



# CATALYST



**Jaroslav Mysiak**  
**Fondazione Eni Enrico (FEEM),  
and Euro-Mediterranean Centre  
for Climate Change (CMCC)**



[www.catalyst-project.eu](http://www.catalyst-project.eu)

a project funded by the European Commission Seventh Framework Programme FP7

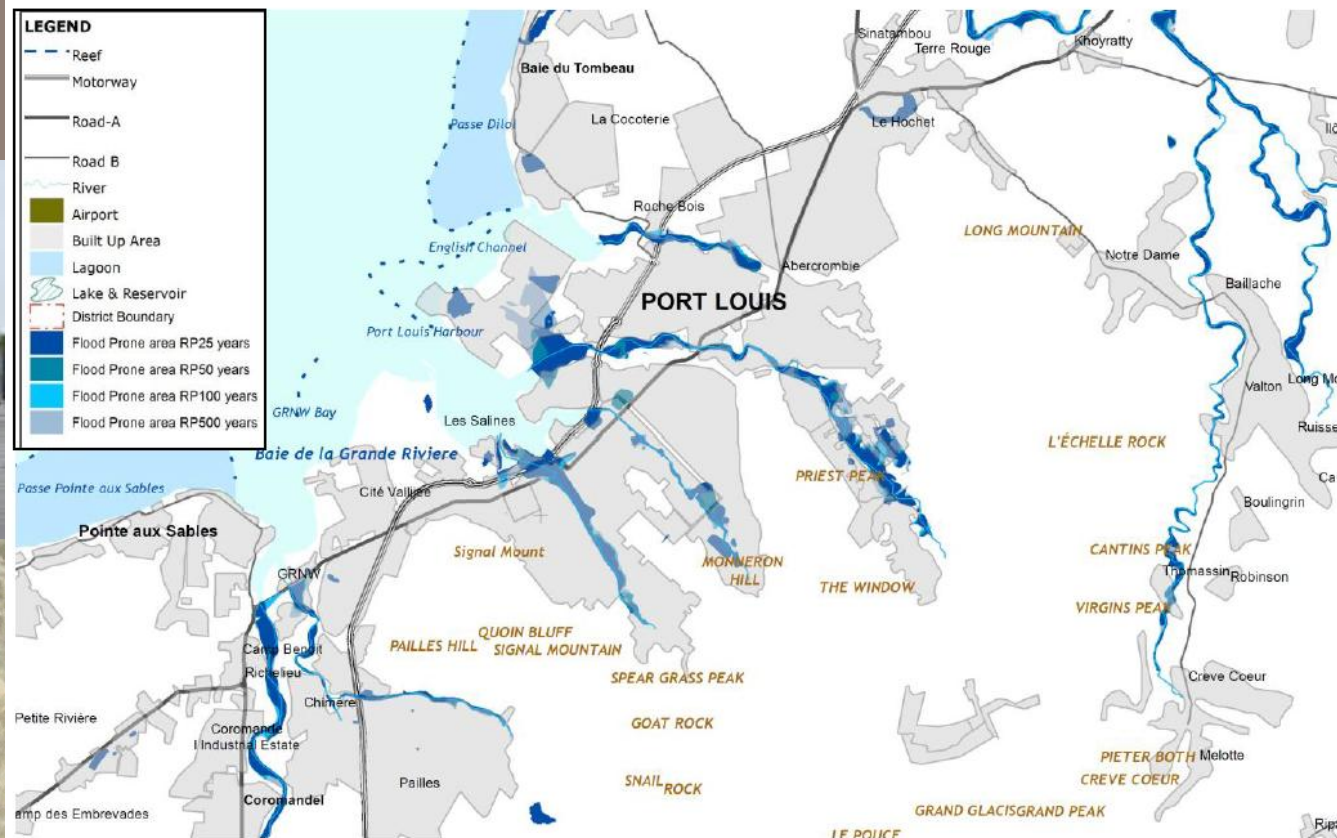


On March 31<sup>th</sup> and April 1<sup>st</sup>, 2013, Port Louis, the capital of the Republic of Mauritius was hit by torrential rainfall with estimated return period > 300 years. Precipitation over 3 hours exceeded 150 mm.



# Urban vulnerability

» About a third of the population of small island developing states lives in the capital towns most of which located in risk prone areas



# Outline

- Project in brief,
- Geographic and thematic focus of the project,
- Final outcomes of the project.



# CATALYST

- Funded by the European Union (FP/2007-2013), grant agreement 283177
- Duration: 24 months, Oct 2011-Sept 2013
- Website: [www.catalyst-project.eu](http://www.catalyst-project.eu).

*Seeconsult GmbH, Germany; Fondazione Eni Enrico Mattei, Italy; Geological Survey of Denmark and Greenland, Denmark; Helmholtz Centre for Environmental Research GmbH, Germany; Alterra, Netherlands; United Nations University Institute for Environmental and Human Security; The World Academy of Sciences for the advancement of science in the developing world*



# CATALYST – Key outcomes

- Issues, gaps and opportunities
- Capacity development for disaster risk reduction and adaptation
- Workshop reports
- Best Practice Papers
- Synthesis report on best practices, research gaps, networks and fostering capacity development

# Geographic focus

Geographic sub-regions with  
**unique pattern of risk and  
vulnerability**

**Regional consultation**  
(*Think Tank* Panels):130  
members from 28 countries



UN sub-region	CAC	EU MED	WA	EA	SA	SEA
Number of countries	39	10	17	19	9	11
Population (millions)	197	155	304	324	1764	593
Surface area (Km2)	2.714	1.317	6.138	6.361	10.791	4.495
GDP per capita*	6658	28420	906	502	1162	2528



