

# Rapid Assessment for Resilient Recovery Learnings

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ESCAP

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# SAMOA

## Post-Disaster Needs Assessment

Following the Earthquake and Tsunami  
of 29th September 2009

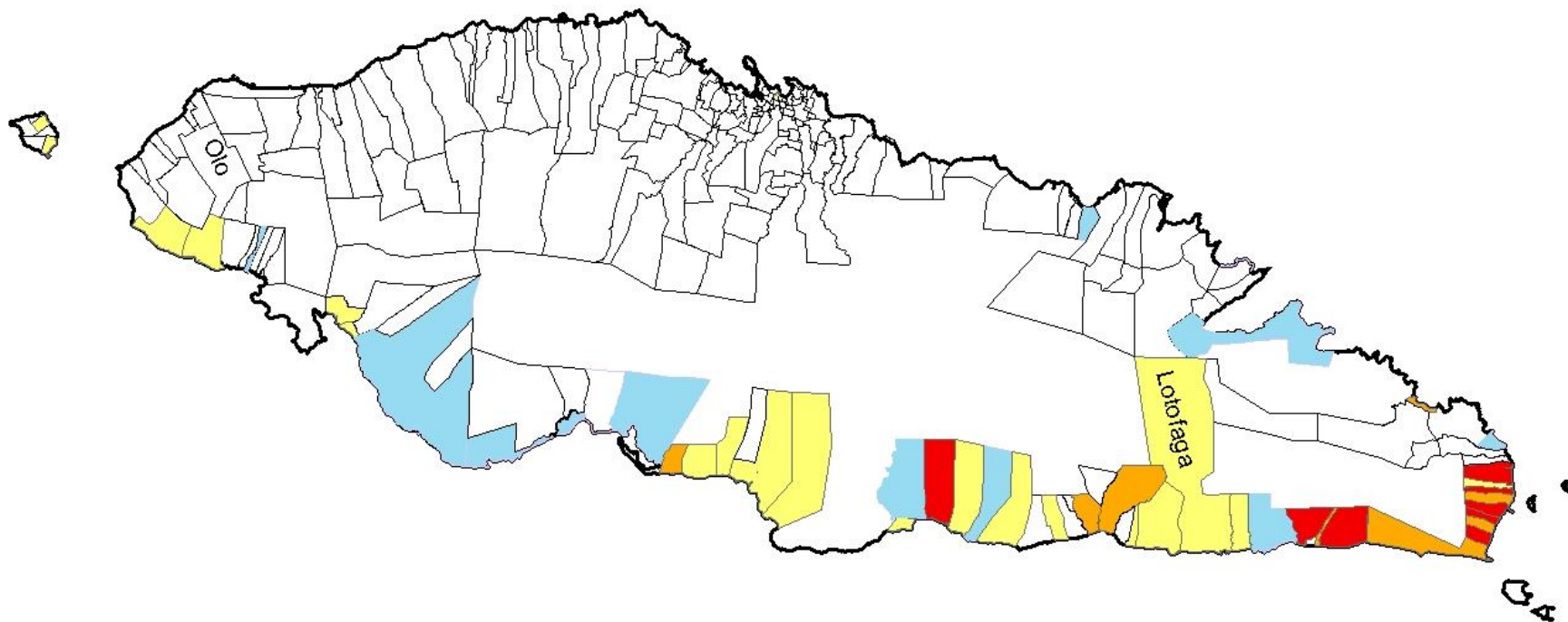
Government of Samoa  
December 2009





# Emergency response

- On 29 September 2010, 8.0 magnitude earthquake struck with its epicenter 190 km south of Apia, Samoa, followed 10 - 20 minutes later by two tsunami waves, the highest was reportedly 11m.
- 143 reported deaths, 5 missing and 310 seriously injured. An estimated 5,274 people (about 1 out of 50 Samoans) affected.
- The Samoan Government enacted emergency plans quickly and mobilized the police and emergency response units.
- UN Disaster Assistance Committee team was deployed to Samoa by 30 September to assist the UN system and Government of Samoa in coordinating national and international response.
- Inter-Agency Standing Committee (IASC) led by UN activated the cluster approach by 1 October.
- Relief efforts focused on the worst hit southern coast. Access roads to affected areas were quickly cleared by Government of Samoa allowing for rapid response efforts. Search and rescue efforts continued up to 4 October.



