

# Applications of Disaster Loss and Damage Databases

Training workshop on  
Disaster Loss Databases and Sendai Framework Monitoring  
Gujarat, India

13 - 16 Nov 2018

*Presented by -*

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*Empowered lives.  
Resilient nations.*

# Presentation outline

- Applications of the databases – global and national
- Extensive-Intensive risk analysis
- Insights from database
- Impacts on sectors
- Cambodia risk profile
- InaRisk



## Applications at global and national levels

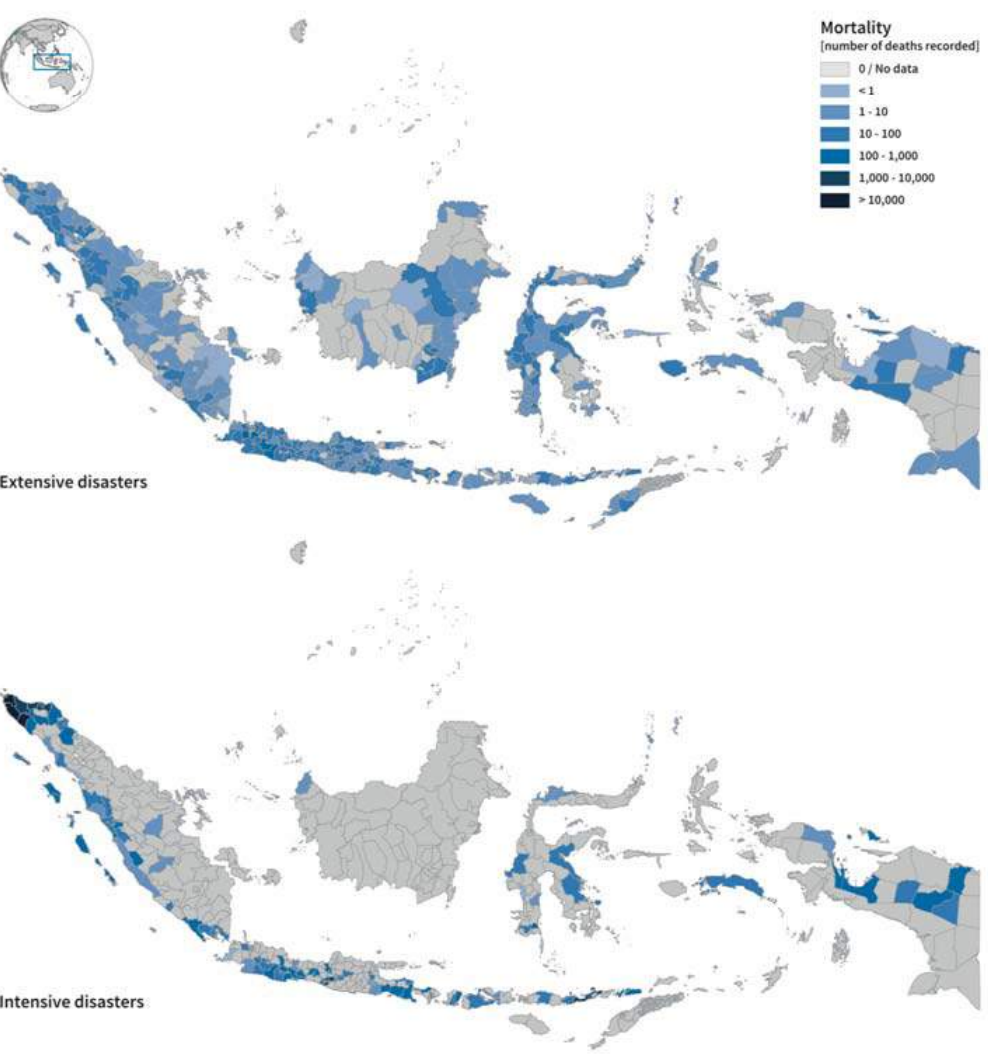
- ▶ Global Assessment Reports (GAR) on DRR - 2009, 2011, 2013, 2015
- ▶ Extensive intensive risk analysis
- ▶ Disaster risk and poverty analysis
- ▶ Poverty monitoring
- ▶ Allocation of funds based of levels of risks
- ▶ Local disaster management plans
- ▶ InaRisk (Indonesia)
- ▶ Monitoring of indicators of SFDRR and SDGs

## Applications at global and national levels (2)

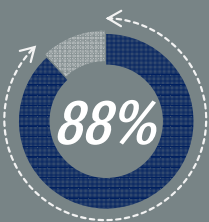
- ▶ Preparation of national, state and district disaster management plans
- ▶ Insights from the analysis
- ▶ Monitoring of a range of indicators across sectors
- ▶ Tracking of allocation by the national government to districts
- ▶ Setting up loss reduction targets
- ▶ Validation of risk assessment models
- ▶ Modelling of potential losses from future disaster events
- ▶ Supporting in-depth research



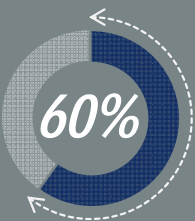
The different footprints of extensive vs intensive disaster loss in Indonesia, 1990-2013



Proportion of injured and displaced people reported in extensive disasters (65 countries, 2 states)

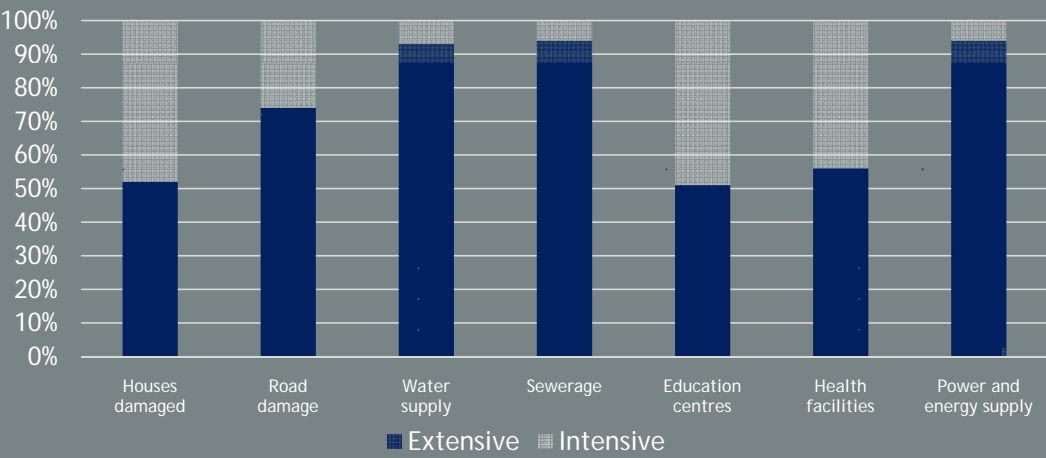


88% of people injured from *extensive* disasters

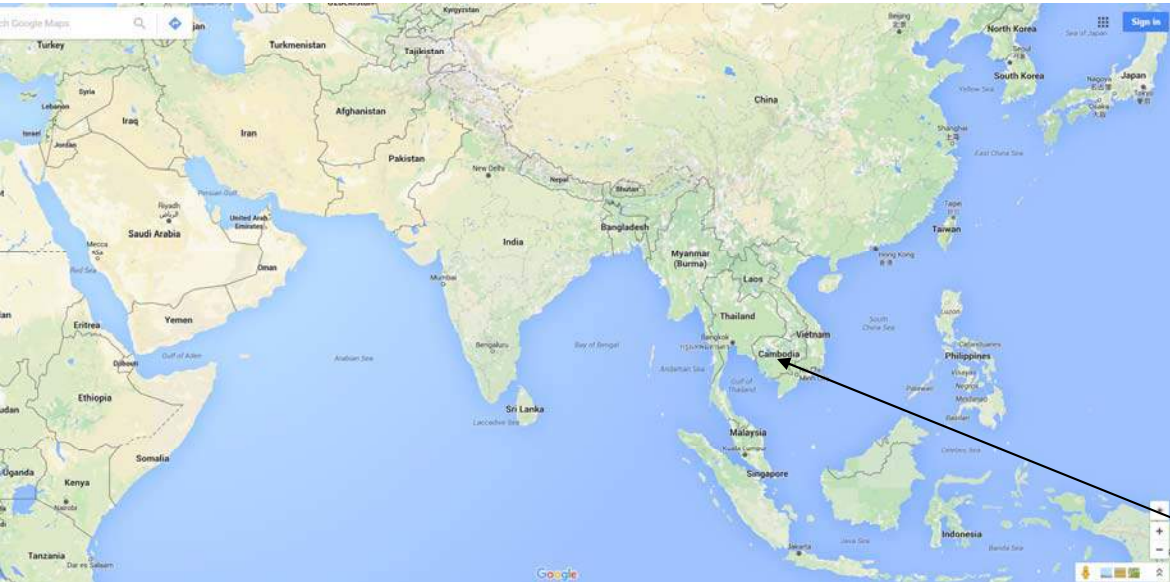


60% of people displaced (relocated + evacuated) from *extensive* disasters

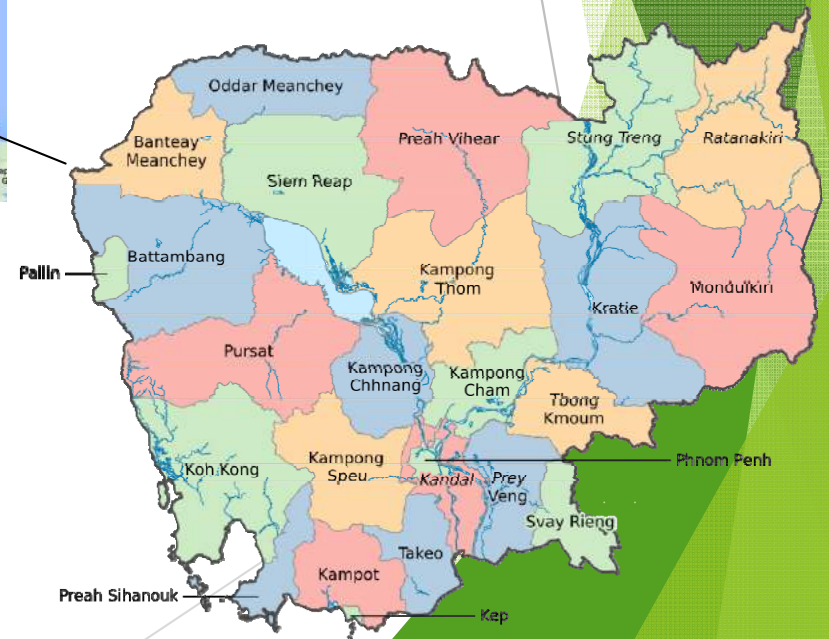
Percentage of damage and loss from extensive and intensive disaster events (65 countries, 2 states)



