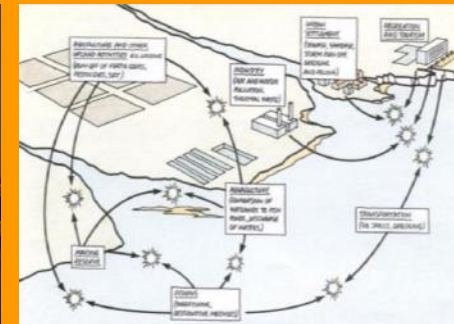




# MBSDMP – Background and Overview



## Manila Bay Sustainable Development Master Plan (MBSDMP)



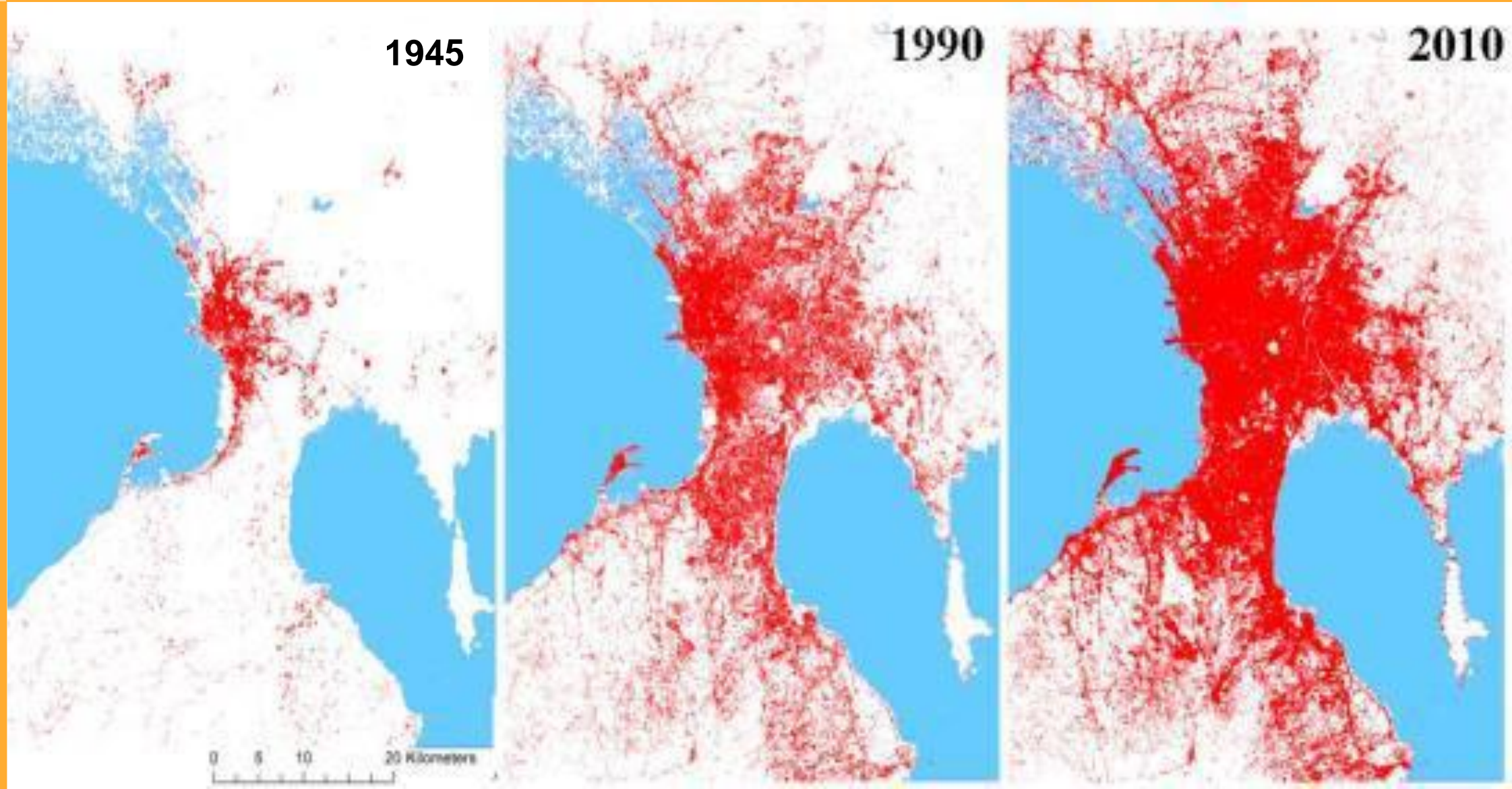
November 21 2018, LCP Board Meeting Cebu

and  
Joint Venture of:





# Manila is changing...

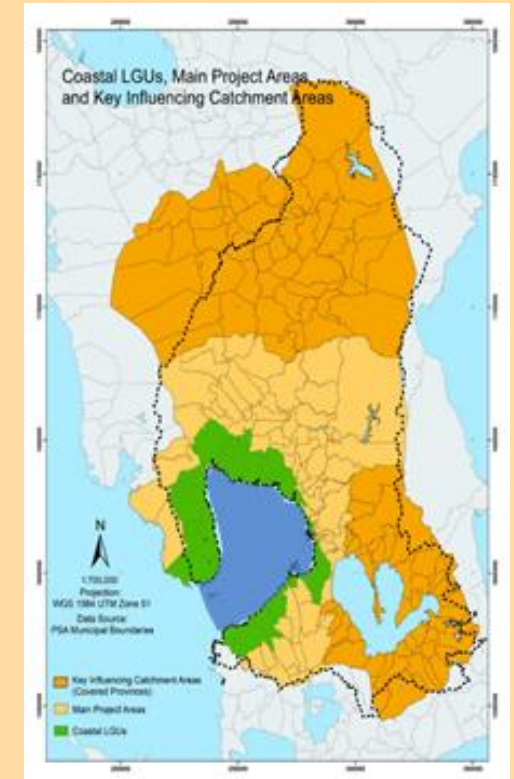




# Master Planning Framework

The MBSDMP approach aims to make use of solicited private sector investments to achieve strategic management and development goals for:

- **inclusive growth,**
- **ecosystem protection,**
- **climate change adaptation**
- **disaster risk reduction,**
- **water quality improvement and**
- **upgrading informal settlements.**