## Impacted Population per Village

Total  
4462

All data included  
October 7 2010  
Ministry of Health data with other sources  
including Red Cross




0 3.5 7 14 kilometers

key	
Affected Villages	
Population affected	
<span style="display: inline-block; width: 15px; height: 15px; background-color: lightblue; border: 1px solid black;"></span>	Unaffected
<span style="display: inline-block; width: 15px; height: 15px; background-color: white; border: 1px solid black;"></span>	no data
<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black;"></span>	1 - 100
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# Early Recovery Needs Assessment

- On 3 October, Government of Samoa requested an early recovery framework to be presented by 9 October
- UN Resident Coordinator activated the cluster approach to perform an early recovery needs assessment (ERNA) with participation of UN Agencies, ADB and WB.
- ERNA included preliminary estimates of the economic impacts of the tsunami. Key areas for strategic intervention covered 1) Resettlement and access to basic social service and infrastructure 2) Livelihoods 3) Disaster Risk Reduction and Climate Change and 4) Environment.
- Purpose of the Early Recovery Framework is to assist in bridging the transition period from the relief phase to the recovery phase and minimize the impact of future disasters



# Damage losses and needs assessment for medium to long term recovery

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- The Government of Samoa Disaster Advisory committee requested assistance from the UN for a multi-cluster needs assessment in conjunction with the Government.
- Advanced teams arrived in Samoa on Oct 4 and 5.
- Minister of Finance requested World Bank support for a Post Disaster Needs Assessment (PDNA) to complement the early recovery assessment in order to formulate a long term recovery and reconstruction strategy.
- Led by Government of Samoa
- Sector teams consist of government officials of relevant line ministries with technical support of UN, WB and ADB

