EAS Congress 2018
27 November 2018, Iloilo, Philippines

Yellow Sea LME Approach in Achieving SDG 14 Targets

Sangjin LEE

UNDP/GEF YSLME Phase II Project, UNOPS

Email: SangjinL@unops.org

Outline

1. YSLME as a mechanism applying ecosystem approach to sustainable management of Yellow Sea

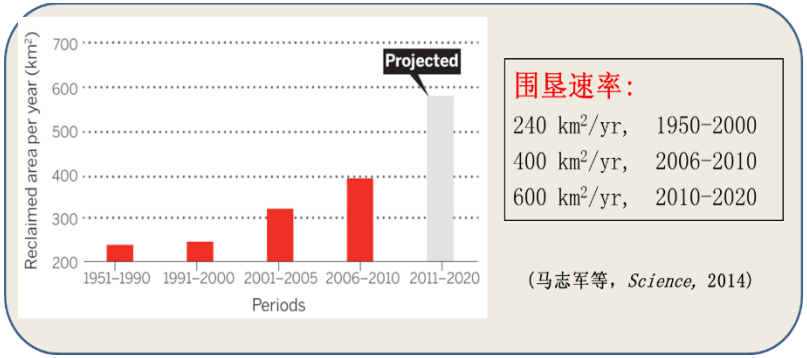
2. Approaches of YSLME to achieve SDG 14 targets

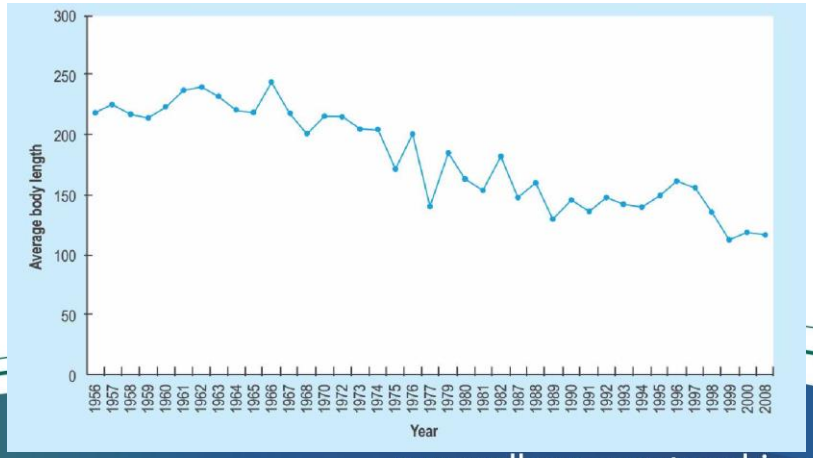
3. Lessons learnt and good practice in YSLME to achieve SDG 14 targets


PEOPLE'S REPUBLIC OF CHINA (PRC)
DPRK (North Korea)
PRC
DPRK
Liao River Delta
Dandong
Yalu River Delta
PYONGYANG
Liaoning Peninsular
Taedong River Delta
Nampo
DPRK
ROK
BEIJING
Dalian
- NMEC
- PMO Branch Office
Bo Hai Bay
~100 km
SEOUL
Han River Delta
Incheon
- YSLME PMO
Tianjin
Taean
Weihai
Yantai
Yellow River Delta
Rongcheng
- Sungo Bay IMTA site
Geum River Delta
ROK (South Korea)
Shandong Peninsular
Rushan
- IMTA site
Qingdao
- FIO / JORC / YSFRI
YELLOW SEA LME
(total area: ~400K km²)
Mokpo
Yeongsung River Delta
Rizhao
(demo eco-city)
Jeju Is.
Lianyungang
Qiangwei River Delta
LEGEND
N
CAPITAL CITY
Major coastal city
Significant coastal city
Major river delta
Land border
YSLME boundary (for project purposes)
FIO: First Institute of Oceanography
JORC: Joint Ocean Research Centre (PRC & ROK)
NMEMC: National Marine Environment Monitoring Centre
PMO: Project Management Office (UNOPS)
YSFRI: Yellow Sea Fisheries Research Institute
Rudong
Migratory bird MPA site
~440 km
Yangtze River Delta
Shanghai
Hangzhou River Delta
East China Sea

