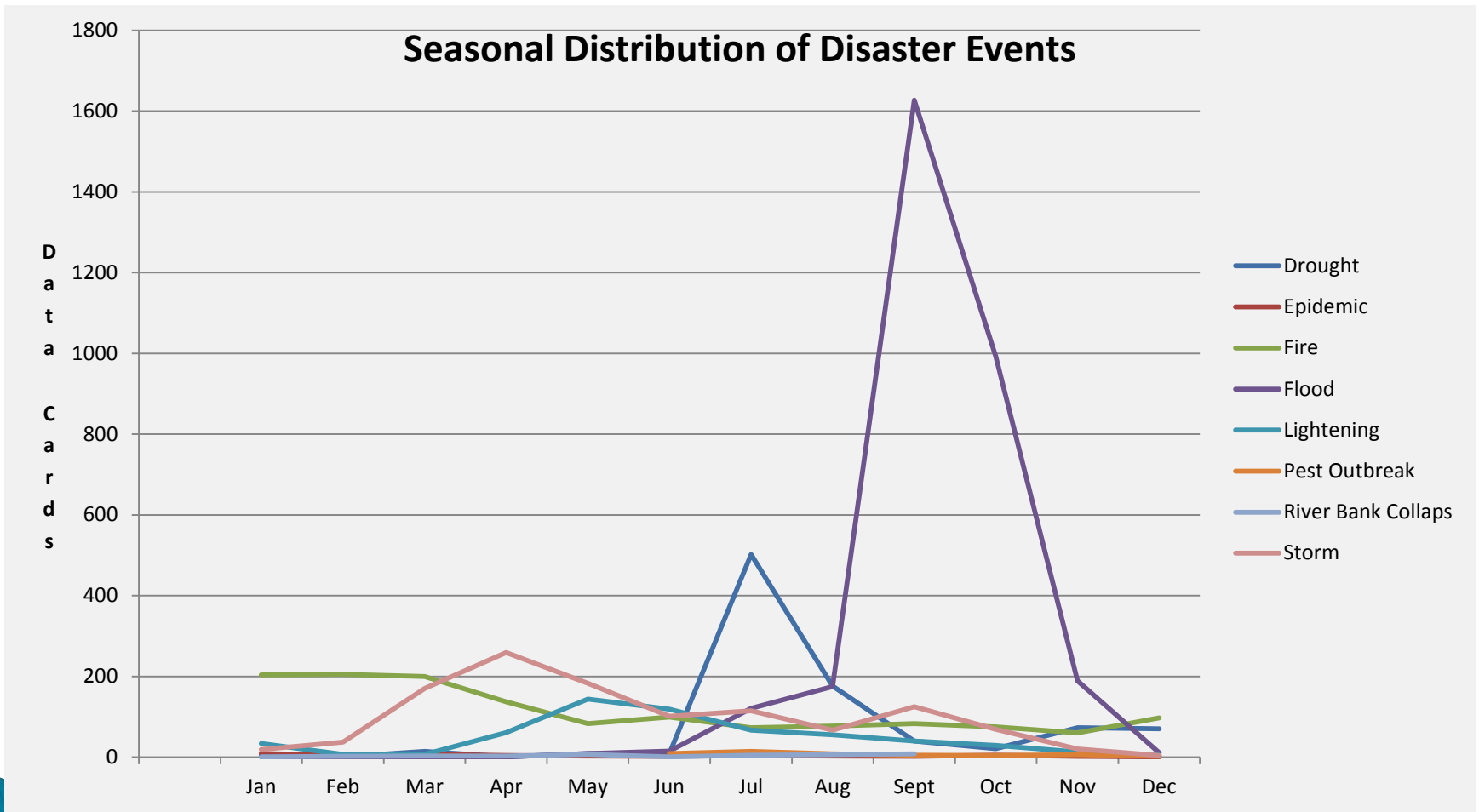
Region: Cambodia - [kh855] Data: Query Results Standard Extension Results: 5145 hits. 52 Pages : 1 2 3 4 5 6 7 8 9 10 11 12