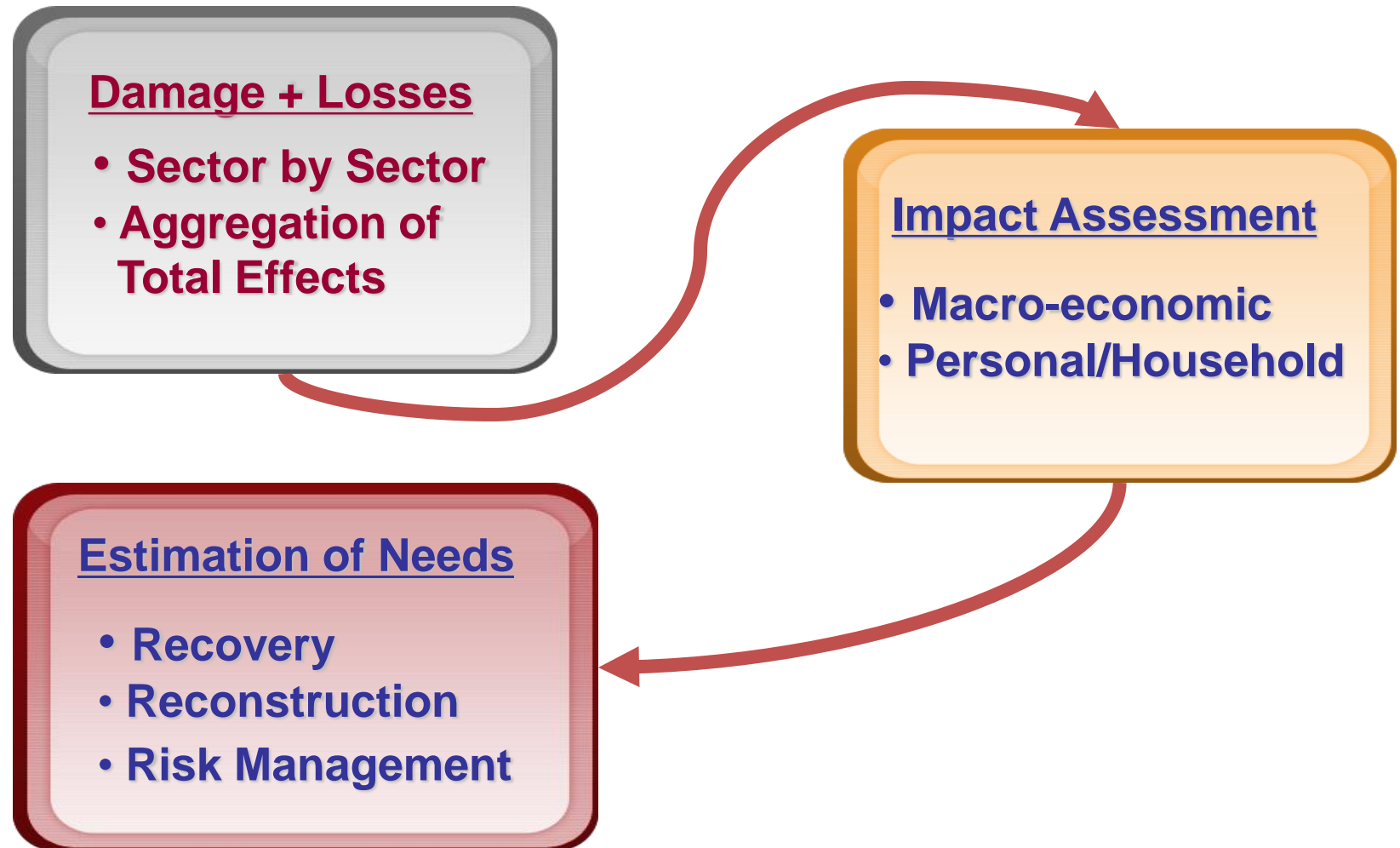


## Damage and Loss Assessment (DaLA)

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- The DaLA methodology measures in monetary terms the impact of disasters on the society, economy and environment of the affected country or area
- The assessment begins with a spatial definition of the affected area. It should cover the entire area affected by the disaster and broken down by geo-political divisions
- All socio-economic sectors that may have sustained disaster effects are covered

