



Unpacking Well-being Measurement in the Philippines: Focus on Social Vulnerability of Marginal Groups

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<https://resiliencetoolkit.ph>



<https://coastalcitiesatriskph.com>



<https://linktr.ee/ccarph>



Guiding Questions from the Conference Organizers

What evidence is available on the status of well-being of vulnerable groups and communities in the Philippines?

→ CBMS, MPI, FIES, Gender Gap Report, PSA's QLI survey (e.g., top 10 poorest provinces in 2022)

Which population groups in the Philippines, left behind in terms of well-being, need more attention from policymakers?

→ children, women, elderly, LGBTQIs, especially those in geographically disadvantaged areas (GIDA)

How can the Philippines and other SEA countries better measure well-being progress made by vulnerable population groups, and children and youth? What are the specific data, statistical approaches and techniques needed to best map progress?

→ **Disaggregate:** social categories by spatial distribution of hazard exposure and vulnerability using statistical analysis, geo-spatial techniques and participatory methodologies

Why/How Do we Measure Well Being?

- **JK Galbraith (1967)**: What is not written/reported remain invisible or an unrecognized contribution.
- **Albert Einstein**: “*Not everything that can be counted counts and not everything that counts can be counted*”. Not everything that you can measure has value and not everything valuable can be measured.
- **Joseph Stiglitz et. al (2018)**: What We Measure Affects Us.

- **Well-being measurement** -- embedded in larger complex phenomena of the bio-physical and human systems: context of rapid growth of informality & gentrification in cities of the global south and climate impact drivers (CIDs) like cyclones/typhoons, monsoon rains, SLR, earthquakes → affect patterns of **labour migration/climate refugees, human trafficking, etc.**
- Well-being economy and human security of the Global North and South are so intertwined!!!
- Contextually-driven forces that can **drive well-being factors** (e.g., social capital related to trust in governance of LGU basic services and access of the marginal, informal settlements)
- Prevailing well-being scholarship/assessment is **disciplinal and aspatial**: Informality and vulnerability embedded in local spatial conditions, and its built environment matters.
- Policy response(s) often focus on **legalization/regulation** instead of upgrading physical-spatial conditions.
- **Diverse spatial arrangements** offer urban design lessons for improving housing and neighborhood conditions → affect well-being conditions in marginal communities → **policies and programs that promote well-being of women, children, elderly, PWDs and LBQTIs**

The vulnerability of exposed human and natural systems is a component of risk, but also, independently, an important focus in the literature. Approaches to analysing and assessing vulnerability have evolved since previous IPCC assessments. **Vulnerability is widely understood to differ within communities and across societies, regions and countries, also changing through time**

(IPCC 2022, Summary for Policy Makers)

Jurgen Birkman et al. (2021):

Less attention has been given to the assessment of vulnerability and embedded social, economic and historical conditions that foster vulnerability of societies.

Social Vulnerability Index (SOVI): Who is the Most Vulnerable to Climate and Disaster Risks in Manila?

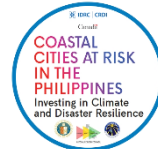
Dr. Emma Porio

Project Leader, CCARPH-ADMU

Dr. Noralene Uy, NRC Pool of Experts, ADMU-CDRI-ASIA

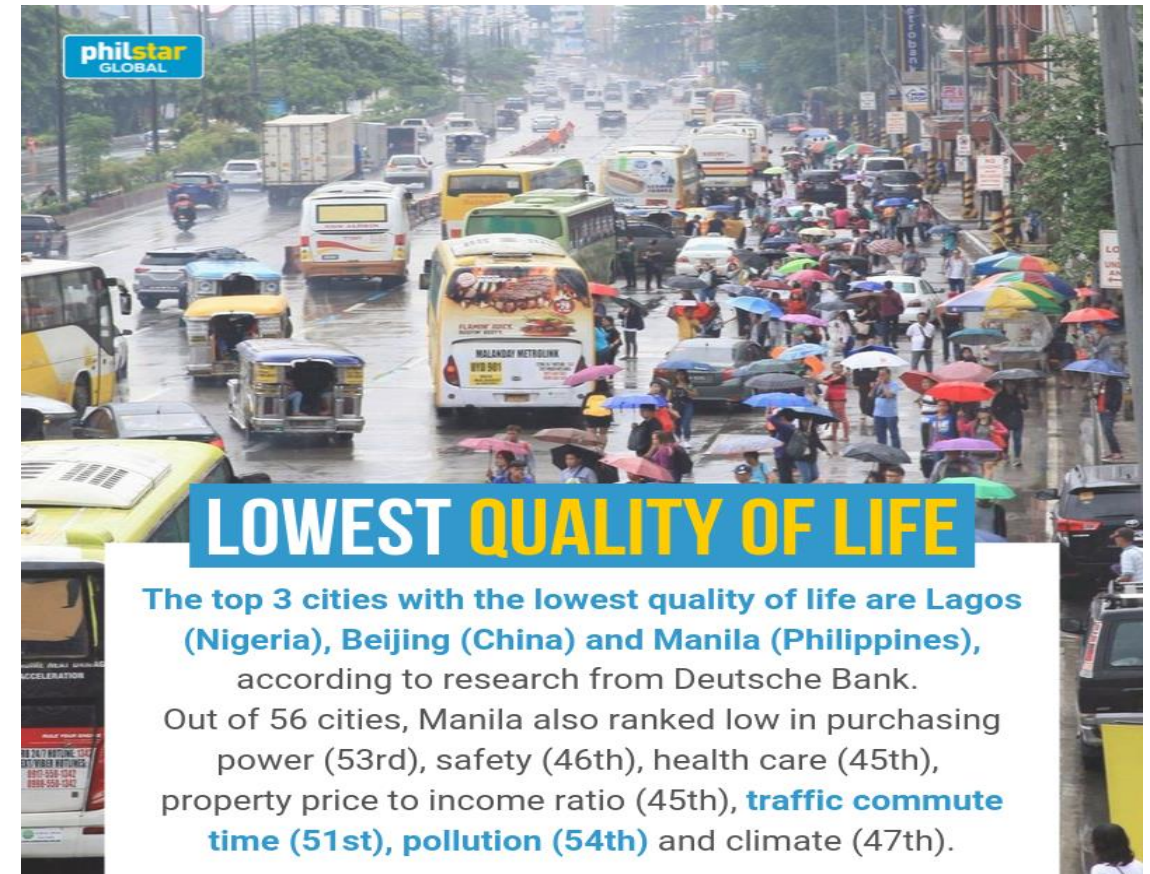
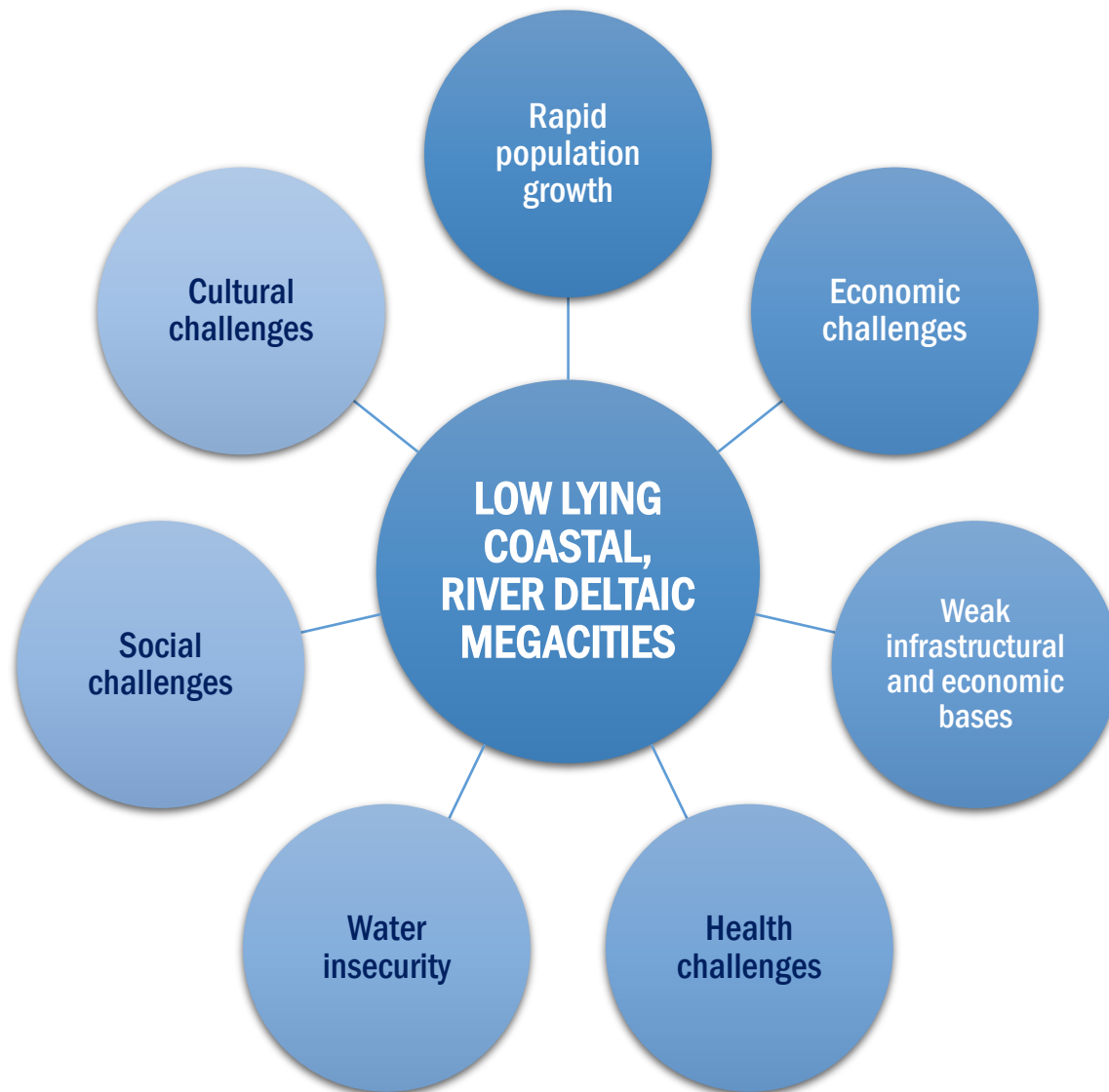
Dr. Justine See/Dr. Michael Armand Canilao: CCARPH Pool of Experts; CDRI-ASIA (Climate and Disaster Resilience Innovations Program in the Anthropological and Sociological Initiative in Ateneo—ADVISER: Sec. Toni Yulo Loyzaga)

