









Implementing the Strategic Action Programme for the Yellow Sea Large Marine Ecosystem: Restoring Ecosystem Goods and Services and Consolidation of a Long-term Regional Environmental Governance Framework (UNDP/GEF YSLME Phase II Project)

Annual Project Report 2017

Table of Contents

Preface	4
1. Project Context	4
2. Project Implementation Status and Project Report	5
Component 1: Ensuring Sustainable Regional and National Cooperation for	
Ecosystem-Based Management	6
Component 2: Improving Ecosystem Carrying Capacity with Respect to	7
Provisioning Services	
Component 3: Improving Ecosystem Carrying Capacity with respect to Regulat and Cultural Services	ing 9
Component 4: Improving Ecosystem Carrying Capacity with respect to	10
Supporting Services	10
3. Engaging Project Implementing Partners and putting in place a quality	11
assurance mechanism	11
4. Developing Partnership with Hans Seidel Foundation to facilitate participation	of
DPR Korea in YSLME initiatives	10
5. Communication and Advocacy	12
6. Enhancing delivery of resources and results	13
7. Recommendations on priorities in 2018	15

YSLME Annual Project Report 2017

March 2018

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Basic Project Information

Ecosyster	Implementing the Strategic Action Programme for the Yellow Sea Large Marine Ecosystem: Restoring Ecosystem Goods and Services and Consolidation of a Long-term Regional Environmental Governance Framework			
UNDP Award ID	00074724			
UNDP Project ID	00087001			
Project Duration	11 July 2014 – 10 July 2018			
Reporting Period	January – December, 2017			
Total Approved Project Budget	US\$ 1,794,803.10			
Participating UN agencies	UNOPS			
Implementing Partners/ National coagencies	ollaborating State Oceanic Administration of PR China, and Ministry of Oceans and Fisheries of RO Korea			
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Preface

The UNDP/GEF YSLME Phase II Project aims to achieve adaptive ecosystem-based management of the Yellow Sea Large Marine Ecosystem bordered by PR China and RO Korea by fostering long-term sustainable institutional, policy and financial arrangements for effective ecosystem-based management of the Yellow Sea in accordance with the YSLME Strategic Action Programme (SAP) adopted by PR China and RO Korea in 2009. The project was signed in July 2014, and launched in July 2017, three years after signature on the Project Document. The year 2017 witnessed some initial results and successful operation of the regional coordination mechanism thanks to the collaborative efforts of the PR China, RO Korea and other collaborating partners.

On regional and national ocean governance, the project has operationalized the interim regional environmental governance framework—Interim YSLME Commission. Institutionalization of the governance mechanism of the YSLME Phase II Project represents a significant positive change during this reporting period.

Notable achievements are made in reduction of fishing efforts in PR China and RO Korea through fishing vessel buyback scheme, reduction of fishing production and integration in social economic development plan, extended closure of fisheries in Yellow Sea, and setting up a total of 98 marine ranches (62 in PR China and 36 in RO Korea). Both PR China and RO Korea have introduced total allowable catch (TAC) and quota system in fishery management, which provides good chances for joint stock assessment of transboundary species. Replication success of integrated multitrophic aquaculture (IMTA) in coastal areas of RO Korea is noteworthy, and efforts are also being made in PR China to replicate through a proposal submitted to central government to use carrying capacity of aquaculture areas as the management principle of sustainable mariculture. The training module on IMTA in Chinese version have been prepared.

In Dalian of PR China, an investment of 48 million US dollars up has been earmarked by national and local government to reduce nutrients and restore estuarine ecosystems in Linshui Bay. Inventory of marine litter in Yellow Sea is in progress with technical assistance of NMEMC/SOA. An intensive survey was carried out in Jeolla Namdo province of RO Korea in November 2017 to make an inventory of litter in land, river, coast and estuary by OSEAN (Our Sea of East Asia Network). KIOST and OSEAN have carried out the abundance and accumulation patterns of plastic marine debris on 6 beaches in the Korean YS since 2016.

The completed study on ecological and biological significance of Xiayangkou intertidal mudflat assisted the local government in designating this important wetland as a MPA at national level to protect endangered Spoon-billed Sandpiper. In RO Korea, a 7 million US dollar project was completed in Ganghwa to restore the ecosystem connectivity of intertidal mudflats through replacing a causeway connecting two islands with a newly built bridge.

The Project delivered 605,841.53 US dollars in 2017, representing 75% of the annual approved budget. The accumulative expenditure is 1,035,860.12 US dollars, an accumulative delivery of 13.6% of the total project budget of 7,562,430 US dollars. While the delivery of resource is low, the six RWGs cleared a total of 44 TORs for consultancy and contracts worth of 1,606,700 US dollars, placing much hope for a promising delivery of results in 2018.

Looking ahead, priorities for 2018 for full project implementation include:1) signing of Project Cooperation Agreements (PCAs) with NMEMC/SOA, FIO/SOA and YSFRI/MOA of PR China with UNOPS; 2) enhancing the communication with media, NGOs and local residents to raise public awareness of the state of Yellow Sea and urgency for immediate actions and increase the visibility of the project; 3) project extension in the first two quarters of 2018, and amendment of the PCAs with updated schedules of milestone deliverables of activities under PCA and under existing contracts; 4) To initiate the consultation process for setting up tasks forces to establish the YSLME Commission including on the rules of governance, sustainable financing and political declaration or MOU for signing by the two countries; 5) To secure adequate co-financing for implementation of regional activities by the two countries; 6) to continue to develop trust, interest and mutual benefits among the collaborating partners through strengthened coordination and communication; and 7) capacity building of PMO staff and related stakeholders to improve project implementation by shifting from resource delivery to quality assurance and on-the-ground results.

The PMO cherishes the enthusiasm of various local, national and international stakeholders to implementation of the YSLME Project and will remain committed for excellence, exceptional performance and a productive 2018.