Serial	Event	Province	District	Commune	Date	Location	Deaths	Injured	Missing	Houses Destroyed	Houses Damaged	Victims	Affected	Relocated	Evacuate
FL2011	Flood	Phnom Penh			2011/09/--		2	2				85750	✓		
FL2011	Flood	Kampong Thom	Krong Stueng Saen	Ou Kanthor	2011/09/--		2								
FL2011	Flood	Kampong Thom	Krong Stueng Saen	Srayov	2011/09/--		4								
FL2011	Flood	Kampong Thom	Krong Stueng Saen	Damrei Chohan Khla	2011/09/--		1								
FL2011	Flood	Kampong Thom	Prasat Sambour	Sambour	2011/09/--		1								
FL2011	Flood	Kampong Thom	Prasat Sambour	Koul	2011/09/--		2								
FL2011	Flood	Kampong Thom	Prasat Sambour	Tang Krasau	2011/09/--		2								
FL2011	Flood	Kampong Thom	Prasat Sambour	Chhuk	2011/09/--		1								
FL2011	Flood	Kampong Thom	Sandan	Sandan	2011/09/--		1								
FL2011	Flood	Kampong Thom	Baray	Baray	2011/09/--		2								
FL2011	Flood	Kampong Thom	Baray	Boeng	2011/09/--		1								
FL2011	Flood	Kampong Thom	Baray	Tnaot Chum	2011/09/--		2								
FL2011	Flood	Kampong Thom	Baray	Chong Doung	2011/09/--		2								
FL2011	Flood	Kampong Thom	Kampong Svay	Kampong Kou	2011/09/--		3								
FL2011	Flood	Kampong Thom	Kampong Svay	Kdei Doung	2011/09/--		1								
FL2011	Flood	Kampong Thom	Kampong Svay	San Kor	2011/09/--		3								
FL2011	Flood	Kampong Thom	Kampong Svay	Kampong Svay	2011/09/--		2								
FL2011	Flood	Kampong Thom	Kampong Svay	Tbaeng	2011/09/--		3								
FL2011	Flood	Kampong Thom	Kampong Svay	Trapeang Ruessei	2011/09/--		1								
FL2011	Flood	Kampong Thom	Kampong Svay	Phat Sanday	2011/09/--		1								
FL2011	Flood	Kampong Thom	Baray	Ballangk	2011/09/--		2								
FL2011	Flood	Kampong Thom	Baray	Treal	2011/09/--		1								
FL2011	Flood	Kampong Thom	Stoung	Samprouch	2011/09/--		4								
FL2011	Flood	Kampong Thom	Stoung	Banteay Stoung	2011/09/--		1								
FL2011	Flood	Kampong Thom	Stoung	Chamnar Leu	2011/09/--		4								
FL2011	Flood	Kampong Thom	Stoung	Kampong Chen Cheung	2011/09/--		1								
FL2011	Flood	Kampong Thom	Stoung	Pralay	2011/09/--		4								
FL2011	Flood	Kampong Thom	Stoung	Peam Bang	2011/09/--		1								
FL2011	Flood	Kampong Thom	Stoung	Chamnar Kraom	2011/09/--		1								
FL2011	Flood	Kampong Thom	Sandan	Ngan	2011/09/--		1								
FL2011	Flood	Kampong Thom	Sandan	Chheu Teal	2011/09/--		1								
FL2011	Flood	Kampong Thom	Santuk	Kakaoh	2011/09/--		2								

