Addressing urbanization, poverty and vulnerabilities in developing countries

Lilongwe, 18 May 2018

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Lilongwe International Mayors Forum
Lilongwe, Malawi
16-19 May 2018

Government of Malawi City of Lilongwe UNOSD UNDP UNPOG

SDG 11
Sustainable cities and human settlements: Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 11 - Targets

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

SDG 11 – Targets (…)

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

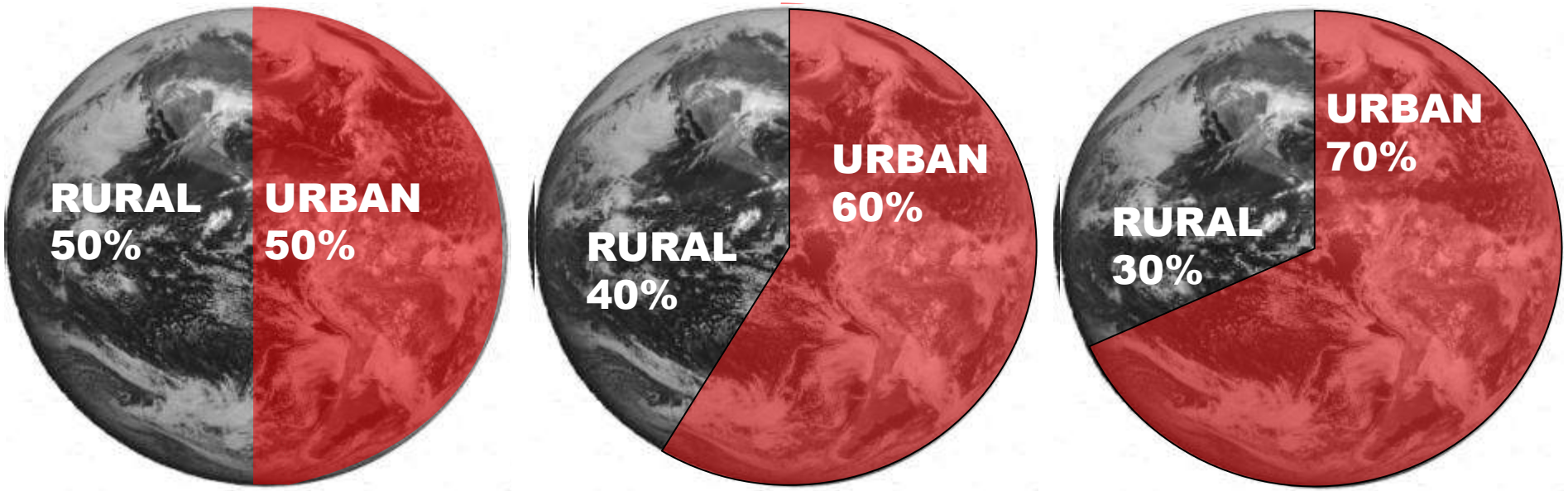
11.a Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