Yinfeng Guo

Chief Technical Adviser and Manager

1. Project Context

Yellow Sea Large Marine Ecosystem is a water body bordered by PR China, RO Korea and DPR Korea, covering an area of 400,000 km². Rivers discharge about 1.6 billion tons of sediment and 1,500 billion tones of freshwater into the Yellow Sea. The low flushing rate between Yellow Sea and East China Sea of one every seven years, combined with weak water circulation, makes this sea vulnerable to pollution and its coastal areas highly susceptible to localized pollution discharges.

Qingdao, Dalian, Shanghai (PR China), Seoul/Incheon (RO Korea) and Pyongyang/Nampo (DRP Korea) are the five cities with over tens of millions of inhabitants bordering the sea. This population replies on the Yellow Sea LME's ecosystem carrying capacity to provide capture fisheries resources in excess of two million tonnes per year, mariculture over 14 million tonnes per year, support for wildlife, provision of bathing beaches and tourism, and its capacity to absorb nutrients and other pollutants.

Yet fishing efforts increased threefold between the 1960s and early 1980s, during which time the proportion of demersal species, such as small and large yellow croakers, hairtail, flatfish and cod, declined by more than 40 percent in terms of biomass. Other major transboundary problems include increasing discharge of pollutants; changes to ecosystem structure leading to an increase in jellyfish and harmful algal blooms; 40 percent loss of coastal wetlands from reclamation and conversions projects. Severe environmental degradation has cost the PR China approximately nine percent of its gross national income in 2009. This situation has been further exacerbated by incomplete legislation and insufficient enforcement. The environmental foundation needed to sustain economic growth may be irreversibly altered, and the important human health implications of a deteriorating environment such as increased agriculture and food contamination and air and water pollution, have resulted in a series of efforts to improve the environment.

The objective of the regional project is to achieve adaptive ecosystem-based management of the Yellow Sea Large Marine Ecosystem bordered by PR China, RO Korea and DPR Korea by fostering long-term sustainable institutional, policy and financial arrangements for effective ecosystem-based management of the Yellow Sea in accordance with the YSLME Strategic Action Programme (SAP) adopted by PR China and RO Korea in 2009.

To achieve this objective, the project will support the formation of the YSLME Commission oversee the implementation of the YSLME SAP, innovate institutional arrangements, improve management capacity and quality of function. This includes, developing robust governmental coordination mechanisms, strengthening regulatory mechanisms while strengthening the incentive structure to promote environmental protection, developing mechanisms to link land and sea and resource use to carrying capacity, and systems for the participation of a range of stakeholders.

The key benefits of the project include recovery of depleted fish stocks and improved mariculture production and quality; improved ecosystem health; maintenance of habitat areas; strengthened stakeholder participation in management and improved policy making; and skills and capacity significantly developed for region-wide ecosystem-based management.

2. Project Implementation Status and Progress Report

Indicator Description

Progress Report

Component 1: Ensuring Sustainable Regional and National Cooperation for Ecosystem-Based Management

Indicator 1.1: Status of YSLME Commission and subsidiary bodies at regional level On January 23-24, PMO organized a preparatory meeting for project inception, having agreed to make recommendations to the Interim Commission Council on the proposed workplan for 2017-2019, including a focus of conservation efforts on migratory mammals, migratory waterbirds, Yellow Sea Cold Water Mass and fish spawning and nursery grounds.



Delegations from PR China and RO Korea headed by Professor Wen Quan of NMEMC/SOA and Ms. Hyewon Park of MOF, respectively, at the Preparatory Meeting for Project Inception.

- The Project Manager, Environmental Economist, Environment Officer and Administrative/MIS/Finance Assistant were on board before March 24, 2017.
- The project was launched on July 11-13 in Seoul, RO Korea.
 Attended by approximately 50 participants, the first meetings of the MSTP and ICC approved a 3-year workplan and budget (2017-2019), AWP 2017, as well as the workplans of the six RWGs. The Inception ceremony was successfully conducted, with addresses by Deputy Minister of MOF, RO Korea, Vice Mayor of Incheon City and RTA of UNDP/GEF.

Progress Report

Indicator 1.1: Status of YSLME Commission and subsidiary bodies at regional level (cont.)



Participants at the First Meeting of the Management, Science and Technical Panel (MSTP).



First Meeting of the Interim Commission Council (ICC) in Seoul, RO Korea on July 12, 2017.



Deputy Minister Yangsoo Kim, Ministry of Oceans and Fisheries of RO Korea, delivers his welcome address at the Inception Ceremony.



Mr. Sei-joong KWON, then Deputy Director General of Ministry of Foreign Affairs of RO Korea, Mr. Fengkui LIANG, Associate Counsel of SOA of PR China, UNDP Regional Technical Adviser Dr. Jose Padilla and Mr. Kirk Bayabos of UNOPS were present at the ICC-1.

Indicator 1.1: Status of YSLME Commission and subsidiary bodies at regional level (cont.)

Progress Report

- Terms of reference of the Interim YSLME Commission Council
 and its Subsidiary Bodies, Rules of Procedures for the ICC, TORs
 of the six RWGs and NWGs and Secretariat Staff were approved
 by the first meeting of the ICC held on July 13, 2017.
- At the 1st meeting of the RWG-G, the two countries agreed to initiate the consultation process for the TORs of one or more task forces to establish the YSLME Commission including a sustainable financing mechanism for the regional framework. The results of the consultation in the form of one or more TORs of the task forces will be presented for discussion at the 2nd meeting of the ICC to be held in late March, 2018, in Dalian, PR China.



Participants of the First Meeting of the Regional Working Group on Governance.

- RO Korea nominated National Coordinator (NC), members of the Inter-Ministerial Coordinating Committee (IMCC), members to RWGs and NWGs, while PR China nominated the NC, members of IMCC and Chairs of NWGs. PR China yet to notify the Secretariat of full members to the RWGs and NWGs in the first quarter of 2018.
- The two countries agreed to a roadmap for a sustainable regional environmental governance framework specifying the key elements of the YSLME Commission, gaps and barriers in terms of institution, policy and good governance for a sustainable Commission, and a plan of activities and timeframe for establishment of the Commission.