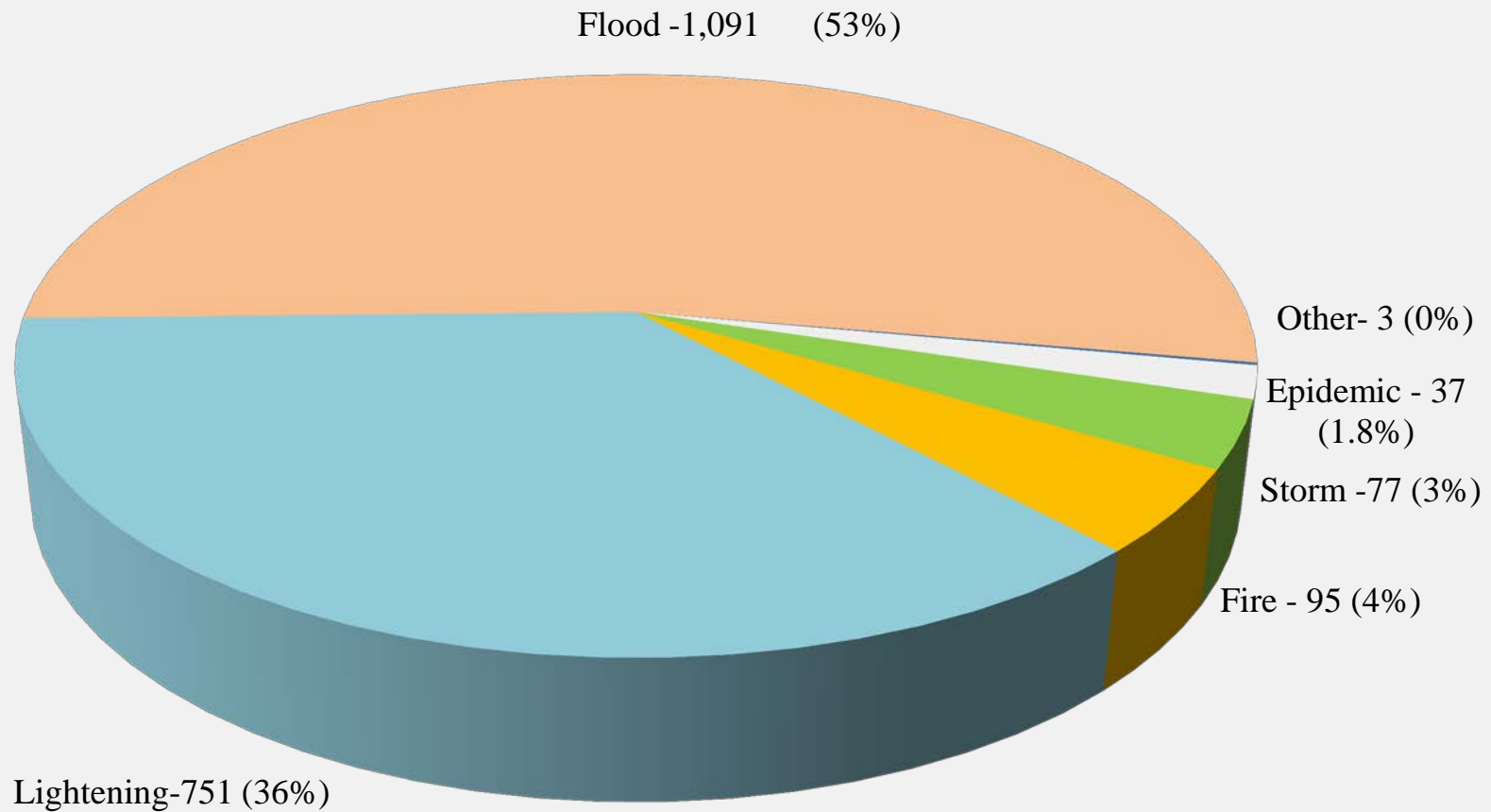
What Disasters Occurred in Cambodia since 1996?