Celine Villanueva, Ma. Theresa Joy Rocamora, Jhulia Allen Prodigalidad, Amanda Tolentino, Miguel Luis del Rosario—ADMU-CCARPH-CDRI-ASIA



Challenges to the Well-Being of Coastal Megacities in the Philippines

Challenge: Climate, Pollution, etc...
drive Metro Manila's Low Quality of Life



Source: Dr. Rosa Perez

Metro Manila's Socio-Pol-Eco Profile: Implications for Risk Governance and Resilience

Metro Manila:



Population: 15 M

Daytime: 16M- 18 M

Mega-Manila: 25M

Informality: 45 %- 60%

Population Density: 20,000/km²

Urban Economic Primacy: 37% of GDP

Risk Governance:

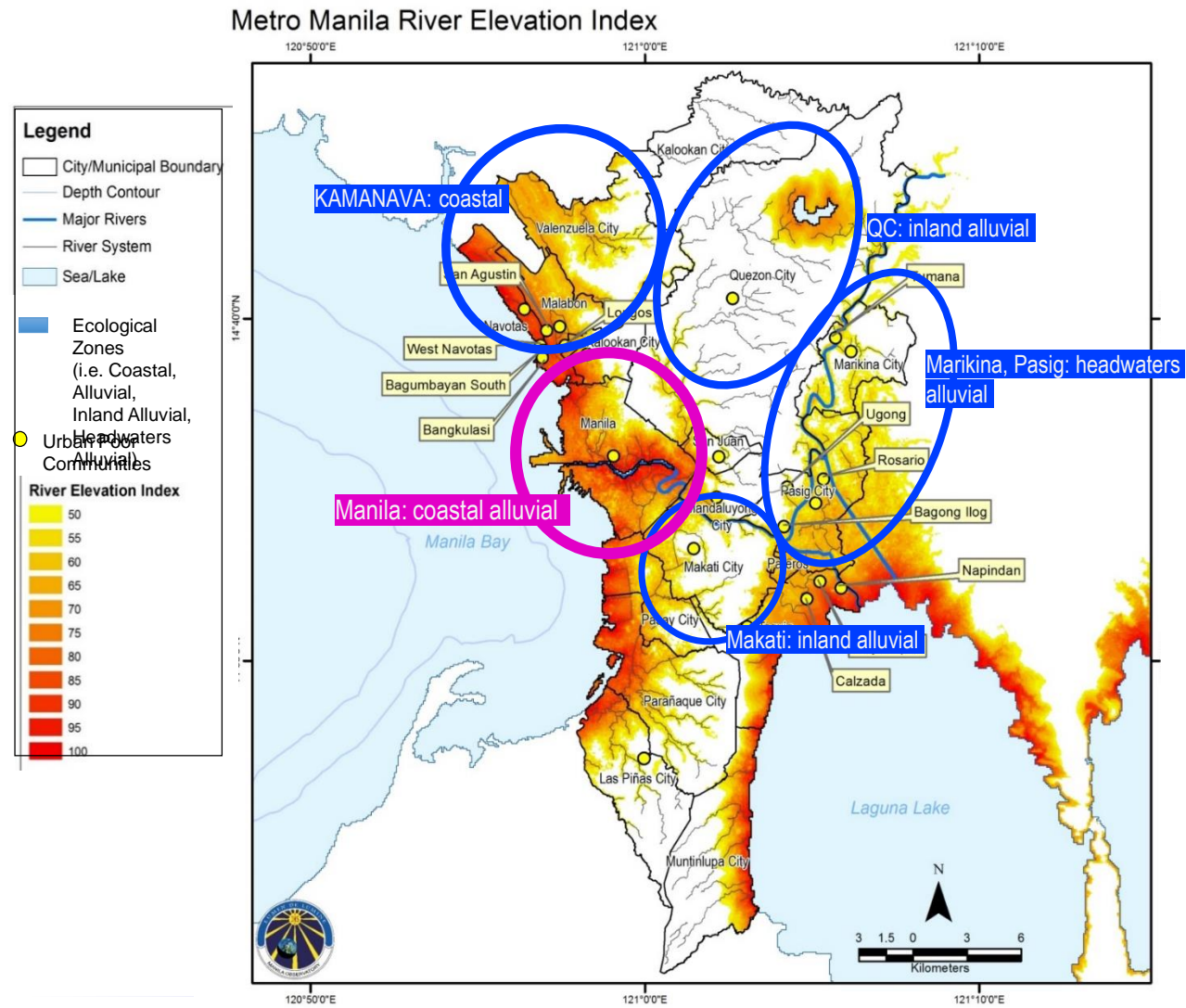
Metro Manila Dev. Authority

Decentralized

17 cities and 1 municipality



METRO MANILA



↑ Demand for land
↑ Land values

↑ Needs of growing population
↓ Economic growth rate
↓ Investment in services
↓ Security for housing, jobs, and livelihood

“... the net worth of the top 20 Filipino families is about US\$15.6 billion while 70 percent of the people subsist on less than US\$2 per day.” - Yulo-Loyzaga and Porio (2015)

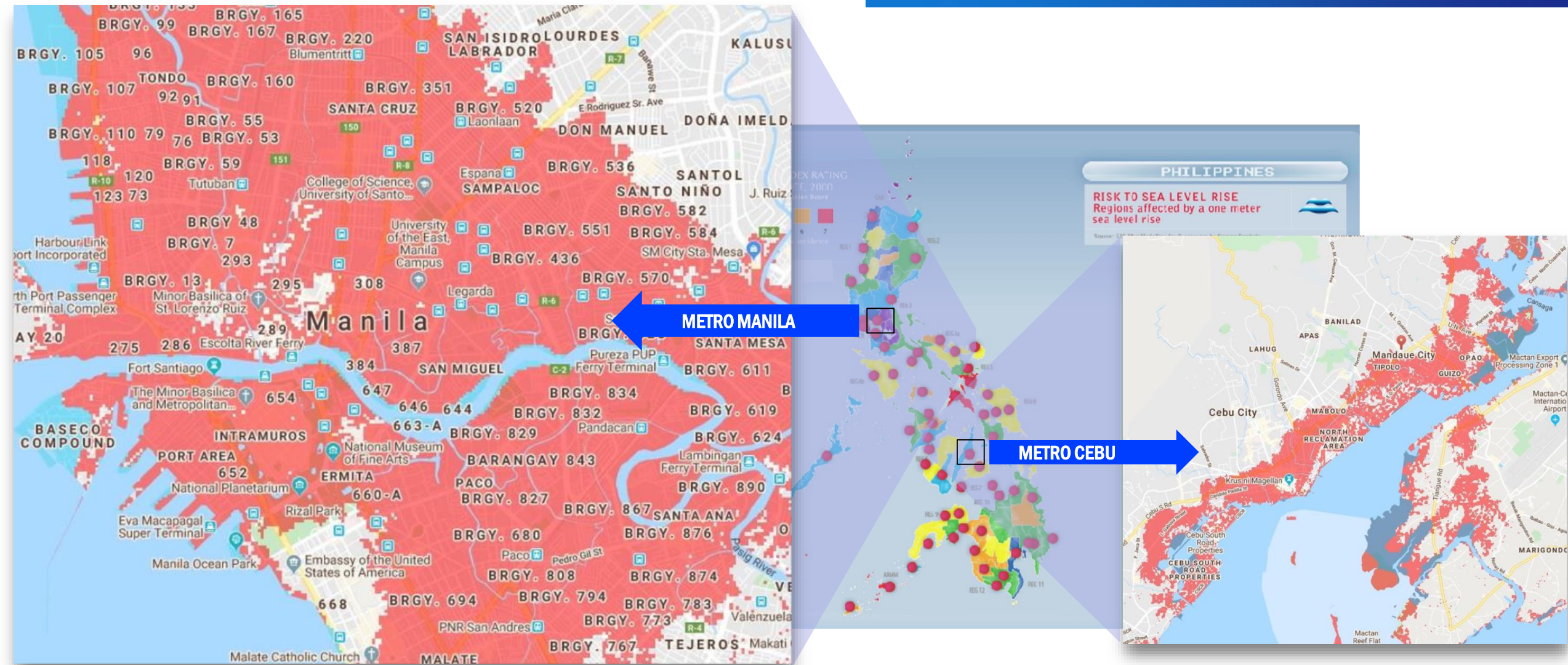
Source: Narisma (2011); Porio (2014; 2019)