# Providing needs estimation for recovery in monetary terms including for DRR measures, sector by sector





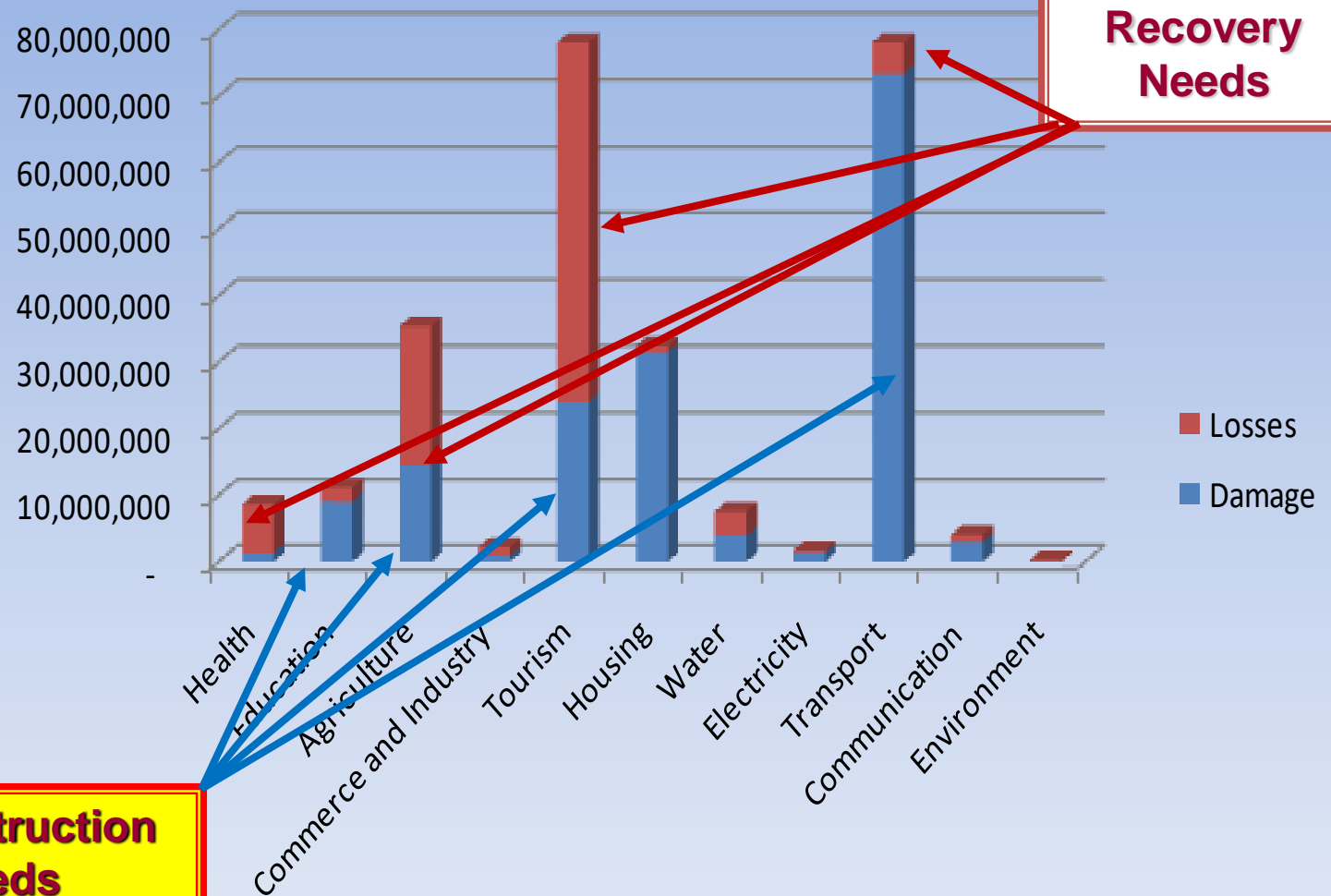
# Basic considerations for damage losses and needs estimation

- The assessment takes into consideration the Early Recovery Framework results and formulates medium and longer term recovery and reconstruction needs, including disaster risk management measures designed to mitigate the occurrence of future disasters
- Collect sufficient data to provide comprehensive information on damage and losses assessment, recovery and reconstruction needs (assessed and costed with risk mitigation measures)
  - Pre-disaster and post-disaster information
  - Baseline information
  - Checking with team government officials

# Summary of Damage and Losses

Sector	Sub-Sector	Disaster Effects				Total
		Damage	Losses	Public	Private	
Social Sectors		10.37	9.50	19.87	-	<b>19.87</b>
	Health	1.30	7.37	8.67	-	8.67
	Education	9.07	2.13	11.20	-	11.20
Productive Sectors		<b>39.45</b>	<b>76.33</b>	-	<b>115.77</b>	<b>115.77</b>
	Agriculture	14.45	21.01	-	35.45	35.45
	Commerce	0.90	1.32	-	2.22	2.22
	Tourism	24.10	54.00	-	78.10	78.10
Infrastructure		<b>113.14</b>	<b>10.78</b>	<b>88.00</b>	<b>35.92</b>	<b>123.92</b>
	Housing	31.46	1.01	1.01	31.46	32.47
	Water	3.94	3.63	7.56	-	7.56
	Electricity	1.43	0.29	1.72	-	1.72
	Transport	73.35	4.76	75.26	2.85	78.11
	Telecommunication	2.96	1.10	2.44	1.61	4.06
Cross-sectoral		-	<b>0.32</b>	<b>0.32</b>	-	<b>0.32</b>
	Environment	-	0.32	0.32	-	0.32
Total		<b>162.96</b>	<b>96.93</b>	<b>108.19</b>	<b>151.70</b>	<b>259.88</b>