*Central America and Caribbean (CAC)*



*Southern Asia (SA)*



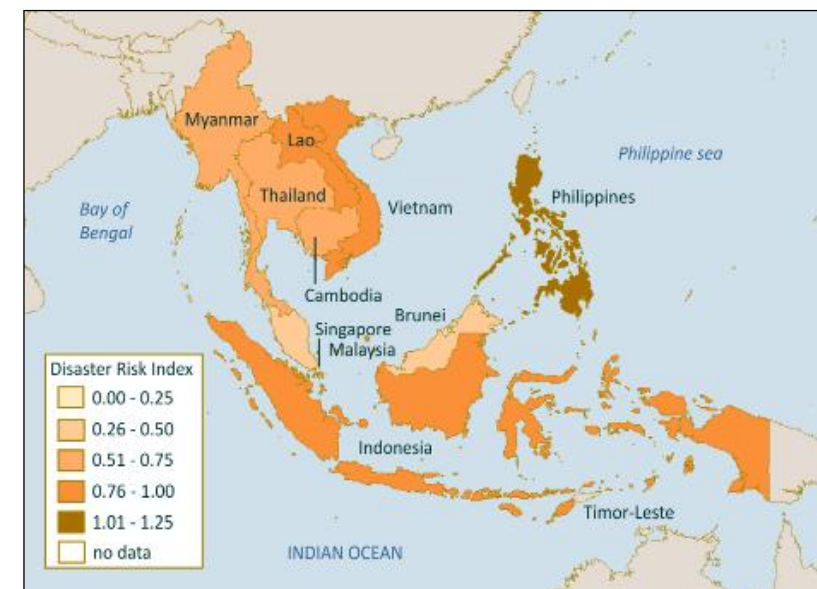
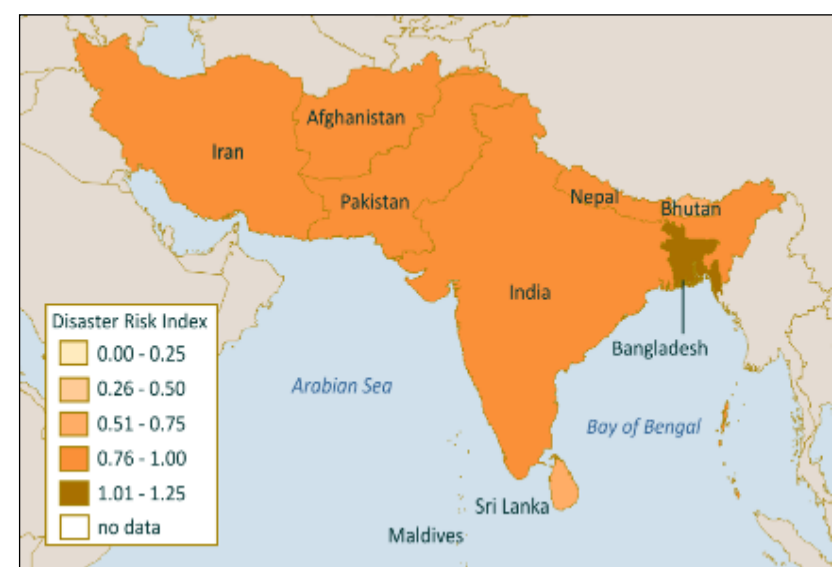
*Western Africa (WA)*