Indicator Description	Progress Penert
Indicator Description Indicator 1.1: Status of YSLME Commission and subsidiary bodies at regional level (cont.)	 The PMO can legally operate in RO Korea through an amended MOU between UNDP and RO Korea on the establishment of the UNDP Seoul Policy Center (USPC). This amendment allows the PMO to enjoy the benefits of USPC granted by RO Korea to operate in the country. On April 2, 2015, UNOPS signed an MOU with Incheon Metropolitan City (IMC) to enable PMO to secure working space in G-Tower. On March 1, 2017, UNOPS signed an MOU with NMEMC/SOA to acquire a two-room office for PMO Dalian Branch up to November 22, 2019 for Environment Officer.
Indicator 1.2: Status of Inter-Ministerial Coordinating Committee (IMCC)	 In RO Korea, IMCC has been established with the following membership: Ministry of Foreign Affairs(MOFA) as GEF National Focal Agency; Ministry of Oceans and Fisheries(MOF) as GEF National Implementing Agency; Other relevant Ministries including Ministry of Environment, Ministry of Unification etc. In PR China, IMCC includes the following members: Ministry of Finance (MOF); State Oceanic Administration (SOA); Ministry of Agriculture (MOA); Ministry of Foreign Affairs(MOFA); and provincial governments of Liaoning, Shandong and Jiangsu. Both PR China and the RO Korea held the first meetings of the IMCC right before the MSTP-1 and ICC-1. Processes, schedule and TOR for review of implementation of NSAP in PR China and RO Korea have been agreed at the RWG-G meeting. Draft reports are scheduled to be completed in June, 2018.
Indicator 1.3: Number of the YS Partners in support of YSLME SAP	• Yellow Sea Partnership (YSP), which is meant to support the implementation of the YSLME SAP, is likely to be strengthened with the adoption at the ICC-1 of the Guidelines for Strengthening the YSP that specify the structure, functions and rules of procedures of subsidiary bodies of the Commission. It is envisaged to be a multi-stakeholder initiative with members from global, regional, national and local scales continuously facilitated by the UNDP/GEF YSLME Phase II Project. Existing and initial potential partners of the YSP include several stakeholder groups including 1) governments; 2) UN agencies, Global and regional institutions; 3) Academia; 4) NGOs; and 5) Private sector groups such as aquaculture associations.

Progress Report

Indicator 1.3: Number of the YS Partners in support of YSLME SAP (cont.)

- By end of March 31, a total of 66 international organizations and entities from PR China and RO Korea are identified as existing and new partners, including 4 ministries and 6 provincial government partners, 1 local government, 5 regional partners, 8 universities, 15 academic institutions, and 27 NGOs. The list of partners can be found at project brochure and inception report.
- Collaborative actions and interactions have been initiated between YSLME Project and other partners. Examples include:
 - On July 14, 2017, YSLME Phase II Project organized a MPA Seminar in Ganghwa Tidal Flat Center with NEAMPAN of UNESCAP and KOEM of RO Korea. FIO/SOA, CI, KMI, EAAFP and other partners shared experience in designation and management of MPAs in Japan, PR China and RO Korea. Participated by Ganghwa County Governor and more than 80 persons from PR China, Japan and RO Korea, the event raised the awareness of the significance of ecosystem services of intertidal of southern Ganghwa for the protection of the endangered Black-Faced Spoonbill and better understanding of increased significance in setting up a MPA in Ganghwa.



The MPA Seminar at Ganghwa Tidal Flat Center, RO Korea, had the presence of Mr. Sang Bog LEE, Governor of Ganghwa County, Mr. Jae Sang YOON, Chairman of Gangwha County Council and Mr. Jing Yong CHOI, Executive Director of Marine Conservation, KOEM, RO Korea.

• The Project maintained close coordination with regional organizations in the areas of ocean governance and ocean science. The CTA/ Manager participated in 21st and 22nd IGMs of NOWPAP, the 9th Partnership Council Meeting of PEMSEA, and the meeting on Building International Partnerships to Enhance Science-based Ecosystem Approaches in Support of Regional Ocean Governance and LME consultation meeting organized by IOC/UNESCO and LME:Learn. organized by IOC/UNESCO and LME:Learn.

Progress Report

Indicator 1.3: Number of the YS Partners in support of YSLME SAP (cont.)



Mr. Yinfeng Guo with Dr. Kenneth Sherman, Director of NOAA LME Program, and Professor Coleen Moloney of University of Cape Town after filming in studio in sharing experience of YSLME SAP implementation for GEF LME Massive Online Open Course program during the IW:Learn partnership workshop.

- National Coordinator of RO Korea presented the assessments to be supported by the Project at the consultation meeting on Regular Process coordinated by IOC/WESTPAC on behalf of YSLME Phase II Project. Through YSLME Phase II Project the two countries agreed to collaborate with IOC/WESTPAC in the development of standard operating procedure (SOP) for monitoring of microplastics for application in YSLME.
- YSLME Phase II Project sponsored the organization of the International Symposium on IMTA with NIFS/MOF of RO Korea held on September 14-15, 2017 and facilitation of participation by one Chinese leading expert to share experiences of IMTA in PR China and discuss on ways forward.
- o Mr. Yinfeng Guo shared experiences of YSLME in sustaining fisheries and mariculture for development of blue economies in Blue Economy Forum 2017 held on 14-15 November 2017 in Bangkok, Thailand, organized by PEMSEA. He highlighted IMTA as the innovative technologies to meet the continued seafood demand while taking up nitrogen, sequestering carbons and sustaining the increased production of products to meet demand for seafood in the wake of reduction of fishing efforts and production from capture fisher in YSLME.

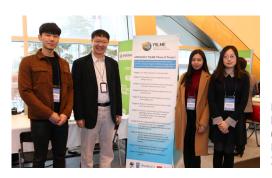


Panel discussion on the role of LME and Blue Economy at the Blue Economy Forum.