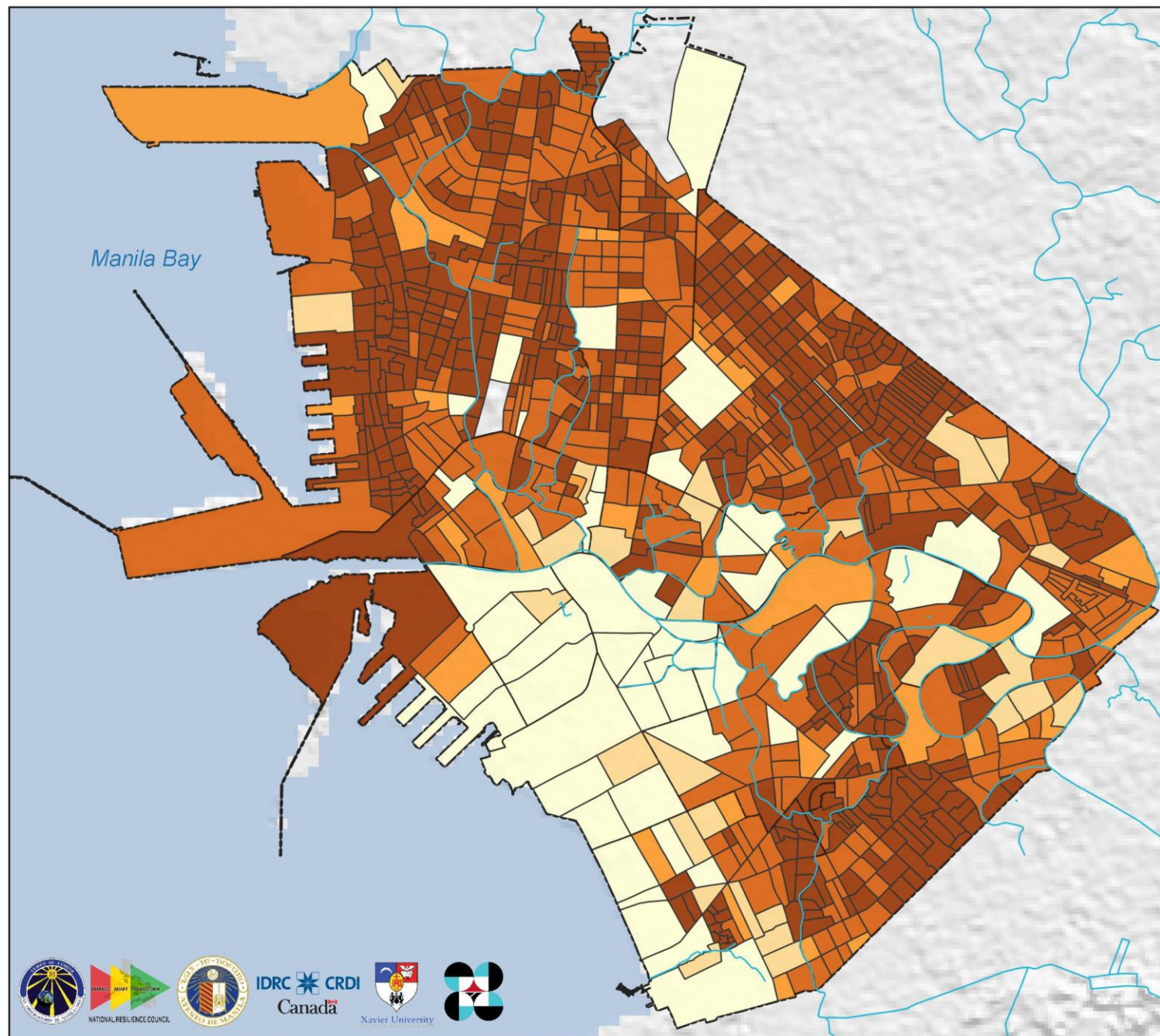
Geographical and Environmental Characteristics

(Climate Impact Drivers)



Projected coastal flooding in Metro Manila and Metro Cebu by 2050 due rising sea levels





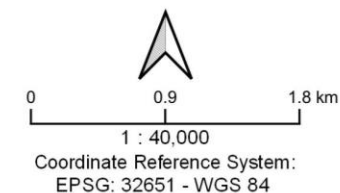
Manila City Population Density (2015)

LEGEND

- Waterways
- City/Municipal Boundary
- Barangay Boundary

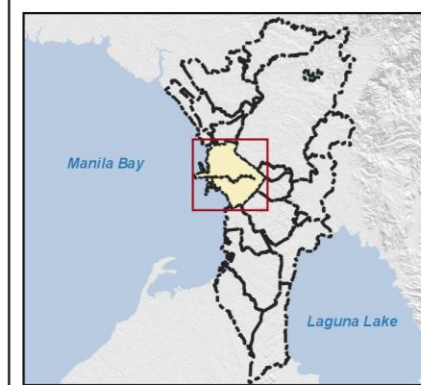
Persons per km²

- 0 - 10,000
- 10,001 - 15,000
- 15,001 - 20,000
- 20,001 - 50,000
- 50,001 - 276,905

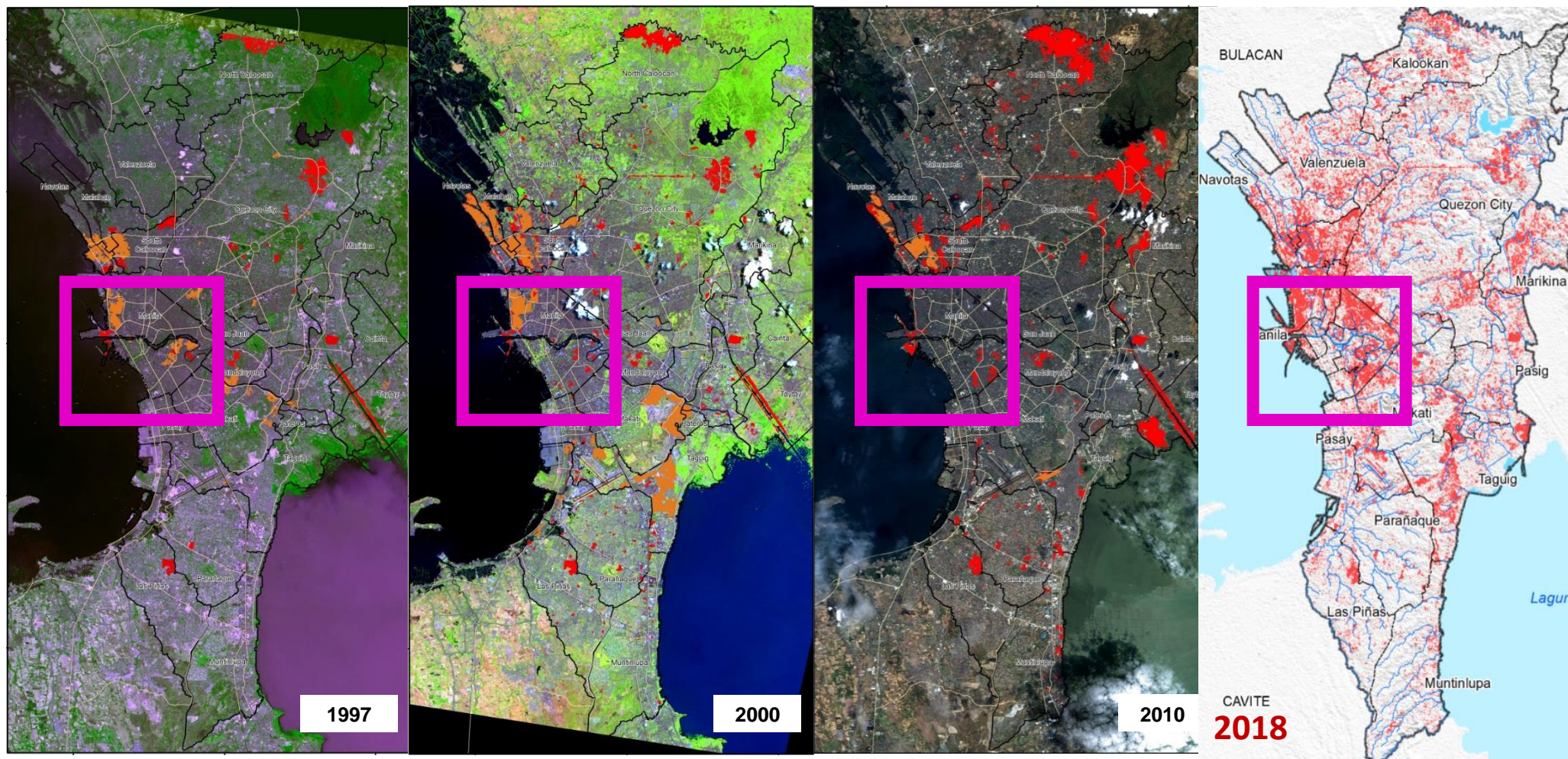


Data Sources:

HDX, NAMRIA, PSA 2018 (Barangay and City Boundary)
 OSM, 2019 (Waterways)
 PSA 2015 (Population)