International



# Deltares

Enabling Delta Life



REPUBLIC OF THE PHILIPPINES

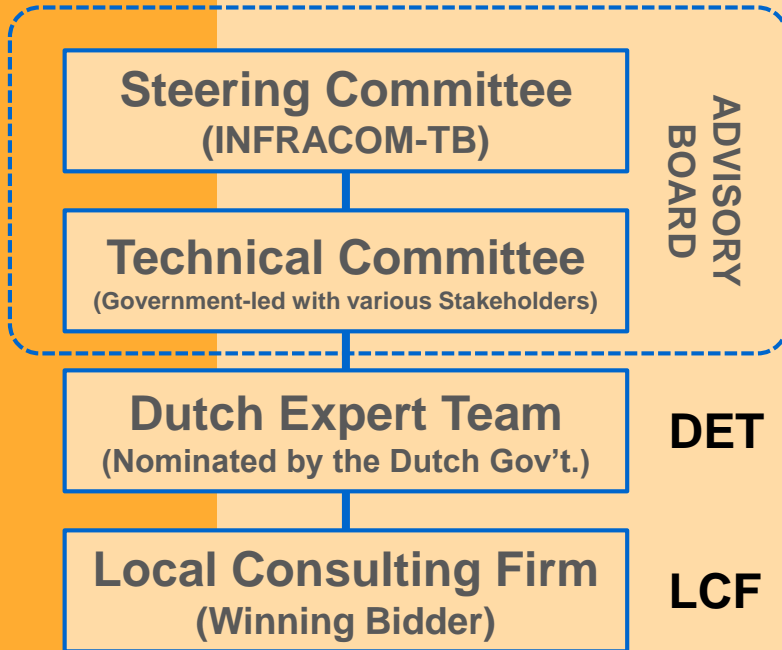
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

Search ...

## SPEECH OF SECRETARY PERNIA DURING THE MOU SIGNING BETWEEN THE PHILIPPINES AND THE KINGDOM OF NETHERLANDS ON MANILA BAY DEVELOPMENT



# Project Management Structure



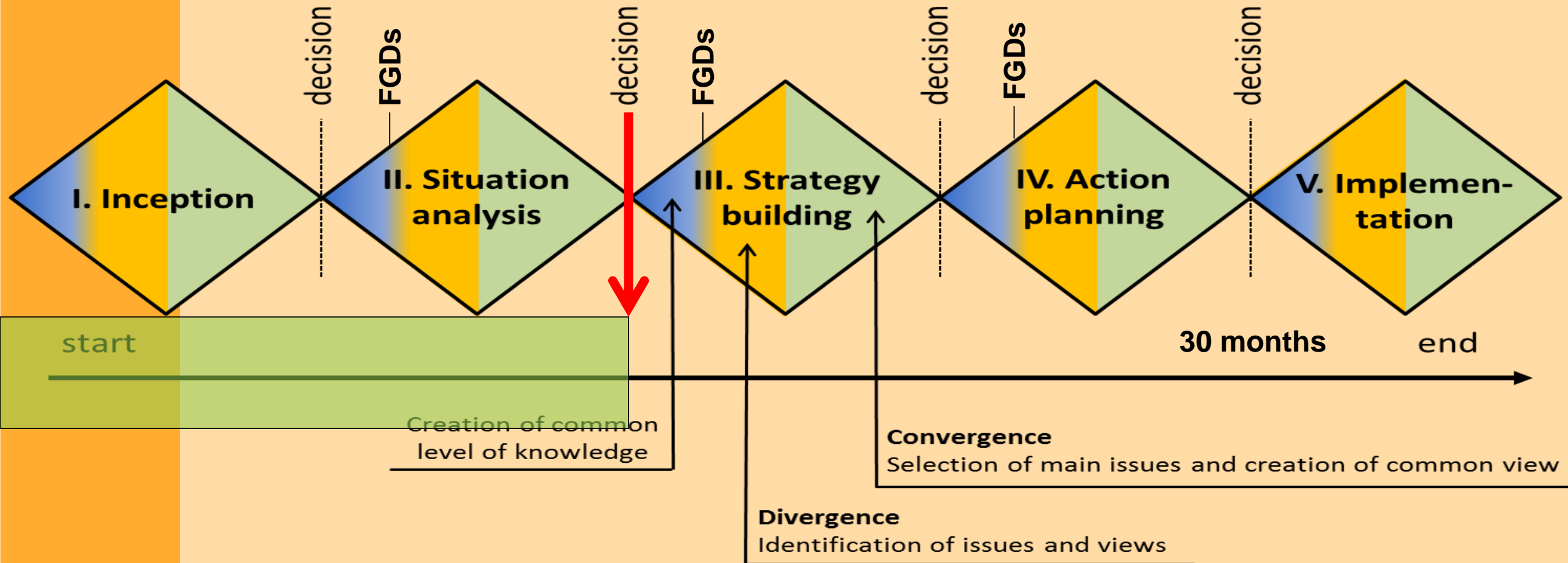
Project Management Structure for the Formulation of the MBSDMP

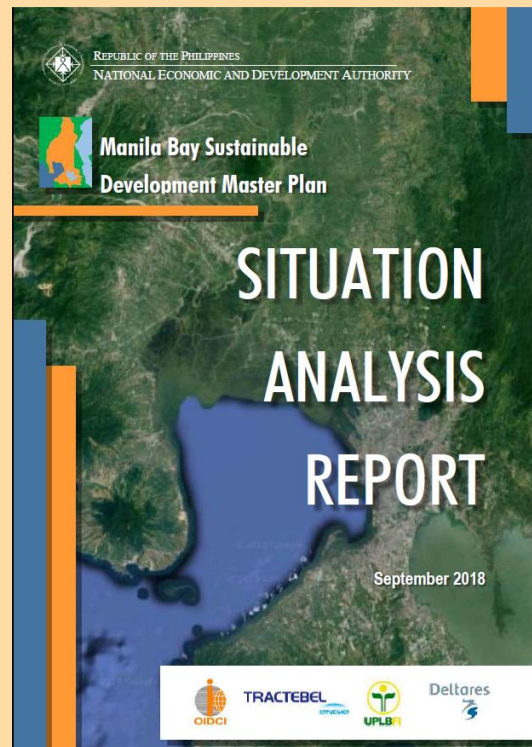
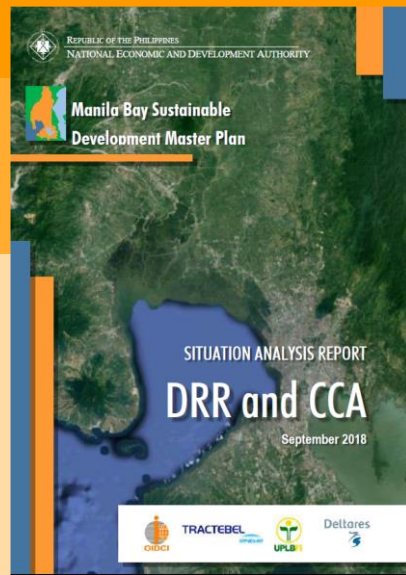
- **Client: NEDA** National Economic and Development Agency
- **Advisory Board** will review the outputs of the DET and the LCF.
- The **Steering Committee**, comprised of the members of the NEDA Board Committee on Infrastructure – Technical Board (INFRACOM-TB) and supported by the INFRACOM Secretariat, shall provide guidance to the DET and the LCF as necessary
- **Technical Committee** is composed of various stakeholders (including representatives from NGAs such as the mandamus agencies; LGUs; representatives from the affected Bay areas as well as representatives from the Dutch Government) - tasked to review activities for the undertaking and endorse as needed, inputs from the DET and/or LCF to the Steering Committee for approval.
- The members are (high-level) representatives (champions) of their organizations and should also actively coordinate together to include and align their sectoral plans with MBSDMP.



