



**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)**

**Proceedings of the 2nd Meeting of the Regional Working Group on Fish Stocks (RWG-F)
of the UNDP/GEF YSLME Phase II Project**

*Jeju, RO Korea
10-11 October 2018*

Table of Contents

Proceedings of the 2nd Meeting of the RWG on Fish Stocks	3
Opening of the meeting.....	3
Organization of the meeting	4
Adoption of agenda	4
Review Work plan for 2018 and 2019	4
Session 1: Review of implementation progress of activities related to reduction in fishing efforts in PR China and RO Korea	5
Progress with reduction of fishing efforts through buy-back scheme.....	5
Progress with reduction of fishing efforts through license system	7
Progress report on gear management	8
Session 2: Review the implementation progress of enhancing fish stocks through restocking and habitat improvement	9
Case study of marine ranching in Fuhan, Haiyang, PR China.....	9
Application of improved techniques of replanting seagrass and macroalgae in PR China.....	9
Marine ranching programs and replanting seagrass and macroalgae in RO Korea.....	9
Session 3: Assessment of fish stocks	11
Reporting on Stock Assessment Workshop in Tongyeong, RO Korea.....	11
Proposal on conducting simulation study to evaluate the stocks of small yellow croaker.....	11
Session 4: Review of progress in implementation of NSAP in PR China and RO Korea in setting protected areas for conservation of fishery resources.....	12
Time and Venue of next RWG-F meeting.....	13
Work plan for 2019.....	13
Wrap-up and closure of the meeting	Error! Bookmark not defined.
Annex 1: List of Participants	15
Annex 2: Programme	19
Annex 3: Summary Report.....	22

Proceedings of the 2nd Meeting of the RWG on Fish Stocks

Opening of the meeting

1. The 2nd Meeting of the Regional Working Group on Fish Stocks (RWG-F) of the UNDP/GEF YSLME Phase II Project was held in Lotte City Hotel, Jeju, RO Korea on October 10-11, 2018. Organized by the Secretariat, the meeting was participated by members of the RWG-F from RO Korea: representatives from the Korea Institute of Ocean Science and Technology (KIOST), Korea Maritime Institute (KMI), National Institute of Fisheries Science (NIFS), Korea Fisheries Resources Agency (FIRA), and Pukyong National University; and from PR China: Bureau of Fisheries, Yellow Sea Fisheries Research Institute of Chinese Academy of Fishery Sciences (YSFRI/CAFS), Modern Fisheries of Yantai University, and Shandong Academy of Social Science. The Project Manager/Chief Technical Adviser and project management office staff were also present in the two-day meeting.
2. The meeting was chaired by Mr. Xianshi JIN of PR China and co-chaired by Mr. Junghee CHO of RO Korea. In his opening remarks, Mr. CHO briefly introduced the background of the project, including the processes of the TDA and SAP from Phase I, key issues under the mandate of the RWG-F in Phase II, and a positive vision for a sustainable implementation of project activities for the long-term perspective in preparation for a possible Phase III project.
3. Mr. Yinfeng GUO, Chief Technical Adviser and Project Manager, expressed the Secretariat's appreciation for the well representation of institutions from both countries. He highlighted the RWG-F mandate as indicated in the TOR approved during the first meeting of the Interim Commission Council (ICC), and the encouraged the Meeting to focus on the objectives: 1) to assess the implementation progress of the YSLME Strategic Action Programme's targets 1 and 2, which are related to the reduction of fishing resources and rebuilding of the over-exploited marine resources, respectively, and 2) to enhance the capacity of the national and local governments in monitoring and assessment of fish stocks and evaluate the effectiveness of the licensing closure and restocking management measures. Lastly, Mr. GUO urged the delegates to come up with recommendations to be adopted and discussed in the third ICC meeting.
4. The participants went through a round of self-introduction of their names, organizations and expertise related to the mandate of the RWG-F. The list of participants is attached to this report as Annex I.

Organization of the meeting

Adoption of agenda

5. Mr. Yinfeng GUO introduced the agenda and explained in detail the working arrangements and substance of the meeting, which was divided into four sessions: 1) Review of implementation progress of activities related to reduction of fishing efforts; 2) Review of implementation progress of enhancing fish stocks through restocking and habitat improvement; 3) Fish stock assessment; and 4) Review of implementation progress of NSAP in PR China and RO Korea in setting protected areas for conservation of fishery resources.
6. Participants agreed on the working arrangements and the provisional agenda was adopted as is. The final agenda is provided as Annex II.

Review Work plan for 2018 and 2019

7. The Secretariat presented the targets of 2018; implementation status of activities, including PCA activities; issues and recommendations; and follow-up activities to seek advice from the Meeting.
8. Ms. Xiujuan SHAN of PR China requested the PMO to explain further the follow-up activities under issues and recommendation 1) Conduct stock assessment on small yellow croaker and 2) Exchange of information on swimming crab and consider participation of representatives of provincial government and affiliated fishery management experts.
9. In response, Mr. ZHU said the list of follow-up activities was made based on the recommendations from experts during the workshop on stock assessment held in Tongyeong last July 29-30, 2018. More details will be discussed in his presentation under "Session 3: Reporting on Stock Assessment Workshop and follow-up activities" of the meeting.
10. In response to Mr. CHO's question on socioeconomic assessment, Mr. GUO explained that the Project covers two sequential socioeconomic activities: 1) Understand the implication of the fishing boat buyback scheme (ongoing) and 2) Based on the assessment, include supporting activities in terms of education and professional skills training for re-employment of displaced fishermen. Mr. GUO also emphasized the UN's initiative to support the recovery of fish stocks and reduction of fishing efforts while ensuring social safeguard.
11. On the collaboration issue between two countries, Mr. GUO suggested possible areas of collaboration such as monitoring programs and organization of a workshop in a specific study, which can be reflected through MOU with institutes.