# From Damage and Losses to Needs



**Reconstruction  
Needs**

**Recovery  
Needs**



# Basic considerations for needs estimation

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- Recovery and reconstruction costs provided for two options:
- **Build Back:** rebuilding assets and infrastructure facilities on the same sites, incorporating resilience features.
- **Build Back and Relocate:** building new infrastructure networks (water, transportation, electricity, communications) combined with costs of relocating health and education facilities

## Telecommunications recovery and reconstruction needs (build back)

	Recovery and Reconstruction Needs				
	Total needs	Early recovery	Medium longer term recovery & reconstruction	Public	Private
Subsector Needs					
Wireless	1.10	0.48	0.62	0.48	0.62
Cables, fixed line	4.08	0.30	3.77	4.08	
Broadcasting	0.86		0.86	0.19	0.67
Telecentres	0.20		0.20		0.20
Total	6.24	0.78	5.45	4.76	1.49

## Telecommunications recovery and reconstruction needs (build back better & relocate)

Relocation of telecom infrastructure and ICT (radio, TV) receiver / transmitter sites to higher/safer grounds to be considered within the overall framework to relocate new settlements for affected communities

	Total	Public	Private
Subsector, Component			
Fixed and wireless equipment: GSM units, fixed RSS, copper cables, fibre cables, transmission links, monopoles, generators, etc.	4.08	3.46	0.62
Broadcasting equipment	0.77	-	0.77
Civil works, trenching, ducting, labour	1.10	1.10	-
Total	5.85	4.56	1.39

# 2009 Samoa Tsunami

## Recovery and Reconstruction Needs

Sector	Sub-Sector	Build back			Build Back + Relocate		
		Public	Private	Total	Public	Private	Total
Social Sectors		19.87	-	19.87	29.78	-	29.78
	Health	8.67	-	8.67	8.65	-	8.65
	Education	11.20	-	11.20	21.13	-	21.13
Productive Sectors		-	115.77	115.77	-	115.77	115.77
	Agriculture	-	35.45	35.45	-	35.45	35.45
	Commerce	-	2.22	2.22	-	2.22	2.22
	Tourism	-	78.10	78.10	-	78.10	78.10
Infrastructure		88.00	44.05	132.05	192.03	45.92	237.95
	Housing	1.01	39.59	40.60	1.01	39.37	40.38
	Water	7.56	-	7.56	15.53	-	15.53
	Electricity	1.72	-	1.72	28.75	-	28.75
	Transport	75.26	2.85	78.11	139.73	2.85	142.58
	Telecommunication	2.44	1.61	4.06	7.01	3.70	10.71
Cross-sectoral		0.80	-	0.80	0.80	0.20	1.00
	Environment	0.80		0.80	0.80	0.20	1.00
	Disaster Risk Management	4.18		4.18	4.80		4.80
Total		108.67	159.82	268.49	222.61	161.89	384.51