Urbanization Trend

GLOBAL POPULATION: RURAL / URBAN

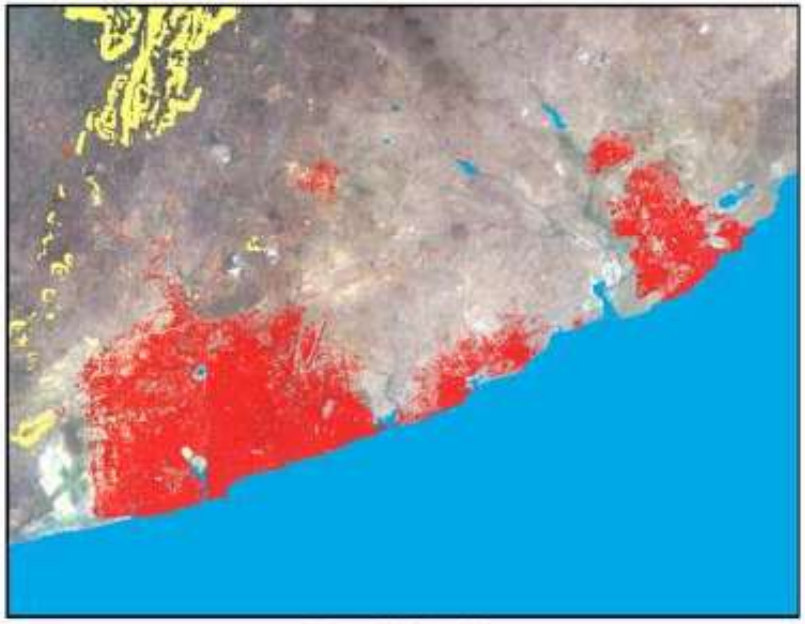


2007 2030 2050

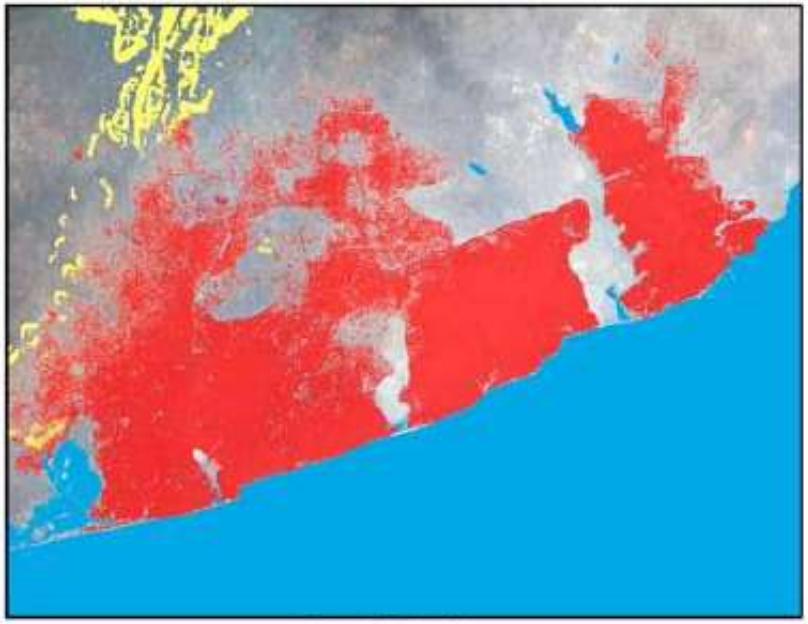
- **200,000 people migrates to cities every day**
- **Every year, 70 million people move to cities**

Urbanization, poverty and vulnerability

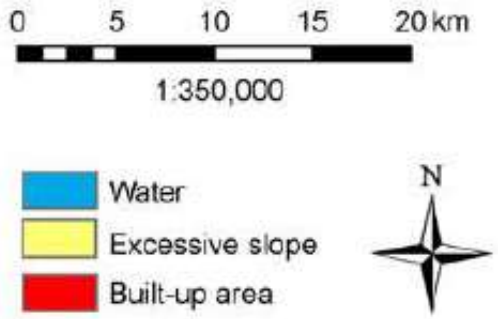
Expansion of Accra, Ghana: 1985-2000 (over 15 years)