*Eastern Africa (EA)*



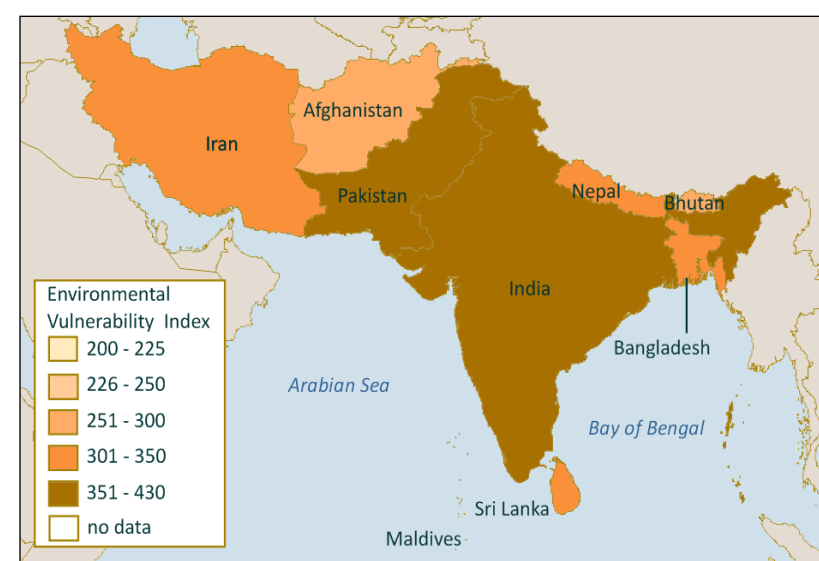
*South-Eastern Asia (SEA)*



## Disaster Risk Index (DRI) (Peduzzi et al., 2009)



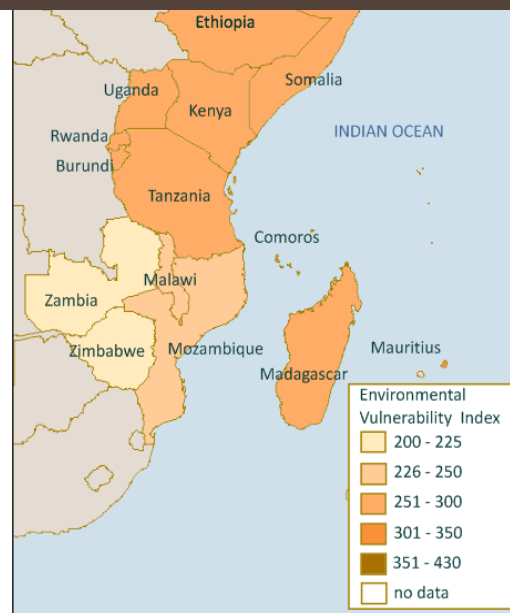
*Central America and Caribbean (CAC)*



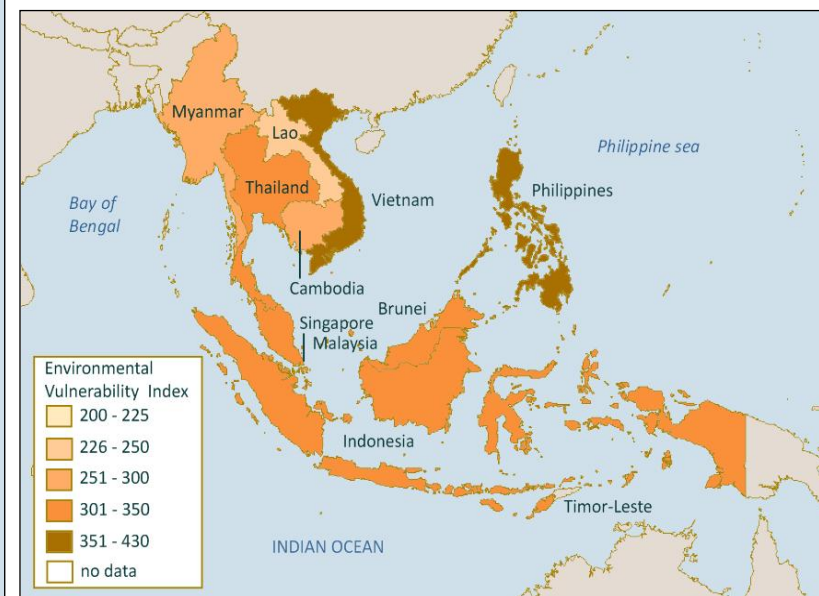
*Southern Asia (SA)*



*Western Africa (WA)*



*Eastern Africa (EA)*



*South-Eastern Asia (SEA)*

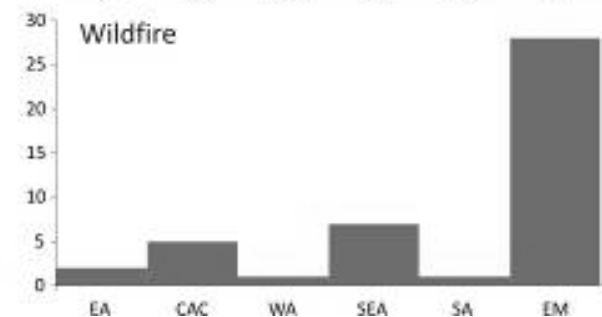
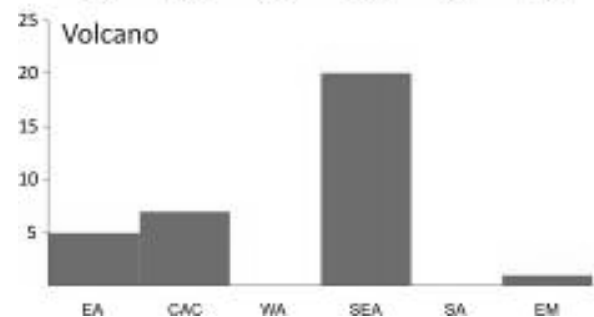
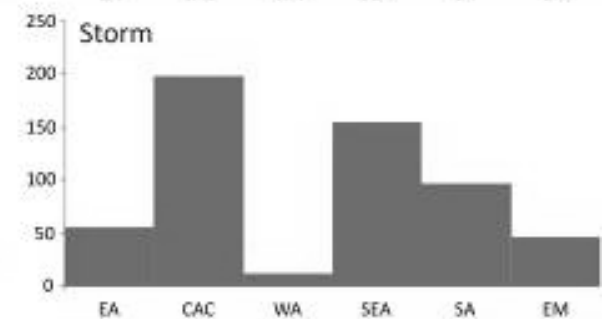
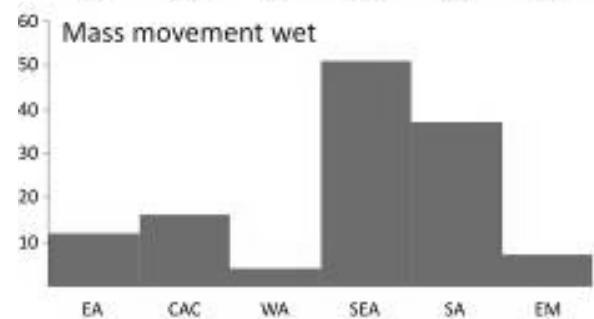
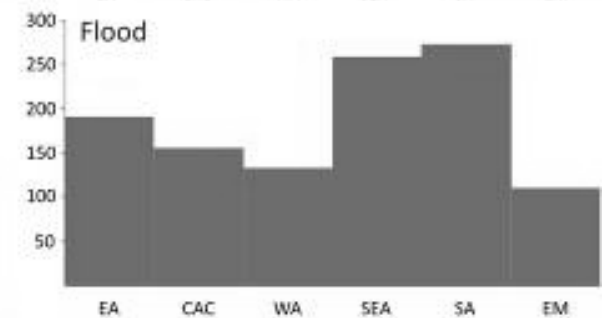
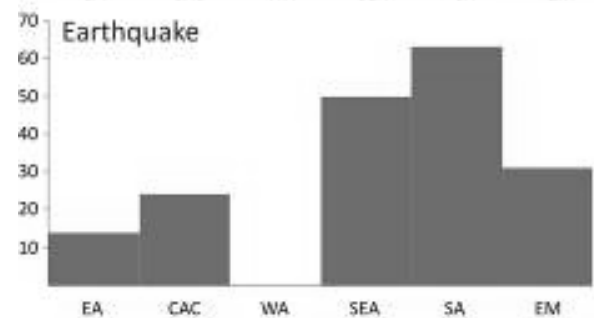
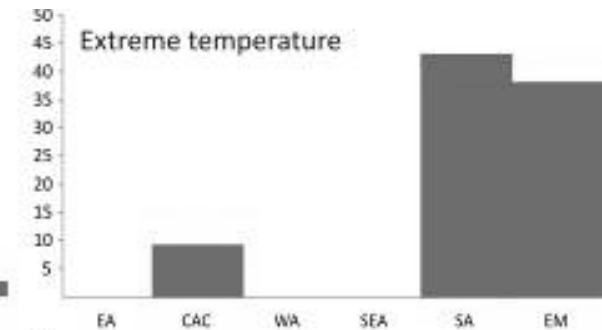
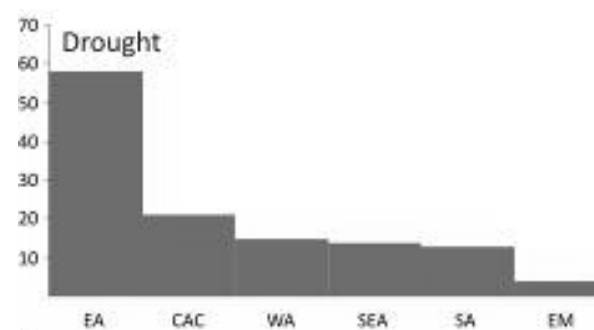
# Environmental Vulnerability Index