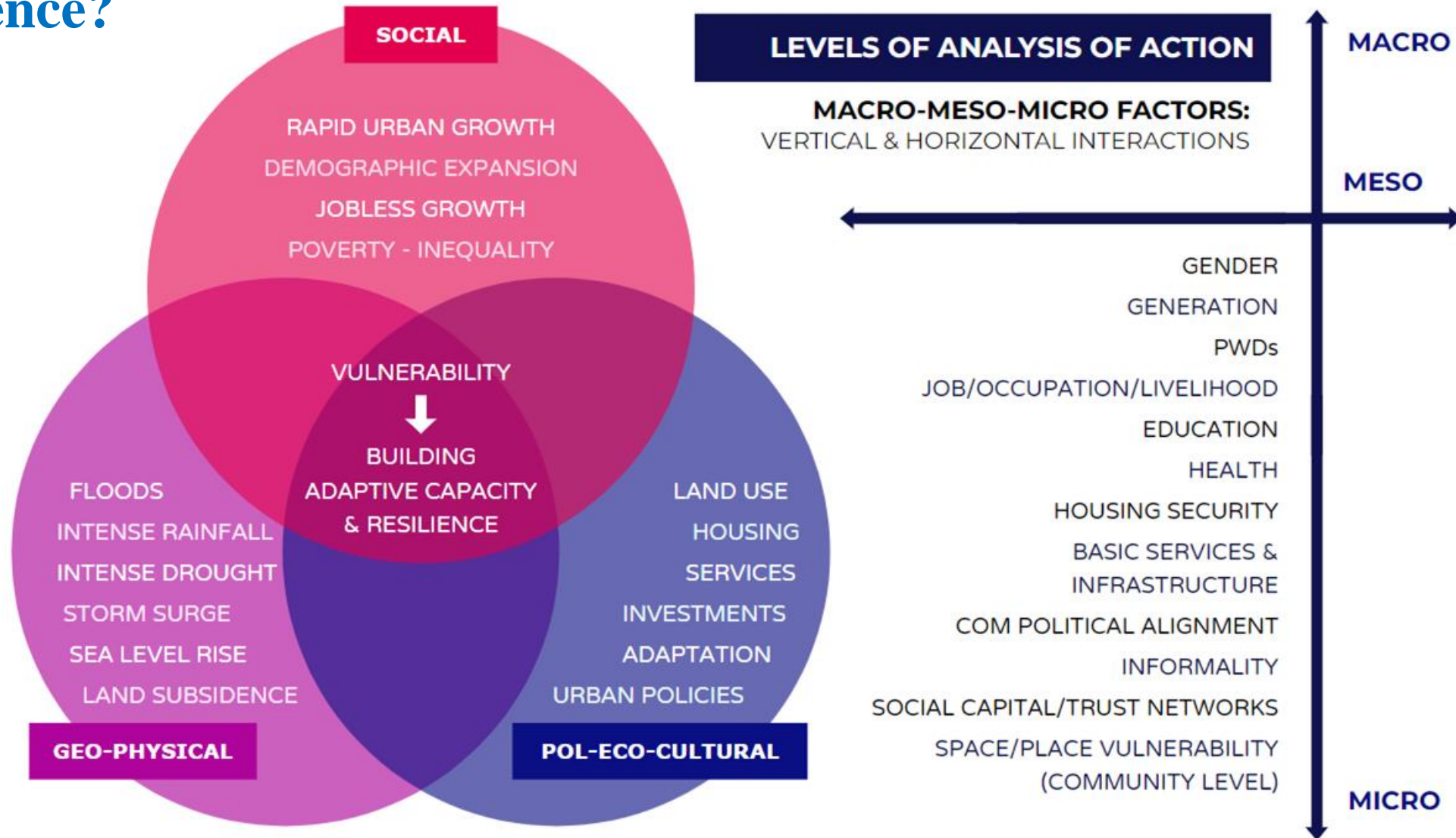


Shifting Patterns of Informality and Vulnerability in Manila



SOURCE: GED, Manila Observatory

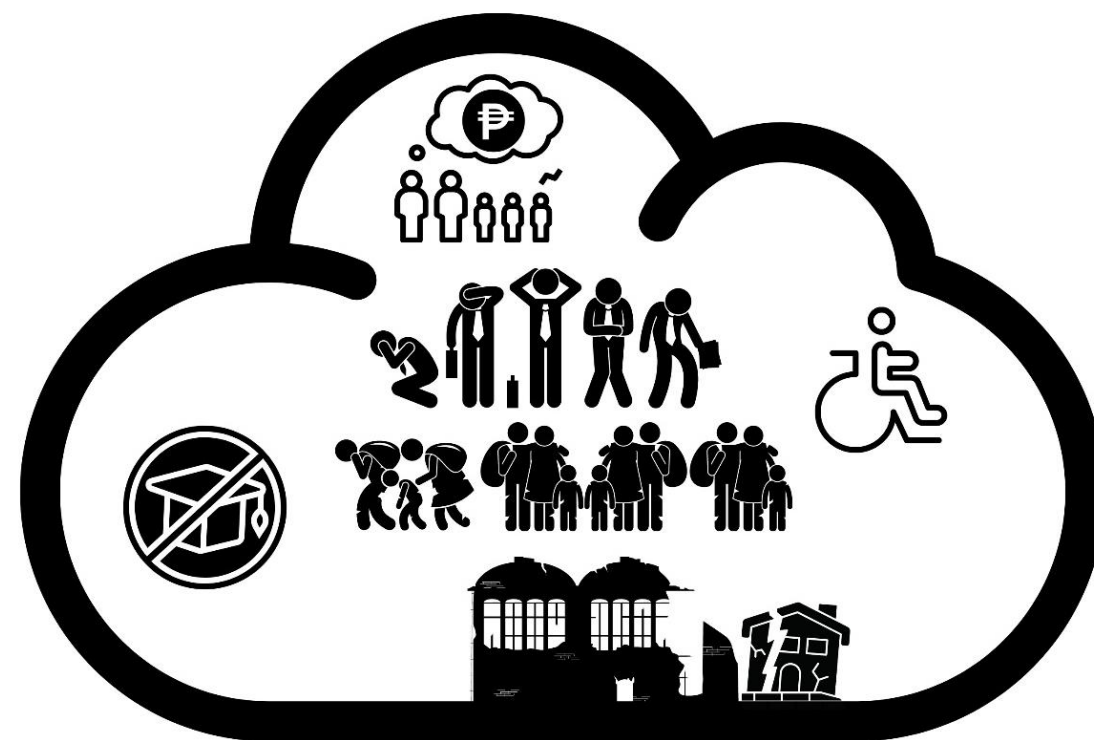
Who are the highly exposed and vulnerable in MM? What investments or community interventions should we make towards community resilience?



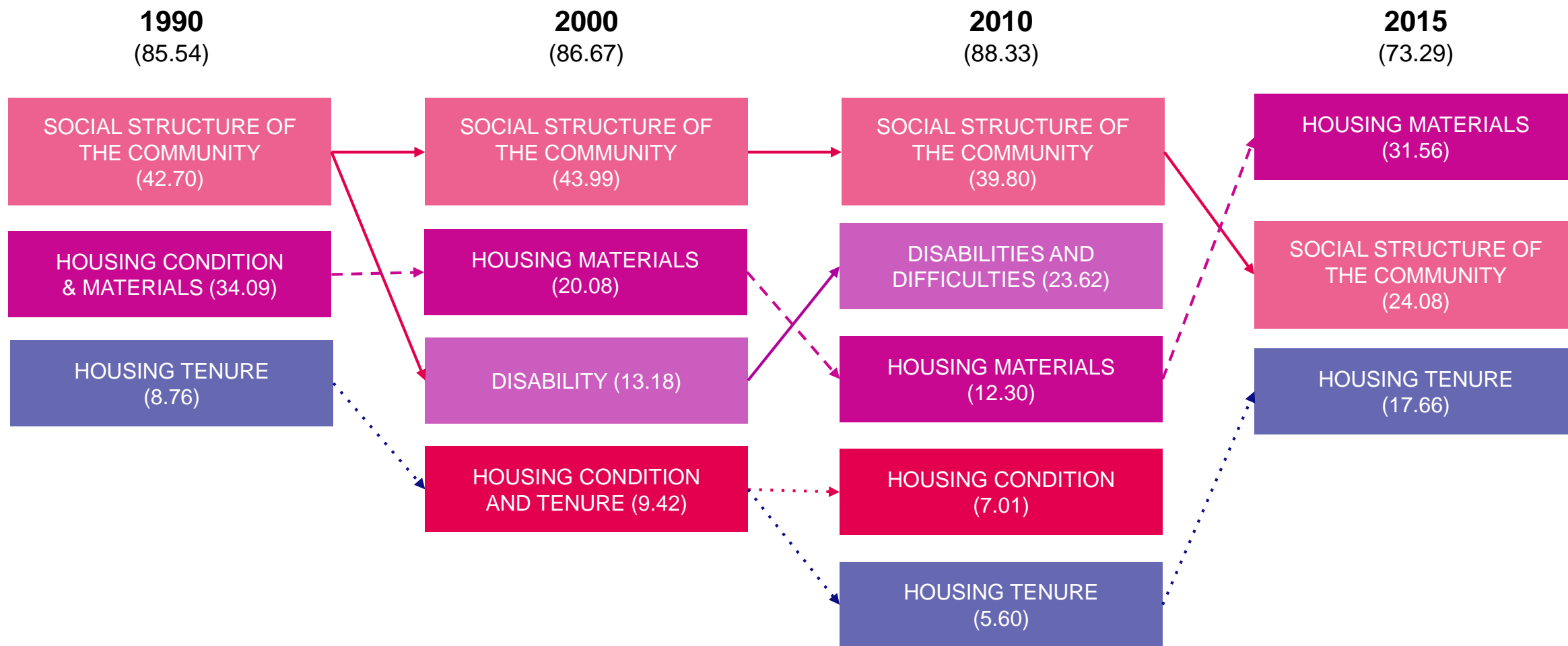
Source: Porio and See (2022),
Routledge Handbook of Asian Cities

Social Vulnerability Index Variables from PSA Data

Social Vulnerability Variables		Availability of Data in Census			
		1990	2000	2010	2015
Age	Five years old and below	Yes	Yes	Yes	Yes
	Sixty-five years old and above	Yes	Yes	Yes	Yes
Sex	Female	Yes	Yes	Yes	Yes
Disability	Total disabled population	Yes	Yes	Yes	No
	With functional difficulty in seeing even if wearing eyeglasses	No	No	Yes	No
	With functional difficulty in walking or climbing steps	No	No	Yes	No
Education	Did not finish high school	Yes	Yes	Yes	Yes
Civil Status	Widowed	Yes	Yes	Yes	Yes
	Divorced/Separated	Yes	Yes	Yes	Yes
Tenure of House and Lot	Rented	Yes	Yes*	Yes*	Yes
	Rent-free without consent of owner	Yes	Yes*	Yes*	Yes
Construction Materials of the Roof	Makeshift/Salvaged/ Improvised Materials	Yes	Yes	Yes	Yes
Construction Materials of the Outer Walls	Makeshift/Salvaged/ Improvised Materials	Yes	Yes	Yes	Yes
State of Repair of House/Building	Dilapidated/Condemned	Yes	Yes	Yes	No