# Philippine IWRM planning guidelines

## Participatory and informed planning and decision making process







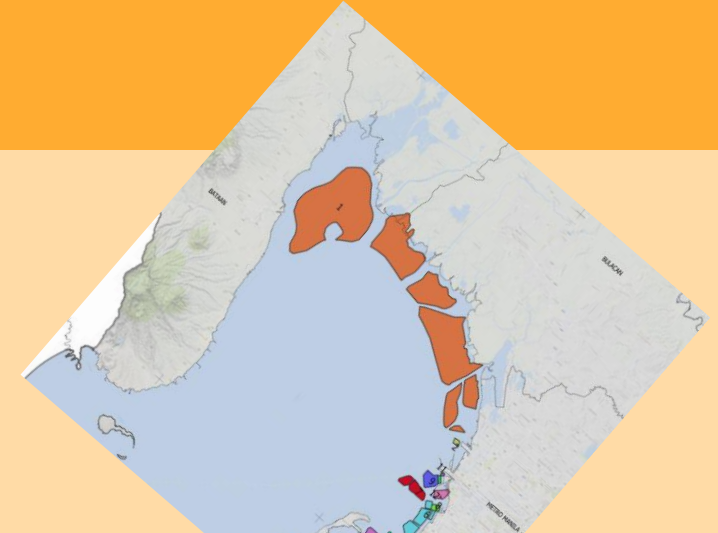
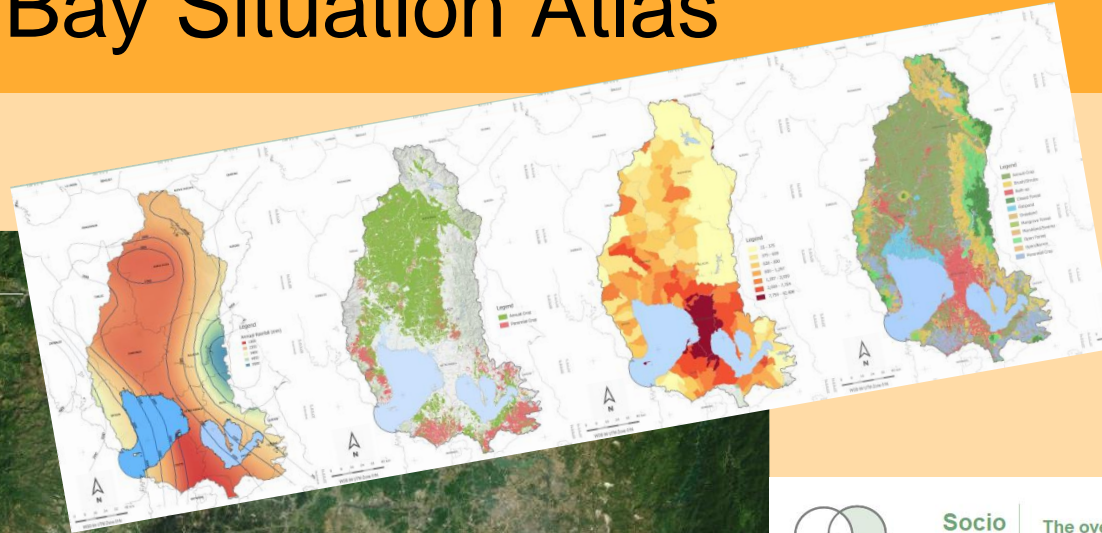
# Manila Bay Situation Atlas

REPUBLIC OF THE PHILIPPINES  
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY

**Manila Bay Sustainable Development Master Plan**

**MANILA BAY AREA SITUATION ATLAS**

September 2018



## Socio Economic Systems

- Population and Demography
- Settlements
- Waste
- Economics
- Livelihood and Income
- Social Services
- Culture and Historical

The overall distribution pattern of settlements in the Manila Bay Area (MBA) may be observed through information on the number and location of occupied housing units provided in the census reports of the PSA.

Across administrative regions, the number of occupied housing units in the NCR had been considerably more than those in Regions II and IV-A from 1990 to 2015. In 2015, occupied housing units in the NCR accounted for about 39% of the total in the MBA. It is notable that the NCR's proportionate share of occupied housing units in the Manila Bay Area had been reduced from more than 48% in 1990. This implies a dispersal of growth to Regions III and IV-A contributing to the NCR's urban sprawl.

The number of occupied housing units in the Manila Bay Area had been increasing at a rate of about 3.8% per annum from 1990 to 2015. Region IV-A had the fastest growth rate at about 6.1% while that of Region III was estimated at 3.3%. These two regions grew faster than NCR's 2.0% in the same period which accounted for the reduced share of the latter in terms of total occupied housing units in the Manila Bay Area.