# Cambodia




Total population: About 15 million  
Area: 181,035 sq.km.  
Provinces: 25  
Capital: Phnom Penh





# Cambodia (CAMDI)

<http://camdi.ncdm.gov.kh>



## National Committee for Disaster Management Disaster Loss Database (CamDi)

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

Region: ប្រទេសកម្ពុជា - Cambodia - [kh855] Profile:

CamDi Manual: [Khmer](#) | [English](#)  
Disaster Data Analysis Report: [English](#)  
Share your data: [Road Damaged Data](#)

Select what profile you want:





Disaster type Multi-hazard profile ▼	Province ALL ▼
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ប្រទេសកម្ពុជា - Cambodia

Profile:

This Country Profile shows a set of typical results known as "Preliminary Analysis" coming from the disaster database. Charts, Maps and tables below will provide you with a basic understanding of the effects of many types of natural disasters occurred in the region. [Click here for more info](#)

Composition of Disasters

Deaths 	DataCards 
Affected 	Houses Destroyed + Houses Damaged 

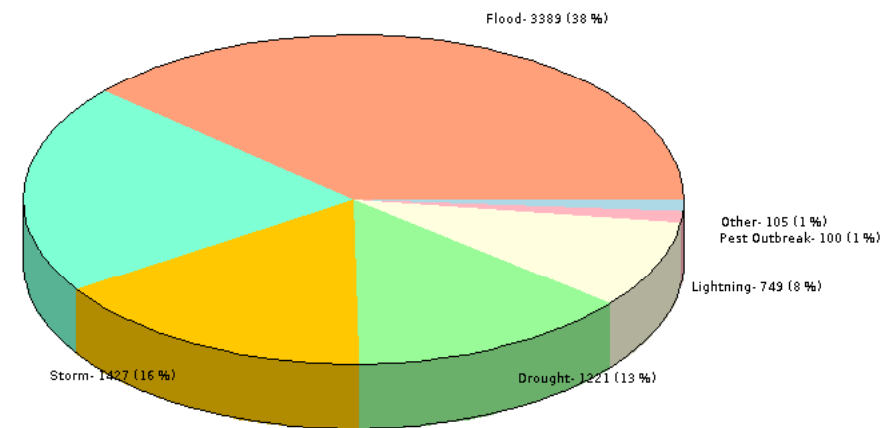
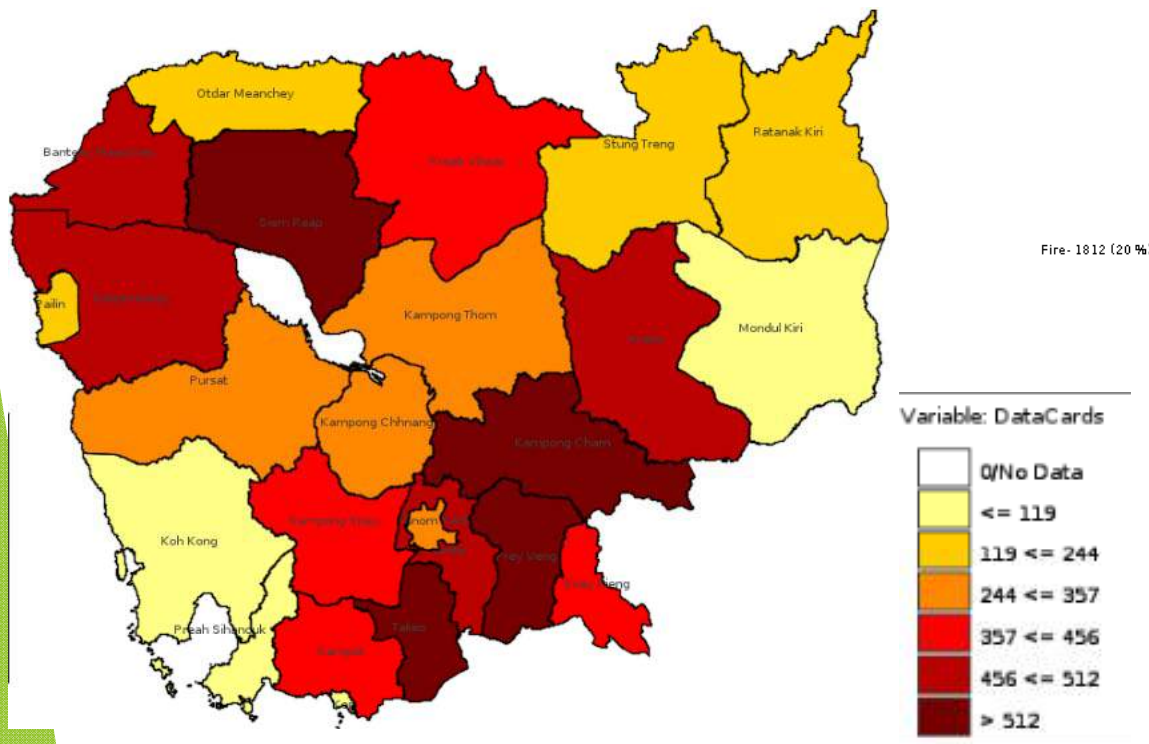
# National Disaster Risk Profile (2000-2015)





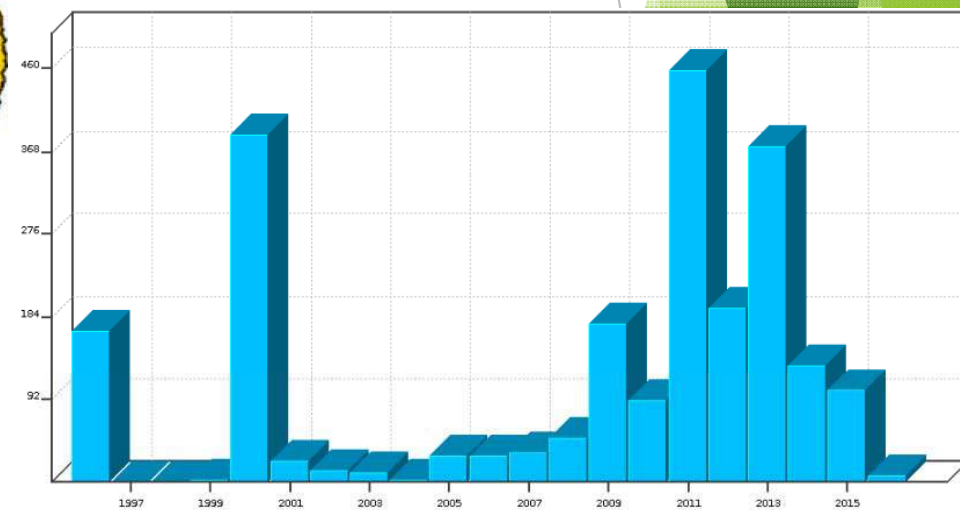
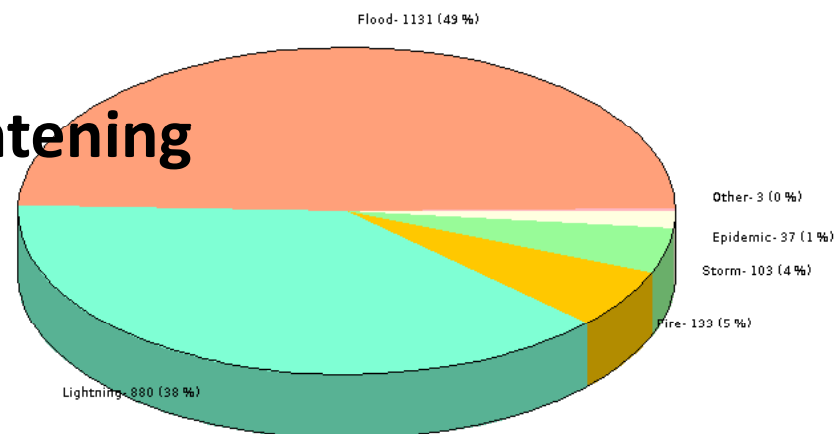
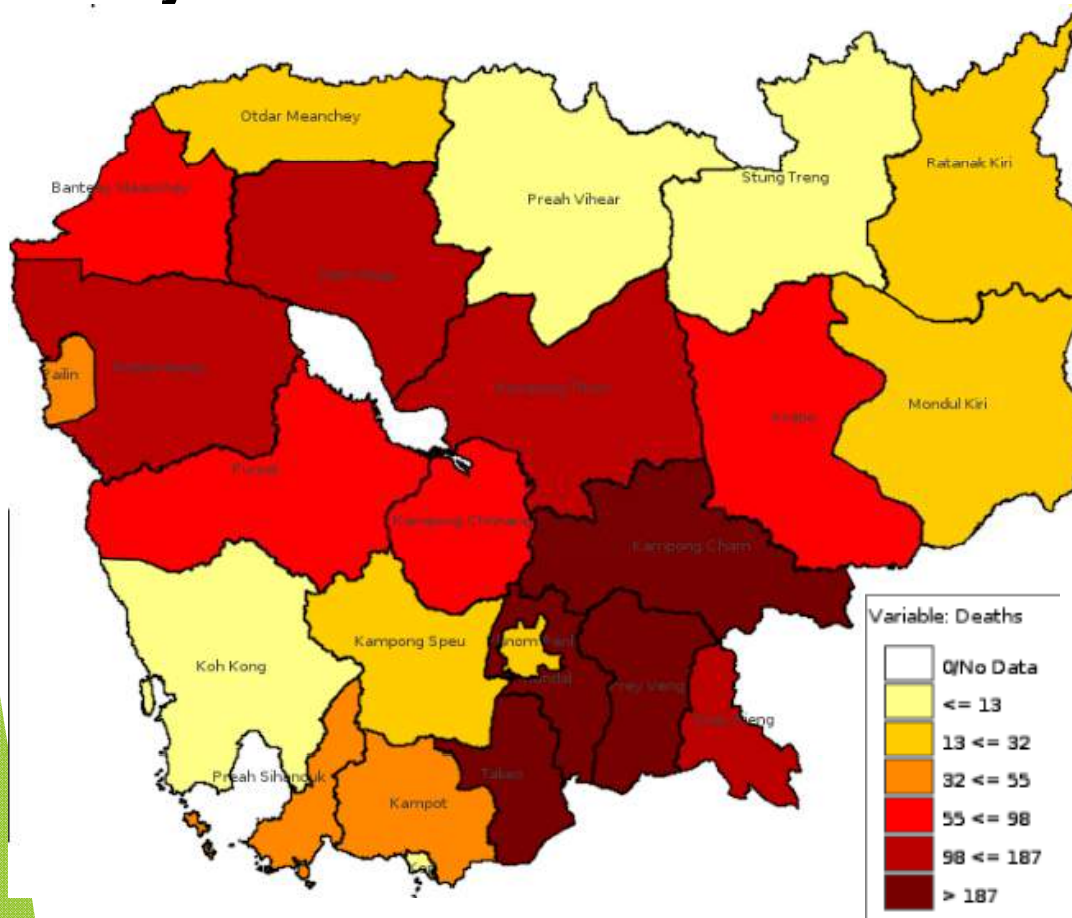
## An abstract graphic design featuring several overlapping green geometric shapes, primarily triangles and quadrilaterals, in various shades of green. A large, dark green triangle is in the upper left. A lighter green triangle is in the upper right. A medium green triangle is in the lower right. A large, dark green quadrilateral is in the lower left. A halftone pattern of small dots is overlaid on the lower right and bottom center areas. A thin white line runs diagonally from the top left towards the bottom center.