Transboundary issues

- Pollution and contaminants
- Eutrophication
- Harmful algae blooms (HABs)
- Fishing efforts exceeding ecosystem carrying capacity
- Unsustainable mariculture
- Habitat loss and degradation
- Jellyfish blooms
- Change in ecosystem structure
- Climate change-related issues





YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

Implementation of YSLME SAP and NSAPs Supports and advances the implementation of SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

- 14.1 Pollution reduction
- 14.2 Areas under ecosystem-based approach
- 14.3 Ocean acidification (blue carbon)
- 14.4 Sustainable fisheries/end IUU
- 14.5 Marine Protected Areas
- 14.A Increase scientific knowledge
- 14.C Implement international ocean law

YSLME
UNDP/GEF Yellow Sea Large Marine Ecosystem

SDG 14

11 YSLME SAP Targets

14.4
- **25-30% reduction** in fishing efforts
- **Rebuild** marine living resources
- **Improve** mariculture techniques to reduce environmental stress

14.5
- **Maintain** and **improve** of current populations and distributions of genetic diversity of living organisms including endangered and endemic species

14.2
- **Habitat maintenance** according to 2007 standards
- **Reduce** of risks of introduced species

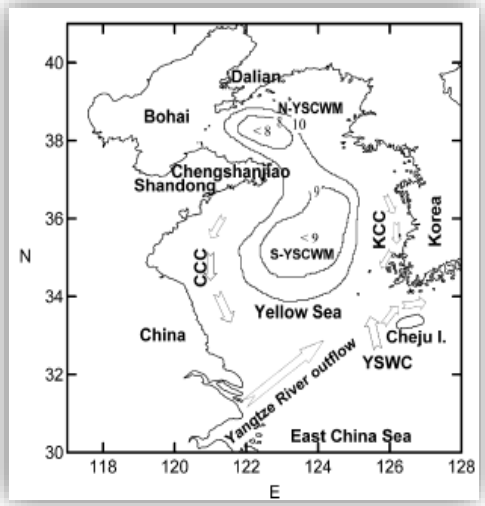
14.C
- **Meeting international requirements** on contaminants

14.3
- Better understanding and prediction of ecosystem changes for **adaptive management**

14.1
- **Reduce** total loading of nutrients from 2006 level
- **Reduce** standing stock of marine litter
- **Reduce** contaminants in bathing beaches and other marine recreational waters

SDG 14.3 Ocean Acidification (Blue Carbon)

Ecosystem Health Monitoring Program



Jellyfish blooms in coastal areas of RO Korea (photo by KOEM, 2018)

HAB blooms in Xinghai Bay of PR China (photo by NMEMC, 2018)

Scientific Committee to coordinate monitoring, assessment and data sharing (3+3 experts from both countries)

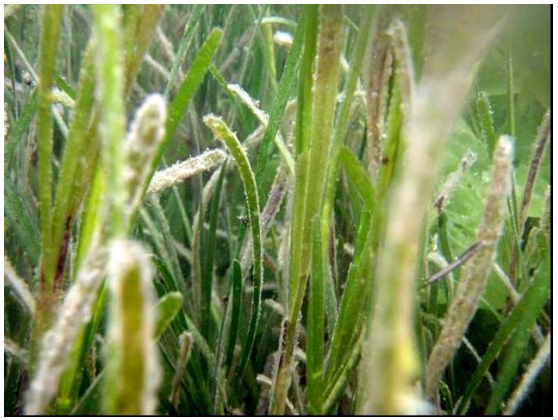
Develop regional monitoring methodologies of jellyfish, HAB (including macroalgal) blooms and N/P/Si

YSLME
UNDP/GEF Yellow Sea Large Marine Ecosystem

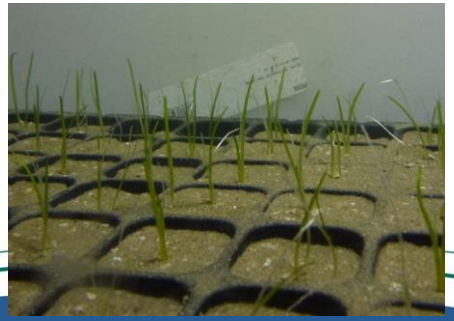
SDG 14.3 Ocean Acidification (Blue Carbon)