T_1: 6-Mar-85



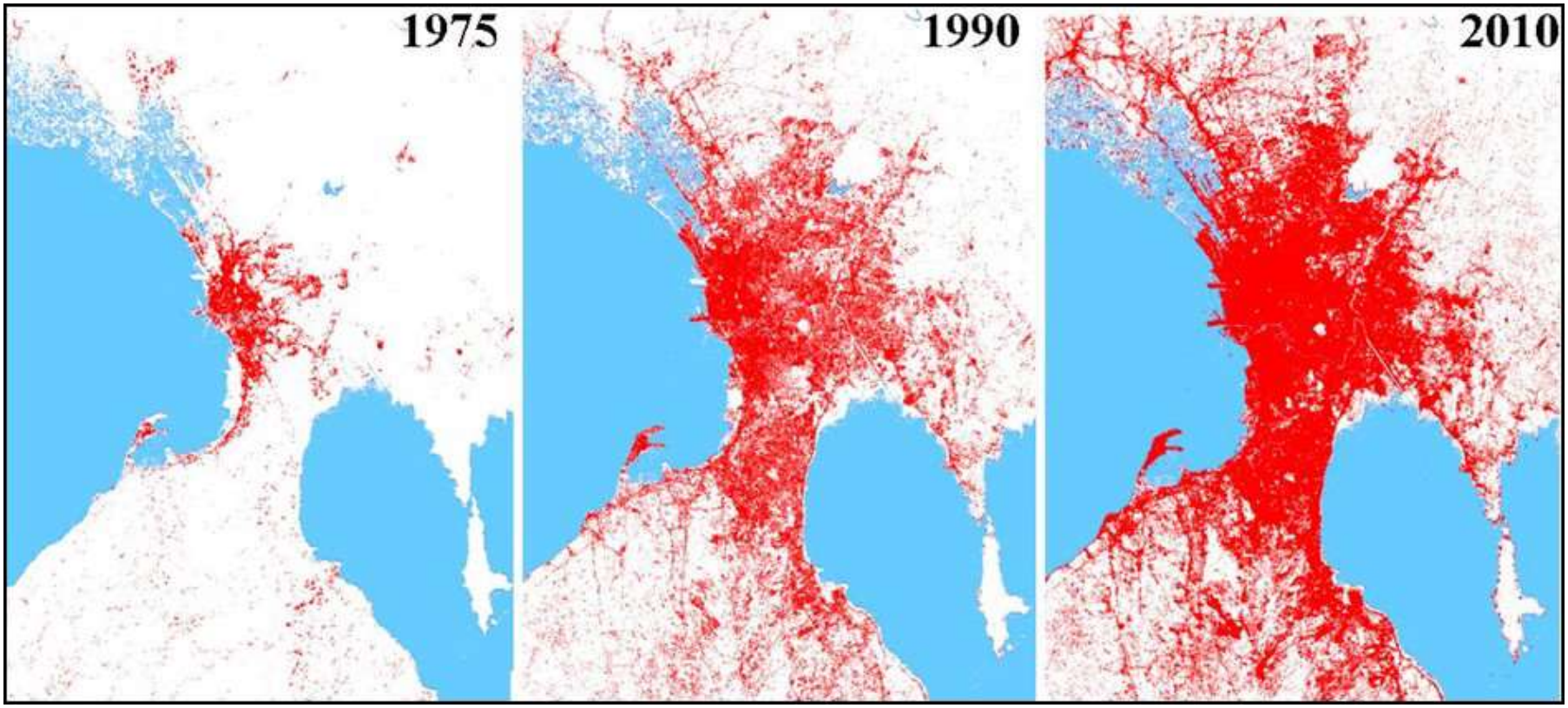
T_2: 4-Feb-00



Measure	T_1	T_2	Annual % Change
Population	1,882,990	2,789,380	2.67%
Built-Up Area (sq km)	133.35	344.26	6.56%
Average Density (persons / sq km)	14,120.39	8,102.64	-3.66%
Built-Up Area per Person (sq m)	70.82	123.42	3.79%
Average Slope of Built-Up Area (%)	3.11	3.11	0.01%
Maximum Slope of Built-Up Area (%)	12.28	12.28	0.00%
The Buildable Perimeter (%)	0.71	0.73	0.15%
The Contiguity Index	0.69	0.80	1.01%
The Compactness Index	0.68	0.61	-0.75%
Per Capita Gross Domestic Product	$1,325.50	$1,836.23	2.21%

Source: The Dynamics of Global Expansion. World Bank 2005.

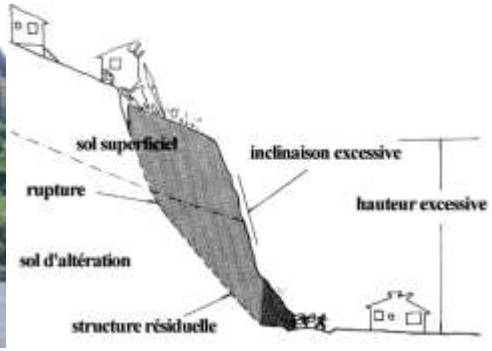
Spatial expansion of Manila (Philippines): 1975-2010 (over 35 years)

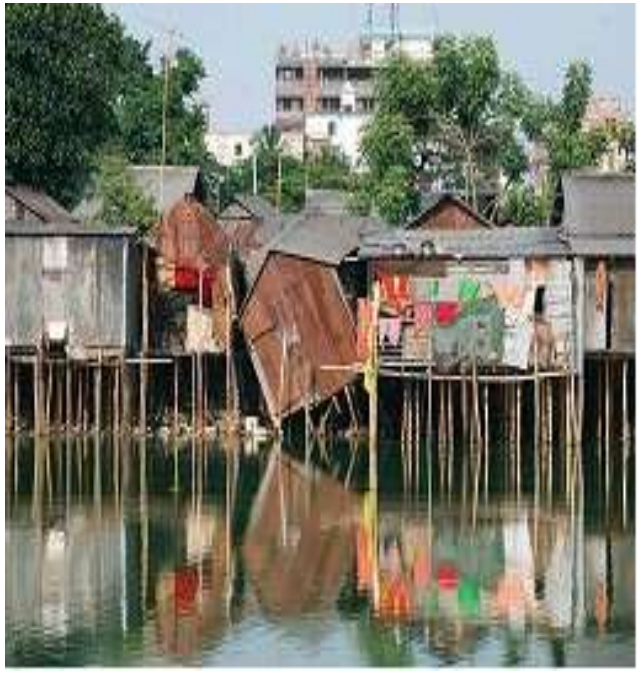


Source: Planning City Extension for Sustainable Urban Development. UN-Habitat 2016.

Poverty increases exposure and vulnerability to environmental risks and natural hazards and disasters

The urban poor often have no other choice than establishing themselves on vulnerable land.





…Environmental risks, natural hazards and disasters exacerbate poverty

Disasters (even small-scale ones) perpetuates the cycle of poverty

- Increase vulnerability of urban poor
- Destroy assets and means of livelihoods (including house and/or plot)
- Reduce coping capacity (and options) for next disaster
- The reduced financial means may lead to bad or hazardous choices

  such as:

  - Reducing food intake quantity and quality;
  - Cut down education expenses; and even
  - Rebuilding on other disaster-prone sites…

  and those will be worsening the urban poor's vulnerability on the long run

2011 Thailand (Bangkok) flood: Summary of damage and losses by sector in Thai baht (millions)

<u>4 most affected groups:</u>

1) Manufacturing industry (whose private estates' individual flooding protection (dykes) systems have failed): biggest damage and losses;
2) Tourism industry: Limited damage
3) Finance & Banking: No damage
4) Households (no flooding protection, no insurance): second biggest damage

Sub Secrtor	Disaster Effects			Ownership	
	Damage	Losses	Total	Public	Private
Infrastructure					
[illegible]	[illegible]	-	8,715	8,715	-
Transport	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Telecommunication	[illegible]	[illegible]	[illegible]	[illegible]	2,251
Electricity	[illegible]	[illegible]	8,901	5,385	3,517
Water Supply and Sanitation	3,497	1,984	5,481	5,481	-
Productive					
Agriculture, Livestock and Fishery	[illegible]	[illegible]	[illegible]	-	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
Social					
Health	1,684	2,133	3,817	1,627	2,190
Education	[illegible]	[illegible]	[illegible]	[illegible]	4,235
Housing (1,9 million houses affected with about 19,000 houses destroyed)	45,908	37,889	83,797	-	83,797
Cultural Heritage	4,429	3,076	7,505	3,041	4,463
Cross Cutting					
Enironment	375	176	551	212	339
TOTAL	630,354	795,191	1,425,544	141,477	1,284,066
US Equivalent (billion)	**21**	**26.5**	**47.5**	**4.7**	**42.8**