Major natural disasters:  
Flood, Fire, Storm, Drought and Lightening

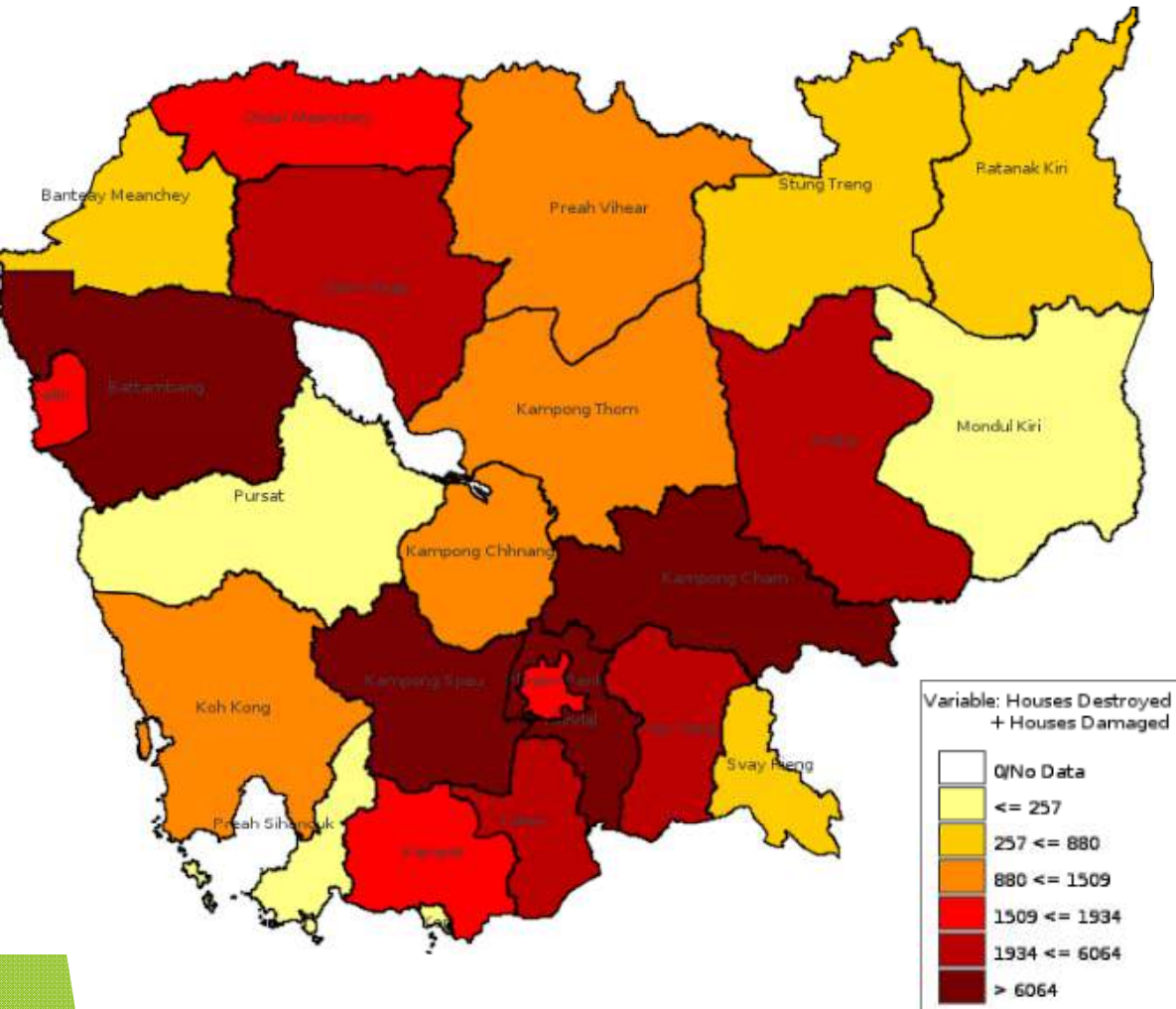


# Death

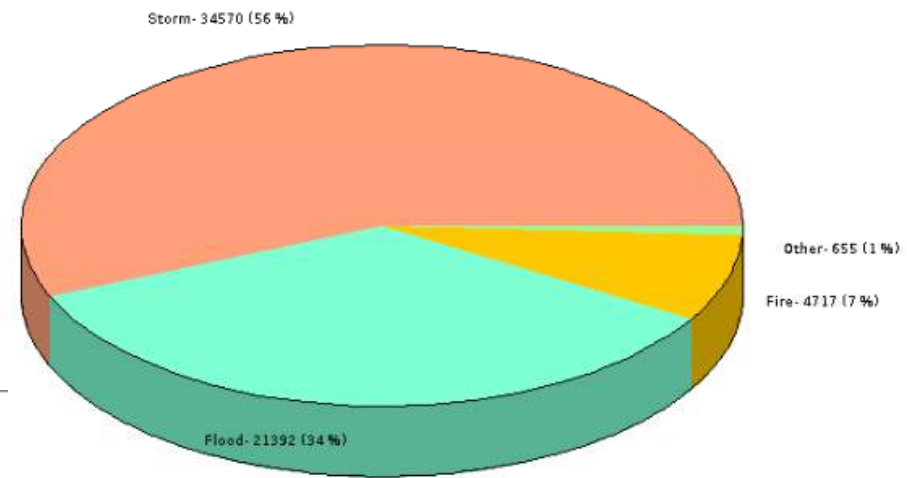
## Major causes of death: Flood and Lightening