Indicator Description Indicator 1.3: Number of the YS Partners in support of YSLME SAP (cont.)

Progress Report

On June 15, PMO has launched the internship program of YSLME aiming to offer students or recent graduates the work experiences that would enhance their employability and/or skills and to provide a unique learning opportunity through a better understanding of UN values and culture in a diverse and international working environment. Thus far, five interns were recruited, two recruited by UNOPS, two supported by Incheon City through its International Organizations Career Experience Program, and one from expression of interest to work in Dalian Branch of PMO. The two project-recruited interns through UNOPS will spend six months each to help to develop the legal clearing house and prepare contents of webpages of the project website.



Mr. Yinfeng Guo (second from left), Project Manager and CTA, with interns Sanghyeon Park, Mariz Puyo and Xiaoxuan Chen.

 The vacancy announcement for the post of communication specialist for preparation of a revised YSLME Communication Strategy has been advertised and the draft strategy will be presented for review at the 2nd meeting of the MSTP and ICC.

Indicator 1.4: Status of recognition and compliance to regional and international treaties and agreements

- One legal expert from PR China has been hired to review the legal framework related with ocean in PR China and its compliance with international laws. The report will be available in the first quarter of 2018. Preliminary results of the review by both PR China and RO Korea have been presented at the 1st meeting of the RWG-G. Capacity development needs in enhancing compliance with international laws through law enforcement and other means will also be reviewed and a plan will be developed for improved understanding obligation of obligations of countries under these international instruments.
- The TOR for preparation of regional guidelines for incorporating FAO Code of Conduct for Responsible Fisheries in YSLME context has been cleared at the 1st meeting of RWG-G and the work will be implanted by RWG-G and F together.
- Ecosystem service and evaluation of different aquaculture mode in Sungo Bay was undertaken by YSFRI and in demonstration sites in RO Korea. Assessment methodologies have been incorporated into the training module for IMTA by experts from both countries.

Progress Report

Indicator 1.5: Agreement on the financial arrangement for the YSLME Commission

 PR China and RO Korea agreed to initiate a consultation process to set up task forces for establishing the YSLME Commission, including sustainable financing mechanism of the cooperation framework. TOR of the TF(s) will be presented for review and approval at the 2nd meeting of the MSTP and ICC to be held in late March, 2018, in Dalian, PR China.

Component 2: Improving Ecosystem Carrying Capacity with Respect to Provisioning Services

Indicator 2.1: Number of fishing boats decommissioned from the fleet in YSLME waters

• PR China has set the national targets to reduce 20,000 fishing vessels with a total capacity of 1.5 million KW and reduce fish landings by 15 percent during 13th FYP (2016-2020). In addition, fishing closure in Yellow Sea from May 1 to September 16 has been introduced in 2017 by Ministry of Agriculture to restore the declining fish stocks. While baseline fishing vessel number is yet to be determined for the three provinces in Yellow Sea, Weihai of Shandong is selected as the demonstration city to assess the social and economic implication of implementation of buyback scheme. Field mission of CTA/Manager and Environment Officer in early April in 2017 found that with the gradual reduction of fuel subsidy to fishing vessels and implementation of buyback schemes, there are interests among fishermen to register in the fishing vessels buyback program. In Weihai alone, over 1,000 boats will be bought back by local government in 2017, yet nearly 4,000 applicants have already registered for participation in the program.



A public notice on a local newspaper on registration of fishing vessel buyback announced by a district of Dalian City, PR China on September 1, 2017.

Both PR China and RO Korea have introduced total allowable catch (TAC) system in fishery management. Currently RO Korea applies TAC system to 11 species with 70 TAC observers. PR China introduce the system in 2017 starting with two species. Swimming Crab (*Portunus trituberculatus*) is under TAC in both countries, providing an ideal example to conduct joint stock assessment to improve management effectiveness.



The Swimming Crab (Portunus trituburculatus) is under total allowable catch (TAC) and quota management in both PR China (Zhejiang Province) and RO Korea.

Indicator Description	Progress Report		
Indicator 2.2: Status of major commercially important fish stock from restocking and habitat improvement	 Artificial Reef, Fry Release, Marine Ranching, Marine Forests plantations are the key promoting measures in the PR China and RO Korea to enhance fish stock and support fishermen's revenue. In addition to the three management measures to reduce fishing efforts in PR China, three groups of national marine ranches are piloted and supported by Ministry of Agriculture with a total of 62 operations in Yellow Sea, East China Sea and South China Sea. In RO Korea, a total of 36 marine ranches are established to restock the fish population including in the Yellow Sea. Initial study by Shandong Ocean and Fisheries Department indicate positive 		
	 TOR for assessing the effectiveness of license system has been cleared at the 1st RWG-F meeting. Results of assessment of measures taken by both countries will be presented by YSFRI and NIFS at the next RWG-F meeting. 		
	A consultant is yet to be selected to identify possible compensation schemes and alternative livelihoods options for demonstration sites in line with the recommendations of the social and economic assessment of the buyback schemes and other management measures		
	 Regional training in stock assessment will be conducted in April, 2018. Demonstration of restocking efforts including improving techniques of replanting seagrass and macroalgae, artificial reef construction and placement, gear selectivity and fish behavior changes will be launched in early 2018 by YSFRI in PR China. 		
Indicator 2.3: Level of pollutant discharge from mariculture operations	The project seeks to achieve 5% reduction of contaminants including nutrients in demonstration sites through application of sustainable mariculture, or IMTA.		
	 In PR China, mariculture ecosystem services through IMTA is practiced for at least two decades and results have been well documented in Sungo Bay of Rongcheng, Shandong Province. Based on the experiences of IMTA in Sungo Bay, IMTA proves to be highly energy-efficient, increasing production and social acceptability of culturing systems, optimizing the carrying capacity of coastal embayments, improving water quality, increasing protein yields, and through carbon capture contributing to mitigation of the effects of climate change. 		