# 2011 Thailand Floods Rapid Assessment

2554 Thailand Floods

## Rapid Assessment for Resilient Recovery and Reconstruction Planning



January 19, 2555



**GFDRR**  
Global Facility for Disaster Reduction and Recovery





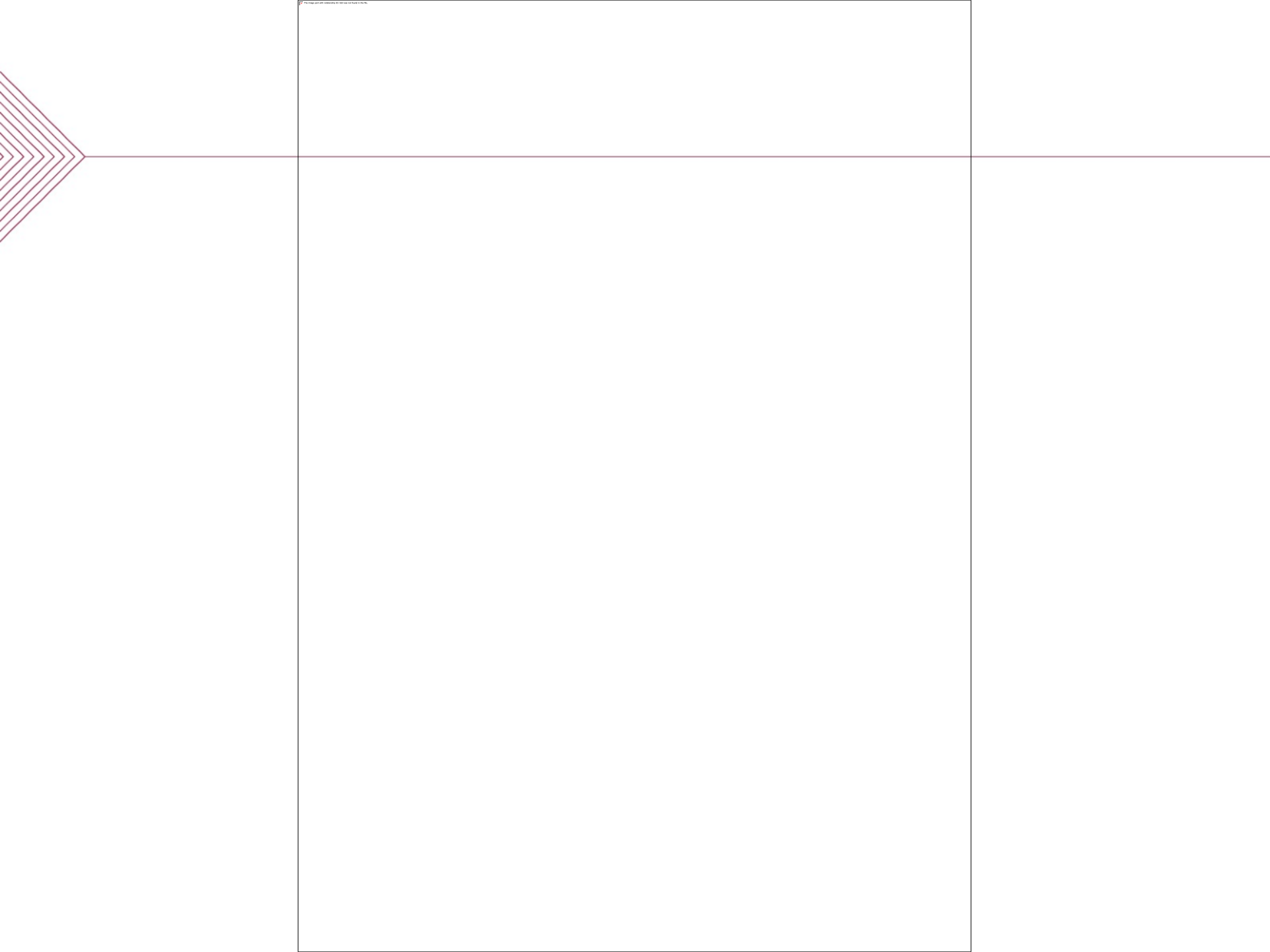
## 2011 floods

Floods started in June in the northern regions with storms and heavy rainfall and successive storms from June 2011 onwards.

Flood water drained slowly from the north downstream to the central plains in the Chao Phraya River Basin, eventually reaching Bangkok in early November.

Inundated more than six million hectares of land in 66 of the country's 77 provinces, including the Bangkok metropolitan area and its surrounding areas. By November more than 5.5 percent of total landmass in the country had been inundated

Over 680 deaths and more than 13 million people effected from July through December 2011.



## Emergency needs

Royal Thai Government established centralized food monitoring and relief operations in mid-August, allocated extra food-relief and financial support to the affected provinces

Flood Relief Operations Center (FROC) was established to provide rapid emergency response and coordinate responsible government bodies

Immediate needs were met largely by appropriate government ministries and the Thai Red Cross.



