PEMSEA Programs and Initiatives for Addressing Marine Pollution

Presented by

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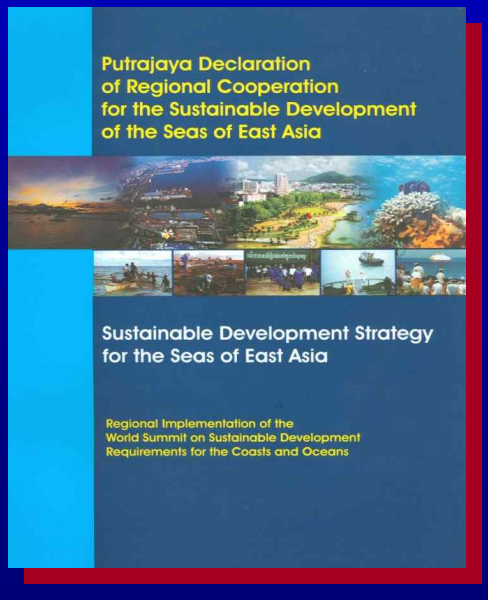
EAS Partnership Council

Sustainable Development Strategy for the Seas of East Asia

Addresses sectoral and cross-sectoral issues through 6 major strategies and 227 action programs

Land-based Pollution

Sea-based Pollution



A collaborative platform for implementing existing commitments, including:

- WSSD Declaration and Plan of Implementation
- UN Millennium Development Goals
- Agenda 21
- Other Multi-lateral Environmental Agreements

PEMSEA's Approach:

- **Land-based**
  - **Integrated Coastal Management (ICM)**
- **Sea-based**
  - **Risk assessment and Risk Management**

Land-based Pollution

- **ICM Development and Implementation**
  - Xiamen (ICM Site)
  - Bali (ICM Site)
  - Danang (ICM Site)
- **Scaling up ICM to include watershed areas**
  - Xiamen (Jiulong River)
  - Manila Bay (Pasig River)
  - Bohai Sea (5 rivers)
  - Jakarta Bay

  (Ciliwung River)