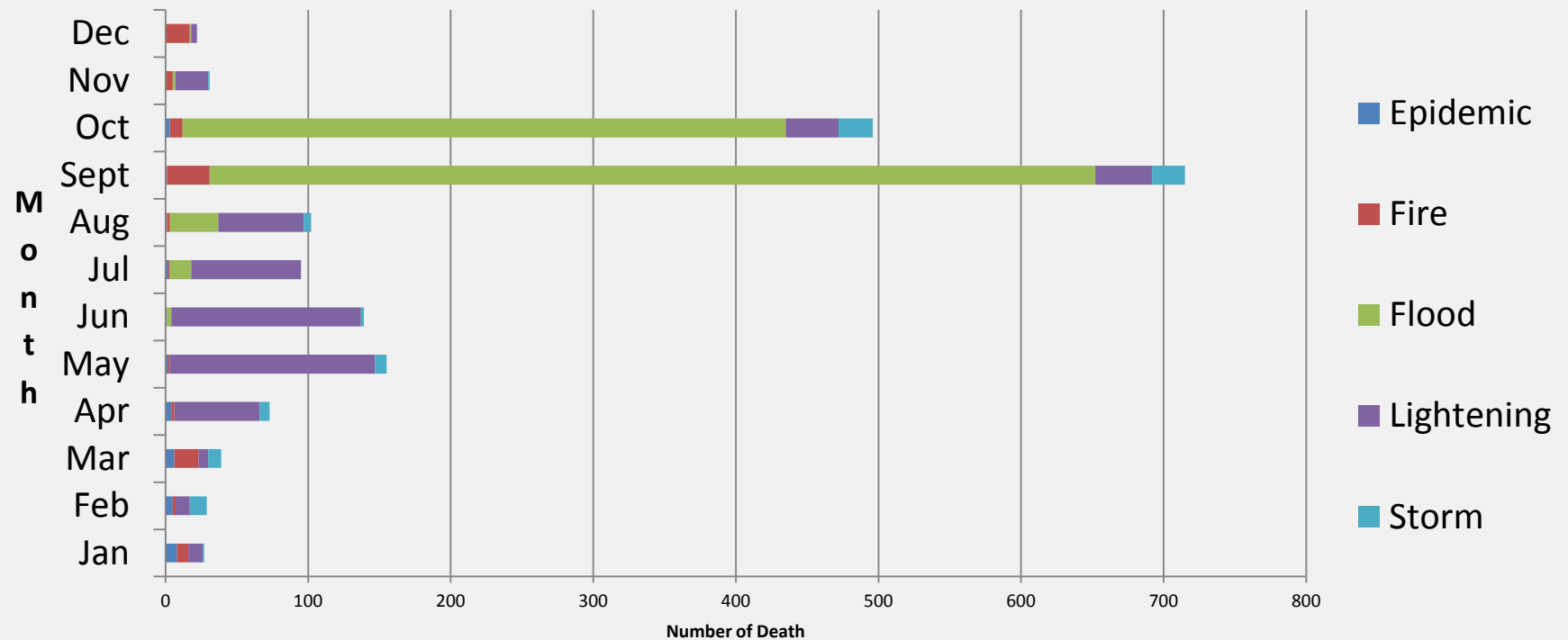
When Disasters Happen?