Improved Techniques of Replanting Seagrass

Techniques → **Demonstration** →



- **Seed optimization technique**
- **Seedling cultivation**
- **Transplanting in the sea**
- **Adult expansion technique**



SDG 14.3 Ocean Acidification (Blue Carbon)

Improved Techniques of Replanting Seagrass

Expanding of adults shoots

Seagrass transplant in coastal sea cucumber pond for shoots expanding

Through the expanding of seagrass shoots in sea cucumber pond, more material were obtained (~1200 shoots) for transplanting in the sea and less destroy for the donor meadows.

SDG 14.4 Sustainable Fisheries/end IUU

Expand closed seasons and areas, and reduce fishing efforts and total catches

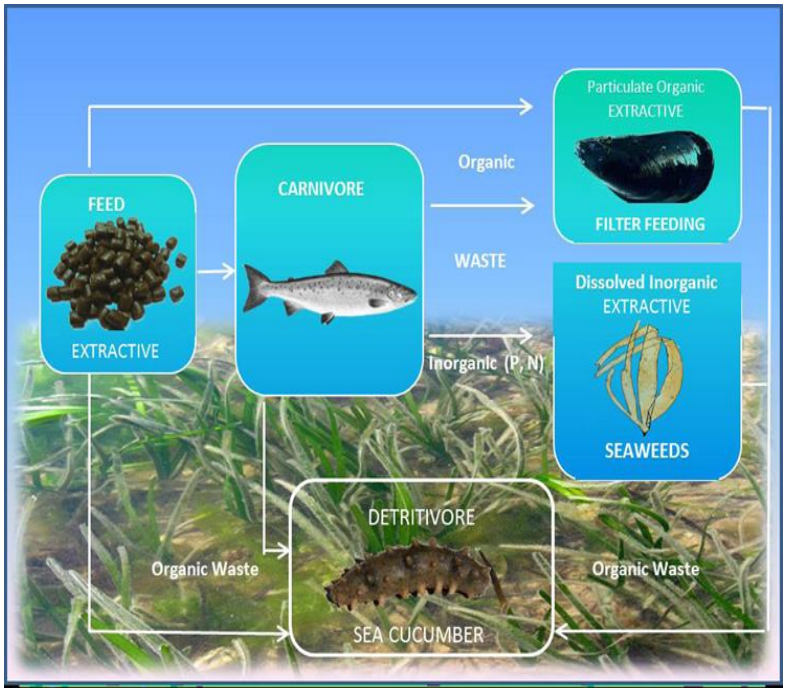
Country commitments and Progress:

- From 2017, YS is closed to fishing for 135 days (May 1 to Sept. 16: PR China).
- From 2015 to 2020, nearly 3,000 fishing vessels in coastal provinces of YS with a total capacity of 323,000 kW will be reduced through implementation of buy-back scheme (YSLME SAP review report, PR China).
- In 2018, decrease of annual total allowable catch from 13 million tons to 10 million tons from inshore and offshore capture fisheries in PR China, or 23 percent reduction shall be achieved (summary report of 2nd meeting of RWG-F).
- 12,561 fishing vessels have been reduced from 2004 to 2016, representing 24% reduction (Source: Statistics Korea, Fisheries Production)
- From 1986 to 2017, capture fishery in RO Korea in YS decreased by 58% (Source: Statistics Korea, Fisheries Production)

SDG 14.4 Sustainable Fisheries/end IUU

Integrated Multitrophic Aquaculture to address multi-stressors in Mariculture in PR China and RO Korea