Xiamen Experience

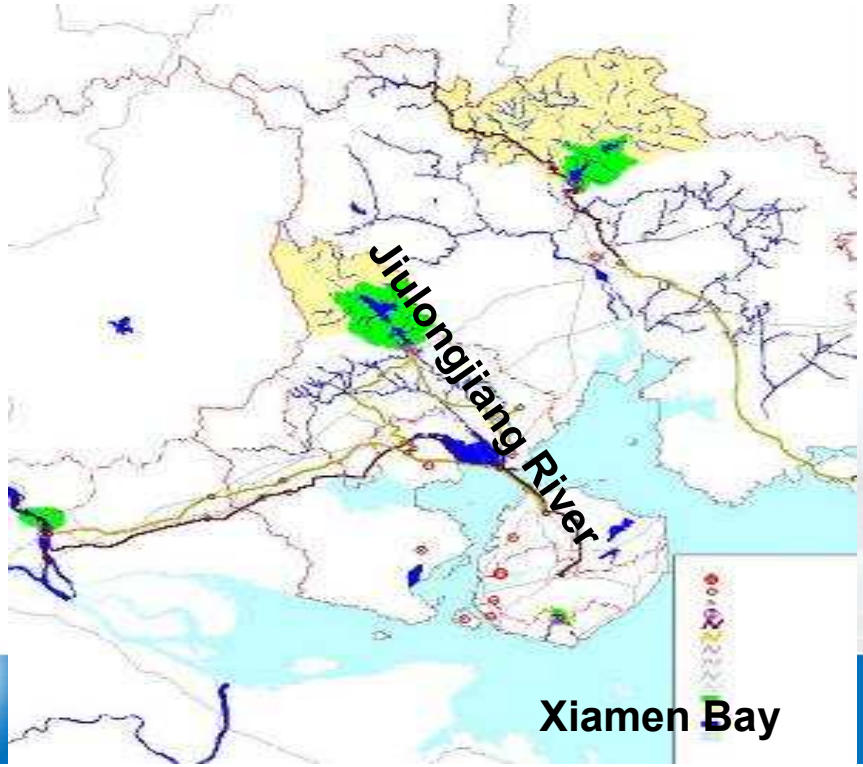
Xiamen ICM Cycle

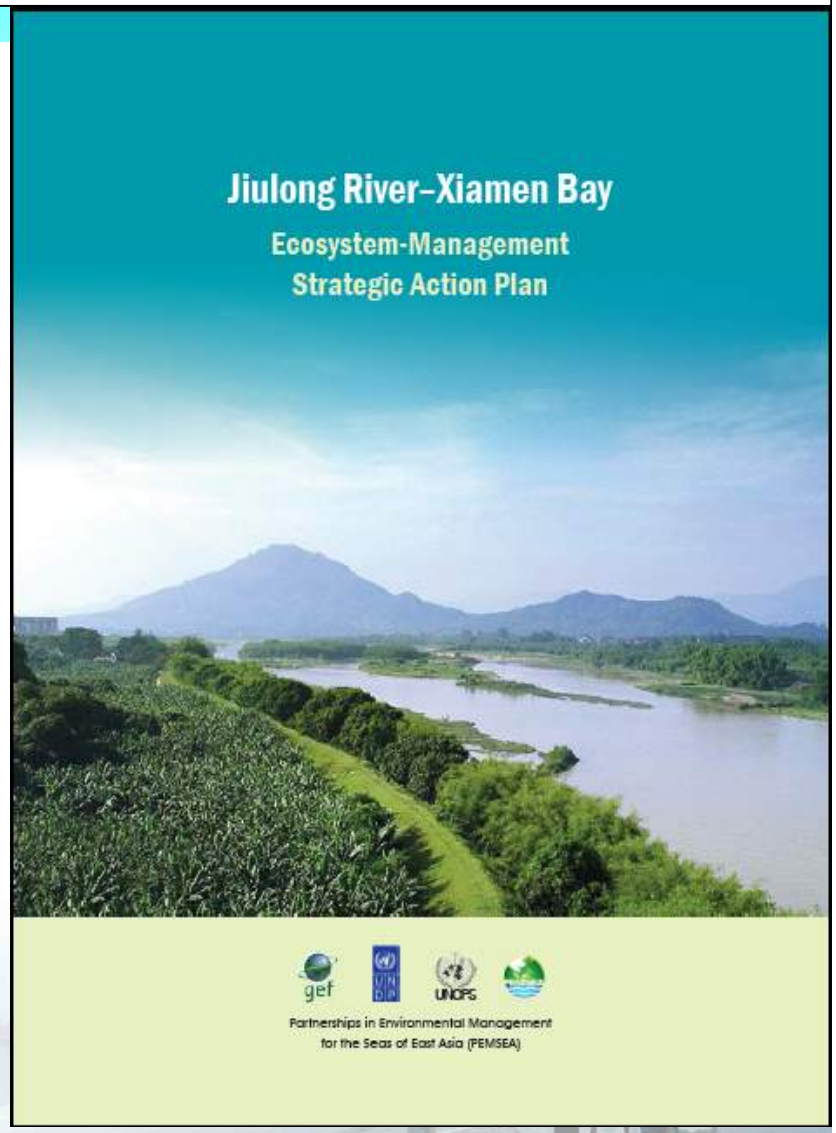
- *1st Cycle – 1994 to 1999*
- *2nd Cycle – 1999 to 2007*
- *3rd Cycle – 2008 to 2012*

Length of Coastline	234 km
Sea Area	390 km^2
Land Area	1,565 km^2
Population	1.74 million (2008)
GDP	**161 Billion RMB** (2008)
Value of Ocean Industry	**23.2 Billion RMB** (2006) (20% of GDP)
Biodiversity value	Chinese White Dolphin Mangroves Lancelet Egret Limulus (Horseshoe Crab)

Xiamen-Jiulong River

- ICM 1st cycle (1994-1999) – marine pollution management
- ICM 2nd cycle (2000-2007) – marine ecological rehabilitation
- ICM 3rd cycle (2008-2012) – ecosystem-based marine regional management (transboundary issues)