12. Mr. Xianshi JIN expressed that there is no budget to have exchanges of scientists to conduct field research between two countries. He suggested the use of email in sharing research and progress updates.
13. Mr. Junghee CHO and Ms. Sunyoung CHAE raised a concern on the lack of information update in RO Korea's side. Ms. CHAE pointed out that RO Korea was not updated on the decision and progress of demo sites in PR China and the contract signing made with Nanjing University for Activity 1 "Assess socioeconomic implications of buy-back schemes." She requested the PMO to enhance communication in the future.
14. With regards to the reporting of progress of activities, Mr. CHO and Ms. CHAE requested the PMO to provide more details in the content of the presentation (e.g how each activity is done or progressing, experts involved) to give each country ideas on how the other side is doing their part and how they could improve in certain aspects.

Session 1: Review of implementation progress of activities related to reduction in fishing efforts in PR China and RO Korea

15. Both PR China and RO Korea presented implementation progress of the fishing vessel buy-back scheme, a policy adopted by the two countries to reduce pressure on depleted fish stock in the Yellow Sea region.

Progress with reduction of fishing efforts through buy-back scheme

16. Ms. Xiujuan SHAN, of YSFRI, presented the severe decline in marine fishery resources and effectiveness of the buy-back scheme in PR China. Major achievements include the reduction of 16,000 vessels and one million kW from January 2016 to July 2018; improvement of fishermen's employability and increase in income; promotion of prosperity of fishing areas; optimization of fishery industry structure; and tamping foundation of modern fishery, among others.
17. In her presentation, Ms. SHAN highlighted the following difficulties faced in the implementation of the activity: insufficient support policy on transferring job; social security system in the fishing zone is not perfect, leading to some fisherman's re-flux into fishing industry; fisher folks' low overall education leading to difficulties in transferring; employment space is rather narrow since most of the converted fishermen absorb and digest inside the fishery; and financial difficulties.
18. Mr. Jae Ryoung OH, National Coordinator of ROK, acknowledged the work done by PRC and asked about the arrangement of converting job in the aspect of tourism development.

19. In response, Mr. Jiting SUN, professor from Shandong Academy of Social Science in PR China, gave examples of special accommodation built with cultural value to clarify the transition in industry and job.
20. Mr. Dohoon KIM, professor from Pukyong National University in ROK, meanwhile, asked about the time, target and degree of effectiveness of the buy-back scheme in PRC.
21. Mr. Yinfeng GUO said that if fully implemented in both countries, there will be a reduction of 13.4 percent of fishing vessels by 2020, and a remarkable reduction of up to 2017 in RO Korea, above the project target of 10 percent reduction of fishing vessels using 2014 as the baseline year.
22. Mr. Junghee CHO commented that in terms of fishing license, PR China has a more adequate system than RO Korea. However, there is no platform for the two countries to share information. He said he hopes that experts could work together to study and realize the establishment of a platform that could improve communication and collaboration between both sides.
23. Mr. Dohoon KIM presented a report on the decreasing trend in coastal and offshore fisheries production in RO Korea, and the implementation and effectiveness of the buy-back scheme in the country. A total of 7,882 vessels (coastal and offshore) were reduced in the Yellow Sea region from 2004 to 2016. Mr. Xianshi JIN informed the meeting of a significant reduction of annual total allowable catch from 13 million tons to 10 million tons from inshore and offshore capture fisheries, or 25 percent reduction to be achieved in 2018.
24. Under conclusion and suggestions, Mr. KIM said the reduction of fishing powers, like the buyback program and the control of catching (e.g. TAC), are more needed for recovering fishery resources in Yellow Sea. He further suggested that there should be more researches on the main causes for stock changes (e.g. overfishing, impacts by climate change and marine environments, fishing competition with neighboring countries, illegal fishing activities).
25. Asked on the situation of fisherman's transferring of job in RO Korea, Mr. KIM said the situation in the country is similar with PRC and that fishermen have difficulties in terms of ranching investment and age limitation.
26. The Chair explained that PR China's implementation differs from RO Korea's side in the sense that Chinese experts implemented dual reduction in vessel number and horsepower. He added that PRC focused on the strength of fishing more than the reduction of number of vessels. He also cited the trend of ranch-substitute fishing as the major output belonging to ranching.

27. Mr. Yangjae IM, from NIFS of RO Korea, concluded the general reduction of fishing efforts with changes in gear, size and output. He suggested that both countries should control to follow the set limitation.
28. Overall, the Meeting appreciated the efforts of the two countries in controlling both fishing vessel numbers and horsepower, and underscored the need of dual reduction for the buy-back scheme to be more effective.
29. Among the key factors suggested for consideration in assessing the results and effectiveness of the program are regular surveys on fishery resources, understanding of the life history of commercially important species and scientific stock assessment of selected species.