<u>Source:</u> GFDRR (2012) *Thai Flood 2011: Rapid Assessment for Resilient Recovery and Reconstruction Planning*

Southeastern Asia

(selected fast-growing economies: countries/urban agglomerations)

POPULATION

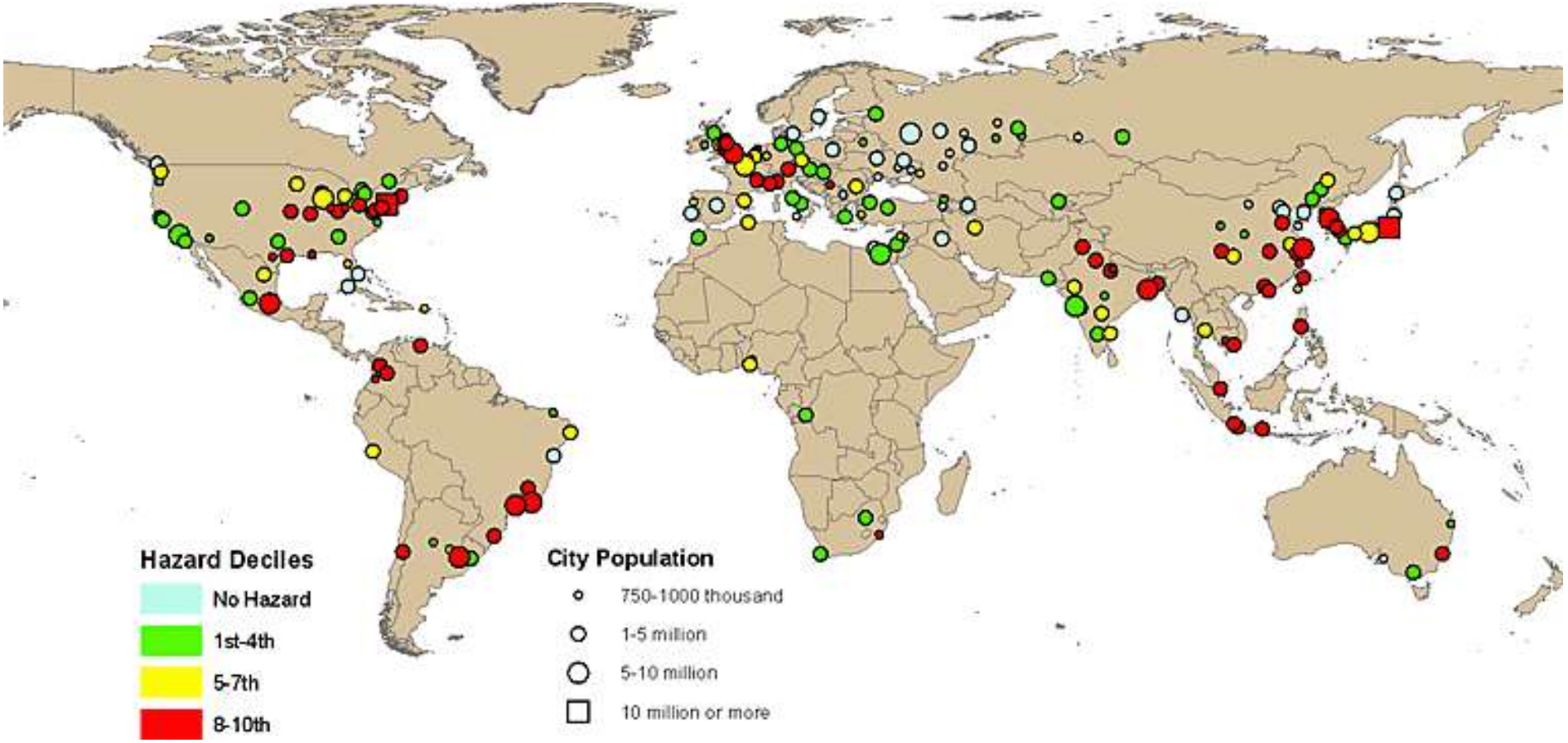
Social/Economic/Environment (Hazards) (Selected indicators)