PATTERNS OF SOCIAL VULNERABILITY COMPONENTS OF THE CITY OF MANILA



Note: Percentage variance explained by each of the components are shown in parentheses

*Adapted from Porio and See 2015;



Proximity Analysis

Flooding and Distance to Medical facility

Legend

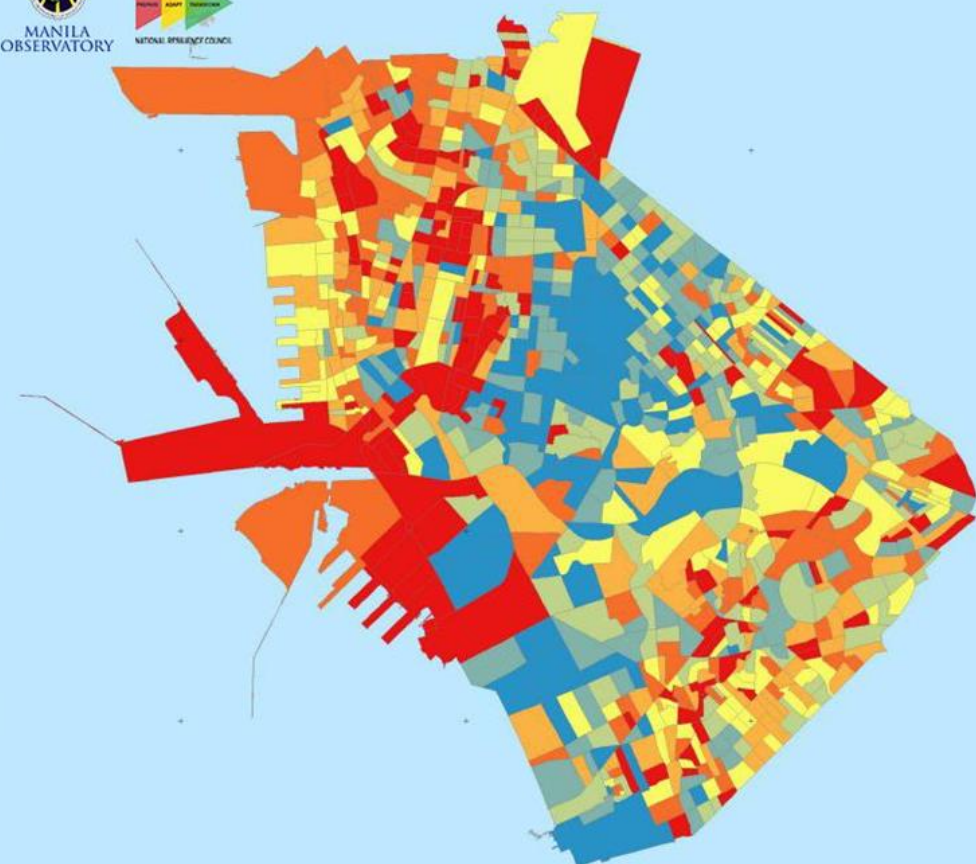
- Barangay
- Health Infra
- 0.0022
- 0.0045
- 0.009

Flood Susceptibility

<all other values>

FloodSusc

- LF
- MF
- HF
- VHF



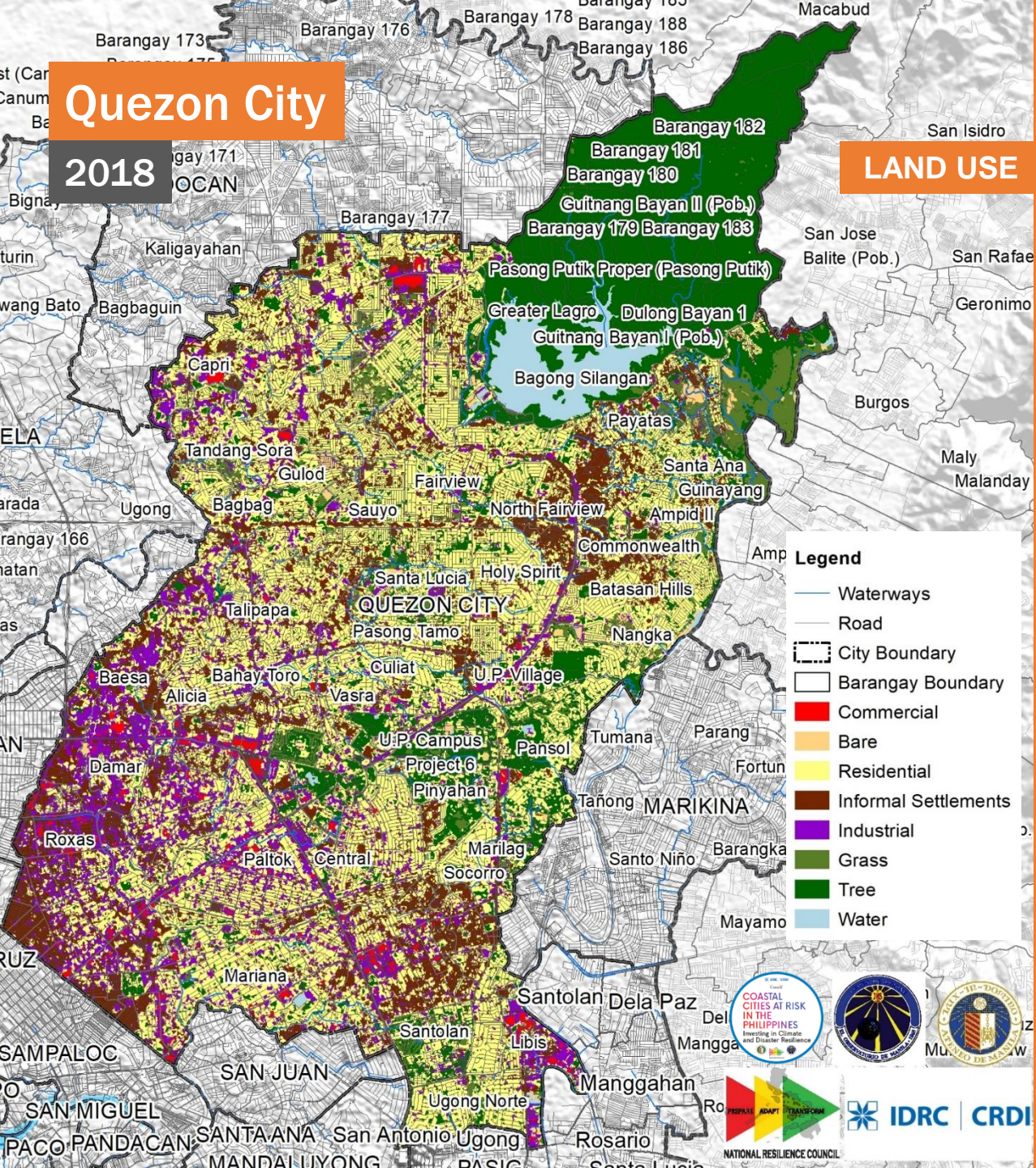
Social Vulnerability

Spatial Distribution

- 5.780000 - -1.520000
- 1.519999 - -0.740000
- 0.739999 - -0.150000
- 0.149999 - 0.300000
- 0.300001 - 0.740000
- 0.740001 - 1.260000
- 1.260001 - 21.200000

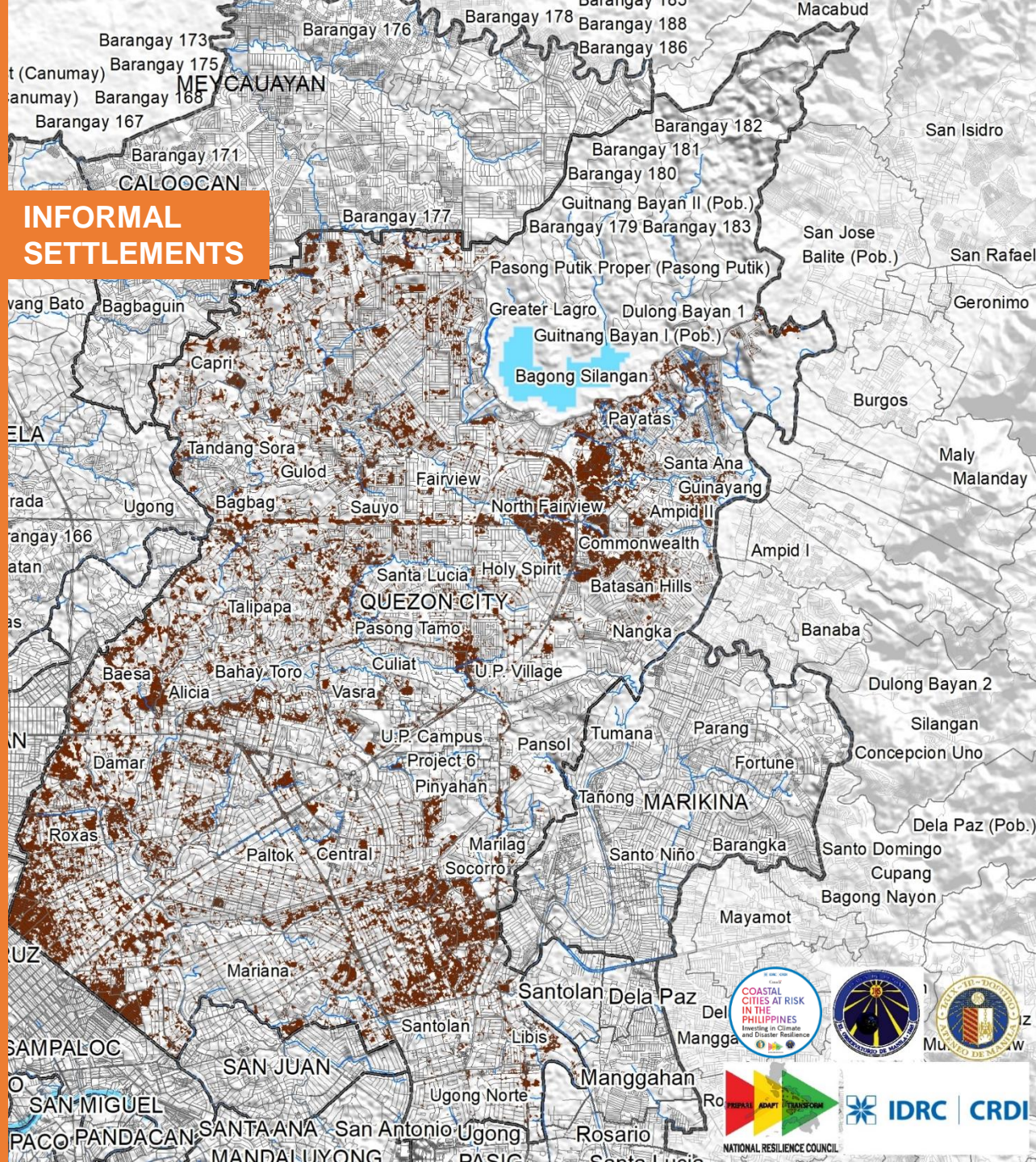
Source: Porio, E., A. Canilao, C. Villanueva, C. Vicente, and A.Y. Loyzaga (2022)