# Rapid assessment

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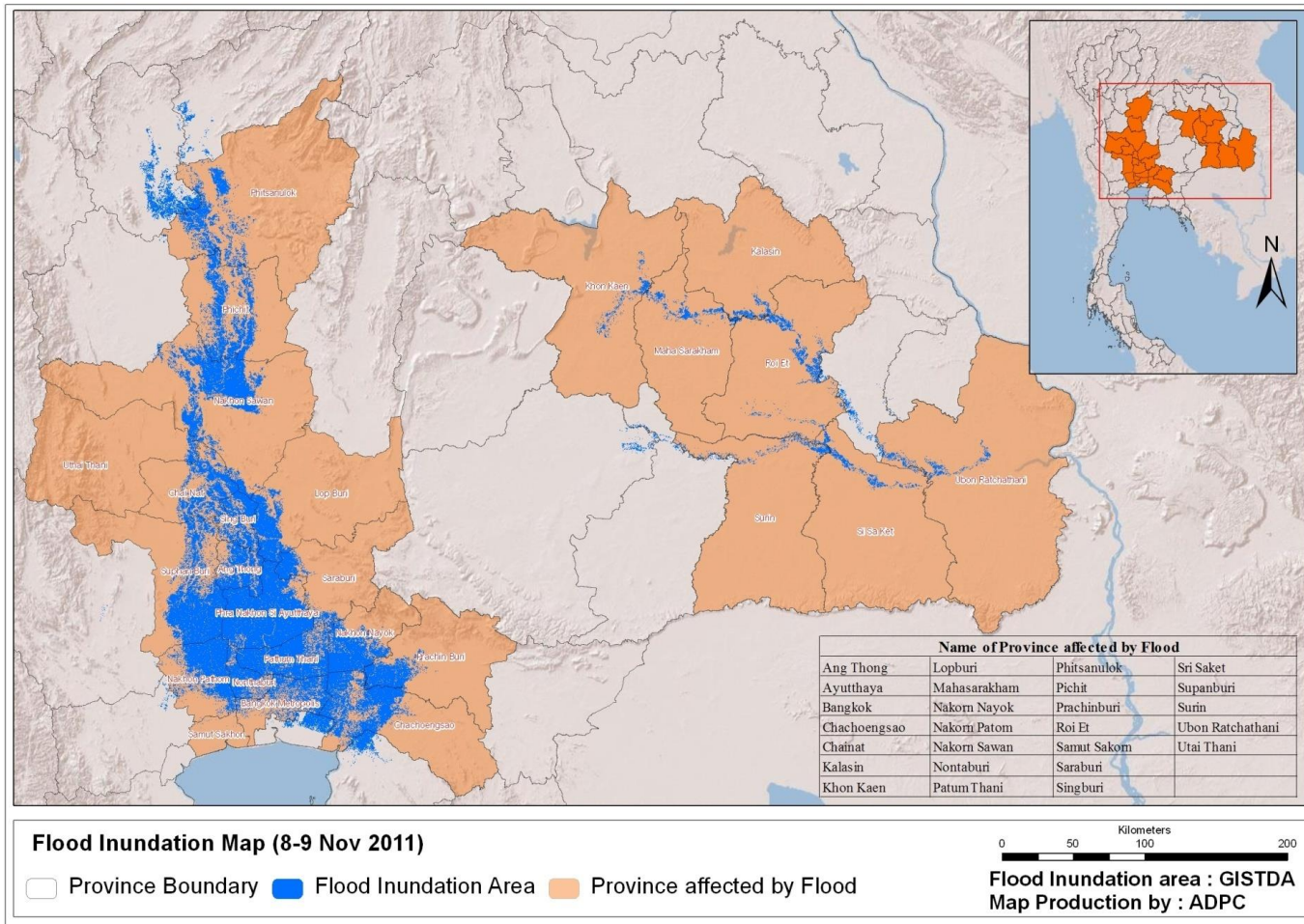
In October 2011, Royal Thai Government initiated Rapid Assessment for Resilient Recovery and Reconstruction Planning.