Indicator 2.3: Level of pollutant discharge from mariculture operations (cont.)

Progress Report



A sample of oyster collected from IMTA demonstration site, Dongchu Island, PR China.

- In RO Korea, IMTA was demonstrated from 2011 onwards in coastal areas beyond YSLME by NIFS of RO Korea on IMTA of Sea Tangle, Gulfweed, Korean rockfish, Pacific Oyster and Sea Cucumber indicating that sea cucumber grew 2.7 times faster; survival rate of Korean rockfish increased by 33.4% (from 56.8% to 90.5%); no fish disease occurred in IMTA (40% of Rockfish farmed in monoculture infected with disease). In the IMTA in Namhae of Korean rockfish, Sea Cucumber, Pacific Oyster, *Undaria* and *Saccharina japanoca*, studies found no significant difference in growth of body length and weight of Korean rockfish; no disease found in rockfish (36.7% under monoculture); Pacific Oyster grow faster by >20% in shell height and whole and meat weight, and 22.5% higher fatness; and Sea Cucumber grew >40% faster.
- Various approaches are being adopted by the project in replicating IMTA through scaling up good practices, knowledge transfer, etc. In scaling up the IMTA, eminent experts from PR China have proposed to national government to adopt carrying capacity as the key management measures to ensure development of aquaculture in a sustainable way. The Project will support the replication of IMTA across coastal areas of Shandong Province, a leading mariculture producer in PR China through assessment of the opportunities for application of IMTA, development of a promotion plan in Shandong, and conduct of ecosystem services valuation from potential IMTA operations.

Indicator Description	Progress Report		
Indicator 2.3: Level of pollutant discharge from mariculture operations (cont.)	• In capacity development, a 120 m² meeting room for use in training on IMTA has been constructed by Dongchu Fishery Cooperation, a community-based enterprise specializing in aquaculture of kelp, abalone, scallop, sea urchin and sea cucumber with technical assistance from YSFRI. The training course for Chinese participants will be organized to replicate the IMTA to two more sites in Liaoning and Shandong. To help promote the knowledge, the project has developed a 170-page training module for IMTA in Chinese for use in training courses. The module is ready for publishing in Chinese and then translated into English for wider replication across LMEs. TORs for replicating IMTA to other sites in PR China and RO Korea has been cleared at the RWG-M, and land-based pond mariculture is targeted as opportunities for improvement in environmental performance of mariculture in Weihai City.		
	 As a contribution to LME community, the RWG-M agreed to prepare the good aquaculture practice (GAP) of IMTA, a knowledge product for reference by practitioners. 		
Component 3: Improving Ecosystem Cultural Services	Carrying Capacity with respect to Regulating and		
Indicator 3.1: Level of pollutant discharges particularly Nitrogen in YSLME tributaries	• In 2016, PR China has initiated "Blue Bay Action Plan" incentivizing local governments to adopt integrated approaches to address coastal and marine challenges through innovative investment modalities to leverage knowledge and knowhow and financing from private sector through public private partnership in sewage treatment, beach management, sea water desalination, etc. In YSLME, Rizhao, Dalian, Qingdao, Weihai, Yantai are selected as demonstration sites.		
	• In the YSLME Demonstration City of Dalian, reduction of nutrient inputs from an upstream river into vulnerable Linshui Bay and restoration of bay area are prioritized by national and local governments with earmarking of 320,000,000 yuan (equivalent to 48 million US dollars) from the two sources. In 2017, the central government support focused on strengthening the coastal embankment, restoration of sand		

Indicator Description	Progress Report
Indicator 3.2: Types of technologies applied for pollution reduction	 In Linshui Bay of Dalian, the technologies of restoration of coastal wetland in estuarine areas and upgrading the sewage treatment capacity of existing treatment facilities are used by the subcontractors. Level of reduction will be calculated by NMEMC with support of YSLME Phase II Project. Terms of reference for 1) establishing regional pollution monitoring guidelines, environmental quality standards and network, 2) modelling of nutrient loading in Haizhou Bay of Linayungang City, 3) review of control mechanisms from point sources, 4) analysis of sources and sinks of pollutants, 5) monitoring and acquisition of data from atmosphere, sea-based and land-based sources including from fertilizer use are cleared at the 1st meeting of the RWG-P, and vacancy announcements or request for proposals will be made in January, 2018 or initiated by NMEMC of SOA. In addition to enhancing sewage treatment capacity and sewage collection system, use of wetland as nutrient sinks is prioritized in the Project. A consultant to develop the regional strategy for using wetland as nutrient sink is being hired and request for quotation for a subcontract for technical support to design artificial wetland and rehabilitate wetlands for nutrient reduction will be announced shortly in January 2018.
Indicator 3.3: Status of legal and regulatory process to control pollution	 A consultant is being hired to conduct a review of domestic laws and regulations in pollution control in PR China and assess compliance with international and regional environment agreements effective for PR China with respect to pollution control. Based on the desk review, the consultant will undertake an analysis of inconsistencies and gaps of domestic laws and regulations based on which recommendations on legal and regulatory reforms will be proposed. In the control of marine litter, a request for proposal will be announced shortly to develop regulatory measures for marine litter monitoring, disposal, handling, reuse and recycling in Weihai City to incentivize investment in recycling economies.