## Settlement

### Occupied Housing Units

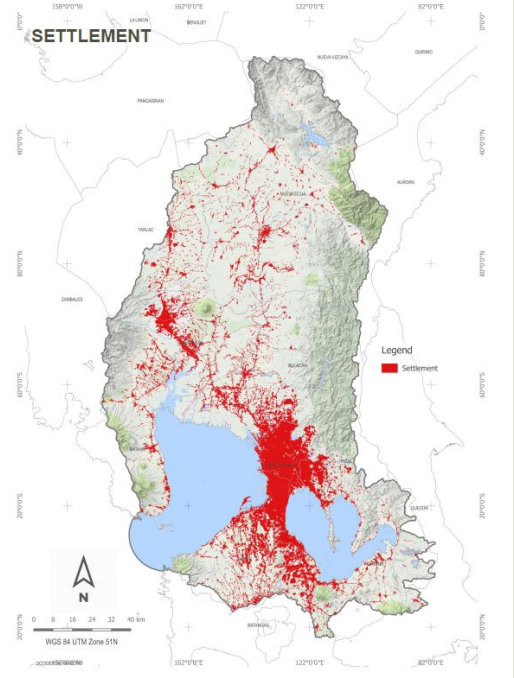
The distribution of the total number of housing units illustrates centrally towards NCR and where Quezon City, City of Manila, and Caloocan City had the most numbers. Outside of NCR, the cities with greater numbers of occupied housing units include Antipolo in Rizal, and Dasmarinas and Bacoor in Cavite.

The predominant type of housing in the MBA is the single house type. Even within NCR, such type accounted for 57% of total occupied housing units in Caloocan City and 52% in Quezon City. Proportions are far greater in areas outside of NCR which can reach to as high as 95% in Capas, Tarlac and in Ombia, Nueva Ecija. It may be observed that the single type is the preferred housing of choice which contributes to the expansive growth of settlements across the MBA.

### Informal Settler Families

The number of Informal Settler Families (ISFs) in the NCR in 2014 was reported to be more than 580,000 accounting for about 33% of the total in the country. In Regions IV-A and III, these were estimated to be more than 140,000 and 82,000 respectively. On a country-wide basis which could be said as representative of the situation in these three regions in the MBA, 51% were reported to be living in danger areas, 25% in privately-owned lands, and 18% in government-owned lands.

As of the 2<sup>nd</sup> quarter of 2018, the DILG reported that there were nearly 250,000 ISFs living in danger areas in cities and





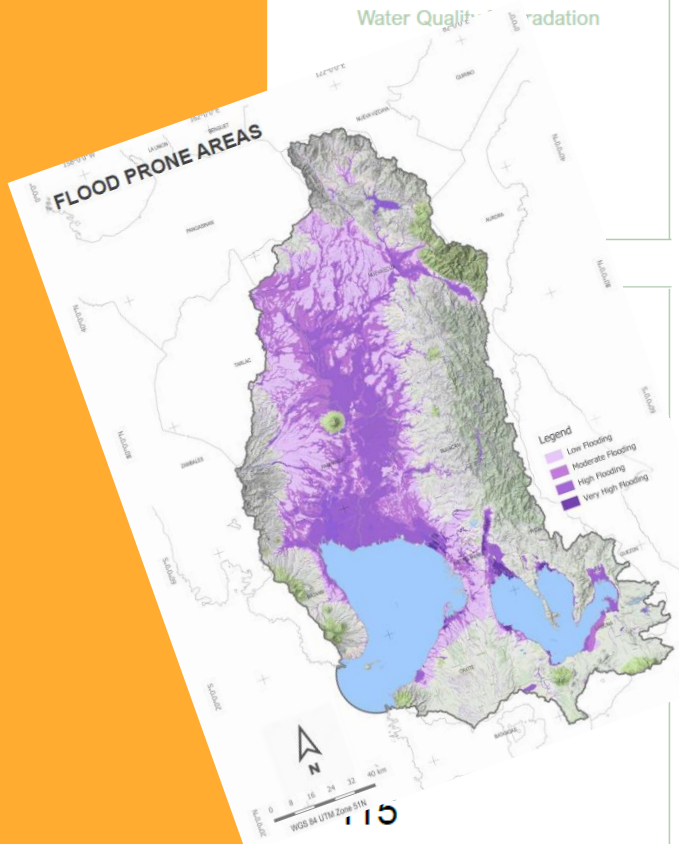


# Manila Bay Situation Analysis

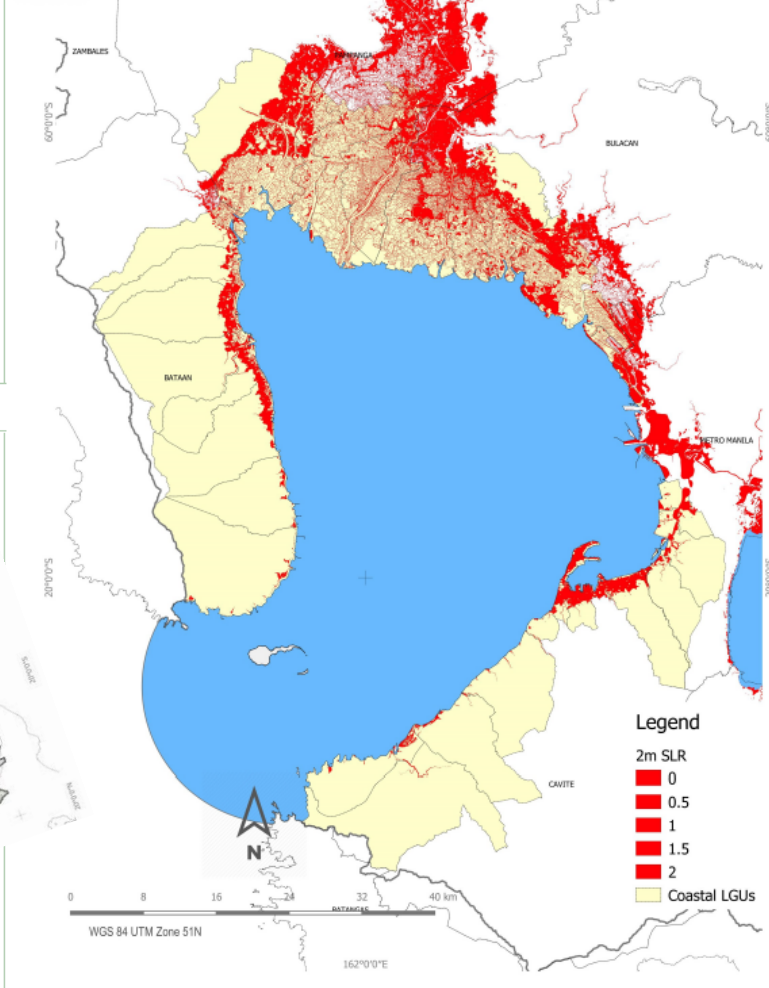


# Manila Bay Area – a vulnerable place

## State Of Manila Bay



## BUILT-UP AREAS VULNERABLE TO 2-M SEA LEVEL RISE



## Saltwater Intrusion

Saltwater intrusion in Manila Bay is caused mainly by groundwater withdrawal. Saline water has moved considerably inland especially along the coasts of Cavite, Metro Manila, Bulacan and Pampanga as shown in the Saltwater Intrusion Map and is associated with the proliferation of wells that are used to extract groundwater for irrigation purposes. In the future saltwater intrusion is likely to move further inland if current rate of groundwater withdrawal continues and if sea level rise increases due to projected warming of temperature.