Region/ Country/ Province /city	Total (1,000s)	Urban (1,000s)	Urban (% of total)	Populat. of urban agglom. of 750,000 inhab. & more (1,000s)	Aver. annual growth rate of urban pop. (%) (cities: 2006-2020) countries	Populat. of slums (% of urban pop.)	GDP per capita at PPP (2005 constant intern. dollars)	Coastal status (coastal or inland)	Number of multi-Hazards in 8th -10th decile	Type of Hazard (years of data collection)					
												No Hazard		1st - 4th deciles (low-risk)	
												5th - 7th deciles (medium-risk)		8th – 10th deciles (high-risk)	
										Cyclone	Drought	Earth-quake	Flood	Landslide	Volcano
	2010	2010	2010	2011	2005-10	2005-07	2009			(1980-2000)	(1980-2000)	(1976-2002)	(1985-2003)	(1979-2002)	(1979-2002)
World	**6 895 889**	**3 479 867**	**50**		**1,9**	**35**	**9 547**								
South-East Asia	**593 415**	**248 291**	**42**		**2,2**	**33**	**4 737**								
Indonesia	**239 871**	**106 217**	**44**		**1,7**	**26**	**3 813**								
Bandung				2 429	2,90			*Inland	2 hazards	No hazard	5th-7th d.	5th-7th d.	8-10th d.	8-10th d.	5th-7th d.
Jakarta				9 769	3,03			Coastal	1 hazard	No hazard	5th-7th d.	1st-4th d.	8-10th d.	No hazard	No hazard
Malaysia	**28 401**	**20 497**	**72**		**3,0**	..	**12 724**								
Klang				1 190				Coastal	1 hazard	No hazard	No hazard	No hazard	8-10th d.	No hazard	No hazard
Kuala Lumpur				1 556				*Inland	1 hazard	No hazard	No hazard	No hazard	8-10th d.	No hazard	No hazard
Philippines	**93 261**	**45 607**	**49**		**2,1**	**44**	**3 216**								
Davao				1 565				Coastal	2 hazards	8-10th d.	1st-4th d.	8-10th d.	8-10th d.	No hazard	No hazard
Manila				11 862				Coastal	2 hazards	8-10th d.	1st-4th d.	8-10th d.	8-10th d.	No hazard	No hazard
Thailand	**69 122**	**23 476**	**34**		**1,7**	**26**	**7 260**								
Krung Thep (Bangkok)				8 426				Coastal	No hazard	No hazard	1st-4th d.	No hazard	5th-7th d.	No hazard	No hazard
Samut Prakan				1 212				Coastal	No hazard	No hazard	1st-4th d.	No hazard	5th-7th d.	No hazard	No hazard
Viet Nam	**87 848**	**26 687**	**30**		**3,3**	**41**	**2 682**								
Hà Noi				2 955				Coastal	1 hazard	5th-7th decile	No hazard	No hazard	8-10th d.	No hazard	No hazard
Ho Chi Minh				6 405				Coastal	1 hazard	No hazard	5th-7th d.	No hazard	8-10th d.	No hazard	No hazard

Source: *Urban Population, Development and the Environment 2011*, DESA, Population Division, 2011

Concentration of flood in the regions

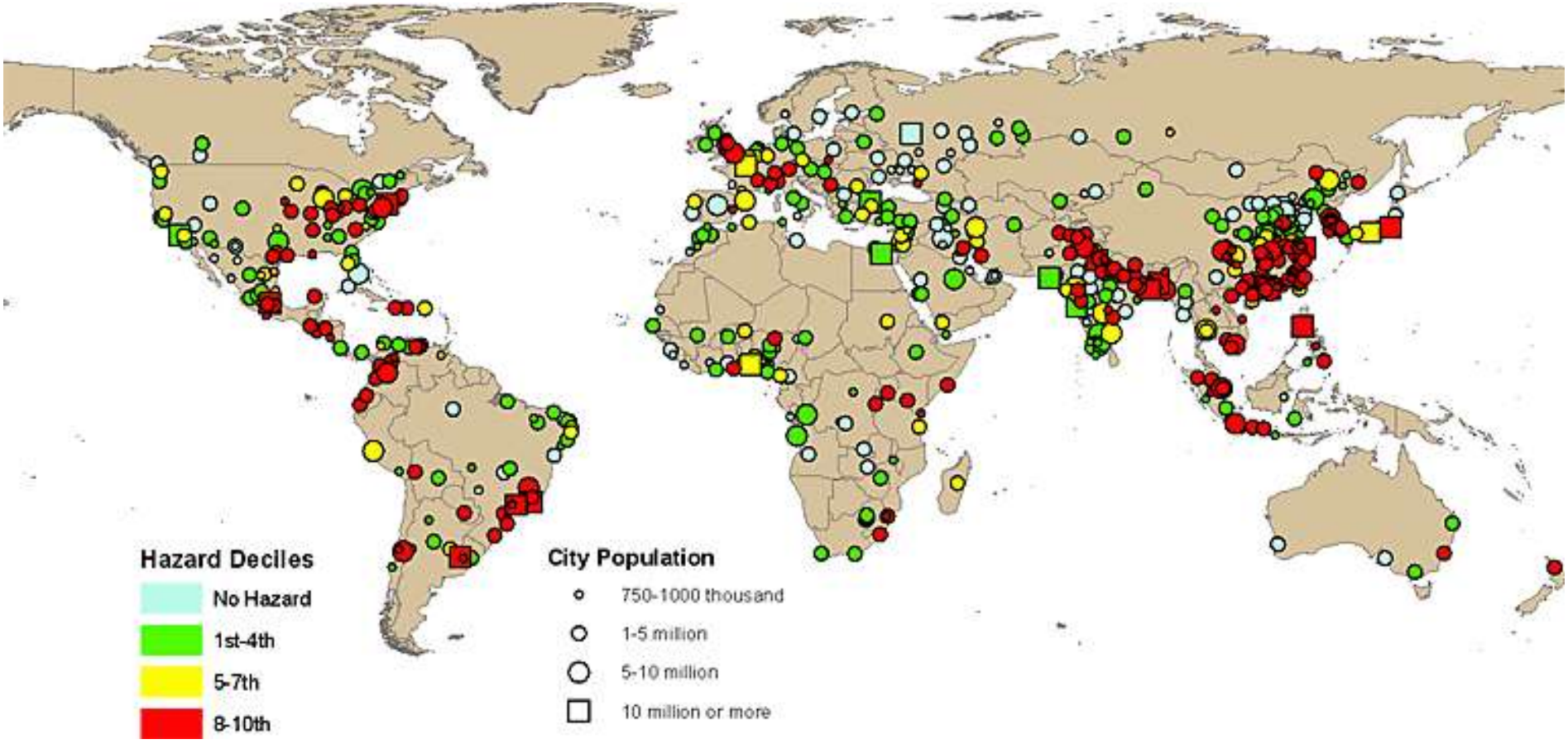
Urban agglomerations by size class and potential risk of flooding, 1970