2018



LAND USE

INFORMAL SETTLEMENTS



Livelihood Spaces and Embedded Risks

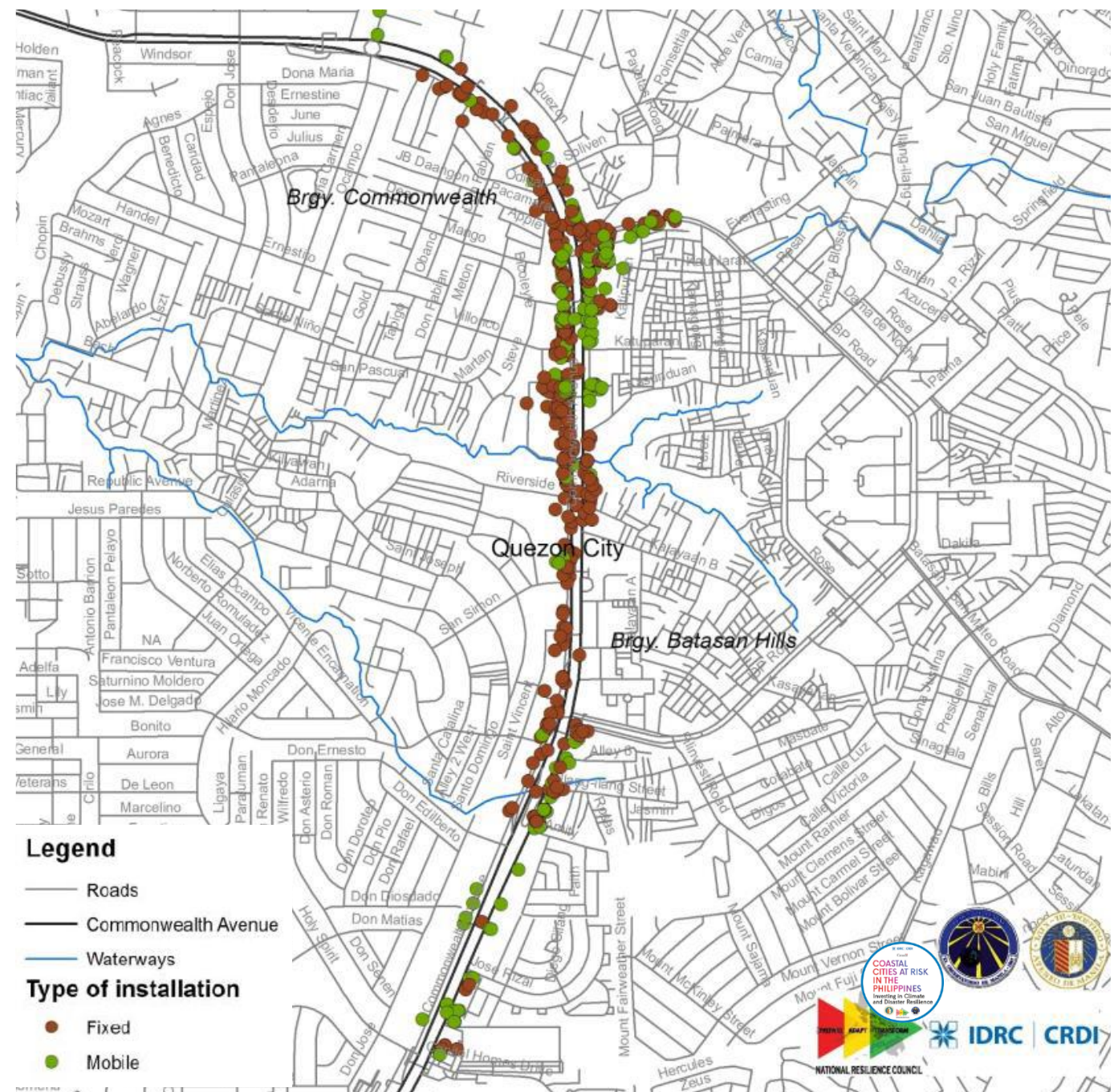


Fixed installation with goods displayed on mats

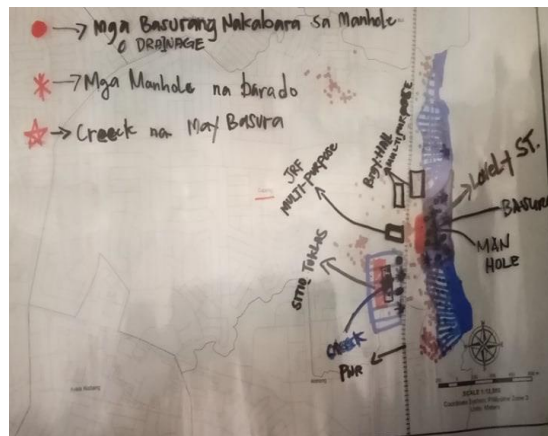
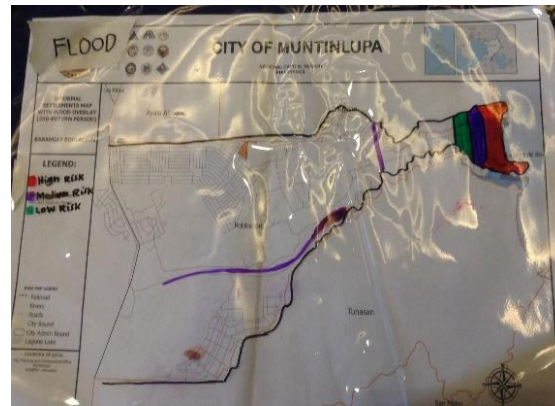
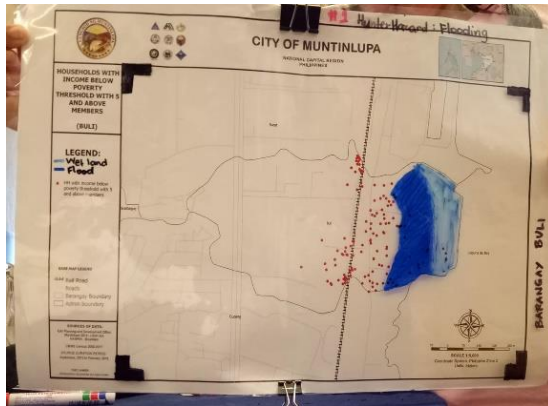
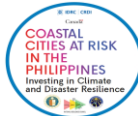


Mobile food vendor

From *Informal Livelihoods Survey Along Commonwealth* (2020) by Vicente, del Castillo, Perez, Paraiso) in CCARPH FSR and <https://resiliencetoolkit.ph>



Maps Using Hazard Hunter-based PCRA by Community Planners/NSTP of PLMun



September 26-27, 2019

The PCRA validates the CPDO maps and further enrich it by adding textures or layers – the HazardHunter, and the insider's view. The latter allows the participation of the community residents by sharing their personal knowledge and experiences with regard to the identified hazard, their exposures, vulnerabilities, and capacities. *(The images on the left are sample maps with added layers)*

A.1. 13+1 CORE INDICATORS (SUMMARY TABLES), BY BARANGAY

CBMS CORE INDICATORS

13+1 DIMENSIONS OF POVERTY

CBMSStatSim Pro 6.0

Province:	NCR 4, NCR - NATIONAL CAPITAL REGION
City/Municipality:	CITY OF MUNTINLUPA

Indicator	Alabang						
	Households		Population				
	Magnitude	Proportion	Magnitude		Proportion		

DEMOGRAPHY							
Population	10048		33007	16445	16547	100	49.8
Average household size	3						
Children under 1 year old	766	7.6	778	394	384	2.4	2.3
Children under 5 years old	2846	28.3	3689	1884	1790	11.2	11.5
Children 0-5 years old	3186	31.7	4341	2219	2107	13.2	13.5
Children 6-11 years old	2902	28.9	4036	2073	1963	12.2	
Children 6-12 years old	3126	31.1	4569	2352	2217	13.8	
Members 12-15 years old	1858	18.5	2283	1151	1132	6.9	
Members 13-16 years old	1865	18.6	2310	1148	1162	7	
Members 6-15 years old	3807	37.9	6319	3224	3095	19.1	
Members 6-16 years old	4021	40	6879	3500	3379	20.8	
Members 10 years old and above	10039	99.9	25960	12856	13104	78.6	
Members of the labor force	9278	92.3	13397	8738	4659	40.6	