## Earthquake

The Manila Bay Area like most other regions in the country is exposed to earthquakes that cause ground shaking, tsunami, and liquefaction damages to residential and business structures, roads and other infrastructures, and cause injuries and fatalities among the vulnerable people. Earthquake modeling for Metro Manila projects substantial risks to the region particularly from the Marikina Valley Fault System and the West Valley Fault. Modeled earthquake scenario with a Magnitude 7.2 intensity event is projected to result to over 37,000 fatalities, and 605,000 injuries with total cost of damages of up to 2.5 trillion pesos (Bautista et al., Undated) and a Magnitude 6.5 event.

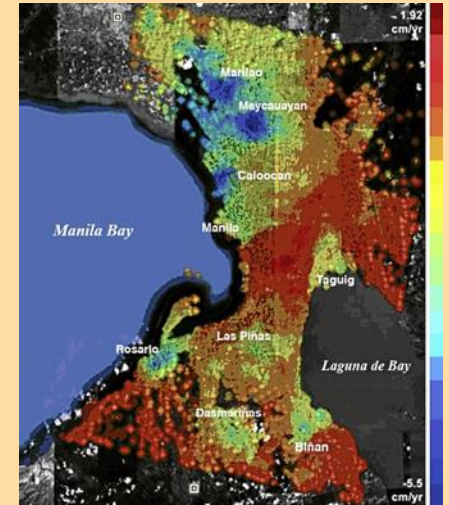
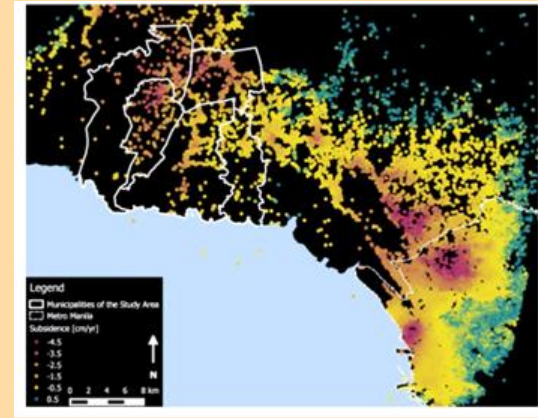
## Tsunami

Based on historical records earthquake induced-tsunami is likely to happen in Manila Bay. In 1828 and 1863 2-m high tsunamis hit the western coastline of the country including Metro Manila. Coastal LGUs of Cavite, Metro Manila, Bulacan and Pampanga is likely to be affected by tsunamis as shown in the Built-up Areas Vulnerable to Tsunami Map. Hardest hit LGUs likely include Novelata and Kawit in Cavite; Las Pinas, Malabon and Navotas in Metro Manila; Obando, Bulacan, Malolos, Hagonoy, and Paombong in Bulacan; and portion of Masantol Pampanga.