	Drought	Extreme temperature	Earthquake	Flood	Mass movement wet	Storm	Volcano	Wildfire
East Africa	58	-	14	191	12	56	5	2
Central America and Caribbean	21	9	24	155	16	198	7	5
West Africa	15	1	-	133	4	12	-	1
South East Asia	14	-	50	259	51	155	20	7
South Asia	13	43	63	273	37	97	-	1
Mediterranean Europe	4	38	31	110	-	46	1	28

# Reported disasters in different sub-regions over 2000-2010

Region	Drought	Earthquake	Extreme temperature	Flood	Mass movement wet	Storm	Volcano	Wildfire
Economic losses ('000 US\$ current prices)								
EA	0	230	0	1,070	0	689	0	0
CAC	383	11,415	0	3,547	500	37,244	0	0
WA	0	0	0	234	0	0	0	0
SA	5,045	13,087	400	32,410	68	4,620	0	0
SEA	704	12,834	0	6,793	124	9,967	4.8	14
Affected population (mil)								
EA	129.6	0.1	0	16.0	0.02	4.5	0.29	0.03
CAC	3.8	5.7	0.1	5.9	0.06	18.8	0.05	0.02
WA	17,9	0	0	6.6	0.01	0.02	0	0.01
SA	24.8	7.9	0	57.3	0.8	64	0.6	0.01
SEA	397.2	15.9	0.7	356.2	0.7	22	0	0

- EA particularly prone to drought and floods, whereas WA has to cope with floods more frequently than with droughts.
- Droughts (and wildfires) do not seem to be the most important disaster types in SA and SEA, both of which are plagued by almost all other natural hazards.
- CAC prone to significant storm and flood damage but perhaps better equipped to cope with the other natural disasters



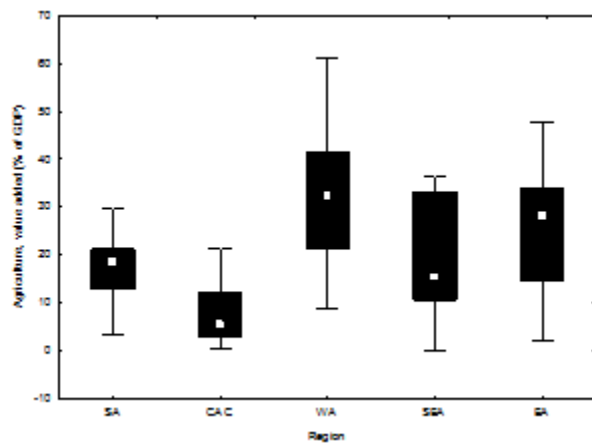
	#	Median	Min	Max	LQ	UQ	STD
Agriculture, value added (% of GDP)	74	17	0.0	65	6	32	16
Agricultural land (% of land area)	80	39	0.0	84	26	59	22
Land area where elevation is below 5 meters (% of total land area)	80	3	0.0	100	1	9	17
Population density (people per sq. km of land area)	80	106	3.4	7252	51	280	818
Population living in areas where elevation is below 5 meters (% of total population)	80	6	0.0	100	1	14	16
Population in the largest city (% of urban population)	76	40	6.3	126	26	54	24
Population in urban agglomerations of more than 1 million (% of total population)	43	14	3.5	95	10	23	17
Annual freshwater withdrawals, agriculture (% of total freshwater withdrawal)	68	77	0.0	99	46	90	28
Annual freshwater withdrawals, domestic (% of total freshwater withdrawal)	69	15	0.5	95	7	32	23
Annual freshwater withdrawals, industry (% of total freshwater withdrawal)	68	4	0.0	73	2	16	13
Annual freshwater withdrawals, total (billion cubic meters)	72	1	0.0	761	0	6	94
Annual freshwater withdrawals, total (% of internal resources)	67	5	0.1	80	1	14	16
Renewable internal freshwater resources, total (billion cubic meters)	70	34	0.0	2019	8	129	322
Renewable internal freshwater resources per capita (cubic meters)	70	2137	59.1	109295	983	7781	16891
Road density (km of road per 100 sq. km of land area)	70	22	1.0	475	12	53	90
Total natural resources rents (% of GDP)	77	2	0.0	65	0	6	10
Improved water source (% of population with access)	75	85	30.0	100	61	94	19
Improved sanitation facilities (% of population with access)	73	53	9.0	100	29	87	31

## Indicators of susceptibility to harm

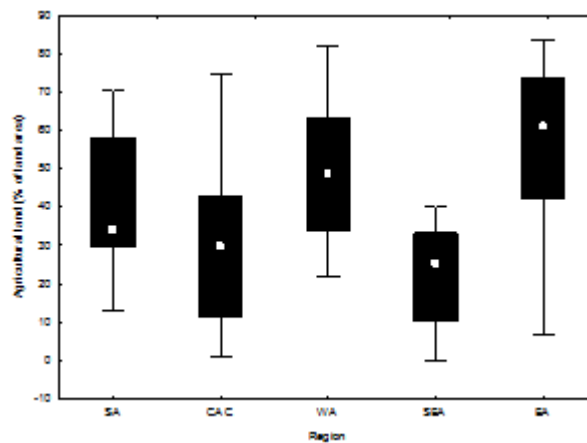


*lower and upper quartile (LQ, UQ) and standard deviation (STD).*

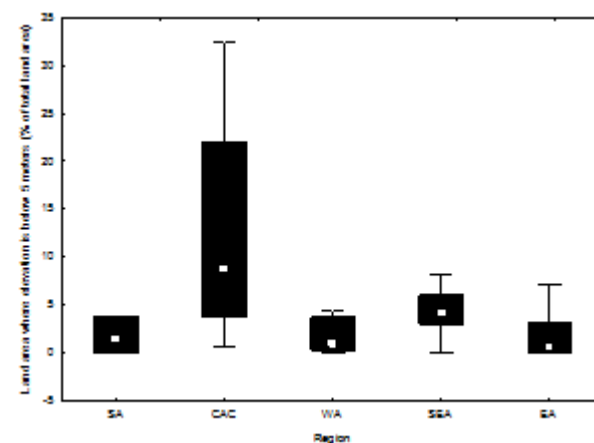
*Data Source: UN Statistics Division and the World Bank*