Progress with reduction of fishing efforts through license system

30. Mr. Yue JIN of YSFRI introduced the progress of application of license system as an input control system with restriction of fishing unit vessel, reduction of fishing gear quantity and control of catch capacity in PR China. He highlighted the use of double control of fishing license system, which means control of non-transferable fishing license and one vessel per license.
31. Mr. Yinfeng GUO reminded the Meeting that as stated in the terms of reference and as agreed during the first meeting of the RWG-F, existing methodologies and indicators should be included in the report to assess the license of fishing gear, fishing waters, fishing time, and fishing target species; and to come up with better assessment on the effectiveness of the license system.
32. Mr. Yangjae IM of ROK recognized the reduction of fishing efforts through license system in PRC and asked for further discussion on the implementation of license system.
33. In response, Mr. Yue JIN explained that several control methods such as license system and prohibition of fishing in summer were used. He added that there was a need to combine control methods as the effectiveness of fishing efforts reduction could not be calculated solely based on a single control system.
34. Ms. Xiujuan SHAN shared supplementary development details in terms of specific year, government sections, legislation, and regulations. She emphasized the importance of license for allowance of fishing by identifying the penalty and punishment in PRC and joint punishment between ROK and PRC.
35. Mr. Jungsam LEE of KMI introduced RO Korea's license system, including production and policy goals, fisheries management, limited access by permit system, and challenges and cooperation.

36. Mr. Yinfeng GUO commended RO Korea's detailed presentation, especially the inclusion of the review of policy and legal adequacy, institutional capacity and challenges, which were included in the TOR. He also invited representatives from PR China to give feedback on their side and provide updates on the increase of the ongoing TAC coverage.
37. The Chair compared the situation between PR China and RO Korea in terms of fishing gear. He emphasized that it is important to keep an eye on discarding of fishing gear because of environmental concerns.
38. Mr. Jungsam LEE pointed out that although reduction of fishing efforts is the official target, the trend for future development also includes other focuses like protecting resources.
39. Ms. Xiujuan SHAN of PR China added that with socioeconomic developments, there might be changes in trends and indicators like the measurement of marine ecosystem resources.
40. Mr. JIN pointed out the difficulty in implementing TAC management system on specific species due to the interrelationship among several species. For the management of ecosystem, PR China conducted control of total amount of fishing by setting limitation on the exact total number regardless of the species of fishes.
41. In response to the decrease in fishing grounds and fisheries production, expanding fishing vessel reduction, enhancing stocks (ranching, fry release, artificial reef), strengthening scientific stock assessment, and increasing ALD (abandoned, lost or discarded) fishing gear retrieval could be the key areas in gear management and cooperation between the two countries.

Progress report on gear management

42. Mr. Zhongyi LI of YSFRI introduced the fishing gear management in PR China by identifying permitted, special permitted, prohibited and transitional fishing gear. He also explained the minimum catch-able body-length for 15 important economical fishes.
43. Mr. Donghoon GO of KMI, meanwhile, reported on the progress of fishing gear management in RO Korea. He explained major policies, including legislation and extension of management area, and identified recent issues on ghost fishing and illegal gear.
44. The use of gill net, pot stow net-long-bag set net, modified magnet and ghost fishing, which involves hundreds of billions of KRW in economic loss, are prohibited in RO Korea. Also under discussion in the country is the gear management act that will

regulate registration, responsibility for clearance and gear sale report. Biodegradable gear is also eyed as a promising alternative; while challenges in costs to individuals, biodegradability in the long-run and ecosystem recovery rate will yet to be overcome.

45. Mr. Yue JIN of PR China suggested standardization of gear for better arrangement and organization. He also emphasized the importance of cooperation between two countries.
46. Reducing low selectivity of gear and eco-friendly or biodegradable gear are to the interest of both countries in the future, together with enforcement of existing management measure.

Session 2: Review the implementation progress of enhancing fish stocks through restocking and habitat improvement

Case study of marine ranching in Fuhan, Haiyang, PR China

47. Ms. Lei WANG, from Modern Fisheries Institute of Yantai University in PR China, introduced the general situation of marine ranching in Fuhan, Haiyang of Shandong Province, including construction process, fishery resources enhancement, ecological optimization, establishment of recreational fishery facilities, project exploitation, implementation effects, and future plan.

Application of improved techniques of replanting seagrass and macroalgae in PR China

48. Ms. Xiujuan SHAN presented on behalf of Ms. Yaping GAO, who conducted the research and report on the application of improved techniques of replanting seagrass and macroalgae in PR China. The content included a background of the seagrass in the country, technical route (reproduction and growth stage), method and data, progress, and timeline of future plan.
49. Ms. SHAN discussed the construction of marine ranching in terms of location and depth of ocean, and highlighted the program's contribution to resource enhancement and environmental protection in the country. She also mentioned key factors in replanting seagrass and macroalgae in relation to the rate of survival, specific sea area and spawn, among others.