HEALTH AND NUTRITION							
children under 5 years old who died	9	0.3	9	7	2	0.2	
women who died due to pregnancy related-causes	1	0.1	1			0.1	
malnourished children 0-5 year old	45	1.4	49	23	26	1.1	

HOUSING							
households living in makeshift housing	770	7.7	2469	1286	1179	7.3	
households who are informal settlers	1009	10	3352	1667	1685	10.2	

WATER AND SANITATION							
households without access to safe water	3664	36.5	12969	6459	6510	39.3	
households without access to sanitary toilet facility	590	5.9	2044	1085	959	6.2	

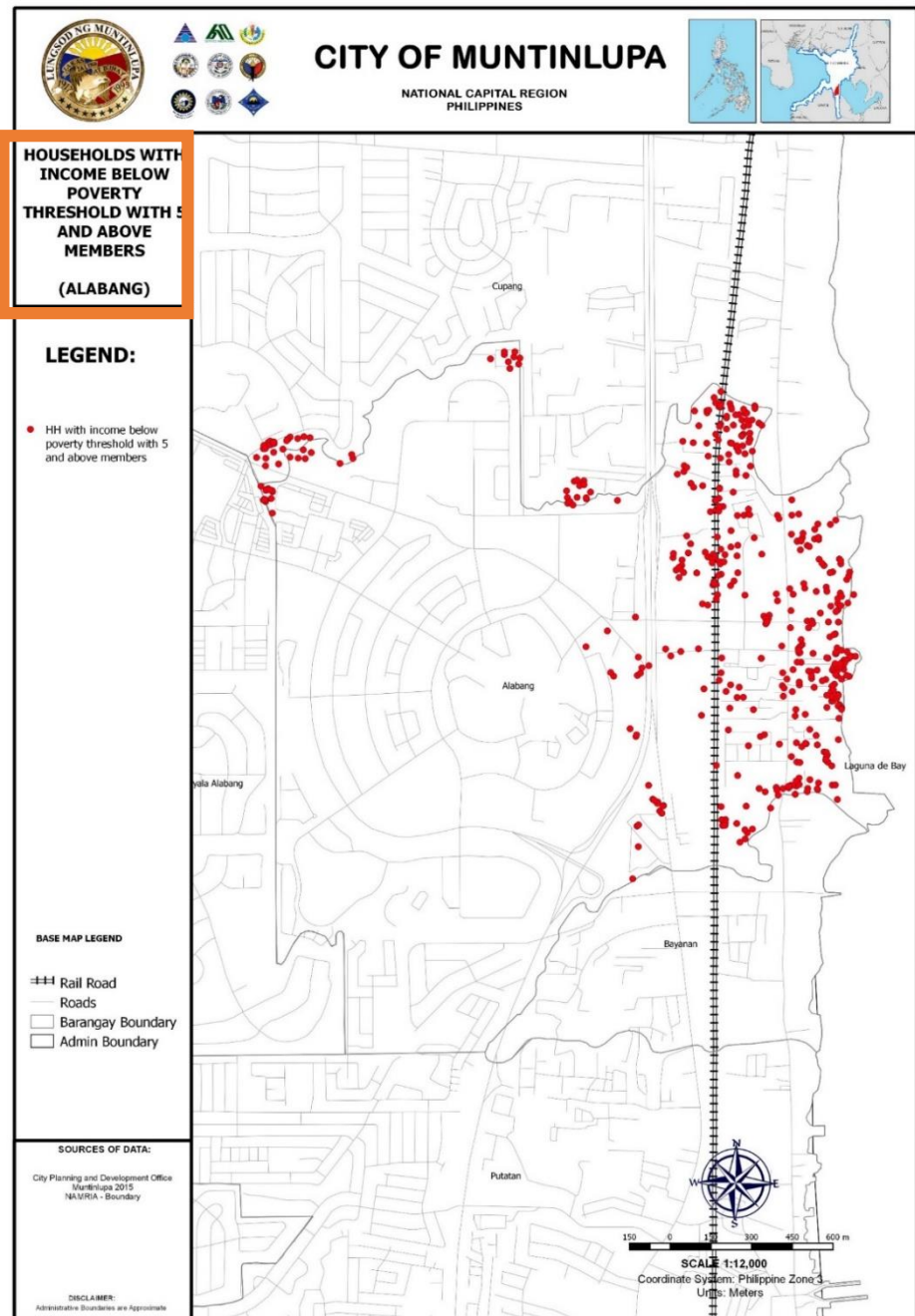
BASIC EDUCATION							
children 6-11 years old not attending elementary	272	9.4	301	173	128	7.5	
children 6-12 years old not attending elementary	530	17	572	304	268	12.5	
children 12-15 years old not attending high school	590	31.8	662	378	284	29	
children 13-16 years old not attending high school	633	33.9	701	376	325	30.3	
children 6-15 years old not attending school	281	7.4	330	198	132	5.2	
children 6-16 years old not attending school	401	10	475	279	196	6.9	8

households with income below poverty threshold (with 5 members and above with blank/0 income filtered)	486	4.84					
households with income below food threshold (with 5 members and above with blank/0 income filtered)	201	2.00					
households who experienced food shortage (with blank/0 income filtered)	8	0.08					
Unemployed members of the labor force	1082	11.7	1229	706	523	9.2	8.1

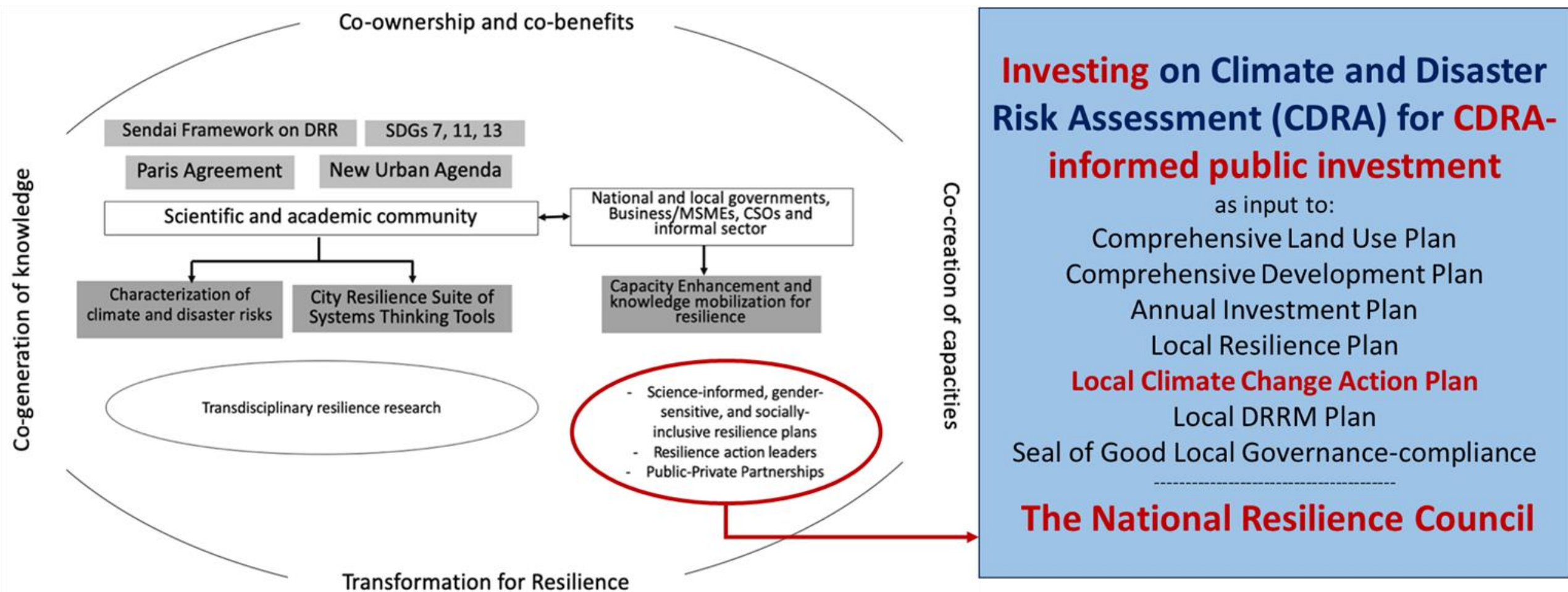
PEACE AND ORDER							
Victims of crime	90	0.9	102	45	57	0.3	0.3

Source: CBMS Census 2000 - 2017							
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Indicator	Households	
	Magnitude	Proportion
INCOME AND LIVELIHOOD		
households with income below poverty threshold (with 5 members and above with blank/0 income filtered)	486	4.84
households with income below food threshold (with 5 members and above with blank/0 income filtered)	201	2.00
households who experienced food shortage (with blank/0 income filtered)	8	0.08
Unemployed members of the labor force	1082	11.7



GOAL/ PRACTICE: Integrated Climate and Disaster Risk Assessment: Bases for Planning and Action Towards a Resilient Local Governance and Development → **Integrative, Convergent Pathways to Resilience**