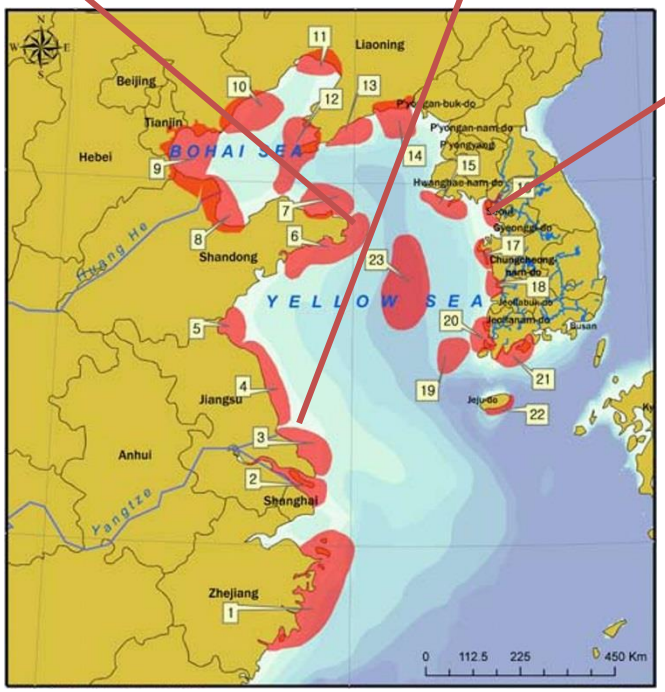
- Highly energy efficient
- High production per unit area
- Increases the social acceptability of culturing systems
- optimizing the carrying capacity of coastal embayments
- improving water quality through intake of nutrients and phosphorus
- increasing protein yields
- through carbon capture, contributing to mitigation of the effects of climate change



(IMTA structure from Fang et al. 2009)

YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

SDG 14.5 Marine Protected Areas (MPAs)



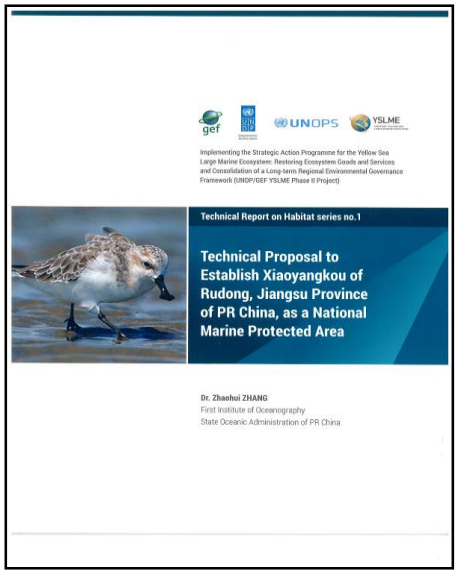
23 potential priority areas in YS are defined by WWF in 2007. To date, **31 national MPAs in PRC (8,056 km^2) and 16 national MPA in ROK (386 km^2) are designated** to protect marine mammals, birds, fishes, mollusks, plants and algae in YS.

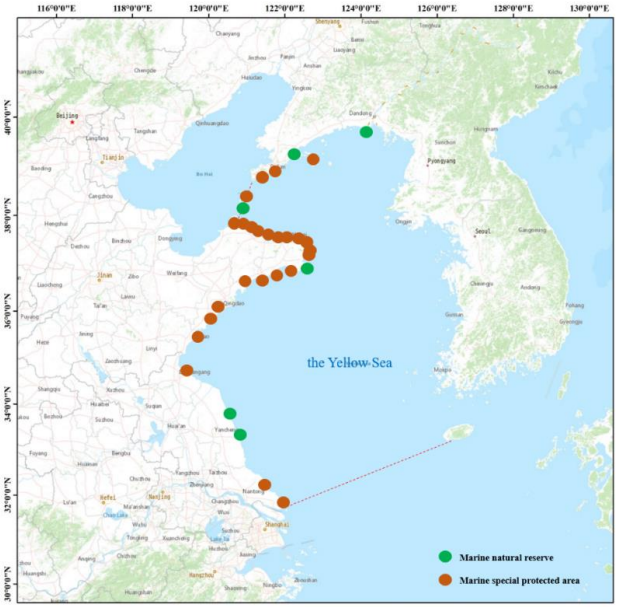
The MPAs of the PRC and ROK only represent 2.1% of YS, far below the 10% Aichi Target!

YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

SDG 14.5 Marine Protected Areas (MPAs)

Technical proposal to establish Xiaoyangkou as a National MPA





- to enhance resilience of YSLME biodiversity and ecosystems by strengthening the coverage and connectivity of MPAs
- To reduce the loss of coastal and marine habitats and species of critical global and regional significance in support of achieving SDG 14 and implementing CBD, RAMSAR and other relevant Conventions

YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

SDG 14.5 Marine Protected Areas (MPAs)

Roadmap to establish the YSLME MPA Network (12-18 months)

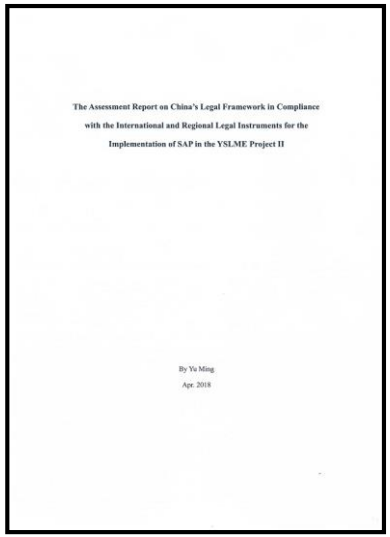
6.C YELLOW CROAKER

PRE-PLANNING	SITE CHARACTERIZATION	DEFINING THE FUTURE	DEVELOPING THE MPA NETWORK	IMPLEMENTATION
Socialization of YSLME MPA Network QTR#3- 2018	Data Needs Identification QRT#3-2018	Mission/Mandate of YSLME (Driver) QRT#2-2019	Develop Site Selection Criteria QRT#3-2018	Implementation Partnership QRT#4-2019
Partnership Development QTR#4-2018	Defining Area of Influence (beyond LME) QRT#1-2019	Common Interests of Stakeholders QRT#2-2019	Train Stakeholders in GIS Decision Making Tool QRT#3-2019	Codification of Plan QRT#4-2019
Stakeholder Identification QRT#4 2018	Biophysical Characterization QRT#1-2019	Goal(s) OF YSLME MPA Network QRT#2-2019	Objective-based Scenario Development QRT#3-2019	Communication Plan QRT#4-2019
Process Structure QRT#3-2-18	Human Use Characterization QRT#1-2019	Desired Future State of Species of Concern QRT#2-2019	Spatial Allocation Plan for MPA Sites QRT#3-2019	Monitoring and Evaluation Plan QRT#4-2019
Rules of Engagement QRT#4-2018	Jurisdictional Characterization QRT#1-2019	Objective(s) of YSLME MPA Network QRT#3-2018	Application of Management Tools QRT#3-2019	Continued Stakeholder Engagement QRT#4-2019
Communications Plan QRT#4-2018	Assessment of Existing MPAs QRT#1-2019	Milestones Towards Meeting Objectives QRT#2-2019	Impact Analysis of Plan & Trade-offs QRT#3-2019	Develop Adaptive Management Plan QRT#4-2019

YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

SDG 14.C Implement international ocean laws

Assessment report on China's legal framework in compliance with the international and regional legal instruments for the implementation of SAP


The Assessment Report on China's Legal Framework in Compliance with the International and Regional Legal Instruments for the Implementation of SAP in the YSLME Project II

By Yu Ming

Apr. 2018

- to improve implementation of international/regional treaties and guidelines in participating countries of the Yellow Sea
- to strengthen the national and local capacity in compliance with international and regional treaties and guidelines and enhance the capacity of law enforcement
- to improve education of ecosystem-based management of LMEs in marine affairs, marine policy and law at appropriate institutions

Seminar on Regional Ocean Governance
Qingdao, PR China, 16 Nov., 2018

YSLME
UNDP/GEF Yellow Sea Large Marine Ecosystem

Lessons learnt and good practice in YSLME to achieve SDG 14 targets

- Adopting a partnership approach based on mutual respect, interest and benefits, including partnership with local governments
- Improved cross-sector coordination and collaboration is important for government buy-in
- Management of LMEs can be considerably improved by sharing available data and information and improving the quality of data and information
- Promote integrated, interdisciplinary modes of pursuit of knowledge on aquatic ecosystems, socioeconomics and governance
- Policy dialogue among a wide range of actors is crucial in raising awareness and social responsibility

Yellow Sea:

Sea of Friendship

Sea of Peace

Sea of Cooperation

Sea of Prosperity

YSLME
UNDP/GEF Yellow Sea
Large Marine Ecosystem

Thank you!