## Ground Shaking

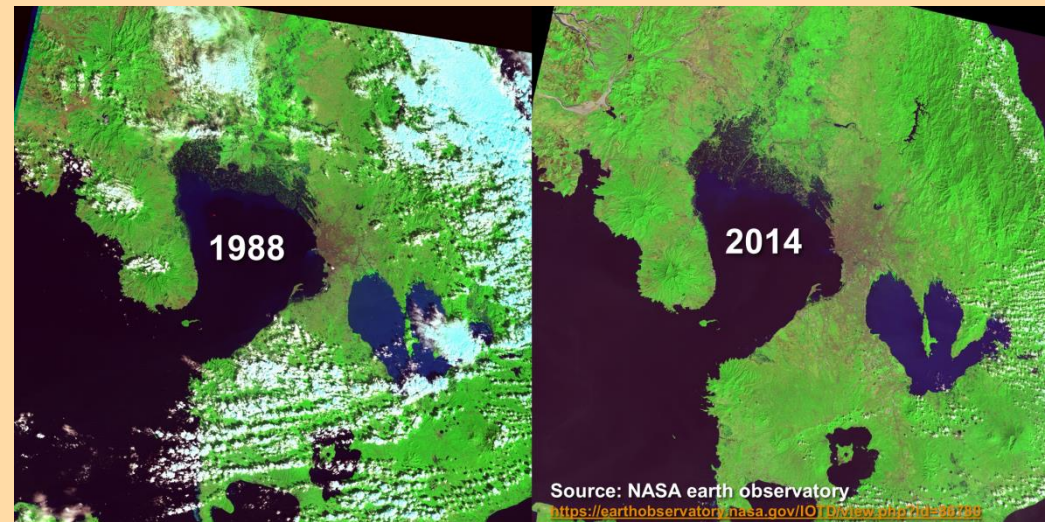
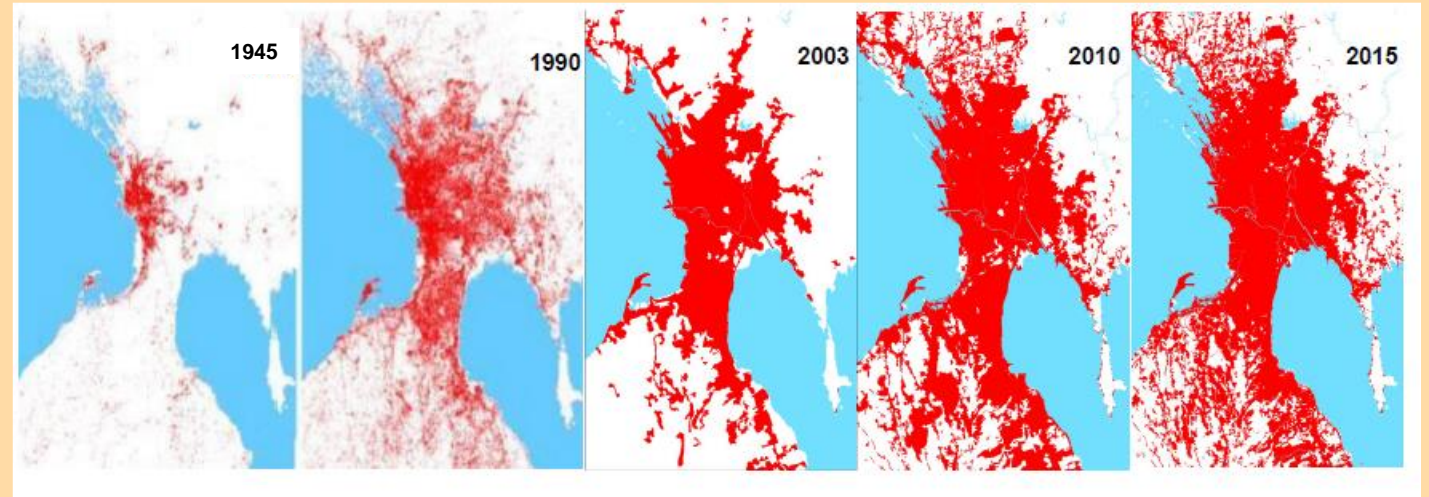
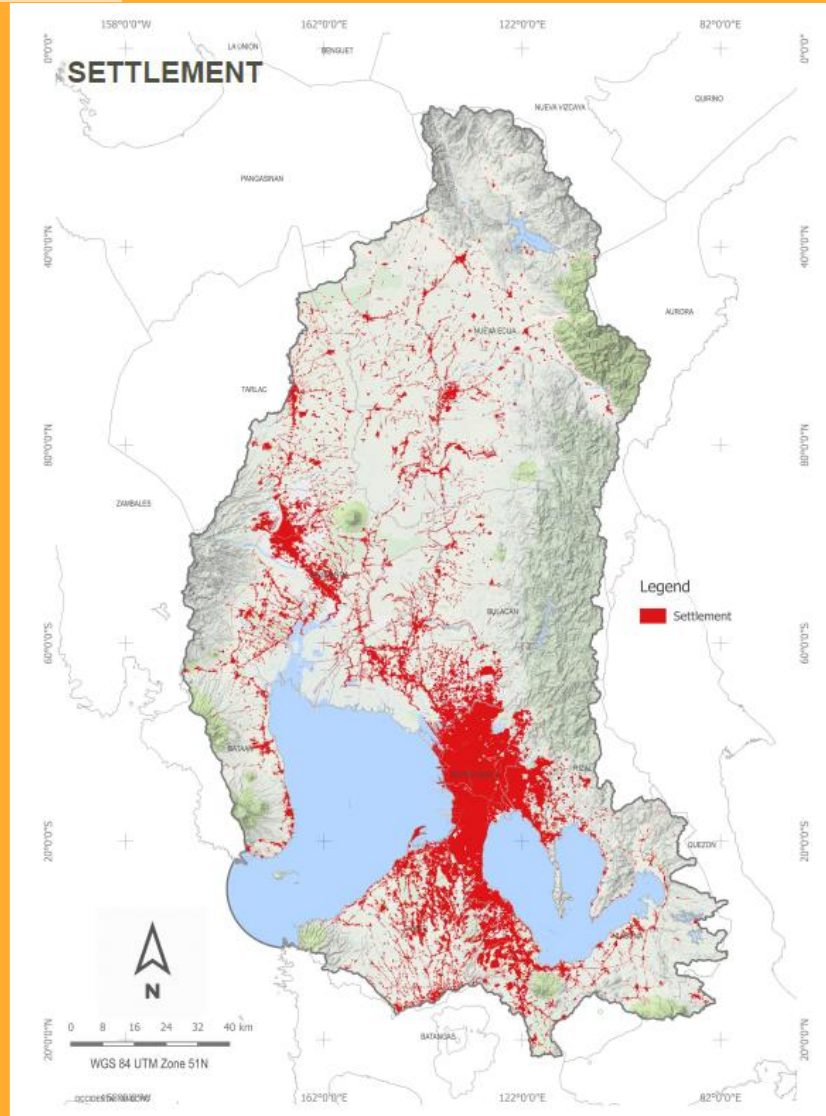
Coastal towns and cities in Metro Manila, Bulacan and Cavite along with inland LGUs in Rizal and Bulacan are most exposed to Magnitude 6.5 and 7.2 earthquake generated along the West Valley Fault. As shown in Map 8, the number of life threatening injuries is projected to be low along the coastal areas of Manila Bay compared to the higher projections in LGUs within the northeastern region of the MBA.