Source: United Nations, Department of Economic and Social Affairs, Population Division: *World Urbanization Prospects, the 2011 Revision*. New York 2012
http://esa.un.org/unpd/wup/Maps/maps_flooding_1970.htm

Concentration of flood in the regions
Urbanization (seem to) increase risks of flooding

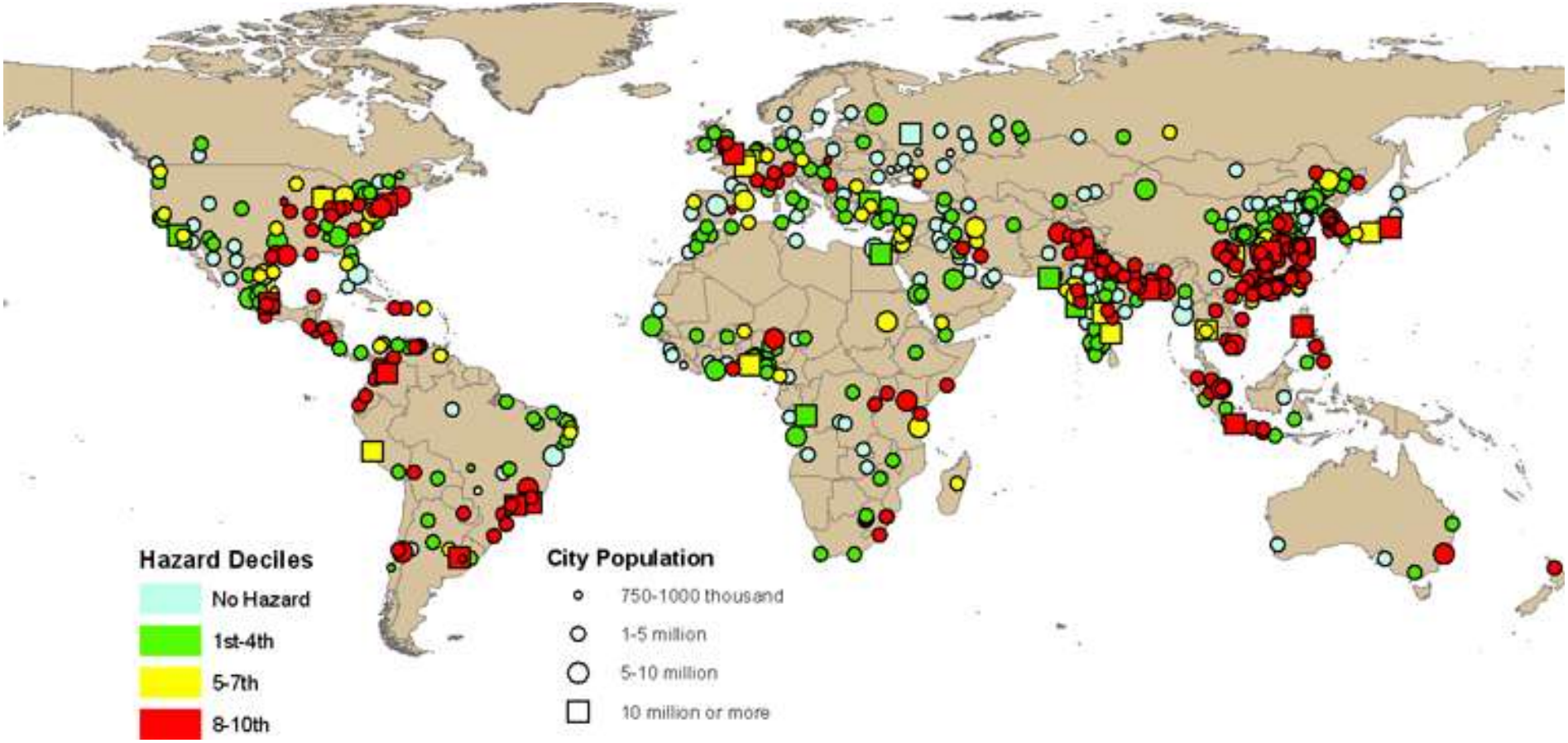
Urban agglomerations by size class and potential risk of flooding, 2011