## Houses damaged and destroyed



## By Storm, flood and fire



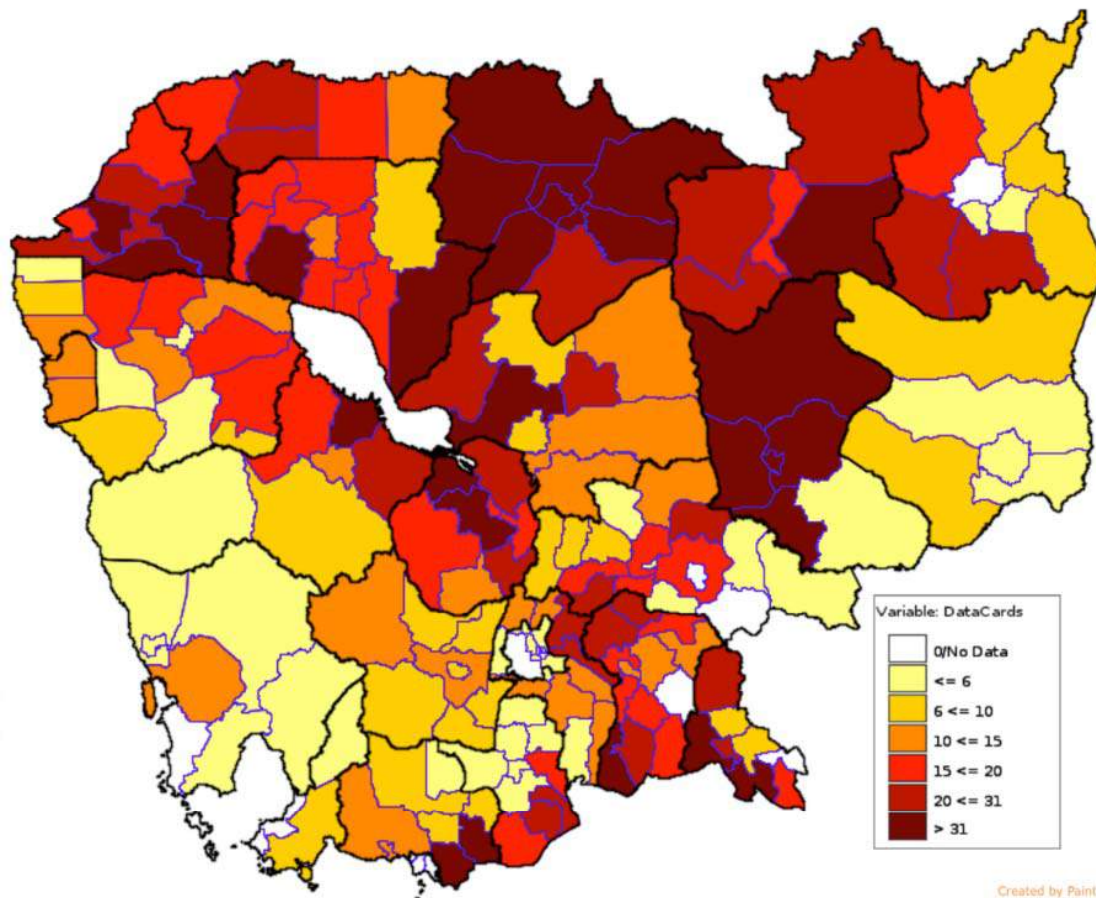




## Hazard Profile (2000-2015)

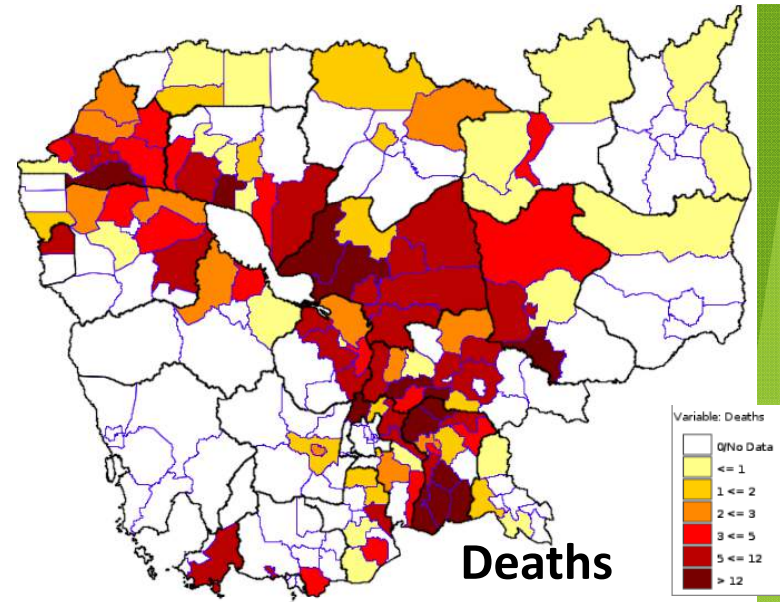


# Floods

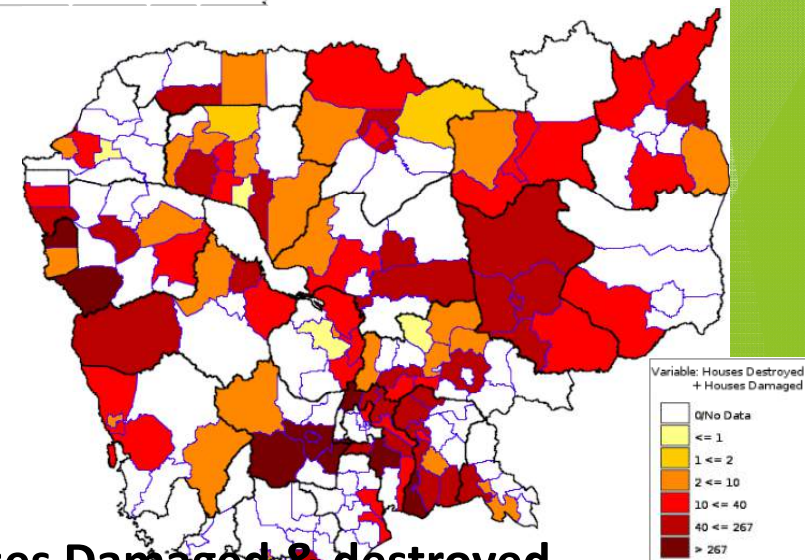


Reporting

Created by Point X



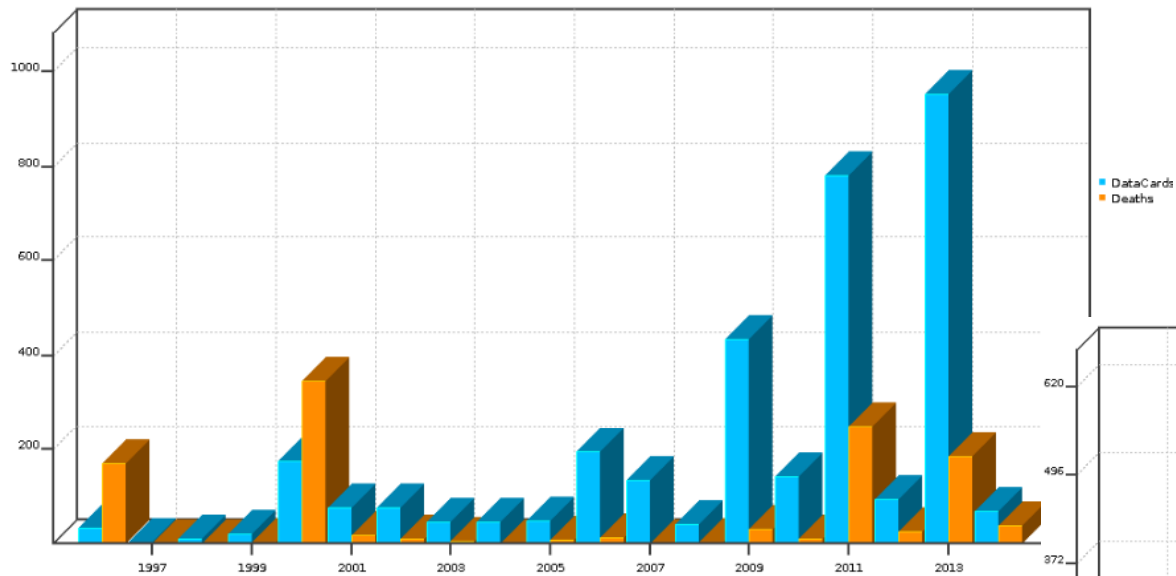
Deaths



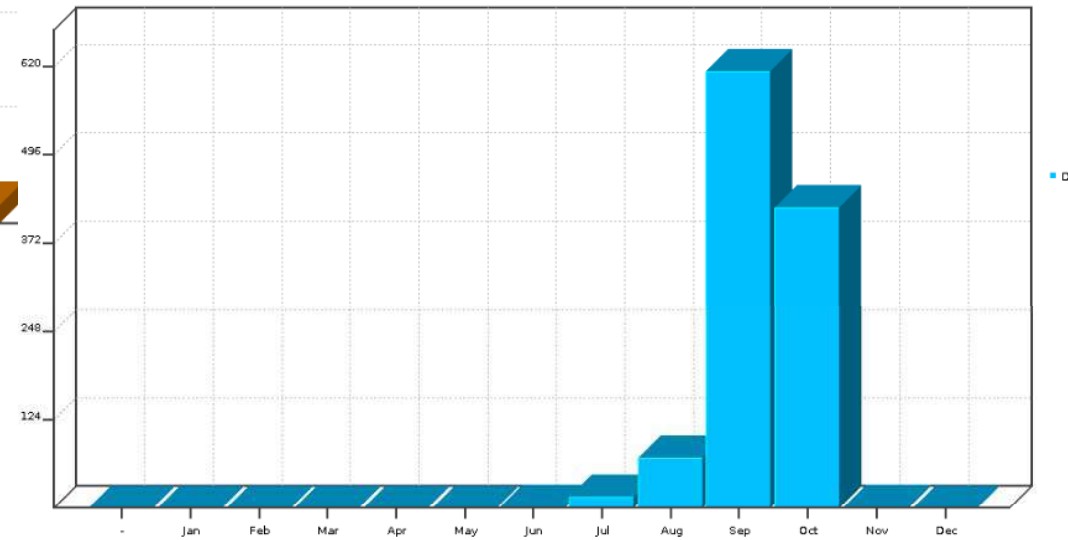
Houses Damaged & destroyed