Marine ranching programs and replanting seagrass and macroalgae in RO Korea

50. Mr. Taegeon OH, Principal Researcher at the Fisheries Resources Department of KMI, introduced marine ranching programs and progress of seagrass and macroalgae replanting in RO Korea. He discussed the status of fisheries resources enhancement and explained the basic concept; structure, functions, and installation of artificial reefs

(AR); creation of marine forests; release of marine seeds; monitoring of TAC; and key map of fisheries resources enhancement projects in the country.

51. Mr. Sungho SUH of FIRA noted that both RO Korea and PR China used different technologies suitable for each country's needs to develop marine ranching programs. PRC used mariculture system while ROK did not. He urged members of the regional working group to strengthen communication and collaboration in sharing resources.
52. Mr. JIN of PR China seconded Mr. SUH's call for strengthened collaboration through sharing of information. He emphasized that marine ranching could improve marine fundamental production ability and enhance water quality by absorbing carbon dioxide, nitric elements, phosphorous elements, sewage, etc. He also highlighted the significant development of marine ranching in Shandong Province through contributing factors such as geographical advantage (shallow depth of water), absence of typhoon and engagement of motivated corporations.
53. Mr. SUH also raised the importance of periodic management of marine forests and marine ranches.
54. Asked by ROK National Coordinator Mr. Jae Ryoung OH on the attitude of Chinese fishermen toward marine ranching, Mr. JIN explained that marine ranching in PRC is not managed by fishermen, but rather by corporations that have governmental subsidies and scientists hired for technological support. He also pointed out that with economic benefits and enhancement of system as the main targets, such collaborative effort has led to an outstanding management.
55. Mr. Junghee CHO suggested that considering the differences in marine ranching between PRC and ROK, more opportunities like meetings or workshops should be conducted to provide an avenue for experts from both countries to share information. He added that this can be scheduled at the end of 2018 or some time next year.
56. On Mr. Qiang WU's question about TAC calculation function of marine ranching in RO Korea, Mr. SUH explained that there was no specific report and calculation of marine ranching but with survey on specific targets. There was also no specific report of marine ranching on fish stock but with calculations of related economic development.
57. Mr. CHO added that TAC was not applied to marine forests and marine ranches in ROK.

Session 3: Assessment of fish stocks

Reporting on Stock Assessment Workshop in Tongyeong, RO Korea

58. In line with the target of the UNDP/GEF YSLME Phase II Project to recover depleted fish stocks by taking a combination of measures ranging from reducing fishing efforts to restocking, the Secretariat organized the Korea-China Workshop on Stock Assessment in Tongyeong, RO Korea, last July 30-31, 2018. Co-hosted by the Ministry of Oceans and Fisheries of RO Korea and the State Oceanic Administration and Ministry of Agricultural and Rural Affairs of PR China, the workshop was attended by more than 20 fisheries experts and researchers from nine research institutes, universities and public agencies (MOF, NIFS, KOEM, KIOS of ROK; MARA, YSFFRI and FIO of PRC; and NOAA and UCSB of the United States of America).
59. The Secretariat presented the findings and conclusions of stock assessment in general, on small yellow croaker, and on swimming crab. Follow-up activities for consideration were also discussed and are as follows: 1) Simulation study to evaluate the effects of problems on fishery stock assessment, using small yellow croaker as an example, and 2) Follow-up exchanges of information on swimming crab can consider participation of representatives of provincial governments and affiliated fishery management experts.

Proposal on conducting simulation study to evaluate the stocks of small yellow croaker

60. Ms. Xiujuan SHAN introduced the proposal on conducting a simulation study to evaluate the stocks of small yellow croaker through Depletion-based Stock Reduction Analysis (DB-SRA).
61. Mr. Yangjae IM of RO Korea raised a question on methodology to evaluate catch records when exchanging information between two nations.
62. In response, Ms. SHAN said that compared to formal methodology, the DB-SRA model is easier to realize and if agreed by both sides, the model could be further developed. She underscored that the current problem is the challenge on information sharing between countries, and reiterated the need for better communication and collaboration to develop a methodology for efficient collection of records.
63. Mr. Yangjae IM expressed that RO Korea can provide data if requested by PR China side, and emphasized that further cooperation is needed to evaluate records using the same methodology for a mutual study and recognition.
64. Mr. Yinfeng GUO recalled a discussion between experts from RO Korea and PR China about the piloting of swimming crab TAC in Zhejiang Province. He shared that Chinese

experts provided positive feedback and are willing to exchange information like the lessons learned, theorem, and methodologies used in the pilot project. Mr. GUO suggested to invite an expert to give a presentation in the next RWG-F meeting. He added that since the TAC is not done by the national government but rather by the local government, it would be beneficial to engage and learn from local experts.