Source: United Nations, Department of Economic and Social Affairs, Population Division: *World Urbanization Prospects, the 2011 Revision*. New York 2012
http://esa.un.org/unpd/wup/Maps/maps_flooding_2011.htm

Concentration of flood in the regions
Urbanization increases even more risks of flooding

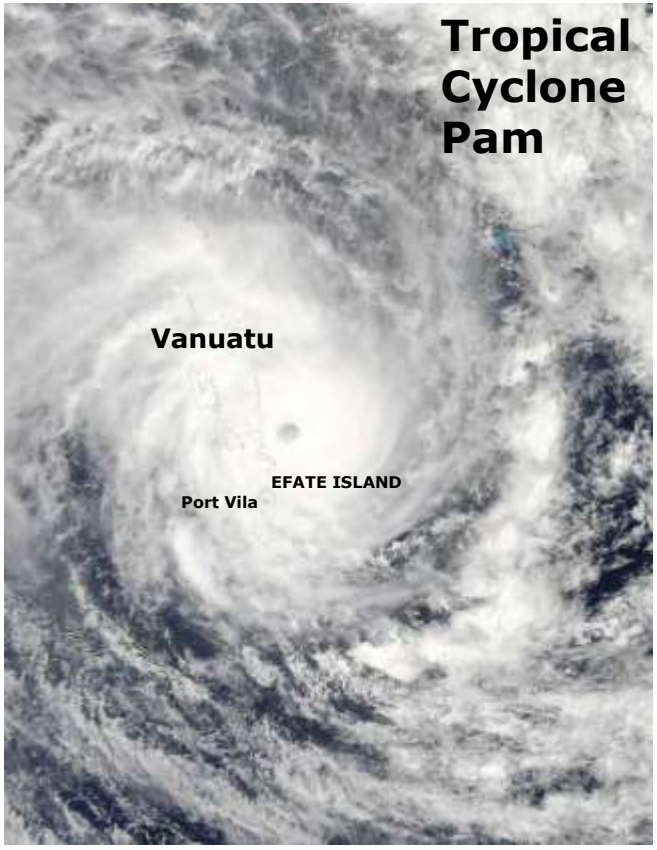
Urban agglomerations by size class and potential risk of flooding, 2025



Source: United Nations, Department of Economic and Social Affairs, Population Division: *World Urbanization Prospects, the 2011 Revision*. New York 2012
http://esa.un.org/unpd/wup/Maps/maps_flooding_2025.htm

Vanuatu: Category 5 Tropical Cyclone Pam

13 March 2015: TC PAM:
Winds @ +/- 250 km/hour
Gusts @ 320 km/hour



Impacts at national level

- 11 deaths
- 188,000 people affected
- 17,000 buildings damaged or destroyed
- 90,000 people (18,000 HHs) needing shelter assistance
- 65,000 people displaced from their homes

- Damage: USD 270.9 million
- Loss: USD 178.5 million
- Total: USD 449.4 million (64.1% GDP)

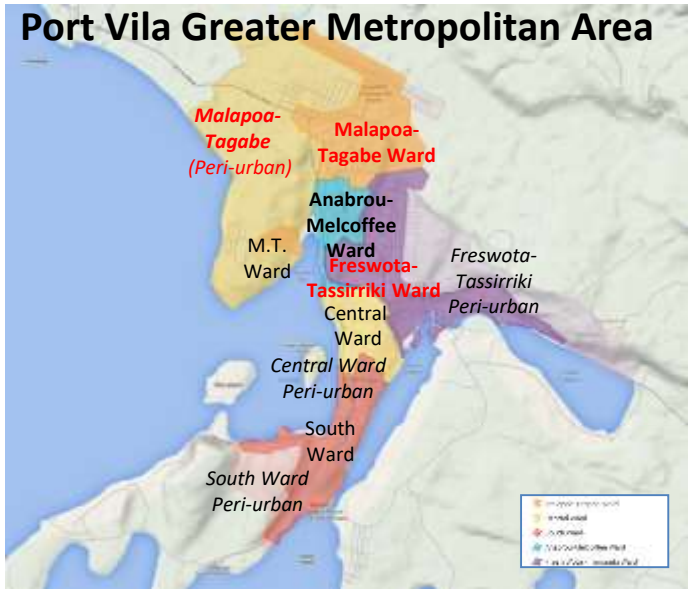
- **Housing sector: 32%** of total damage cost **(highest damage)**
- Tourism: 20% of total damage cost
- Education sector: 13% of total damage cost
- Transport sector: 10% of total damage cost
- **Agriculture: 33%** of total losses **(highest losses)**
- Tourism: 26% of total losses