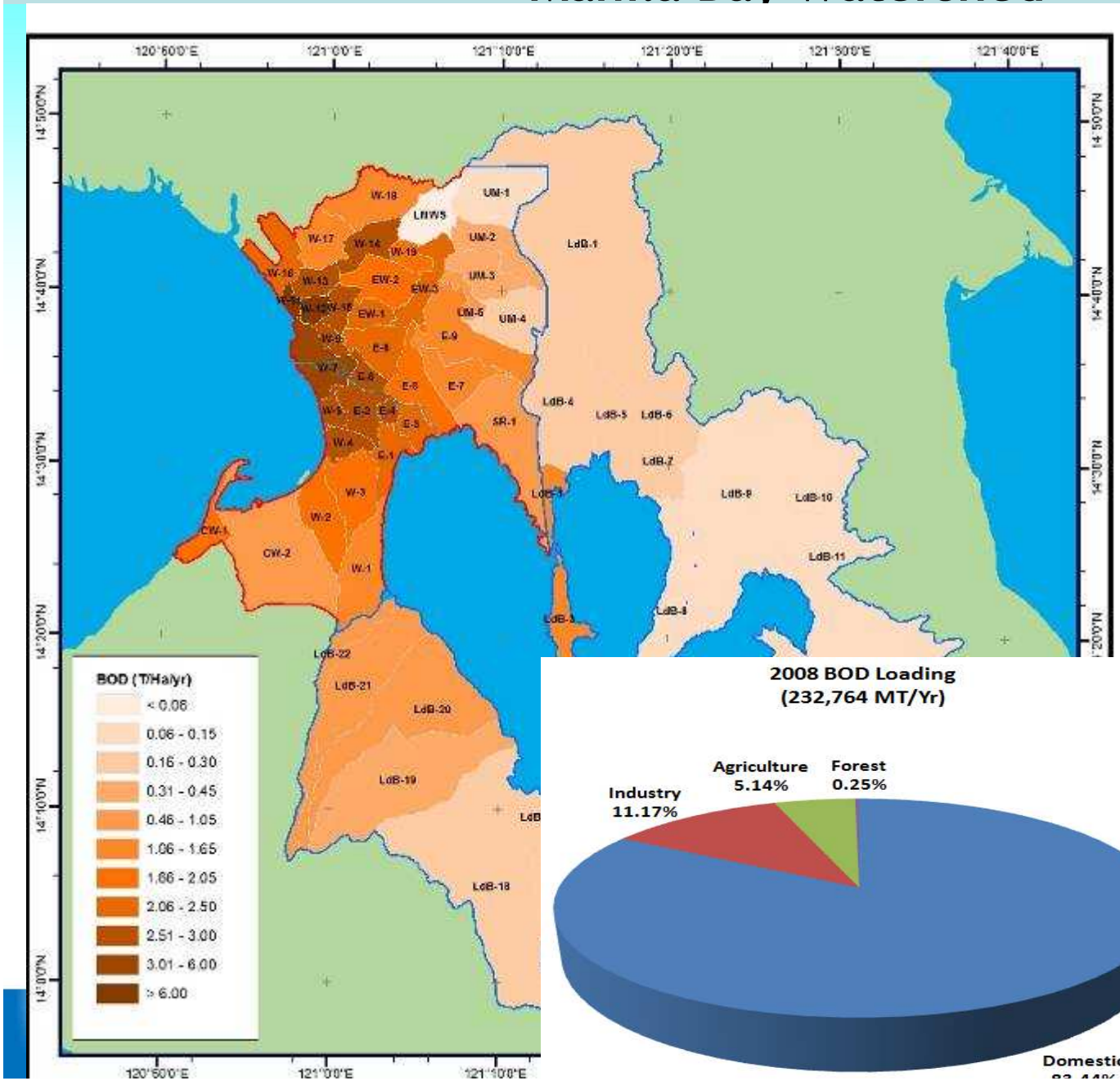




Implementation in Manila Bay

- **Steps Taken:**
  - Determine total pollution loads (TPL)to Laguna Lake-Pasig River-Manila Bay watershed area from major points (domestic, industrial, commercial) and non-point (agriculture, aquaculture, urban run off) sources
- **Next Steps:**
  - Allocation of allowable pollutant discharge loadings to the contributing rivers, lake and bay from major point and non-point discharge categories as appropriate.
  - Development of Pollution Reduction Strategies and Nutrient Management Plan
  - Development of Financing and Investment Plan

Initial results of the TPL model for the Laguna Lake-Pasig River-Manila Bay Watershed



Coverage:

- 58 sub-basins

Parameters:

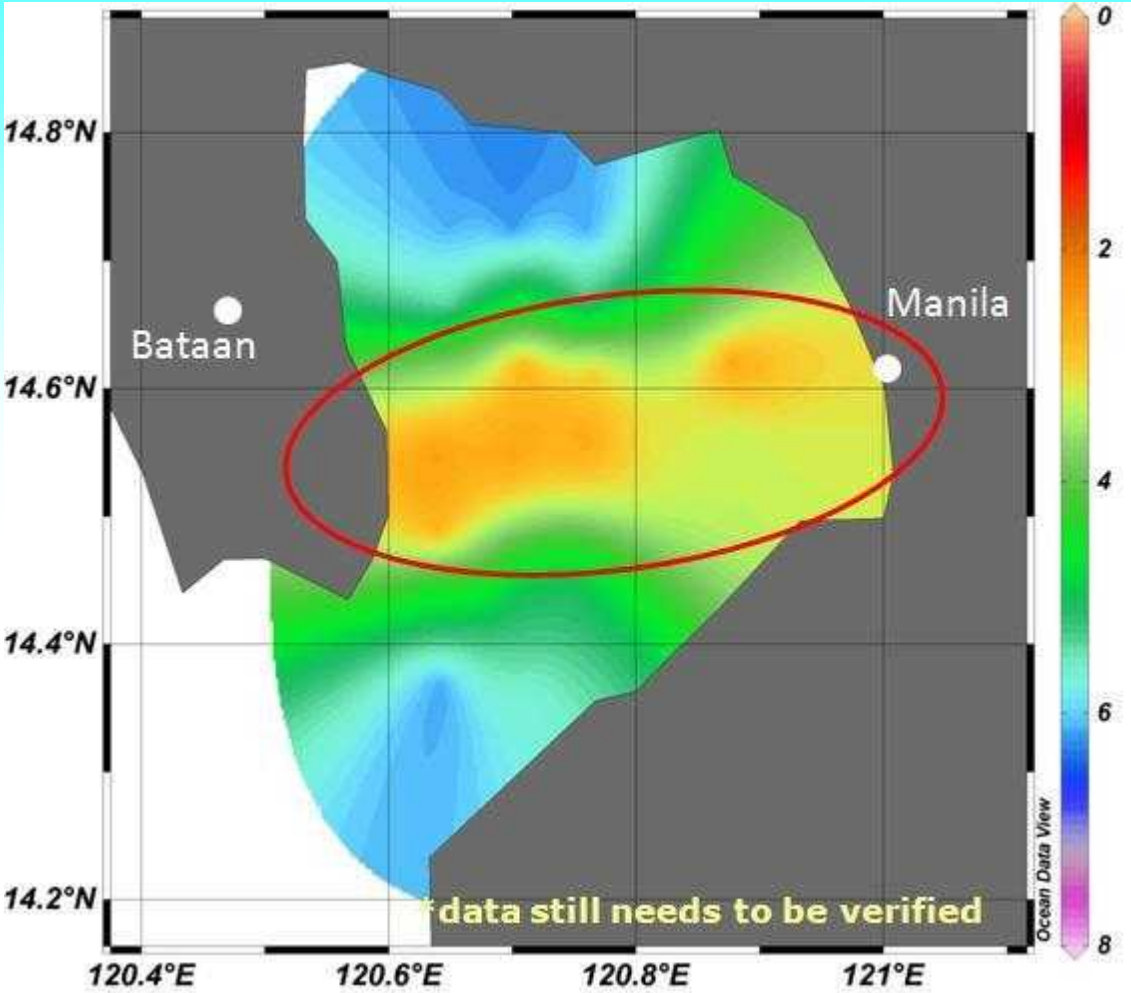
- BOD
- Total Coliform
- Nutrients (N & P)
- Cd, Pb, Oil and Grease
- TSS
- Heptachlor

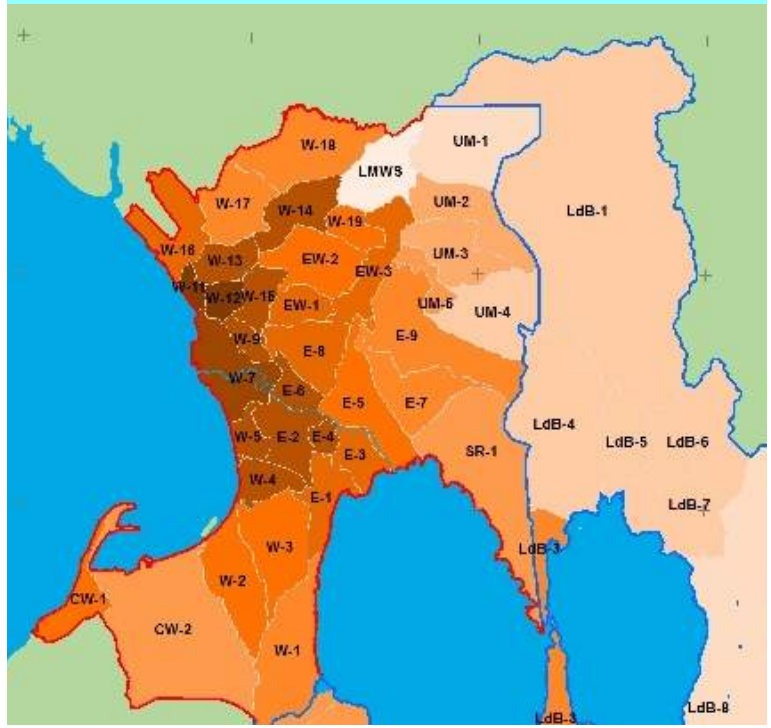
Coverage Years:

2008, 2010, 2015 & 2020

Inputs:

- Sub-basin (population)
- Land-cover
- Industry / establishment





The mid- section of Manila Bay from Bataan to Manila is deemed **hypoxic**, with DO < 3 mg/L.

High N and P Loads are generated in sub-basins of Manila Bay.

Sea-based Pollution

- Gulf of Thailand
- Port Safety Health and Environmental Management System

Sub-regional Arrangement for Oil Spill Preparedness and Response in the Gulf of Thailand

- Joint Statement on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand signed by 3 littoral states (Jan 2006)
- Framework Programme for Joint Oil Spill Preparedness and Response in the GOT adopted by 3 littoral States (Jan 2006)

STRATEGIES

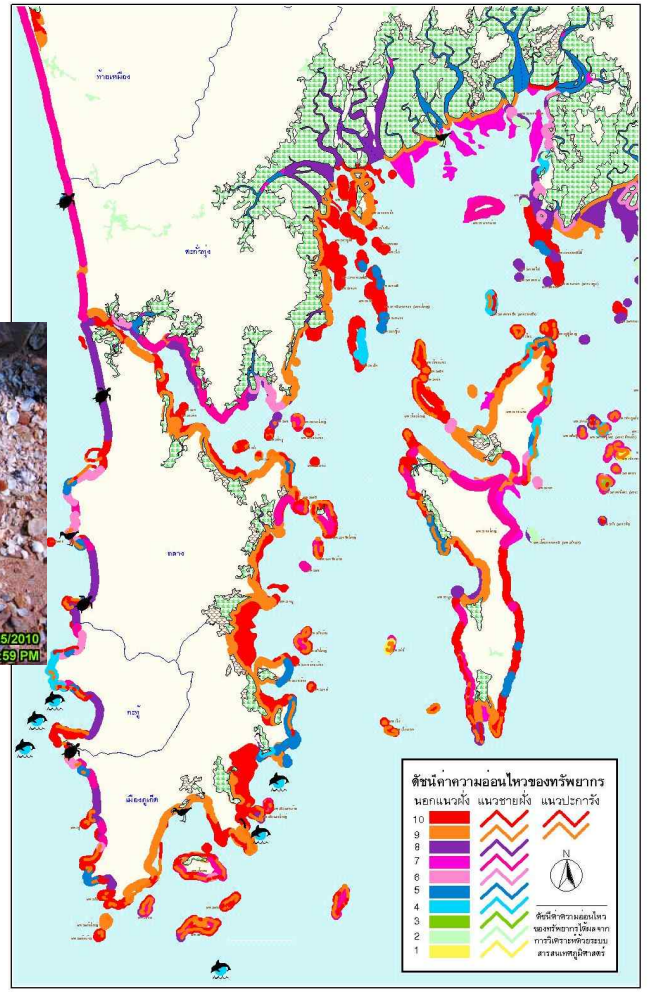
- Strengthening policy and legal frameworks to develop and support national system for oil preparedness and response
- Developing/enhancing national/local oil spill contingency plans
- Information sharing
- Joint training of relevant personnel
- Oil spill exercise

Conducted in partnership with IMO, ITOPF, NOAA, OSRL, IESG, PEMSEA partner countries and local governments