## sinking



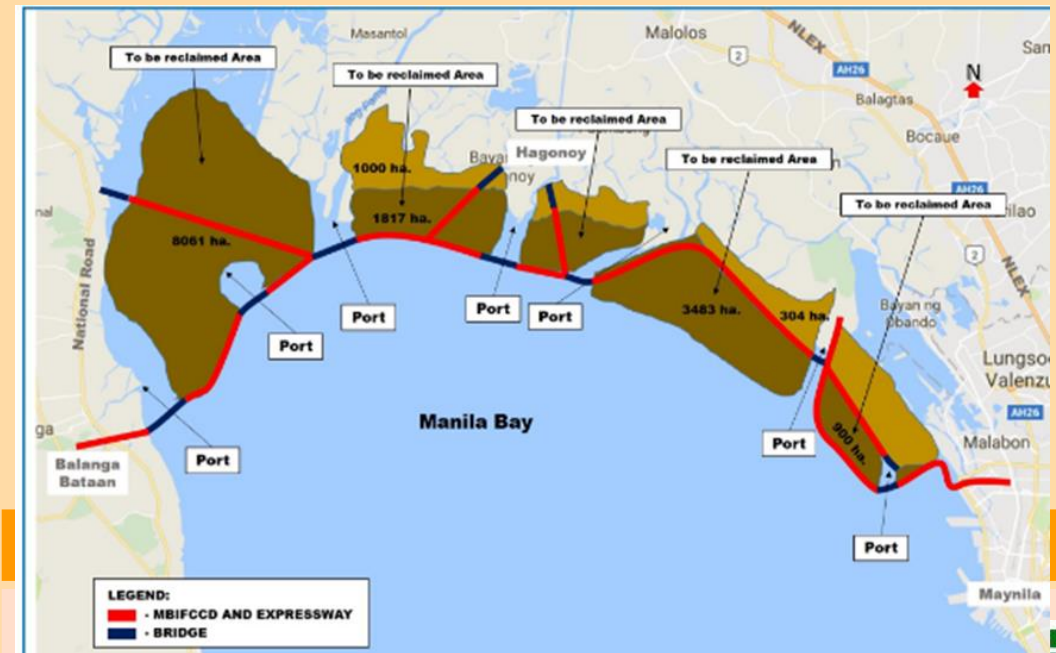


# Activities and people everywhere...and changing...



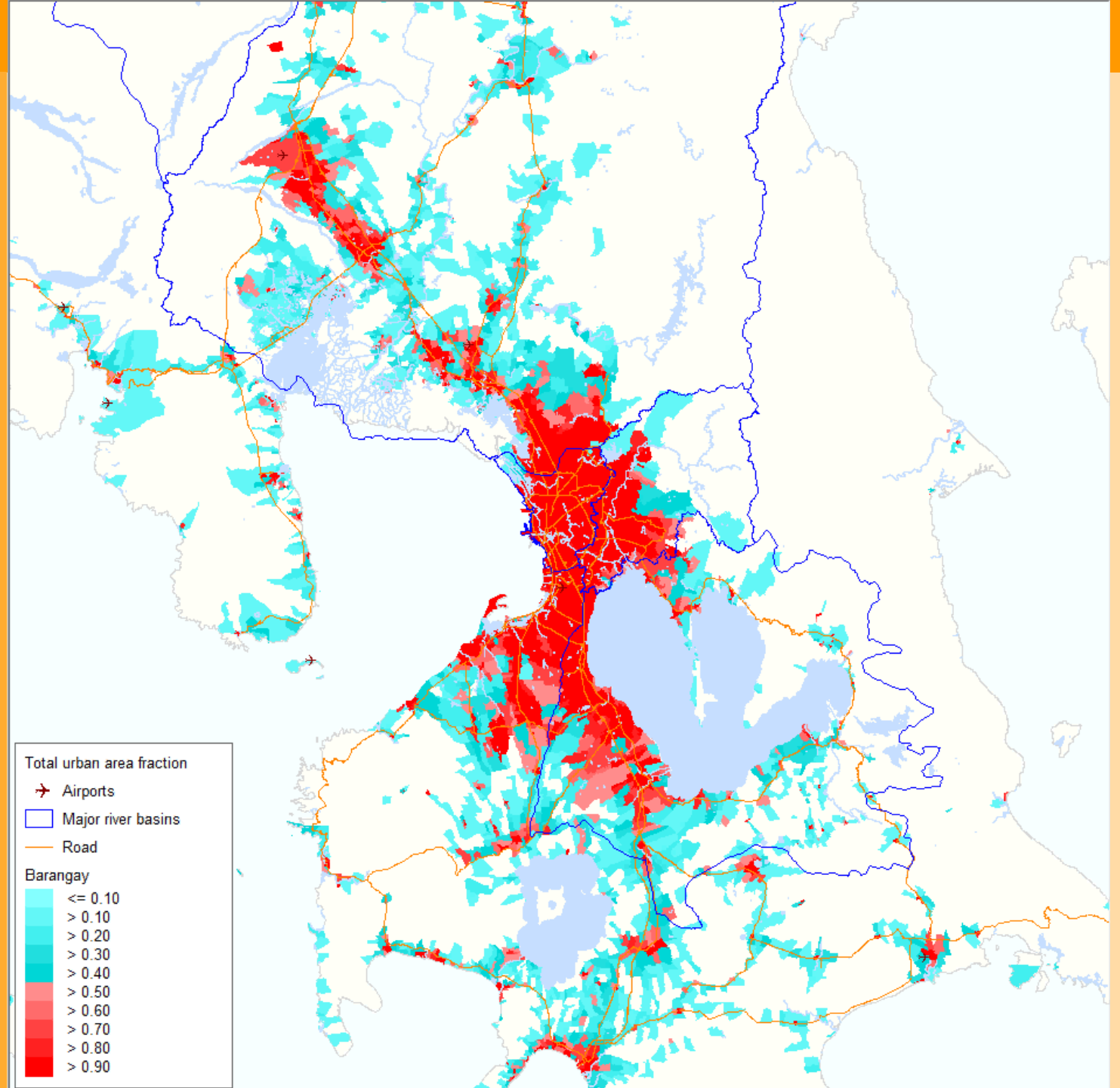


# Huge stakeholder interest





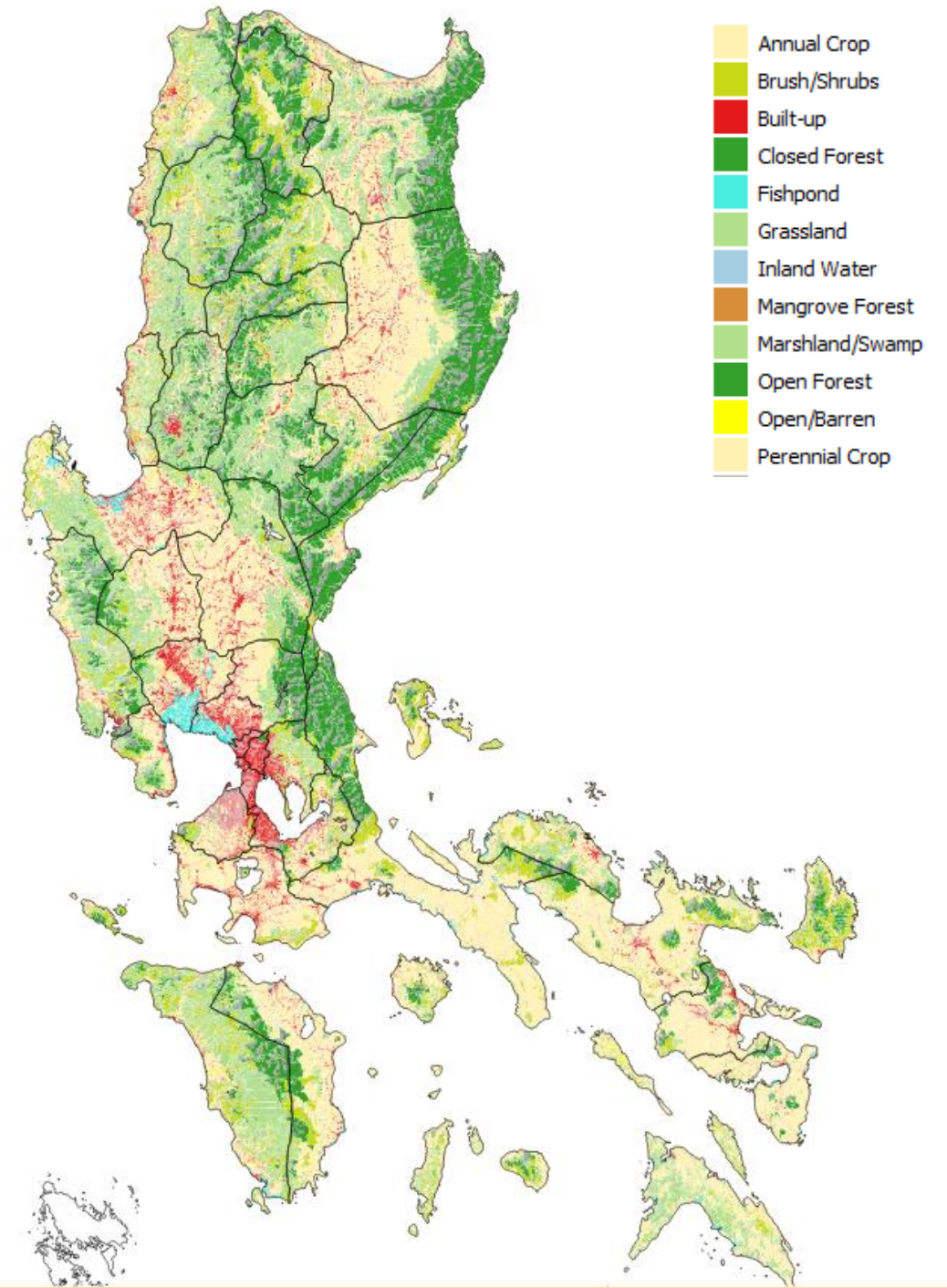
The urban area  
will double  
in 30 years  
2015 - 2045