Indicator Description Progress Report Indicator 3.3: Status of legal and • The NMEMC of SOA has been conducting an inventory of marine regulatory process to control litter in YS and this report is expected to be completed in the pollution (cont.) middle of 2018. After consultation with national, provincial and municipal governments, Weihai City of Shandong Province is selected as a demonstration site to review the magnitude, sources and implications of marine litter, followed by development of incentive policies to attract investment in recycling economics to turn the waste into resources. Call for proposal for consultancy will be commenced in the January, 2018. • An intensive survey was carried out in Jeolla Namdo province to make an inventory of litter in land, river, coast and estuary by OSEAN (Our Sea of East Asia Network) to estimate marine litters in this province in November 2017. Beach litter survey methodology of the CSIRO (Commonwealth Science and Industrial Research Organization) was used for this survey. KIOST and OSEAN have carried out the abundance and accumulation patterns of plastic marine debris on 6 beaches in the Korean YS since 2016. Component 4: Improving Ecosystem Carrying Capacity with respect to Supporting Services Indicator 4.1: Areas of critical • The project will support the development of YSLME Biodiversity habitats

Conservation Plan 2018-2030. Towards this end, two consultants are being hired to review the conservation status of 23 potential priority sites identified by WWF, KMI and KIOST in 2007. A regional partnership forum to save biodiversity of YSLME will be held in May 2018 in Qingdao, PR China, to raise the awareness of biodiversity and discuss positive achievements, gaps, underlying causes to base objectives, targets and actions to be proposed in the conservation plan up to 2030. In order to better understand the implication of reclamation projects to PPAs, a consultant is being hired to review the approved reclamation up to 2015 in PR China and RO Korea, and understand any further reclamation from 2016 on. Two sites will be selected to achieve the species and habitat conservation targets including assessment of the impact of modification of areas of critical habitats, to be undertaken by the FIO under a PCA with UNOPS.

Yellow Sea MPA system

Indicator 4.2: level of ecological connectivity in expansion of the

Progress Report

• Eight key coastal wetland habitats critical for migratory water birds in Yellow Sea and Bohai Sea areas yet to put under effective protection are identified and defined by Paulson Institute, China Wetland Center and Institute of Geographic Sciences and Natural Resources Research of Chinese Academy of Sciences (CAS). The Project commissioned a study of biological and ecological significance of Xiaoyangkou intertidal mudflat of Rudong County, Jiangsu Province, one of the 8 critical wetlands. Based on the results of the survey, a technical proposal has been prepared to include an area of 50 KM2 as a special MPA at national level to protect the Spoon-billed Sandpiper (Calidris pygmaea), a critically endangered species with nearly 40% of its population wintering in Xiaoyangkou and the habitats for many other migratory waterbird species. The proposal has been submitted to local and provincial governments in support of their efforts to protect the intertidal mudflat of global significance. A similar initiative to expand MPA coverage of marine and coastal areas is under consideration in Ganghwa Island of RO Korea, one of tidal flats of the Han River estuary in Yellow Sea, the larger of the only two known breeding sites globally for the critically endangered Black-faced Spoonbill (Platalea minor). YSLME Project organized a MPA seminar in collaboration with UNESCAP NEAMPAN to raise the awareness of the significance of the intertidal mudflat of Ganghwa to speed up the process. Areas to be designated as MPA has not yet been determined.



Nearly 40% of the population of the critically endangered Spoon-billed Sandpiper (*Calidris pygmaea*) feed in Xiaoyangkou of Jiangsu Province of PR China during migration.



Extensive intertidal mudflat of Rudong, PR China.

Indicator Description Indicator 4.2: level of ecological connectivity in expansion of the Yellow Sea MPA system (cont.)

Progress Report

- As for analysis of country coastal management guidelines, identification of conservation areas according to planning zones, the 1st Meeting of RWG-H suggested to consider to mainstream the concept of "connectivity" in marine spatial plan or other zoning schemes as far as species migration is concerned in addition to its integration at MPA or site level. The activity to be undertaken by RWG-H experts will begin in early 2018 and expect to be completed in the same year.
- An international consultant is in place to prepare a proposal of a YSLME MPA network for review by the two countries.
- Engineering efforts in RO Korea are being made to build connectivity of marine and coastal ecosystems. In RO Korea, a 7 million US dollar project is now being implemented in Ganghwa to restore the ecosystem connectivity of intertidal mudflats through replacing a causeway linking Donggum-Do and Ganghwa-Do by a bridge between the two islands in RO Korea. Pre-project assessment of ecological effects have been conducted and postproject assessment is also integrated into the project.



A representative of the subcontractor explains results of pre-project assessment of ecological effects of the ongoing intertidal restoration project.

Indicator 4.3: Areas of critical habitats

- Surveys and production of overlays to analyze gaps and conservation needs of critical species and habitats, i.e. seal, endangered migratory birds, fish spawning and nursery grounds, cold water mass, etc. will be conducted by RWG-H.
 Recommendation will be made for designation of new MPAs
- In addition, a new monitoring project, "Fisheries Resources
 Changes based on Yellow Sea Ecosystem" will be implemented
 from 2018. The budget is totaled at 17.2 billion KRW for 5 years.
 The project is an expansion of the comprehensive ecosystem
 monitoring in coastal area to open sea.

Indicator Description	Progress Report
Indicator 4.4: Status of Regional Monitoring Network for application of ECBM	• TOR for a study on relationships between the changes of Yellow Sea Cold Water Mass (YSCWM) and structure of plankton communities and develop a regional strategy for adaptive management is cleared at the RWG-A. The project will deliver a draft a report for the relationships between the changes of YSCWM and structure of plankton communities, and a draft synthesis report along with regional strategy for developing adaptive management for demo site including Shandong Province to be undertaken by FIO/SOA under a PCA with UNOPS and in collaboration with KIOST of RO Korea.
	 A small grant program supporting community-based efforts in conducting participatory adaptation planning, preparedness, and awareness raising for implementation of the YSLME SAP still awaits to be designed and launched in 2018.
	• TORs are cleared for 1) regional assessment including trend of introduced species in the region; 2) development for regional strategies for long-term ecosystem forecasts, modeling, scenario analysis and sharing of estuary data; 3) development of monitoring network and programs for jellyfish, HABs, drifting macroalgae blooms and N/P/Si changes as well as climate change. Implementation will be initiated in 2018 through a PCA with FIO/SOA and self-funding from RO Korea.