# Floods - Continued



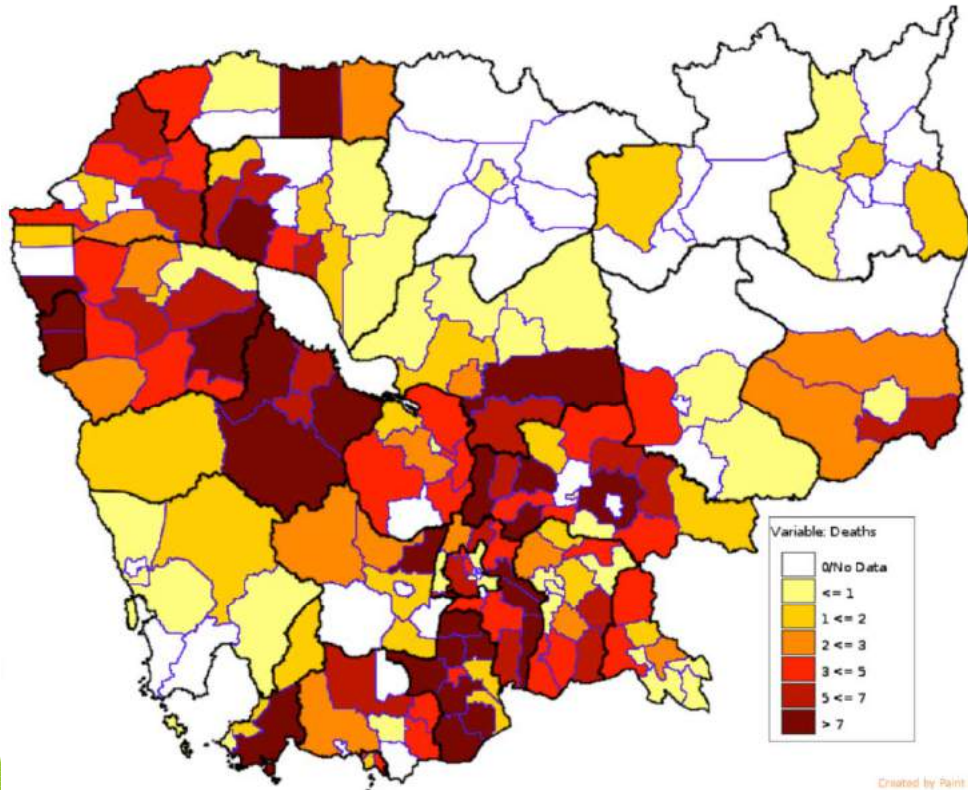
Flood – Reporting and deaths



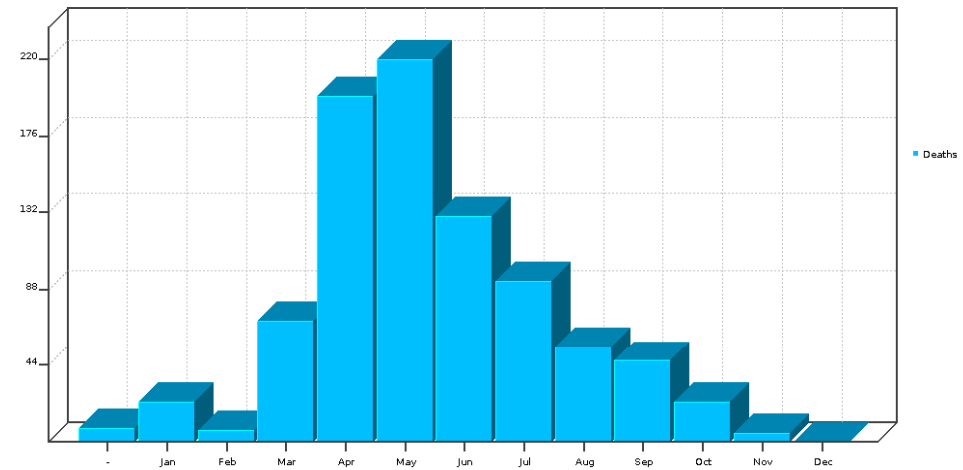
Seasonal histogram of deaths caused by floods



# Lightening

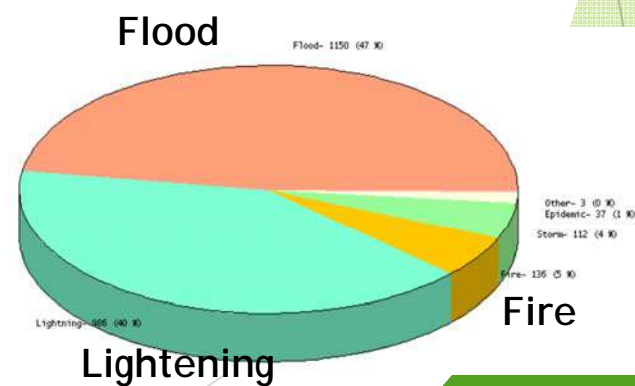
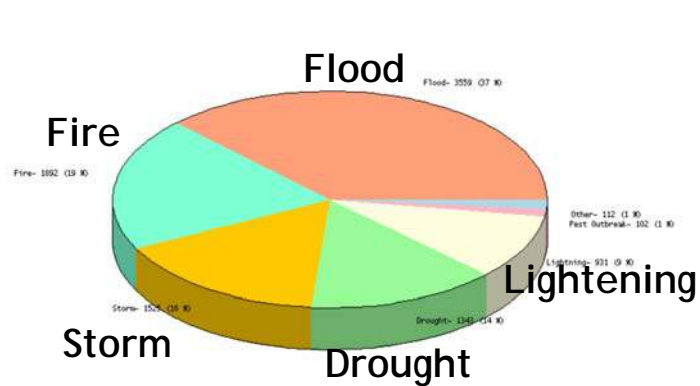
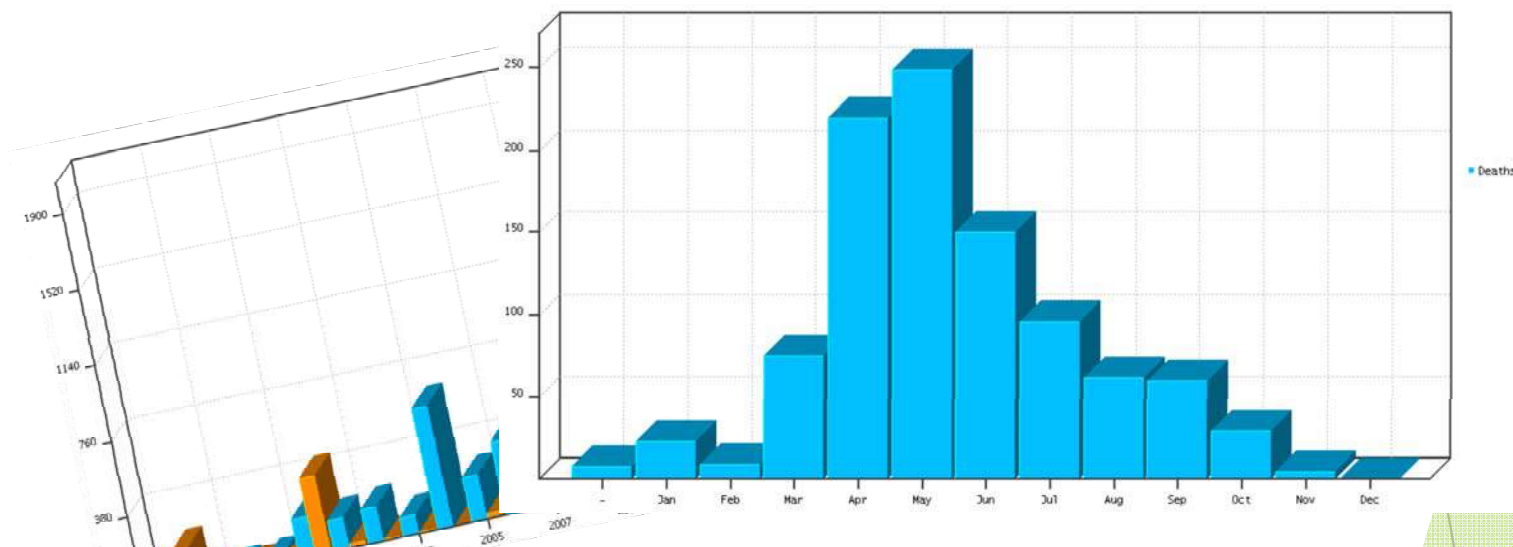


Districts with mortality by lightning



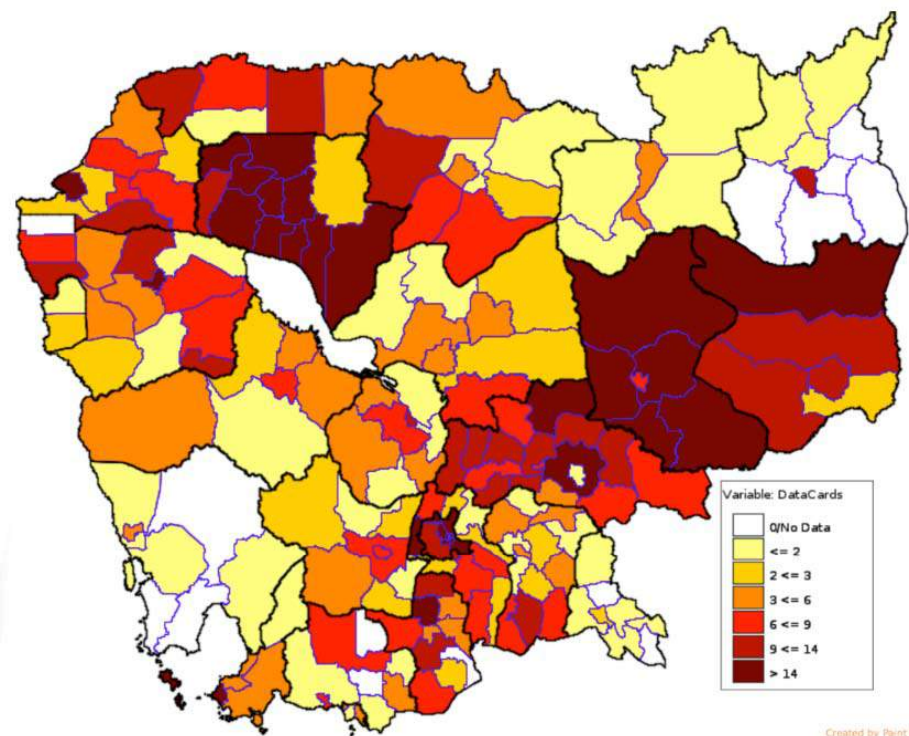
Highest mortality in the months of Apr and May