Session 4: Review of progress in implementation of NSAP in PR China and RO Korea in setting protected areas for conservation of fishery resources

65. Mr. Qiang WU from the Division of Fishery Resources and Ecosystem of YSFRI presented the progress in national marine aquatic germplasm resources conservation zones (AGRCZ) in PR China. He discussed the general background, construction and management route of AGRCZ, implementation progress, list of AGRCZs, and future work plan.
66. Mr. Dohyoon GO of RO Korea requested Mr. WU to explain the differences between AGRCZs and marine protected areas (MPAs), especially in terms of management.
67. In response, Ms. Shanshan WU explained that AGRCZs and MPAs in PR China are regulated and managed by different governmental sectors with different laws and regulations. There is an ecological red line to divide protected areas and included in it are MPAs and core areas of AGRCZs. Since the experimental area of AGRCZ is not part of the ecological red line, it could be understood that the AGRCZ management is not as strict as the MPAs.
68. Mr. Zhenguang ZHU of the PMO also pointed out that AGRCZs have a target of protecting fishery species, while the MPAs do not have.
69. Regarding the question raised by Mr. Suk-Jae KWON, of RO Korea, on the standard for assigning AGRCZ and communication with nearby fishermen in PR China, Ms. WU explained that the AGRCZ implementation was conducted according to official regulations. She added that proper communication was made to ensure harmonious construction of AGRCZs.
70. Mr. Xianshi JIN added that Chinese fishermen showed understanding and support for pursuit of mutual and long-term benefits in the conservation of fishery resources.
71. Mr. Suk-Jae KWON introduced the implementation progress of NSAP for the fishery section in ROK. He identified the significance of evaluation, progress in targets 1 and 2, suggestions, and future work plan. Among the highlighted suggestions were the need for: joint researches for optimal ABS evaluation and implementation of fishery management; adjustment of number of fishing vessels and harvest; social welfare policy for fishermen; establishment of database for information exchange; reduction of

bottom rawl fishery; derivation optimal mesh size to protect by catch; expert meeting for TAC; and, collaborative research project to share and develop technology.

72. Mr. JIN noted that the two countries expressed interest in preparing separate reports using the same indicators and format on the first two targets of SAP coordinate by the PMO.
73. The meeting was reminded of the need for final clearance of the review reports by authorities of both countries. Meanwhile, the two countries expressed interest in preparing separate reports using the same indicators and format on the first two targets of SAP coordinated by the PMO.

Time and Venue of next RWG-F meeting

74. The Meeting agreed that the third RWG-F meeting be held in an inland city in PR China in September 2019. The PMO is expected to coordinate necessary arrangements and announce further details after consultations are made with the two countries.

Work plan for 2019

75. Ongoing activities in 2018 to be carried over in 2019 and newly initiated activities in 2019 were introduced by the Secretariat. The meeting made the following suggestions on activities to be implemented in 2019:

No.	Activity	Action plan
7	Livelihood support and education to increase reemployment for displaced fishermen	PMO to consult with UNOPS on modality. Option 1: Use of PCA Option 2: Use of RFQ
8	Conduct regional experience sharing workshops on marine ranching and stock enhancement	Both sides agreed to delete this activity and shift 30,000 USD budget to simulation study.
9	Joint study of fish behavior/gear selectivity	PMO suggested to combine this activity with next RWG-F.
10	Study visit to improve techniques of artificial reefs construction and placement	Four experts from each side can be sponsored for the field trip of marine ranching area. (One scientist who participated in Activity 4 should be included.) <ul style="list-style-type: none"> • <i>Date:</i> The meeting suggested that ROK experts visit PRC in May; and PRC experts will visit ROK in June • <i>Venue:</i> 3 demo sites each
11	International conference on regional ocean governance/ science-based fishery management	May be combined with PICES annual meeting.

		<ul style="list-style-type: none">• <i>Date:</i> 2020• <i>Venue:</i> PR China
--	--	--

76. Mr. CHO from ROK mentioned the meeting was meaningful and suggested a joint report on each activity should be provided. Therefore, ROK is willing to contribute to write a Korean part of report.
77. Ms. SHAN agreed with Mr. CHO and emphasized that publishing the joint report and that kind of joint works are core parts of YSLME cooperation and in line with the objective of the project.
78. In response to ROK and PRC, Mr. JIN requested the draft table of contents and format of NSAP report.

Wrap-up and closure of the meeting

79. Mr. Junghee CHO, vice-chair from RO Korea, expressed his sincere gratitude to the participants for showing open-mindedness and cooperative attitudes that contributed to the overall success of the meeting. On behalf of RO Korea's delegation, he also commended Mr. Xianshi JIN's efficient chairmanship, especially in terms of sticking with the time schedule, and the PMO for the organization and facilitation of the meeting.
80. Ms. Xiujuan SHAN of PR China also thanked the participants and said that PR China is looking forward to welcome the RO Korea delegation in next year's RWG-F meeting in PRC.
81. Mr. Yinfeng GUO acknowledged the efforts of the two countries and commended the speakers for providing substantial presentations that will hopefully serve as a good template for RWG-F's future work. Lastly, he thanked the Meeting's spirit of cooperation and said he is hopeful that such will be carried out for the years to come.
82. The Chair thanked the participants for their cooperation and patience. The meeting was closed at 12:24 PM on 11th October 2018.