3. Engaging Project Implementing Partners and Putting in Place Quality Assurance Mechanism

1. Engaging FIO/SOA, NMEMC/SOA and YSFRI/CAFS/MOA of PR China as Implementing Partners

In the section on Management Arrangements of the Project Document, State Oceanic Administration (SOA) is recognized for having successfully implemented national UNDPGEF projects in China with satisfactory implementation records as a national implementing partner and therefore will be engaged in the implementation of activities in this project. In the Project Document, the signatories (UNDP, UNOPS and SOA) further agrees that the scope of activities and the corresponding budget will be determined and approved by the Project Board within the first year of project start.

In UNOPS cooperative arrangements, national institutions can be engaged to implement project activities through a jointly signed Project Cooperation Agreement (PCA) to reflect national ownership, leadership and prioritization by national government. Based on initial consultation between the Secretariat and

Ministry of Oceans and Fisheries of RO Korea and State Oceanic Administration of PR China (SOA), and under the guidance of UNOPS, a list of activities and budget to be implemented by SOA has been established and approved by the 1st Meeting of the Interim Commission Council.

The MOU between UNOPS and SOA was signed on January 2, 2018, authorizing UNOPS to sign Project Cooperation Agreements (PCAs) with National Marine Environment Monitoring Center (NMEMC/SOA) of SOA, First Institute of Oceanography of SOA (FIO/SOA) and Yellow Sea Fisheries Research Institute of Ministry of Agriculture (YSFRI/MOA) respectively to implement regional and demonstration activities in the amount of US\$1,331,200 as agreed by the 1st meeting of the ICC. UNDP expressed no objection to engaging the three institutions to implement the approved project activities and budget. Project Cooperation Agreements between UNOPS and three institutions will be signed after review and clearance within UNOPS.

2. Technical Review by RWGs of TORs of Project Activities

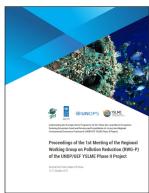
The PMO has organized six regional working group meetings which reviewed and refined TORs of relevant RWGs and approved a total of 44 TORs for subcontracts and consultants with a total budget of US\$1,606,700 for cooperation activities. A breakdown of date, venue and the number of TORs approved is illustrated below. Review and clearance of the TORs of the 44 activities in 2017 heralds a promising project implementation in 2018.













RWGs	Dates	Venue	Number of participants	Number of TORs approved	Total budget of activities (US\$)
Assessment and Monitoring	November 21-22	Incheon, RO Korea	18	8	310,000
Fish Stock	October 17-18	Yantai, Shandong, PR China	20	4	216,000
Governance	December 14-15	Seoul, RO Korea	23	6	153,700
Habitat	September 4-5	Incheon, RO Korea	13	8	291,000
Pollution Reduction	October 10-12	Dalian, PR China	20	14	518,000
Sustainable Mariculture	October 26-27	Rongcheng, PR China	15	4	118,000
TOTAL			109	44	1,606,700

4. Developing Partnership with Hans Seidel Foundation to facilitate participation of DPR Korea in YSLME initiatives

It is to the interest of all partners to revitalize the collaboration with DPR Korea in the project, with the objective of having the updated SAP jointly adopted by the three countries bordering the Yellow Sea. In this regard, the Secretariat was directed by first meeting of the ICC to explore opportunities of financial support from UN Agencies or organizations with field operations in DPR Korea to facilitate the participation of DPR Korea representatives in project meetings and workshops. Hans Seidel Foundation, a German political organization committed to promote democracy, peace and development, was invited to participated in the inception ceremony as well as the RWG-G meeting. Partnership is being pursued by YSLME to enhance its role in connecting DRP Korea with regional initiatives for peace and development of the Korean Peninsula. Recently YSLME Phase II Project and HSS mutually participated in events of each other and HSS agreed to facilitate the participation of YSLME activities by DPR Korea benefitting from its track record of engaging DPR Korea in environmental education, facilitating of DPR Korea to join Ramsar Convention and development of a roadmap in environmental protection in DPR Korea. Initial expectation for DPR Korea's participation in YSLME initiatives is to jointly develop and approve the YSLME Biodiversity Conservation Plan up to 2030.

5. Communication and Advocacy

A consultant is being hired to help refine and develop the YSLME communication strategy to help promote the YSLME Commission and engaging interest groups in supporting reduction of fishing efforts and promotion of IMTA, etc. Draft strategy will be developed in early March for review and approval at the MSTP and ICC. Initial efforts of communication and awareness raising during the reporting period include:

- A new project domain was secured as www.yellowseapartnership.org, as the original domain name www.yelme.org was already taken. Website is currently under construction and project meeting documents is now uploaded on a temporary website.
- The Project has produced and printed 300 copies of project brochure for ease of communication with stakeholders about the project. The 12-page brochure, both with maps, photos and graphs, contains context of YSLME, background and objectives, project components and linkage with YSLME SAP targets, organization framework and partnerships. It also illustrates the eight key transboundary environment challenges identified in the transboundary diagnostic analysis (TDA), and targets and actions as contained in the YSLME SAP.
- A TV documentary produced by China Central Television on implementation of IMTA through establishing carrying capacity in Sungo Bay of Shandong Province has been edited with English transcript for experience sharing with non-Chinese speakers.
- A piece of news report entitled Protecting the Home of Endangered Species was published on UNDP China website on April 30, 2017 to highlight UNDP/GEF initiative in the Yellow Sea to protect the endangered spoon-billed sandpiper by designating the Xiaoyangkou of Rudong as a national Marine Protected Area. The news report can be accessed through the following weblink: http://www.cn.undp.org/content/china/en/home/presscenter/articles/2017/05/14/protecting-the-home-of-endangered-species.html
- Project inception news was reported on UNDP China website as "Nations bind for better ocean protection" on July 17, 2017. The report can be accessed from UNDP China website.
 http://www.cn.undp.org/content/china/en/home/presscenter/articles/2017/07/17/nations-bind-for-better-ocean-protection.html
- Report of an MPA Seminar as a collaborative arrangement between UNESCAP and YSLME. For more information, please visit seminar website: http://www.neaspec.org/article/international-seminar-marine-protected-areas-yslme-and-north-east-asia