# Disaster Loss Database for Cambodia - CamDi

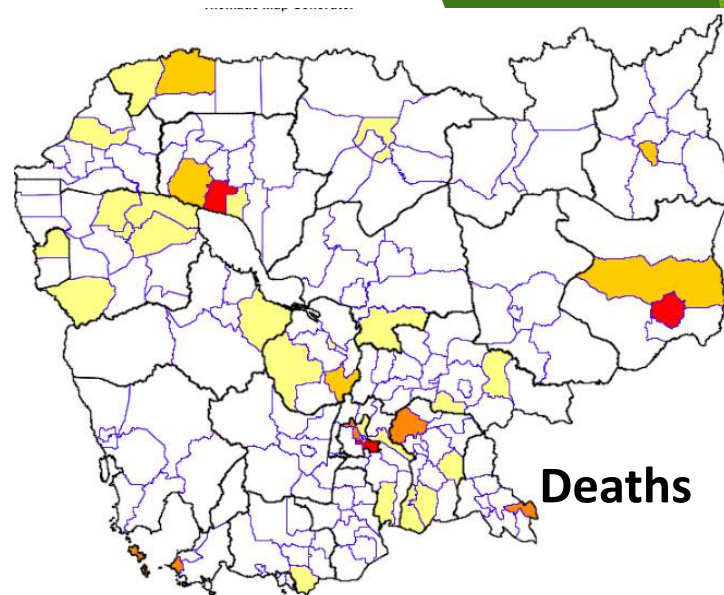




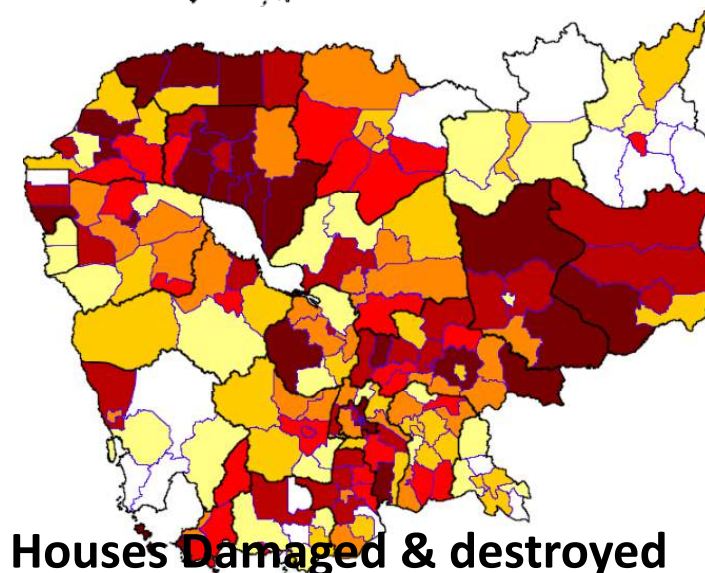
# Fire



Reporting of Fire at district level



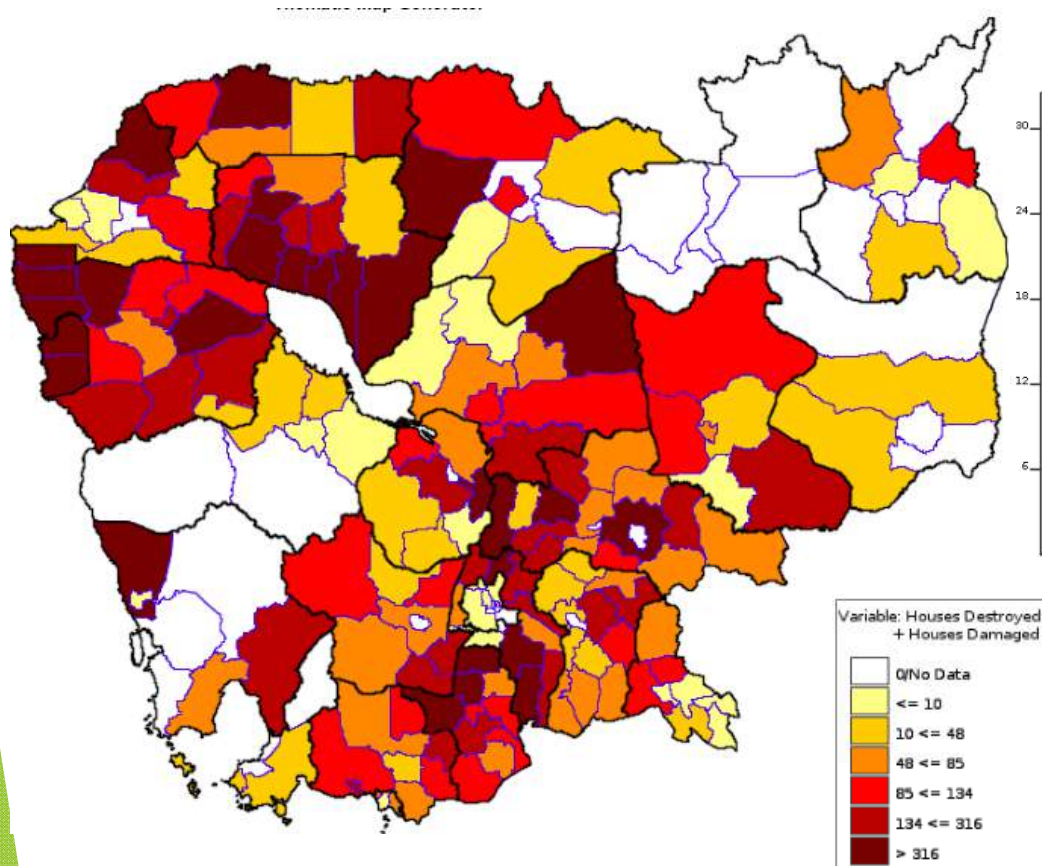
Deaths



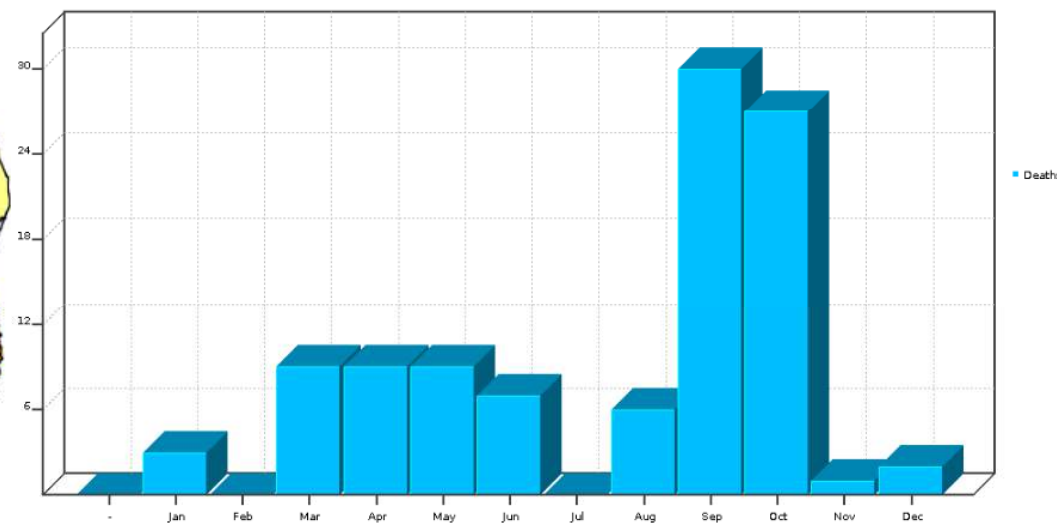
Houses Damaged & destroyed



# Storm



Houses damaged & destroyed



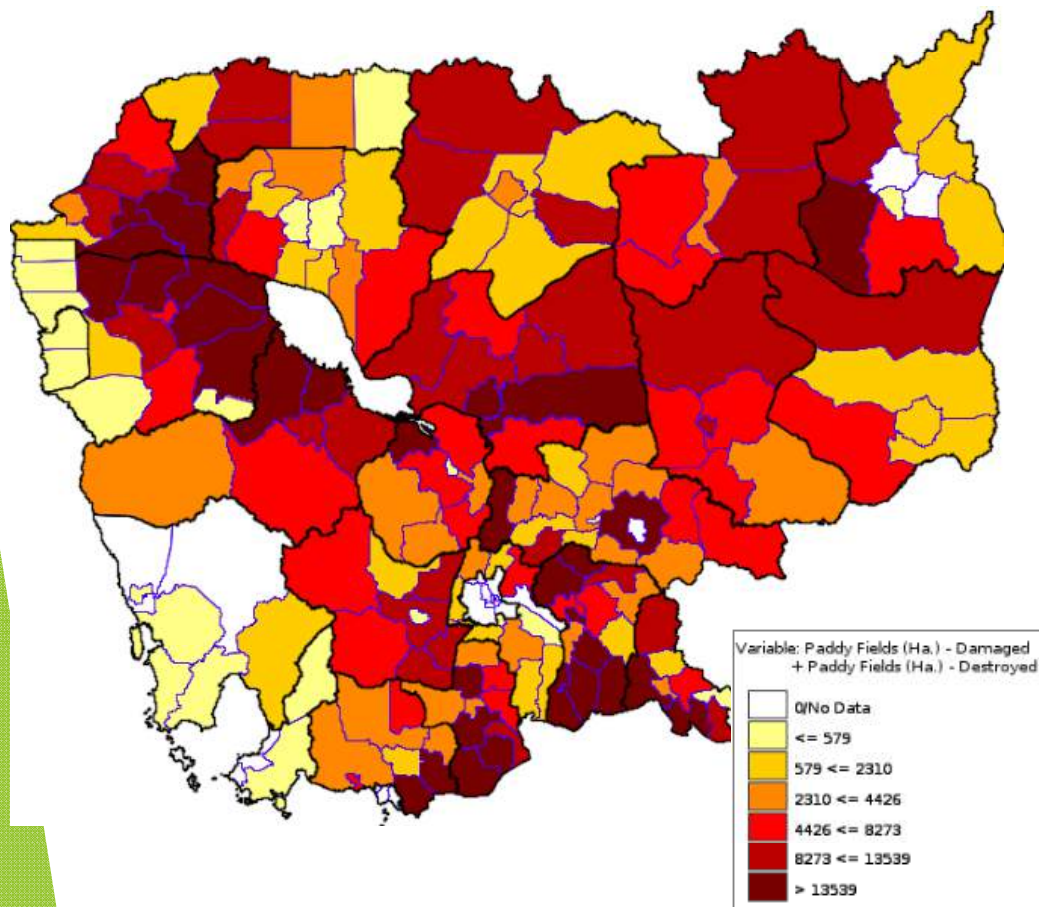


## **Impact on Sectors (2000-2015)**

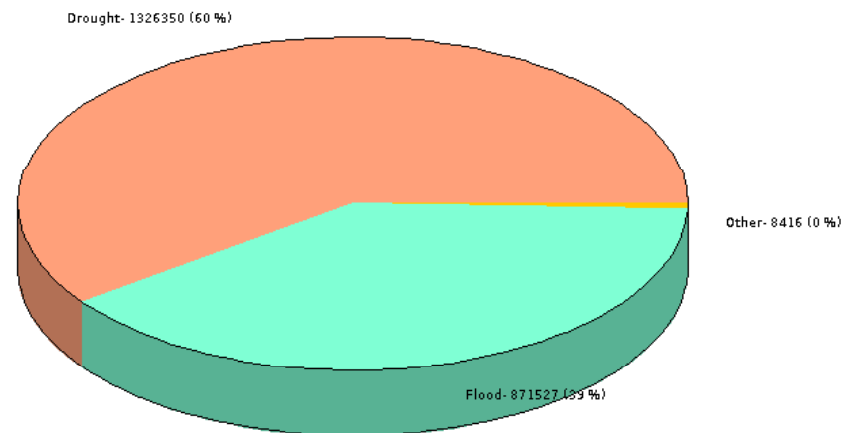




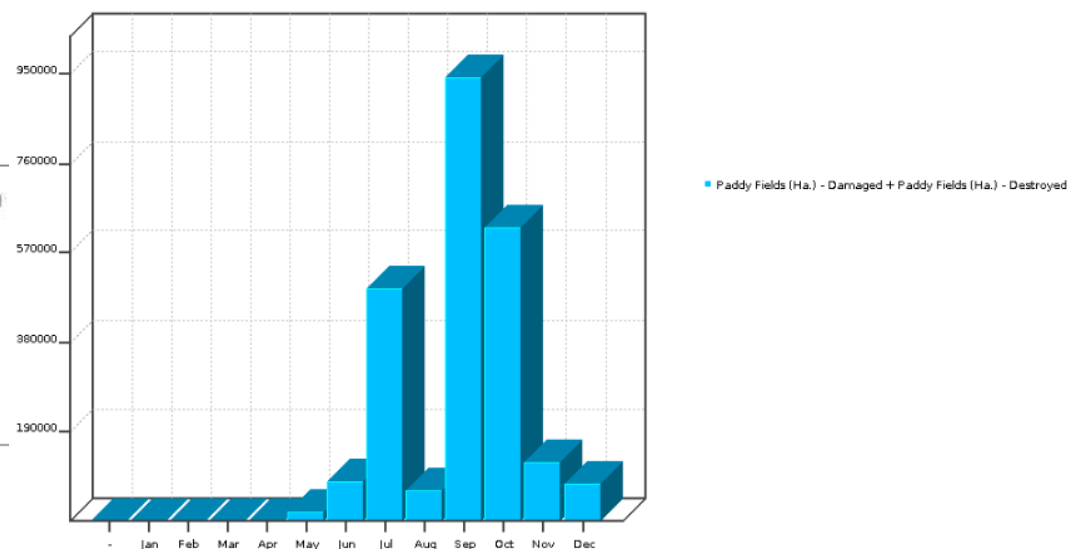
# Agriculture



**Paddy fields – damaged and destroyed**

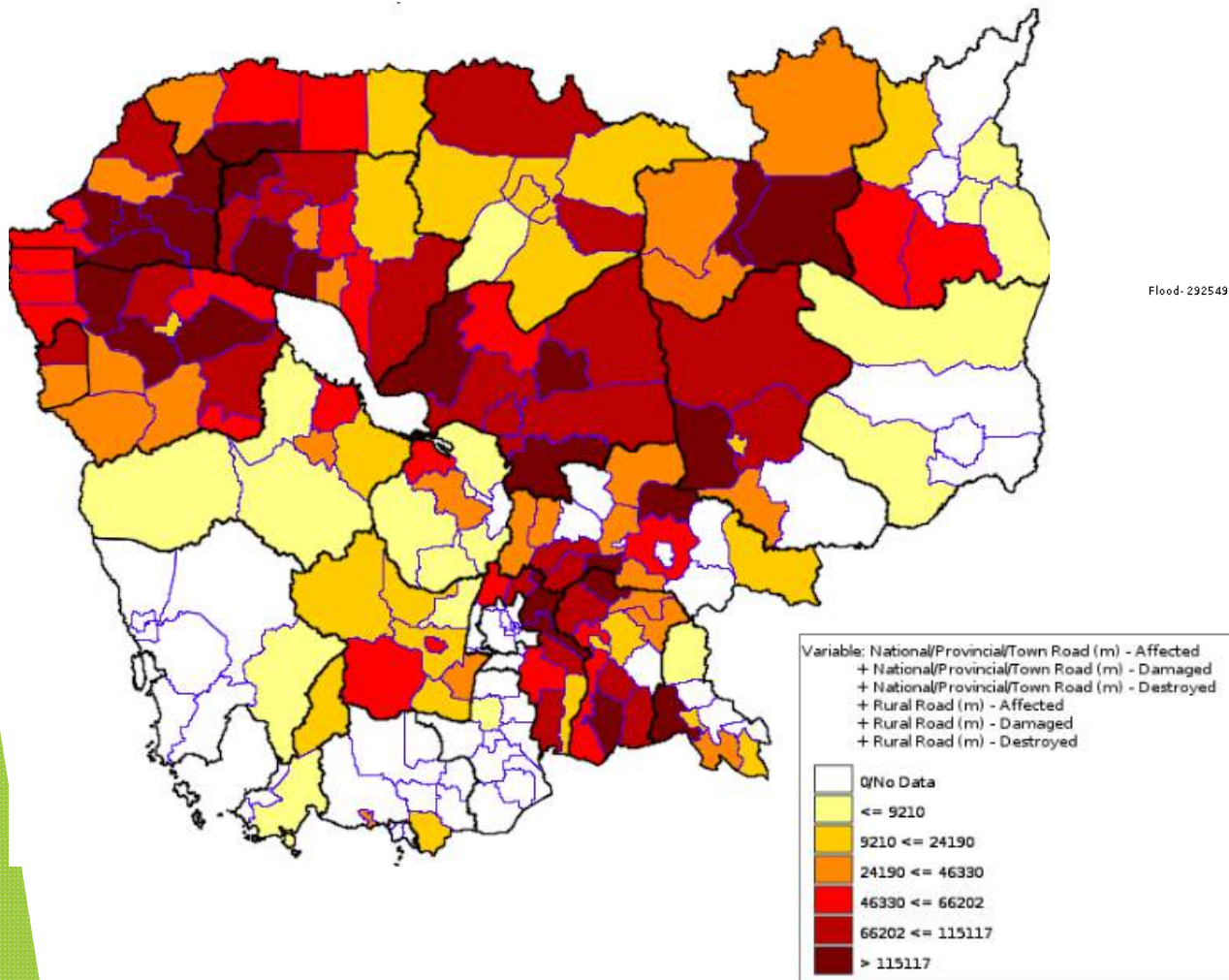