Causes of Death

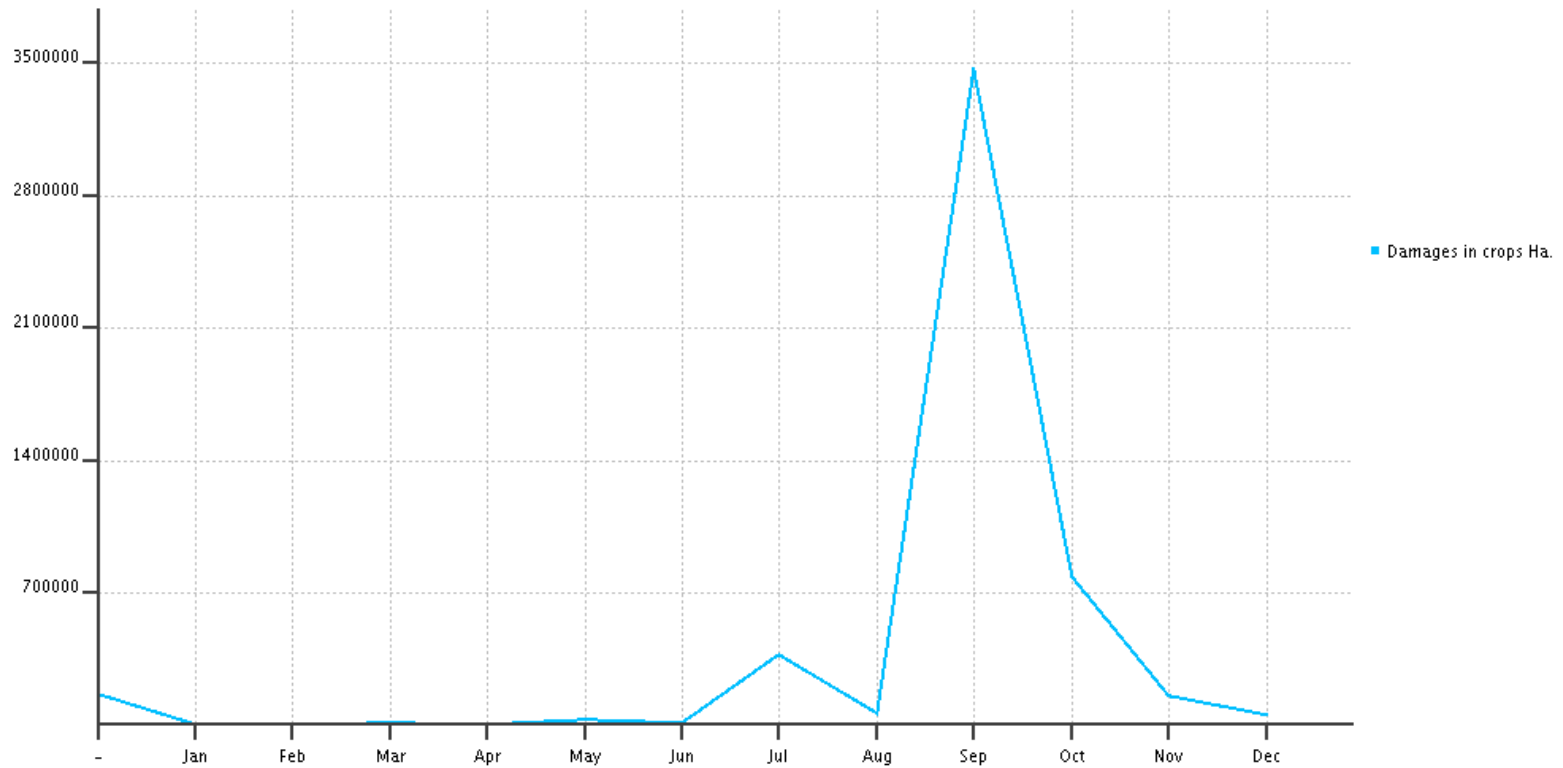


Seasonal Distribution of Death by Types of Disasters (1996 - 2013)



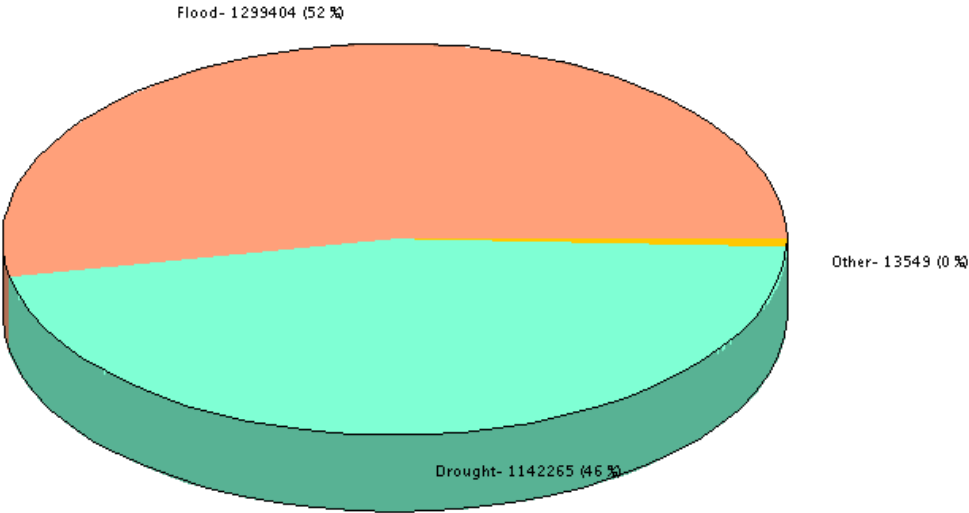
Which Month Does Paddy-Field Damaged?