The assessment determines recovery and reconstruction needs for short-, medium-, and long-term measures in 18 sectors.

26 of the country's 66 affected provinces were included in the assessment

Assessment exercise took place from 4 to 25 November 2011.

# Rapid post-disaster needs assessment covered 26 provinces



	Sectors
Infrastructure	Water resources management
	Transport
	Water Supply and Sanitation
	Electricity
	Telecommunications
Productive	Agriculture, livestock and fishery
	Manufacturing
	Finance, banking
	Tourism
Social	Housing
	Health
	Education
	Cultural heritage
Cross-Cutting	Environment
	Disaster risk reduction and climate change adaptation
	Gender
Macro-Economy	Macro-economic assessment, livelihoods

## Aggregation of all sectors - Total Damages and Losses

Million Baht

Sub Sector	Disaster Effects			Ownership	
	Damage	Losses	Total	Public	Private
<b>Infrastructure</b>					
Water Resources Management	8,715	-	8,715	8,715	-
Transport	23,538	6,938	30,476	30,326	150
Telecommunication	1,290	2,558	3,848	1,597	2,251
Electricity	3,186	5,716	8,901	5,385	3,517
Water Supply and Sanitation	3,497	1,984	5,481	5,481	
<b>Production</b>					
Agriculture, Livestock and Fishery	5,666	34,715	40,381	-	40,381
Manufacturing	513,881	493,258	1,007,139	-	1,007,139
Tourism	5,134	89,673	94,808	403	94,405
Finance & Banking	-	115,276	115,276	74,076	41,200
<b>Social</b>					
Health	1,684	2,133	3,817	1,627	2,190
Education	13,051	1,798	14,849	10,614	4,235
Housing	45,908	37,889	83,797	-	83,797
Cultural Heritage	4,429	3,076	7,505	3,041	4,463
<b>Cross Cutting</b>					
Environment	375	176	551	212	339
<b>TOTAL</b>	<b>630,354</b>	<b>795,191</b>	<b>1,425,544</b>	<b>141,477</b>	<b>1,284,066</b>

## Recovery and Reconstruction Needs

Sub Sector	Needs (Million Bt)			
	~6 mths	6-24 mths	> 24 mths	Total
<b>Infrastructure</b>				
Water Resources Management	3,023	15,462	50,590	69,075
Transport	6,866	14,376	2,296	23,538
Telecommunication	1,675	1,422	980	4,078
Electricity	899	3,036	1,689	5,624
Water Supply and Sanitation	2,997	2,635	-	5,633
<b>Productive</b>				
Agriculture, Livestock and Fishery	3,425	1,125	20	4,570
Manufacturing	172,640	668,045	13,671	854,357
Tourism	4,343	1,123		5,466
Finance & Banking	170,140	187,907	53,392	411,439
<b>Social</b>				
Health	1,128	870	319	2,318
Social	13,300	7,400	-	20,700
Education	8,045	5,298	-	13,343
Housing	3,657	1,471	-	5,128
Cultural Heritage	6,183	3,971	-	10,153
<b>Cross Cutting</b>				
Environment	3,724	1,619	2,841	8,184
<b>TOTAL</b>	<b>402,045</b>	<b>915,761</b>	<b>125,798</b>	<b>1,443,605</b>



## Lessons learned

- In immediate post-disaster situation: limited availability of reliable quantitative pre- and post-disaster information for the affected area
- Timeliness: short timeframe for the assessment - not interfere with emergency actions, but reflect urgent response
- The assessment was initiated upon Government request even though the flooding is not yet over - need to define the timeframe
- Limited capacity of line agencies and local authorities to provide information on all sub-sectors in all 26 provinces (especially in provinces that are still flooded and in a response and relief mode)
- Multi-stakeholder information sources: difficulty in accessing all sources of information, in particular the private sector
- Preparedness for better response: line ministry/agency to organize baseline data (statistical and spatial) in all sectors/sub-sectors, including the private sector



Thank you

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