**Most damaged and destroyed by drought and flood during the months of Sept & Oct**

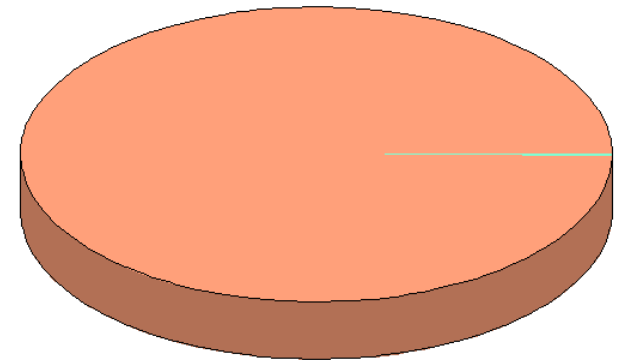




# Road (national, provincial, town, rural)



Flood: 292549 (99 %)



Other: 815 (0 %)

**Roads are mostly affected by floods**

Managing Disaster Risk in the Road Sector  
Cambodia Disaster Damage and Loss Database: A Tool for  
Enhanced Decision Making

February 2017



## Impact of floods on roads in Cambodia

### FLOODS HAVE AFFECTED CAMBODIA'S ROADS TO A LARGE EXTENT

#### Road network overview

Total length: 57,864 km

Ministry of Public Works and Transport

Length: 15,376 km

Categories: National, provincial and urban roads

Budget (2016): \$63 million for road maintenance and repair.