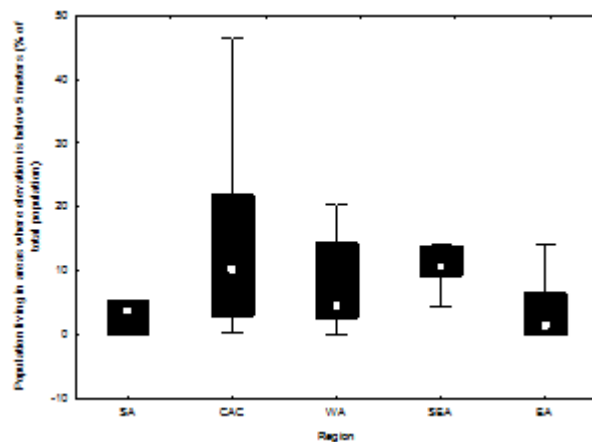
**Agriculture, value added (% of GDP)**



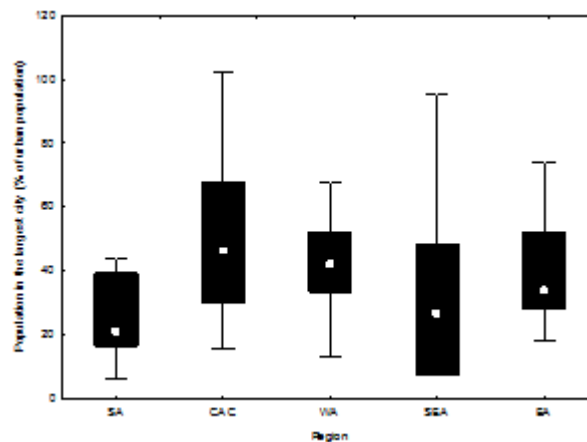
**Agricultural land (% of land area)**



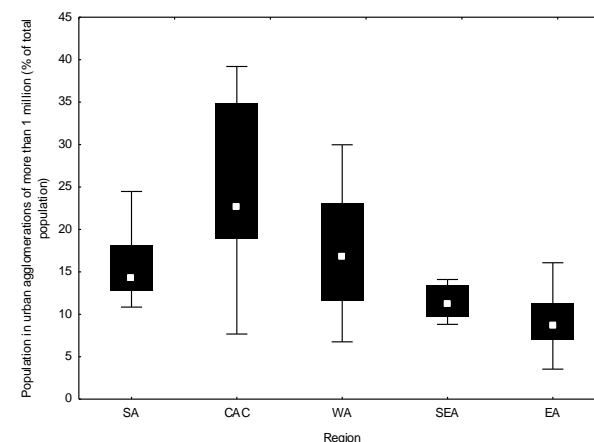
**Land area with elevation <5 meters (% of total land)**



**Population density**



**Population living in areas with elevation <5 meters**



**Population in the largest city**

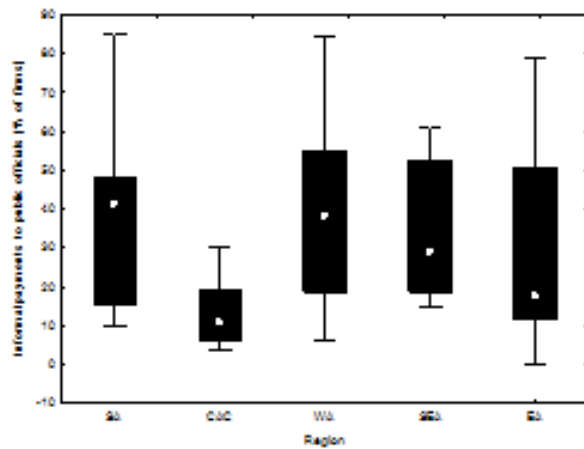
	#	Median	Min	Max	LQ	UQ	STD
Informal payments to public officials (% of firms)	52	20	0,0	85,1	12	49	23,3
CPIA policy and institutions for environmental sustainability rating (1=low to 6=high)	50	4	2,0	4,5	3	4	0,6
CPIA quality of public administration rating (1=low to 6=high)	50	3	1,5	4,0	3	4	0,5
CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	50	3	1,5	4,5	3	3	0,7
CPIA debt policy rating (1=low to 6=high)	50	4	1,0	4,5	3	4	0,9
CPIA building human resources rating (1=low to 6=high)	50	4	1,0	4,5	3	4	0,7
CPIA quality of budgetary and financial management rating (1=low to 6=high)	50	4	2,0	4,5	3	4	0,6
CPIA financial sector rating (1=low to 6=high)	50	3	1,0	4,0	3	4	0,6
CPIA fiscal policy rating (1=low to 6=high)	50	4	2,0	4,5	3	4	0,7
CPIA gender equality rating (1=low to 6=high)	50	4	2,0	4,5	3	4	0,6
CPIA macroeconomic management rating (1=low to 6=high)	50	4	2,0	4,5	4	4	0,7
CPIA equity of public resource use rating (1=low to 6=high)	50	4	1,5	4,5	3	4	0,6
CPIA social protection rating (1=low to 6=high)	49	4	1,0	4,5	3	4	0,5
Foreign direct investment, net outflows (% of GDP)	49	0	-0,6	9,5	0	1	2,0
Technical cooperation grants (mil current US\$)	66	69,5	0,0	958,2	11,2	121	138,3
Net bilateral aid flows from DAC donors, Total (mil current US\$)	78	290	-71	5484	43	618	766
Disaster risk reduction progress score (1-5 scale; 5=best)	43	3	1,0	4,5	3	4	0,7
Terrestrial protected areas (% of total land area)	79	11	0,0	42,9	5	20	11,0
GINI index	61	43	29,4	65,8	38	48	8,0