Annex 1: List of Participants

2nd Meeting of the Regional Working Group on Fish Stocks (RWG-F) of the UNDP/GEF YSLME Phase II Project

Lotte City Hotel, Jeju, RO Korea, 10 - 11 October 2018

Lists of Participants

Mr. Xianshi JIN

Director General
Yellow Sea Fisheries Research Institute (YSFRI),
Chinese Academy of Fishery Sciences (CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: jin@ysfri.ac.cn

Ms. Lei WANG

Assistant professor
Modern Fisheries Institute of Yantai University
No.30 Qingquan Road, Yantai,
Shandong,264005, PR China,
Email: snowylei738@aliyun.com

Ms. Xiujuan SHAN

Deputy Director
Division of Fishery Resources and Ecosystem
Yellow Sea Fisheries Research Institute (YSFRI),
Chinese Academy of Fishery Sciences (CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: shanxj@ysfri.ac.cn

Mr. Qiang WU

Associate Professor
Division of Fishery Resources and Ecosystem
Yellow Sea Fisheries Research Institute (YSFRI),
Chinese Academy of Fishery Sciences (CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: wuqiang@ysfri.ac.cn

Mr. Tao YANG

Assistant Professor
Division of Fishery Resources and Ecosystem
Yellow Sea Fisheries Research Institute (YSFRI),
Chinese Academy of Fishery Sciences (CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: yangtao@ysfri.ac.cn

Ms. Shanshan WU

Vice Director
Division of Resources and Environmental
Protection, Bureau of Fisheries
Ministry of Agriculture,
No.11Nongzhannanli Road, Chaoyang District,
Beijing, 100125, P.R. China
Tel: +86-010-59192934
Email: wsswork@163.com

Mr. Jiting SUN

Professor
Shandong Academy of Social Science
Shandong Academy of Marine economics and
Culturology
No.56 Shungeng Road, Jinan, Shandong,
250002, PR China
Email: sjiting@hotmail.com

Mr. Zhongyi LI

Associate Professor
Division of Fishery Resources and Ecosystem
Yellow Sea Fisheries Research Institute
(YSFRI), Chinese Academy of Fishery Sciences
(CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: lizy@ysfri.ac.cn

Mr. Yue JIN

Post Doc
Division of Fishery Resources and Ecosystem
Yellow Sea Fisheries Research Institute
(YSFRI), Chinese Academy of Fishery Sciences
(CAFS)
No.106 Nanjing Road, Qingdao, Shandong,
266071, PR China
Email: Jinyue@ysfri.ac.cn

Mr. Jae Ryoung OH

ROK National Coordinator
Research Counselor
South Sea Research Institute,
Korea Institute of Ocean Science and
Technology(KIOST)
41 Jangmok-myon, Geoje, Gyungnam,
656-834, ROK
Email: jroh@kiost.ac.kr; jaekordi@gmail.com

Mr. Yangjae IM

Head of Center/Senior Researcher
National Institute of Fisheries Science (NIFS)
38 Cheongdaegukchi-gil, Tongyeong-si
Gyeongsangnam-do
53064, ROK
Email: ocean1982@korea.kr

Mr. Jungsam LEE

Director of Fisheries Resources Research
Department
Korea Maritime Institute(KMI)
26 Haeyang-ro 301 beon-gil, Yeongdo-gu,
Busan, 49111, RO Korea
Tel: +82-10-3356-2435
Email: jlee8793@kmi.re.kr

Mr. Sungho SUH

Chief of Resources Enhancement Division
Korea Fisheries Resources Agency (FIRA)
4, idong-gil, Ichoen-ri, Gijang-gun, Busan
46041, RO Korea
Tel +82-51-718-2401, +82-10-7111-3313
Email: shseo@fira.or.kr

Mr. Suk-Jae KWON

Principal Research Scientist
Ocean Innovative Market Research Section
Korea Institute of Ocean Science & Technology
(KIOST)
385, Haeyang-ro, Yeongdo-gu, Busan, RO Korea
(49111)
Tel: +82-10-6202-7675
Email: sjkwon@kiost.ac.kr

Mr. Junghee CHO

Director General
Fisheries Research Division
Korea Maritime Institute (KMI)
26 Haeyang-ro 301 beon-gil, Yeongdo-gu,
Busan, 49111, ROK
Email: jcho5901@kmi.re.kr;
Kingfish21@gmail.com

Mr. DoHoon KIM

Professor
Pukyong National University
(48513) 45, Yongso-ro, Nam-Gu, Busan, RO
Korea
Tel: +82-10-7256-3232
Email: delaware310@pknu.ac.kr

Donghoon GO

Senior Researcher
Fisheries Resources Research Department
Korea Maritime Institute(KMI)
26 Haeyang-ro 301 beon-gil, Yeongdo-gu,
Busan, 49111, RO Korea
Tel: +82-10-8702-6741
Email: donghun.go@kmi.re.kr

Mr. Taegeon OH

Principal Researcher
Chief of Resources Enhancement Division
Korea Fisheries Resources Agency(FIRA)
4, idong-gil, Ichoen-ri, Gijang-gun, Busan
46041, RO Korea
Tel +82-51-718-2403, +82-10-6730-5117
Email: dharta@fira.or.kr

Ms. Sohyun Hong

Research Assistant
Ocean Innovative Market Research Section
Korea Institute of Ocean Science & Technology
(KIOST)
385, Haeyang-ro, Yeongdo-gu, Busan, RO
Korea (49111)
Tel: +82-10-6558-0532
Email: s0123hong@kiost.ac.kr