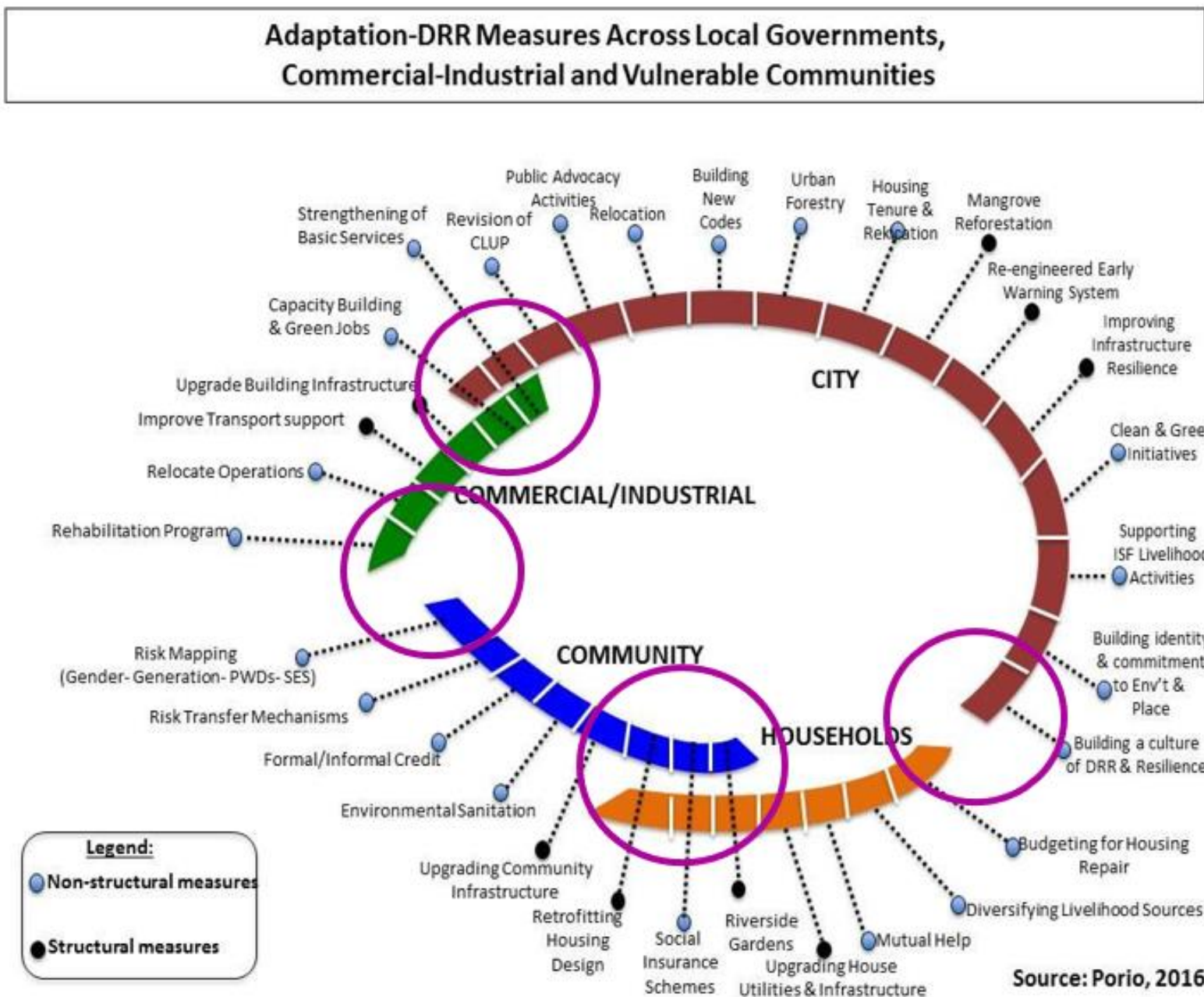


Integrated Multi-scalar approaches to Risk Governance:

There is a need to establish coherence in the introduction of structural and non-structural measures of adaptation within and between sectors, across time and space (Porio, 2011)

Resilience frameworks need to be designed to address dynamic interactions between sectors and scales, and along different decision-making levels (Porio, 2014)

Gender, generation, and social geographies need to be contextualized to reflect conditions in formal and informal sectors. (Porio, 2016, 2022)



Synthesis, Concluding Comments and Recommendation

- Vertical, horizontal/intersectional analysis: multi-layered phenomena of CIDs, environmental degradation, and well-being
- Social-pol-economic and spatial disaggregation of informality, vulnerability, inequality and well-being measures
- Linking science-based indicators/analysis towards bridging science-policy-practice nexus
- Promoting intersectionality & transdisciplinarity → scientific analysis to policy and implementation & action

Synthesis, Conclusion and Recommendations:

Towards an Inclusive, Resilient and Sustainable Future

As social scientists, data scientists and well-being specialists:

1. Address the complex interactions between human society and the natural environment, **especially CIDs, that heighten our intertwined fates of the Global North and South**;
2. Promote **inter-/transdisciplinary collaborative endeavors** → different physical & social scientists to analyze the social, economic, and political drivers of environmental degradation and climate impact drivers CIDs;
3. Examine the **dynamic and complex relationship between poverty, vulnerability, inequality and pathways for ecosystems/planetary health and well-being of our people**;
4. Produce actionable science and analytical frameworks **for solutions-driven pathways for social-ecological resilience that promotes transformative climate adaptation and justice**.
5. ***Strengthen the data ecosystem*** informing the interactions of climate, economy and society, informing better our multi-disciplinary and intersectional analysis of the climate impact drivers on various societal groups, especially those highly exposed and vulnerable communities (i.e., children, women, elderly, LBQTI by ethnicity, class, gender

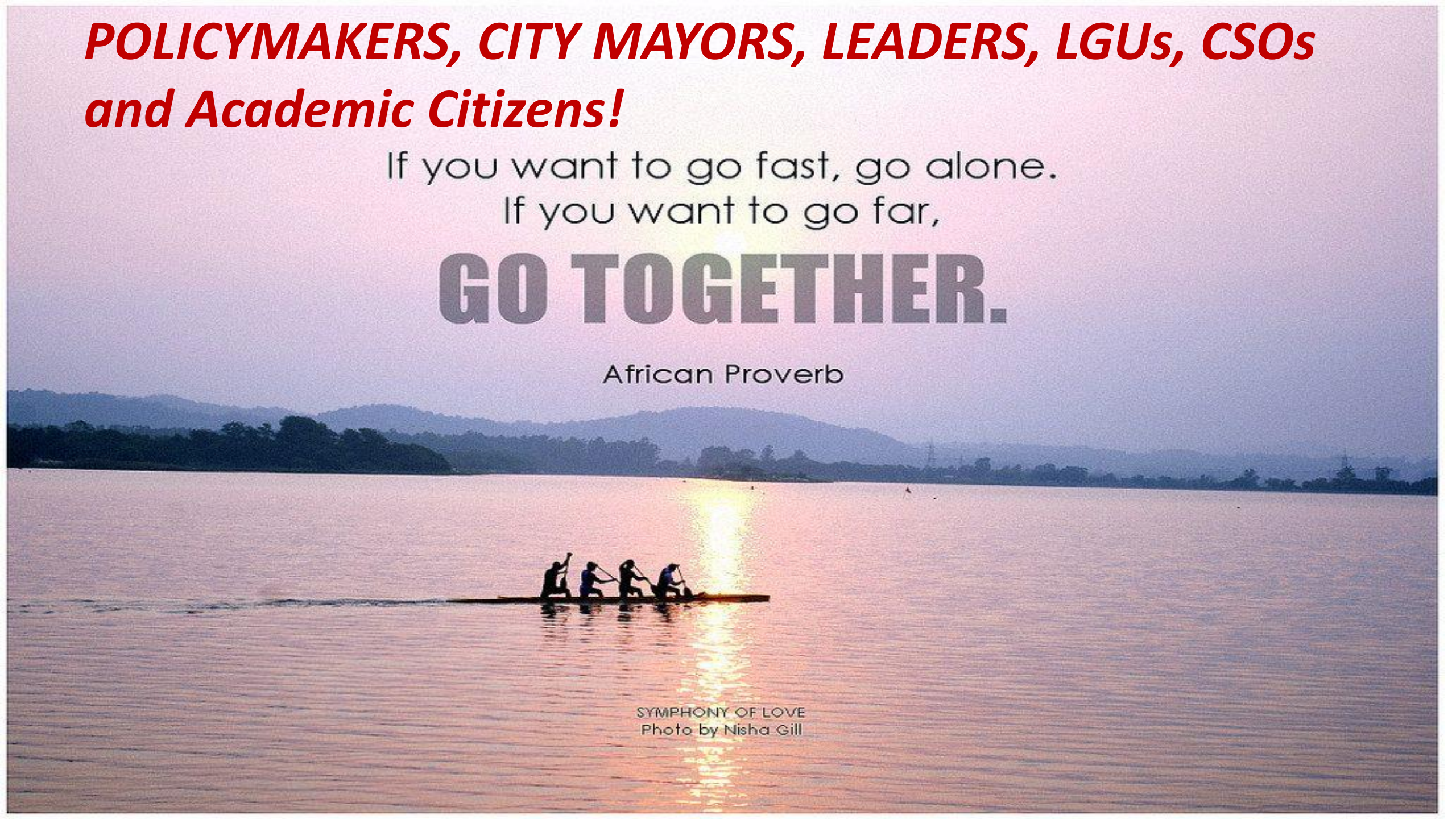
POLICYMAKERS, CITY MAYORS, LEADERS, LGUs, CSOs and Academic Citizens!

If you want to go fast, go alone.
If you want to go far,

GO TOGETHER.

African Proverb

SYMPHONY OF LOVE
Photo by Nisha Gill



Visit us: www.observatory.ph; resiliencetoolkit.ph; www.coastalcitiesatriskph.com;
[Facebook.com/CCARinthe](https://Facebook.com/CCARinthePhilippines) Philippines; ccarph@ateneo.edu



A transdisciplinary action research project of:

**ATENEO DE MANILA
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MANILA OBSERVATORY

**NATIONAL RESILIENCE
COUNCIL**

**INTERNATIONAL
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Researchers and Scientists from Coastal Cities at Risk in the Philippines (CCARPH) after the November 21, 2019 Multistakeholder Conference entitled "Bringing Science-Policy-Practice Nexus Through Transdisciplinary Research and Climate Action" held at The Loft, Ateneo de Manila University. | © CCARPH



ATENEO



Canada



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Social Vulnerability



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Technologies



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Geo Spatial/ Visualizing Risks



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Systems Dynamics/ Systems Thinking



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Project Management

Work Theme III



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Muntinlupa Case Study



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Naga Case Study



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Valenzuela Case Study



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Computable General Equilibrium



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