## Indicators of coping/adaptive capacity

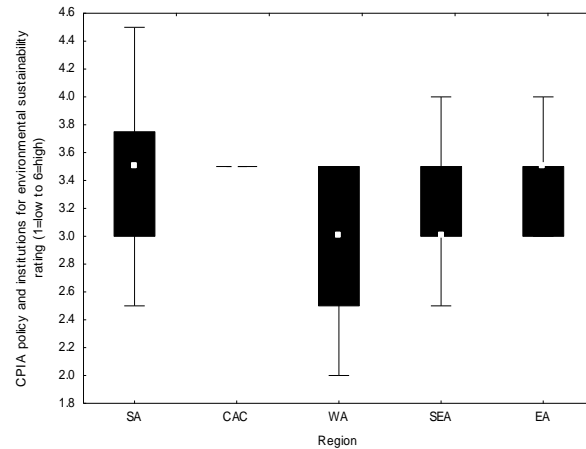


*lower and upper quartile (LQ, UQ) and standard deviation (STD).*

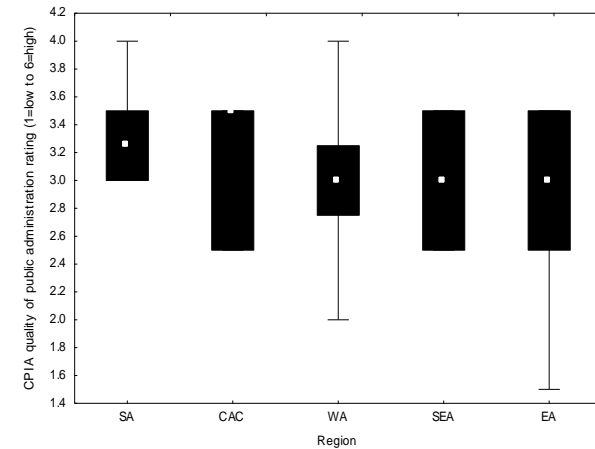
*Data Source: UN Statistics Division and the World Bank*



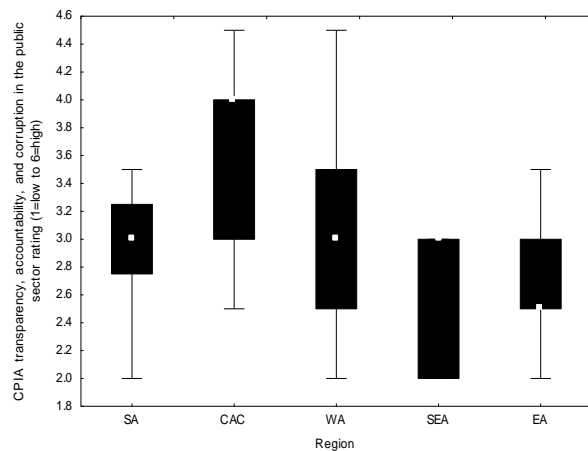
**Informal payments to public officials**



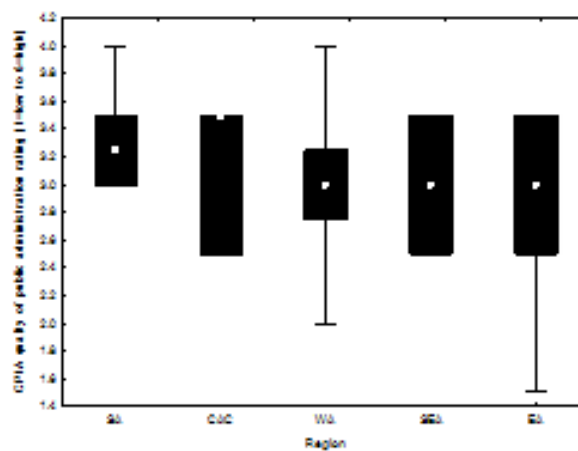
**Policy and institutions for env. sustainability rating**