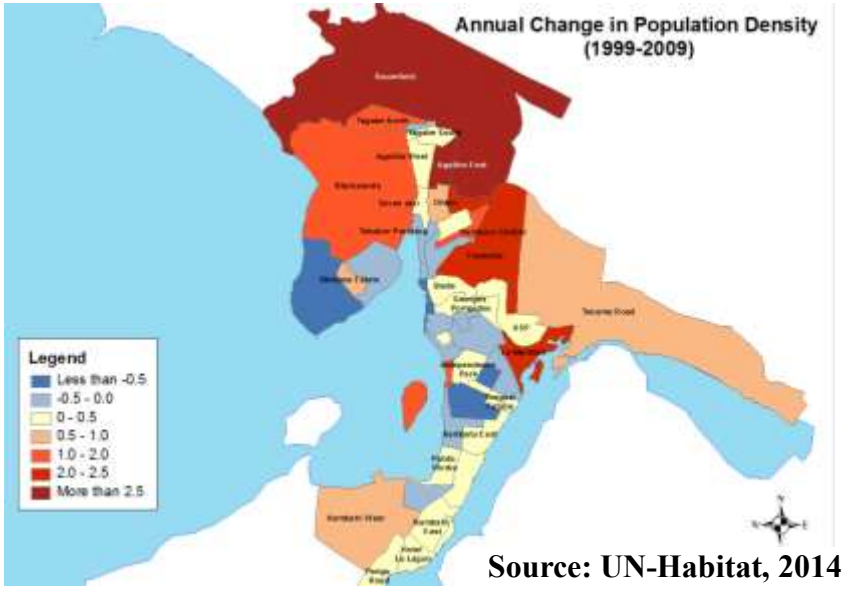
Urbanization in Vanuatu (SIDS)

- **Total population:** 258,000 (2014)
- **Urban population:** 67,000 (26%)
- **Annual urban growth:** 3.4%

Port Vila, Efate Island
Source: OCHA, 2014

- **Population living in Port Vila:** 53,000 (79.1% of urban population; 1/3 urban poor)
- **Annual Urban Growth**
  - **Greater Port Vila:** 10.7% (1999-2009)
  - **Central Ward**: 1.6% (mainly formal)
  - **South Ward** (mainly formal): 2.3%
  - ***Malapoa-Tagabe, Northern Division:** 14.6% (mainly informal), where 50% of population in Greater Port Vila resides





Source: UN-Habitat, 2014

Rapid urbanization, when not planned and managed properly, increase exposure and vulnerability to environmental risks and natural hazards and disasters

The **concentration**, **activities**, **practices** & **interventions** of the **urban poor (or any other group)** on marginal **flood-prone areas** may **exacerbate disaster risks** by:

- Disrupting the natural surface drainage patterns, particularly human settlements along waterways, on floodplains, flood ways (conveyance zones)…;
- Turning pervious natural surfaces to less- or non-pervious artificial surfaces (erosion & flood);
- Deforestation and removing of vegetation cover provoking soil erosion and landslides under high storm water runoff volumes;
- Inexistence, inadequacy or failure of drainage, sanitation and solid waste, and even of flood protection infrastructure (flood);
- Over-extraction of ground water (leading to soil subsidence) – higher risk of flood in low-lying areas affected by sea level rises;
- The negative impacts of some (self-help) individual mitigation interventions (dumping solid waste in ravines, channels against soil erosion or for building dykes to avert flood…)
- Lack of well-planned, systematic (community-based) flood risk management activities

Participatory and inclusive, pro-poor gender-sensitive approach to slum upgrading and Urban DRR & Resilience Building

Governments cannot address those issues alone, but in partnership with a wide range of actors playing different roles:

- **Central governments:** Setting national priorities; making policy reforms (institutional, legislative and financial); creating an enabling environment; providing financial support to sub-national authorities;
- **National/central Disaster Management Agency:** formulating and coordinating the implementation of a central (basic) Disaster Management Plan; formulating and coordinating the implementation of contingency plans for emergencies; providing logistic & technical assistance to lower levels of governments
- **Local (village, town, city, metropolitan) authorities:** coordination and guiding the direction of growth and development of urban areas, Urban Slum Upgrading + Disaster Risks Reduction strategies, measures, plans and programmes and their integration into official urban planning and management systems
- **Civil Society:** brings knowledge of needs and reality on the ground; participate in slum upgrading, disaster risk assessment, in development and implementation of community or local risk reduction strategies; watchdogs monitoring interventions and process (in particular, if they are transparent and in line with SDGs)
- **Private Sector:** can contribute with technical and financial resources in (re)building resilient infrastructures
- **International community:** can provide support in terms of policy, technical advise and capacity building

For Urban Flood Management, Some principles:

- Sustainable alternatives to hard-engineered structural measures, such as urban parks, community gardens and playgrounds should be used, and wetlands and natural buffers should be reintegrated (when possible) in the urban landscape, at least to complement, and limit the need for, the hard-engineered structural measures.
- Increasing the pervious surfaces (with permeable pavement and sidewalks…) in urban areas;
- Improving drainage and solid waste management;
- Structural measures be balanced by non-structural measures such as flood warning systems and evacuation planning;
- Developing non-structural measures such as realistic and pro-poor, performance-based building codes and land use planning laws;
- Awareness programmes adapted at local/neighbourhood level should be developed

Such combined measures should succeed to limit the impacts from flooding on inhabited flood-prone areas, whether protected by flooding defense systems or not.

Low cost housing and training project, East London RSA

Local/green building materials: 1,500 houses built (1996-1998)

Thank you very much for your attention!

United Nations
Office for Sustainable Development

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