# 2015-2045 MB catchment Doubling of the urban area

- Top Priority
  - Manage the New Cities
  - Strict building codes
    - Solid waste, sewer, piped water
  - Avoid doubling the problem
- Fix the “current problems”
  - Solid waste
  - Waste water
  - Scale-up the management
  - Municipality associations

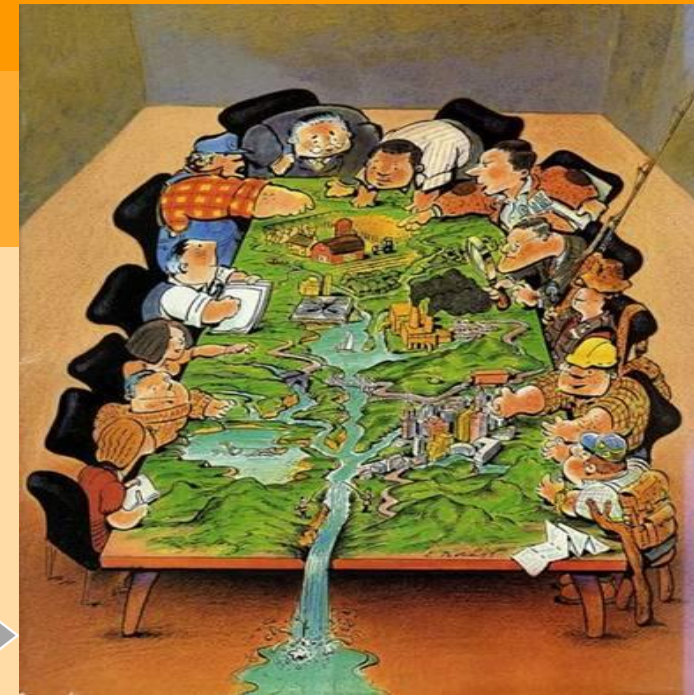
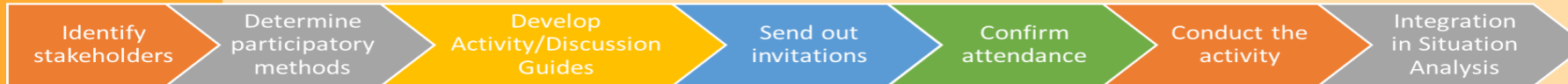




# Stakeholder engagement

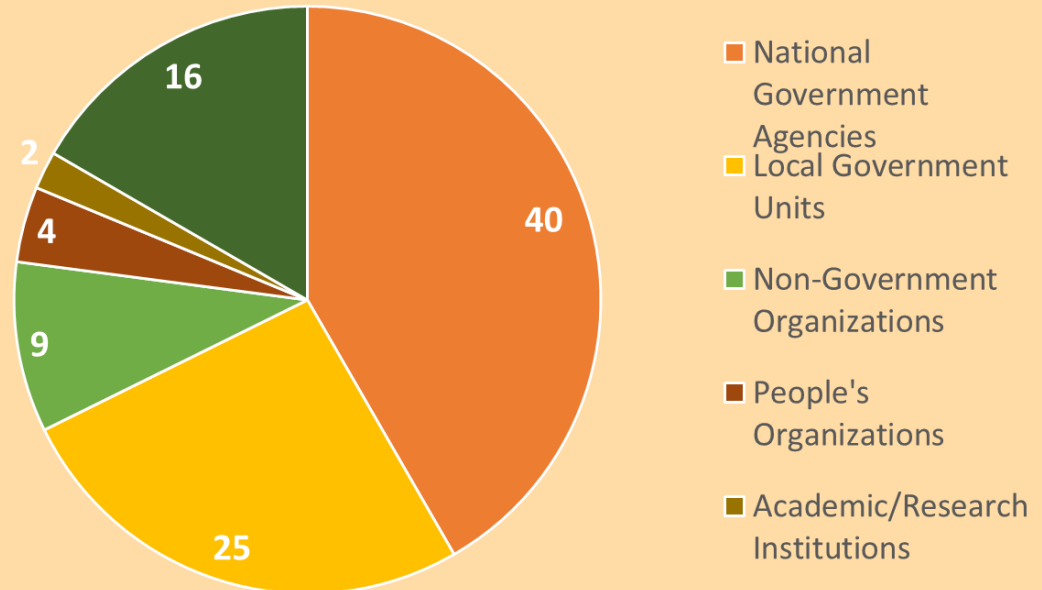
- Involve and empower
- Create ownership
- Achieve sustainability

a basis for  
the Master plan  
and SEA



## Number of Stakeholders engaged by category:

- National Government Agencies: **40**
- Local Government Units: **25**
- Non-Government Organizations: **9**
- People's Organizations: **4**
- Academic/Research Institutions: **2**
- Private Sector: **16**





# League of Cities / VNG: expected results

- Local governments are recognized as key players. LCP important player.
- Inter-municipal cooperation is effective for voicing interests and/or the execution of projects aimed at the construction of infrastructure and actions aimed at preserving the natural conditions of Manila Bay
- Vertical cooperation required between municipalities, cities, provinces, regions and national government
- **NEDA consultation sessions (next February 2019)**
  - LCP/VNG Preparation sessions: coming January 2019





# Thank you for your attention