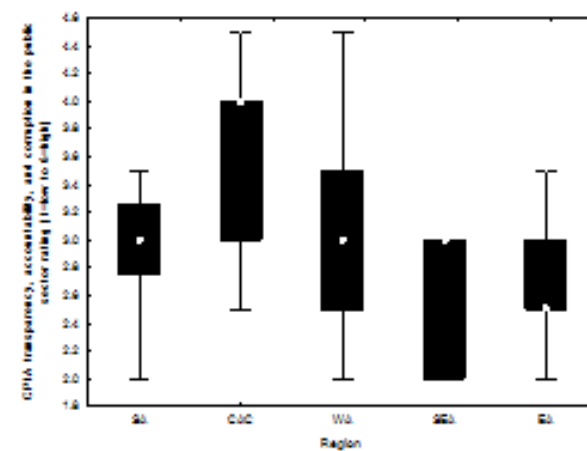
**Quality of public administration**



**Transparency, accountability, and corruption**



**Debt policy rating**



**Building human resources rating**



Addis Ababa, Ethiopia  
October, 2012

Bangkok, Thailand  
January 2013

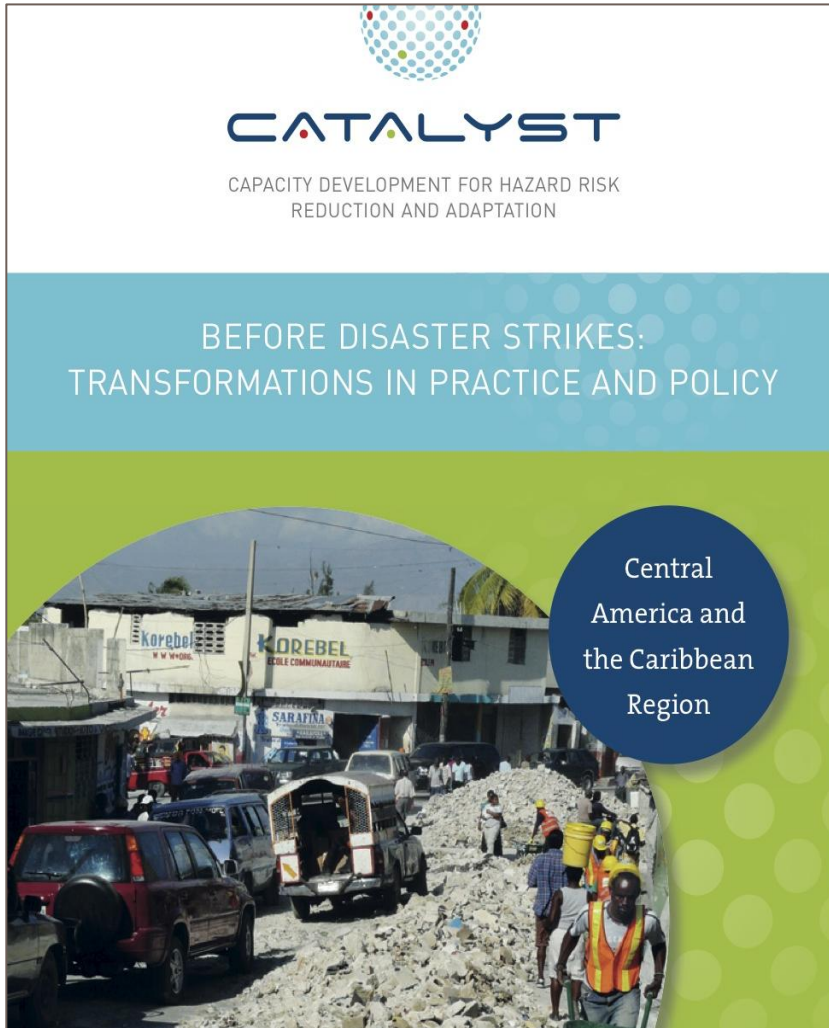


Montego Bay, Jamaica  
December, 2012

Bari Italy  
September, 2012



# CENTRAL AMERICA AND THE CARIBBEAN REGION (CAC)



1. Social vulnerability
2. Importance of ecosystems
3. DRR to become political priority
4. Risk-insurance plans
5. Making data available