• YSLME Voluntary commitments to the UN Ocean Conference. The YSLME initiatives contributing to the implementation of Sustainable Development Goal 14 were registered as "Voluntary Commitments" and introduced YSLME SAP with identification of 11 regional targets aimed at restoring and maintaining the ecosystems capacity. Specifically, the YSLME Project has registered to achieve the following three deliverables as commitments to the SDG 14: 1) By December 2019, establish the YSLME Commission as a non-legally binding collaboration arrangement; 2) By December 2019, 25-30% of fishing boats are reduced using the year 2004 as the baseline to relieve the pressure on fish stocks; and By December 2020, 10 Marine Protected Areas (MPAs) are created in YSLME to contribute to 10% coverage of coastal and marine areas under conservation and management, using 2009 as the baseline. For more information, please click the link below: https://oceanconference.un.org/commitments/?id=19068

6. Enhancing delivery of resources and results

The delivery of project appears to be low compared with 1,794,803 US dollar target for 2017 due to late launching of the project for approval of AWP 2017 by ICC. The starting date of the project was on July 11, 2014, which was already 3 years behind. The Project delivered 605,841.53 USD in 2017, representing 33.48% of the approved budget. The accumulative expenditure is 1,035,860.12 USD, with an accumulative delivery of 13.6% of the total project budget, which is 7,562,430 USD.

Reasons for low delivery include: unrealistic annual project targets, time-consuming process in signing of PCA and mobilization of expertise, staff turnover, as well as need for improved proficiency of UNOPS procurement rules and process, etc.

While the delivery of resource is low, the 6 RWGs cleared a total of 44 TORs for consultancy and contracts worth of 1,606,700 USD under Component 1 (Governance), Component 2 (provisioning services), Component 3 (regulating services and cultural services) and Component 4 (regulating services), putting much hope for a promising delivery in 2018. In addition, co-financing from governments of the two countries have contributed to the progress of the achievement of SAP targets.

7. Recommendations on priorities in 2018

The year 2018 is critical to establishing YSLME Commission, making arrangements for extension of the project and testing of the robustness of the regional cooperation framework established in the SAP. For successful implementation of the project in 2018, the following recommendations are made to ensure the project twin objectives of restoring the ecosystem services of YSLME and establishing the YSLME Commission are achieved.

- 1. To speed up the implementation of the project, the PMO needs to ensure early clearance by UNDP and signing of PCAs with NMEMC/SOA, FIO/SOA and YSFRI/MOA of PR China with UNOPS. In addition, subcontracts which are not covered by PCAs should be initiated without any delay subsequent to the clearance of TORs by relevant RWGs. The project should strengthen the coordination and cooperation between the governments in two countries, and other related stakeholders. PMO needs to put top priority for finalizing the TYWP/AWP and coordinate to sign it for implementation upon approval by the ICC in late March, 2018. For workshops, meetings and conference in 2018, concept paper and programs should be prepared well before the 2nd meetings of MSTP and ICC to allow for discussion and meaningful inputs.
- 2. To pay much attention to documentation of the results and achievements of the project, enhance the communication with media, NGOs and local residents to raise public awareness of the state of Yellow Sea and urgency for immediate actions and increase the visibility of the project. PMO should proceed with early engagement of a consultant to prepare the communication strategy for review and approval by the second meetings of the MSTP and ICC. Priorities in communication in 2018 should be on the results of NSAP implementation in the two countries, YSLME biodiversity conservation and MPA network, development of IMTA GAP as well as training module on synergizing implementation of international laws in YSLME using EBM approach.
- 3. The PMO should be well prepared for MTR and project extension in the first two quarters of 2018. This involves the participation of MTR mission at the MSTP and ICC, field visits and meeting with key stakeholders, preparation for review and approval of project extension, and upon approval of extension, amend the PCAs with updated schedules of milestone deliverables of activities under PCA and under existing contracts.
- 4. To initiate the consultation process for setting up tasks forces to establish the YSLME Commission including on the rules of governance, sustainable financing and political declaration or MOU for signing by the two countries. Hopefully the procedure for establishing the Commission and the TORs for the three task forces(TFs) can be agreed at the 2nd meeting of the ICC.
- 5. To secure adequate co-financing for implementation of regional activities by the two countries. Subsequent to the consensus on the TORs of regional activities, both PR China and RO Korea need to mobilize adequate co-financing to implement the activities in spite of GEF support to implementation of activities in PR China. Inadequate funding in implementation of regional activities will deprive the opportunities of the two countries to test the effectiveness and efficiency of the ecosystem-based management of YS and consequently cast doubts and uncertainty on the meaningfulness of the YSLME Commission. To name but a few, the regional collaborative framework as agreed in the Project includes joint fish stock assessment in particular assessment of fishing closure in area and time; establishment and implementation of regional monitoring network and programs for nutrients, jellyfish, HAB and drifting macroalgae blooms, changes in ratio of N/P/Si, scenarios of

ecosystem changes; strengthening of YSLME MPA Network; implementation of YSLME Biodiversity Conservation Plan; and development and implementation of regional guidelines in line with FAO Code of Conduct for Responsible Fisheries. The project dual objectives of establishing the YSLME Commission and restoring the ecosystem goods and services through implementation of regional programs should go hand in hand.

- 6. To strengthen the coordination and facilitate the communication between the two countries, further efforts need to be made by UNDP and UNOPS through the PMO and Chairs of the RWGs, MSTP and ICC to help build consensus on management, technical and institutional aspects of project implementation. Trust, interest and mutual benefits as lessons learned from GEF International Waters portfolio should be upheld by all partners in successful implementation and sustaining the project results.
- 7. Last but not the least, to conduct capacity building of PMO and related stakeholders to improve project implementation from resource delivery and quality assurance. Targeted capacity development will focus on improved understanding of the procedure and efficiency in engaging expertise and consultancy, result-based management, efficient and effective organization and facilitation of cooperation between the two governments, etc.

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