UNDP/GEF YSLME PHASE II - PROJECT MANAGEMENT OFFICE

Mr. Yinfeng GUO

CTA/Manager
5th Floor, G-Tower, 175 Art center-daero,
Yeonsu-gu, Incheon 22004, RO Korea
Tel: +82-10-4003-6880
Email: YinfengG@unops.org

Mr. Zhengguang ZHU

Environment Officer
National Marine Environment Monitoring Center
of State Oceanic Administration
42 Linghe Street 42 Dalian 116023 PR China
Email: ZhengguangZ@unops.org

Mr. Minsoo Kim

Operations Associate
5th Floor, G-Tower, 175 Art center-daero,
Yeonsu-gu, Incheon 22004, RO Korea
Tel: +82-10-9301-5102
Email: MinsooK@unops.org

Ms. Weijia CHEN

Communication Intern
5th Floor, G-Tower, 175 Art center-daero,
Yeonsu-gu, Incheon 22004, RO Korea
Tel: +82-10-9581-2636
Email: WeijiaC@unops.org

Ms. Nera Mariz Puyo

5th Floor, G-Tower, 175 Art center-daero,
Yeonsu-gu, Incheon 22004, RO Korea
Tel: +82-10-9301-5102
Email: MinsooK@unops.org

Annex 2: Programme

2nd Meeting of the Regional Working Group on Fish Stocks (RWG-F) of the UNDP/GEF YSLME Phase II Project

Lotte City Hotel, Jeju, RO Korea, 10 - 11 October 2018

Programme

9 October (Tuesday) Arrival of Participants	
Day 1: 10 October (Wednesday)	
08:30~09:00	Registration for participants
09:00~09:20	Opening of the meeting <ul style="list-style-type: none">- Welcome addresses- Introduction of the members and participants
09:20~09:40	Organization of the meeting <ul style="list-style-type: none">- Review and adoption of agenda
09:40~10:10	Review of progress of workplan activities in 2018 <p>PMO will present the targets of 2018, implementation status of activities in 2018 in relation to the mandate of RWG-F including PCA related activities, and issues and recommendations to seek advice from members of RWG-F</p> <p>Speaker: Zhengguang ZHU, YSLME PMO</p>
10:10~10:30	Photo and Coffee Break
10:30~12:00	Session 1: Review the implementation progress of activities related to reduction in fishing efforts Progress with reduction of fishing efforts through buy-back schemes in PR China and RO Korea and its effectiveness <p>In this section, both PR China and RO Korea will present the progress of fishing vessel buy-back scheme, a target the project has agreed to achieve.</p> <ul style="list-style-type: none">- Report of PR China on implementation of buyback scheme and its effectiveness in Yellow Sea Speaker: Xiujian SHAN, YSFRI- Report of RO Korea on implementation of buyback scheme and its effectiveness in Yellow Sea Speaker: Dohoon KIM, Pukyong National University <p>Notification: Due to fisheries resources over-exploration in YS, both ROK and PR China have adopted the policy of fishing vessel buyback scheme to reduce the pressure on depleted fish stock since 2000. The presentation is expected to brief the number of fishing boats</p>

	decommissioned from the fleet from 2014 on and the status of major commercially fish stocks. The expert is expected to talk about the surveys of harvest before and after buyback scheme, target and non-target species for use to measure the effectiveness of the buy-back and closure scheme, composition of catches, yield biomass, etc.
12:00~14:00	Lunch and Break
14:00~15:30	<p>Progress with reduction of fishing efforts through license system in PR China and RO Korea In this section, both PR China and RO Korea will present the progress of application of license system in PR China and RO Korea.</p> <ul style="list-style-type: none"> - Report of PR China on the progress of application of license system in Yellow Sea Speaker: Yue Jin, YSFRI - Report of RO Korea on the progress of application of license system in Yellow Sea Speaker: Jungsam LEE, KMI <p>Reporting the progress on gear management</p> <ul style="list-style-type: none"> - Presentation of the fishing gear management in PR China Speaker: Zhongyi LI, YSFRI - Presentation of the fishing gear management in RO Korea Speaker: Donghoon GO, KMI <p>The presentation will be followed with Q&A and discussions</p> <p>Notification: As mentioned in part one, the reduction fishing efforts including analysis of what works and what does not work, and identify of areas for further improvement of management tools. In this section, the presenter is expected to brief the progress of application of license system which should include the following parts:</p> <ul style="list-style-type: none"> • Identify the indicators to assess the license of fishing gears, fishing waters, fishing time, and fishing target species; • Progress with achievement of the targets of “measurable improvement (5% in accordance with project targets) in standing stock and catch per unit effort; • Analyze advantages and disadvantages, the problems, the potential technical and administration needs, and lessons learnt and recommendations to improve license system. <p>The presentations could follow up with discussion on comparison of similarities and differences of the license system between PR China and ROK, and the identify areas of capacity development and experience exchange,</p>
15:30~15:40	Coffee break
15:40~18:00	<p>Session 2: Review the implementation progress of enhancing fish stocks through re-stocking and habitat improvement</p> <ul style="list-style-type: none"> - Case study of marine ranching in Fuhan, Haiyang, PR China Speaker: Lei WANG, Yantai University - Application of improved techniques of replanting seagrass and macroalgae, PR China Speaker: Xiujuan SHAN, YSFRI - Marine ranching programs and replanting seagrass and macroalgae in RO Korea Speaker: Sungho SUH & Taegeon OH, FIRA <p>The presentation will be followed with Q&A and discussions</p>