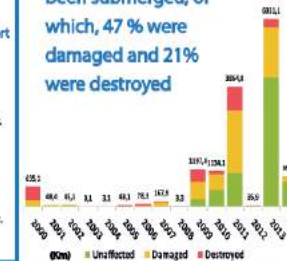
Ministry of Rural Development

Length: 42,498 km

Category: rural roads

Budget (2016): \$17.8 million for road maintenance and repair.

Between 2000 and 2014, 10,191 km of roads have been submerged, of which, 47 % were damaged and 21% were destroyed



#### Roads affected (2000 - 2014)



#### Roads submerged, damaged or destroyed in 2013



#### RESULTING IN SUBSTANTIAL LOSS

There is a wide gap between the loss incurred by the road sector and the budget availability to rehabilitate roads after a disaster.



Further investment to fill this gap is critical given the importance of road sector to pursue socioeconomic development and poverty alleviation

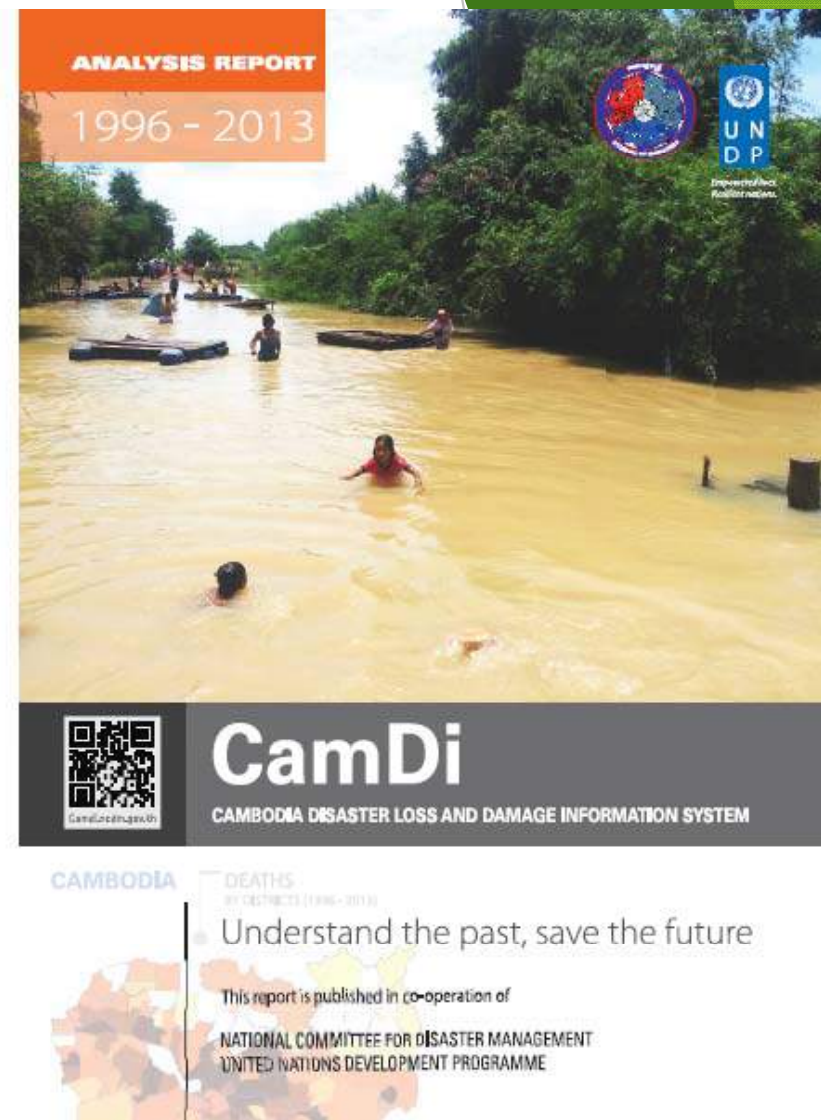
#### Source:

Managing Disaster Risk in the Road Sector Cambodia Disaster Damage and Loss Database: A Tool for Enhanced Decision Making (2017)



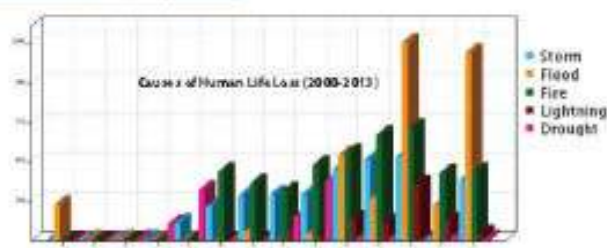
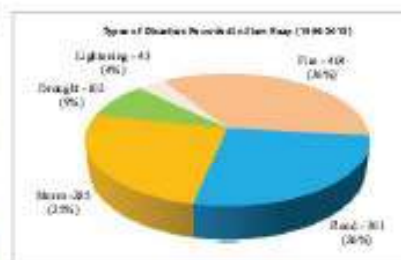
Discovered lives. Resilient nations.

# Provincial Risk Profiles (2000-2013)





## Siem Reap Province



Summary: Impact of Disasters by Year (2000-2013)

Year	Data Cards	Deaths	Houses Destroyed	Schools (Places) - Affected	Farming Crop (Ha.) - Destroyed	Paddy Fields (Ha.) - Destroyed	Rural Road (m) - Destroyed
1996	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
2000	3	21	27	0	581	0	0
2001	1	0	0	0	16	0	0
2002	2	0	0	0	0	9	0
2003	11	0	4	0	0	779	0
2004	43	0	140	0	0	8,556	0
2005	59	5	734	0	0	0	0
2006	68	0	221	0	0	180	0
2007	76	3	215	0	0	2,009	0
2008	116	2	568	0	0	221	0
2009	147	16	409	75	612	390	12,500
2010	141	12	604	52	0	0	3,783
2011	235	39	246	12	206	0	42,217
2012	52	28	24	12	17	105	0
2013	181	17	340	0	0	185	16,580
<b>TOTAL</b>	<b>1,135</b>	<b>143</b>	<b>3,532</b>	<b>151</b>	<b>1,432</b>	<b>12,434</b>	<b>75,080</b>

Note: The number '0' here denotes either absence of impact or no data at the time of data collection.

Summary: Disaster Typology and Their Impact (2000-2013)

Event	Data Cards	Deaths	Houses Destroyed	Hospitals/ HC (Place) - Affected	Schools (Places) - Affected	Farming Crop (Ha.) - Destroyed	Paddy Fields (Ha.) - Destroyed	Rural Road (m) - Destroyed
Drought	102	0	0	0	0	305	12,219	0
Fire	404	20	1,021	0	0	0	0	0
Flood	301	68	130	5	151	1,127	185	75,080
Lightning	43	40	7	0	0	0	30	0
Storm	285	15	2,374	0	0	0	0	0
<b>TOTAL</b>	<b>1,135</b>	<b>143</b>	<b>3,532</b>	<b>5</b>	<b>151</b>	<b>1,432</b>	<b>12,434</b>	<b>75,080</b>

Note: The number '0' here denotes either absence of impact or no data at the time of data collection.

Summary: Impact of Disasters by District (2000-2013)

District	Data Cards	Deaths	Houses Destroyed	Schools (Places) - Affected	Farming Crop (Ha.) - Destroyed	Paddy Fields (Ha.) - Destroyed	Rural Road (m) - Destroyed
Angkor Chum	65	7	156	0	305	805	18,570
Angkor Thum	55	1	118	0	38	289	1,555
Banteay Srei	67	3	123	10	6	211	1,400
Chi Kratieg	118	7	264	12	0	810	4,693
Kralanh	71	11	71	0	0	2,127	830
Krong Siem Reap	143	40	529	52	0	260	7
Prasat Bakong	128	8	624	0	17	190	133
Puok	236	23	805	68	289	170	24,635
Soutr Nikom	100	11	433	2	0	1,160	776
Srei Snam	62	2	133	0	0	810	11,060
Sray Leu	20	1	26	0	180	493	75
Varin	58	0	118	5	0	1,110	11,241
Not assign	12	29	132	2	597	3,999	105
<b>TOTAL</b>	<b>1,135</b>	<b>143</b>	<b>3,532</b>	<b>151</b>	<b>1,432</b>	<b>12,434</b>	<b>75,080</b>

Note: The number '0' here denotes either absence of impact or no data at the time of data collection.

# inaRISK (Indonesia)



## Questions/ Comments?



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Resilient nations.*

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