Seasonal Distribution of Damages in Crops in Ha

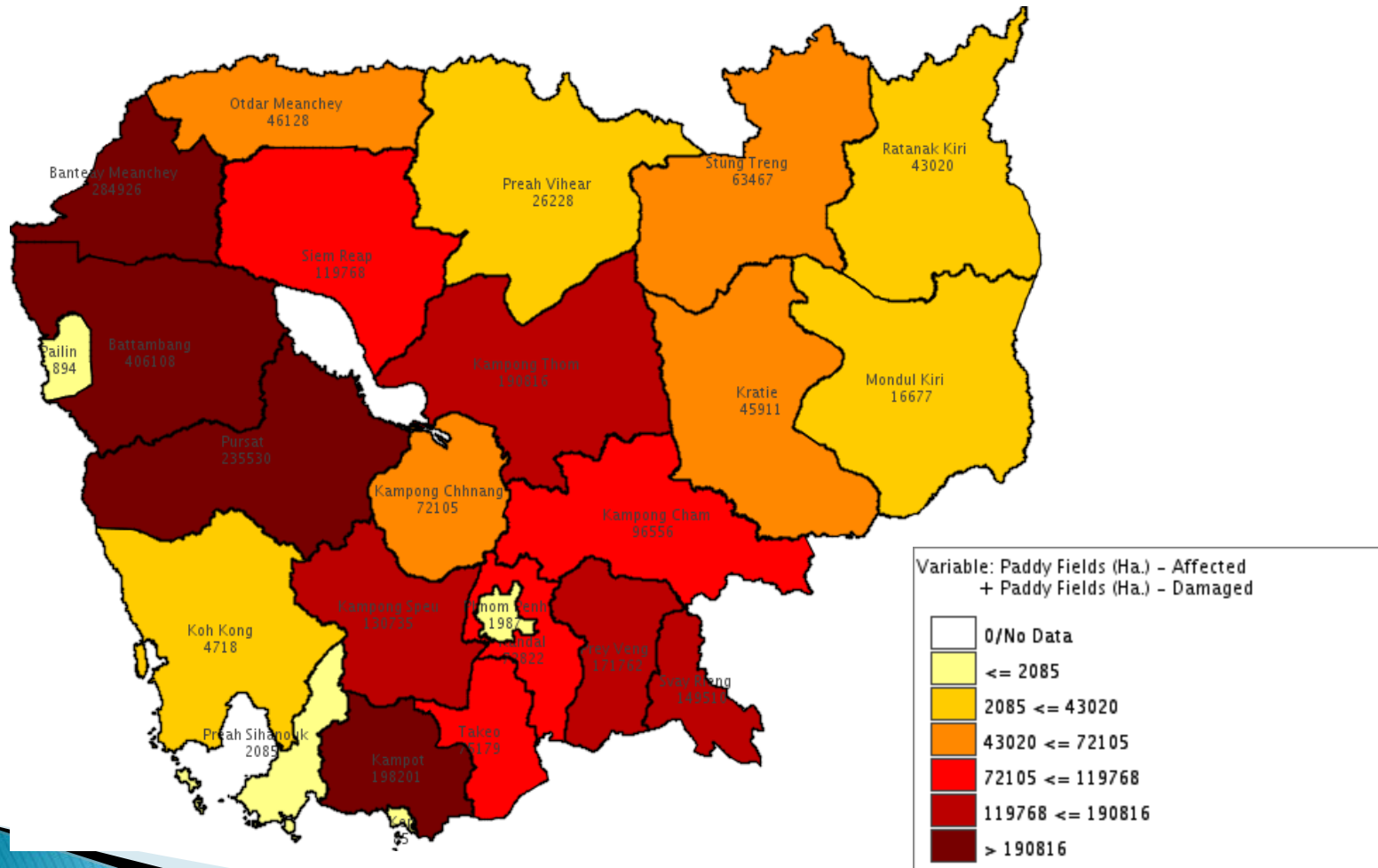


Causes of Paddy Fields (Ha.)

Causes of Affected and Damaged Paddy Fields (Ha.)



Where Does Paddy Fields Affected and Damaged?



WebEOC Connection with AHA Centre

- WebEOC with AHA Centre being installed
- 5 computers
- 5 screens
- Supported by JICS (Japan International Cooperation System)



Strategic Goal

- i. Ensure that disaster risk reduction is a national and a local priority.
- ii. Strengthen sub-national and community-based disaster risk management.
- iii. Identify, assess and monitor hazard risks and enhance early warning.



- iv. Use knowledge innovation and education to build a culture of safety and resilience.
- v. Mainstream DRR into policies and programs of relevant government ministries-institutions.
- vi. Strengthen disaster preparedness for effective response at all levels.

Challenges

- NCDM's capacity is limited in disseminating disaster information across all levels.
- The forecasting and early warning information from national level could only reached the provincial, but not the commune level.



- The disaster preparedness plan and multi-hazards map have not been entirely developed in the country.
- DRR framework remains very fragmented, mostly project based, and not coordinated enough.

***Thanks You So Much for Your
Attention***

Office of the Council of Ministers

National Committee for Disaster Management (NCDM)