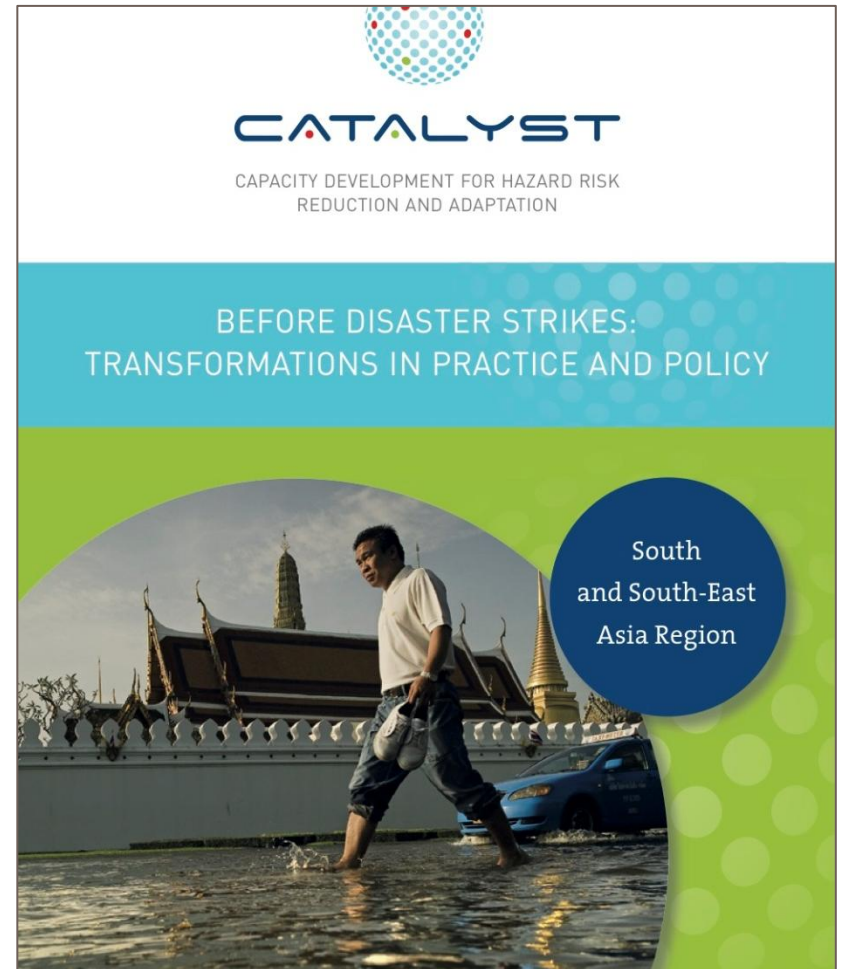
# TERRA COCO PROJECT



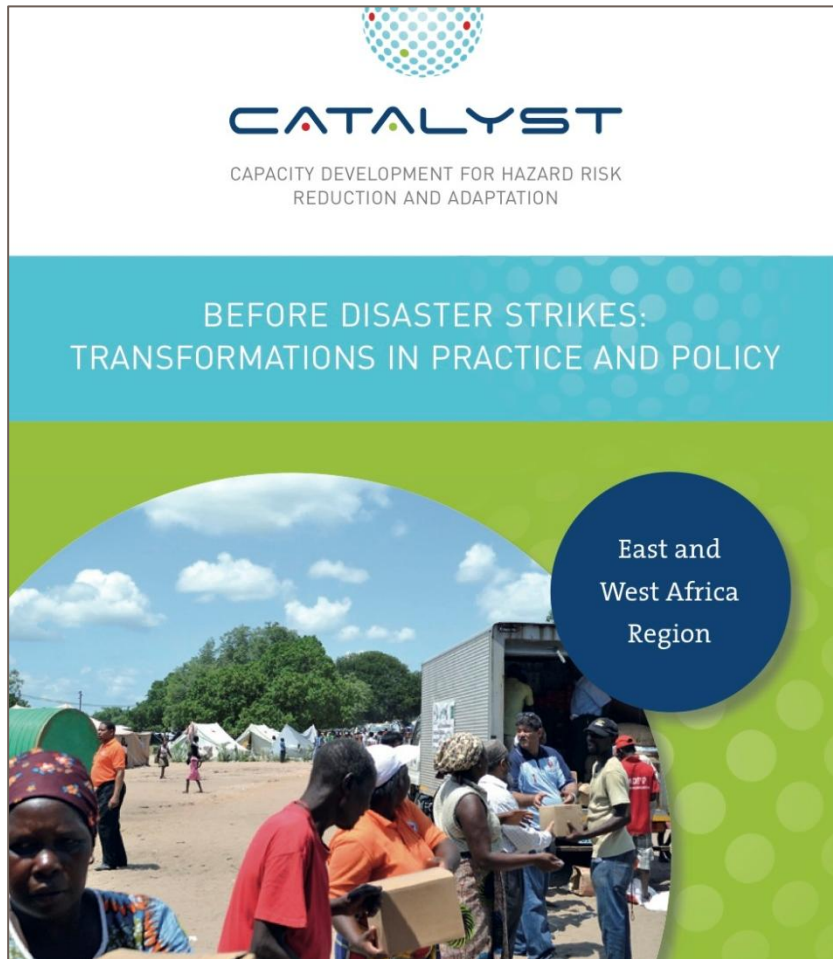
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# SOUTH AND SOUTH-EAST ASIA REGION (SSA)

1. Better development planning
2. Knowledge and access to dissemination
3. Leadership
4. Risk communication strategies
5. Uncertainty



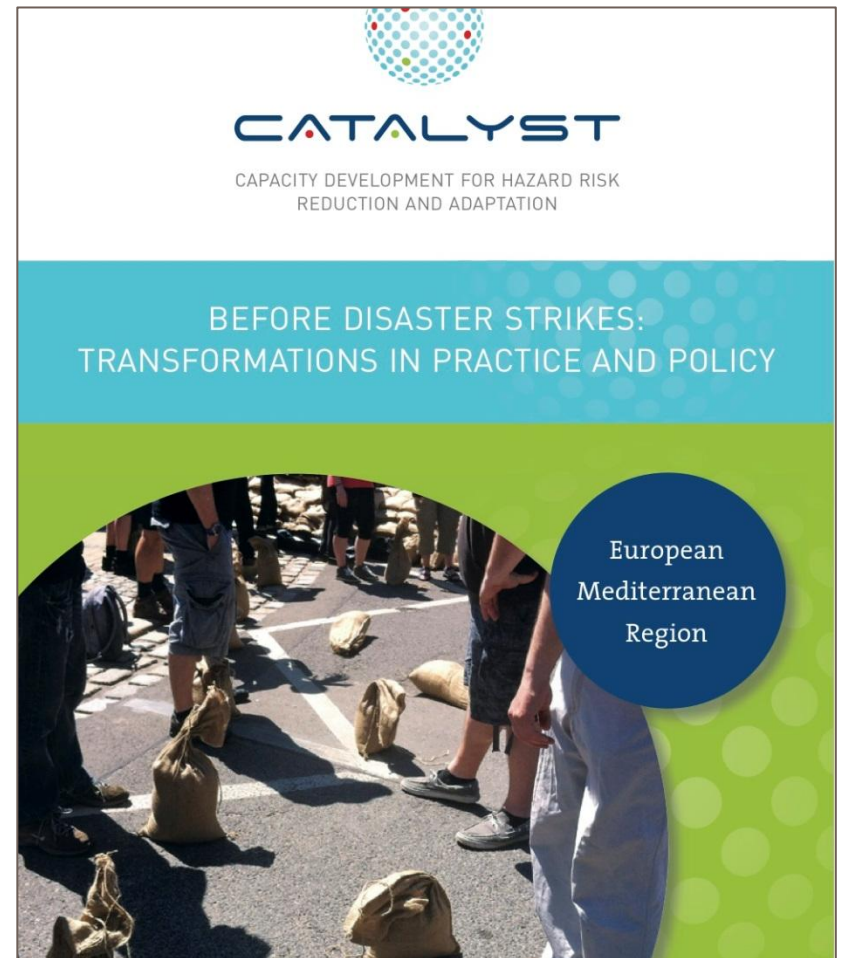
# EAST AND WEST AFRICA (EWA)



1. DRR and CCA must be institutionalized
2. Legal preparedness
3. Quantifying urban vulnerability
4. Re-think of urban planning while keeping in mind DRR and CCA
5. Training trainers

# EUROPEAN MEDITERRANEAN REGION (EUM)

1. Strengthen institutions in their approach to DRR and CCA
2. Leadership
3. Integrate hazard management
4. Increase preparedness
5. Merge local and scientific knowledge



# CATALYST- Conferences

12-15 May 2012, Bonn, Germany: Resilient Cities 2012 - 3rd Global Forum on Urban Resilience and Adaptation,

29-31 August 2012, Helsinki, Finland: Second Nordic International Conference on Climate Change Adaptation

3-7 December 2012, Montego Bay, Jamaica, 7th Annual Caribbean Conference on Comprehensive Disaster management (CDM).

19-23 May 2013, Geneva, Switzerland: Side event at the 4th UNISDR Global Platform for Disaster Risk Reduction,

31 May – 2 June 2013, Bonn, Germany: Resilient Cities 2013 – 4th Global Forum on Urban Resilience and Adaptation,

11 October 2013, Addis Ababa, Ethiopia: Capacity Development for Integrating Disaster Risk Management into Urban Settings in Africa

12 October 2013, Addis Ababa, Ethiopia Sixth National Conference and Exhibition on Disaster Risk Management in Ethiopia,



# Thank you for your attention