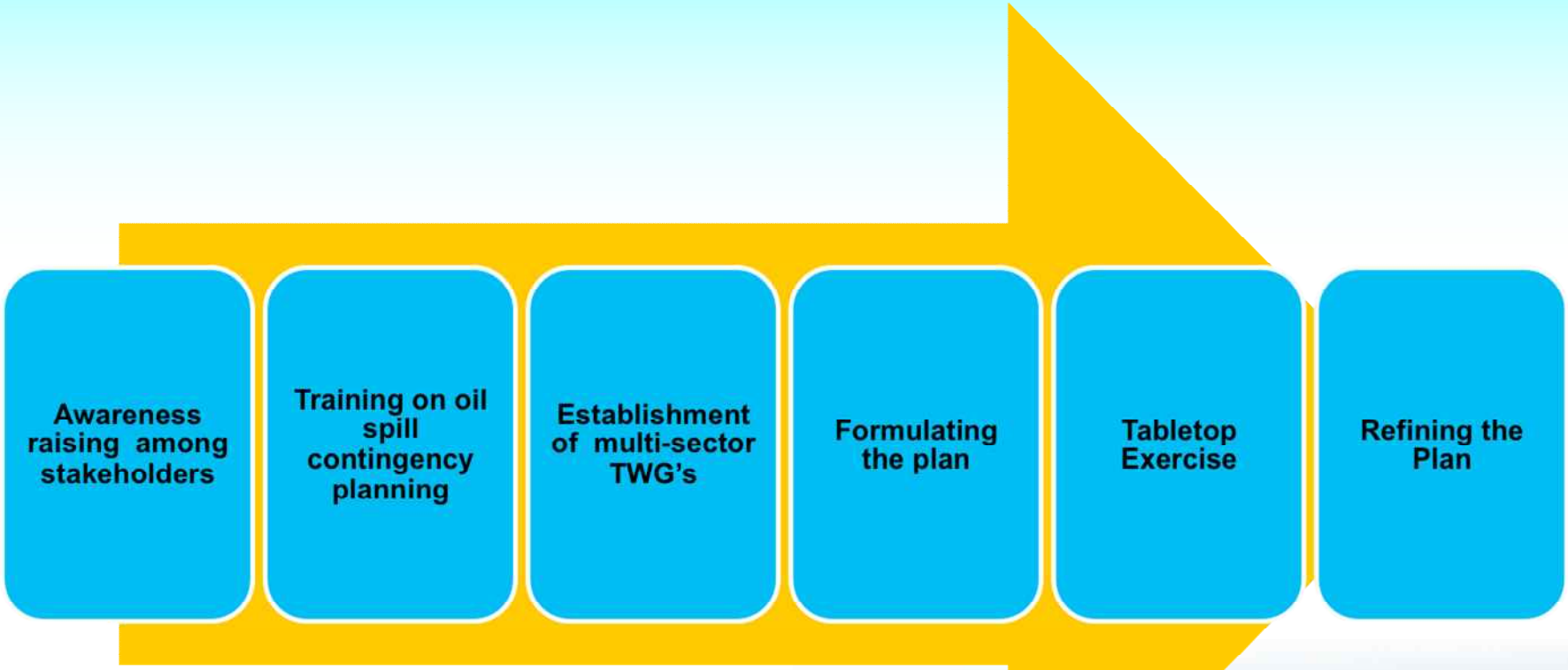
Environmental Sensitivity Mapping for the Gulf of Thailand (Jan 2012-Dec 2013)

Project Objective:

To build the capacity of 3 littoral states of the Gulf of Thailand to enhance capability for planning and response to oil spill incidents



Developing contingency plans for oil spills at the local level: The Chonburi Experience



PSHEM Code adopted by the EAS Partnership Council

In October 2011, the PSHEM Code was formally adopted by PEMSEA's Executive Committee and its Governing Body, the East Asian Seas Partnership Council, as a PEMSEA-certified document

Implementation of PSHEM Code in the Region

German International Cooperation (GIZ), ASEAN Ports Association (APA), Yeosu Project Fund and PEMSEA working with the following ports:

- **Phnom Penh and Sihanoukville, Cambodia**
- **Tanjung Priok and Tanjung Perak, Indonesia**
- **Sabah and Johor Ports, Malaysia**
- **Cagayan de Oro and Iloilo, Philippines**
- **Bangkok and Laem Chabang, Thailand**
- **Saigon, Vietnam**

Challenging Issues

- Increase in hypoxic (dead) zones in coastal areas of East Asian Seas region
- Marine litter
- Increased risk from oil and chemical spills as a consequence of oil exploration and development of offshore oil and increasing shipping/port expansion

Way Forward

- Strengthen national capacities to implement international conventions and agreements
- Build and strengthen partnerships with the other regional organizations and programs, the private sector, industry and local governments
- Improve response capacities/investments in high risk areas as a priority (e.g., Gulf of Thailand) and pollution hotspots (e.g., Manila Bay; Bohai Sea)
- Address nutrient management as a socio-economic issue involving:
  - Point sources – domestic and industry
  - Non-point sources – agriculture, transportation
  - Food supply and security
  - Ecosystem health and resiliency