	In this section the experts will brief the progress of marine ranching and share the status of ranching, management practices and results of implementation for information sharing and lessons learning.
18:00~	Dinner hosted by PMO
Day 2: 11 October (Thursday)	
09:00~10:30	Session 3: Assessing fish stock <ul style="list-style-type: none"> - Reporting on Stock Assessment workshop held in Tongyeong, July 29-30, and follow-up activities Speaker: Zhengguang ZHU, YSLME PMO - Presentation of the Proposal on conducting Stimulation study to evaluate the stocks of Small Yellow Croaker Speaker: Xiujian Shan, YSFRI
10:30~10:45	Coffee break
10:45 ~12:00	Session 4: Review of progress in implementation of NSAP in PR China and RO Korea in setting protected areas for conservation of Fishery resources <ul style="list-style-type: none"> - Report of PR China Speaker: Qiang WU, YSFRI - Report of RO Korea Speaker: Suk-Jae KWON, KIOST <p>This is a part of the assessment of implementation of NSAP in relation to conservation of areas of conservation for fishery resources reporting the progress of implementation of Activity 3: to analyze gaps and conservation needs of critical species and habitats for fish spawning and nursery sites including cold water mass under Output 4.2.1: MPA network strengthened in YSLME.</p>
12:00~13:30	Lunch and Break
13:30~15:00	PMO will introduce the workplan for 2019, including targets, activities and budget, and seek comments of RWG-F members. <p>Time and venue of next RWG-F meeting</p> <p>Work planning for 2019</p>
15:00~15:15	Coffee Break
15:15~16:00	Adoption of summary report of the meeting <p>Wrap-up and closure of the meeting</p>
Day 3: 12 October (Friday) Departure	

Annex 3: Summary Report

Summary Report of the 2nd Meeting of the Regional Working Group on Fish Stocks

Jeju, RO Korea, 10-11 October 2018

1. The 2nd Meeting of the Regional Working Group on Fish Stocks (RWG-F) was held in Lotte City Hotel, Jeju City of RO Korea on October 10-11, 2018. Nine participants from four organizations in PR China and eleven participants from five organizations of RO Korea attended the meeting. The two-day meeting was chaired by Mr. Xianshi JIN, and co-chaired by Mr. Junghee CHO. The Meeting reviewed the progress of activities listed in the approved workplan for 2018 and discussed implementation arrangement for activities to be initiated in 2019. Highlights of presentations, discussions, conclusions and recommendations under each session are summarized below.

Message in the opening session

2. The meeting recognized the tremendous social, economic and environmental benefits of the Yellow Sea for the peoples of China, DPR Korea and RO Korea, and the imperatives of conserving its ecosystem services for the present and future generations.
3. The meeting also underscored the need for nurturing the spirit of friendship and cooperation in addressing the challenges identified in the TDA/SAP, which still stay relevant, and appreciated the role of YSLME serving as a platform in these regards to carry on the momentum further to the future through a possible third phase of the YSLME Project with concerted efforts and consensus from of all partners.
4. The meeting confirmed the relevance of the agenda to the objectives and deliverables of the RWG-F as approved by the ICC-1 and reaffirmed the roles of RWG meetings as a quality assurance mechanism of project activities implemented by the two countries under respective financing modalities.

Progress of Workplan Activities in 2018

5. The meeting was updated of the progress of eleven activities within the remit of RWG-F, and was informed of the progress being made with six activities. Given the high relevance of the social economic studies to the fishing vessel buy-back scheme, the PMO was requested to update both countries on the progress of the assessment of socioeconomic implications of buy-back scheme.

Session 1: Review the implementation progress of activities related to reduction of fishing efforts

Reduction of fishing efforts through buy-back schemes in PR China and RO Korea and its effectiveness

6. The meeting was updated of the progress of fishing vessel buy-back schemes implemented in PR China and RO Korea due to fisheries resource over-exploitation in Yellow Sea.

7. The meeting noticed that, if fully implemented in both countries, a 13.4 percent reduction of fishing vessels by 2020, and a remarkable reduction in RO Korea up to 2017 in Yellow Sea could be achieved, well above the project target of 10 percent reduction of fishing vessels using 2014 as the baseline year.
8. The meeting appreciated the efforts of the two countries in controlling both fishing vessel numbers and horsepower, and underscored the need of dual reduction in vessel number and horsepower for the buy-back scheme to be effective.
9. The meeting was also pleased to have noticed the continued reduction in fisheries outputs in the two countries, evidenced by a significant reduction in RO Korea up to 2017 and a decrease of annual total allowable catch from 13 million tons to 10 million tons from inshore and offshore capture fisheries, or 25 percent reduction to be achieved in 2018.
10. Regular fishery resources survey, understanding of the life history of commercially important species and scientific stock assessment of selected species are suggested to be key factors to consider in assessing the results and effectiveness of the buy-back schemes.

Progress with reduction of fishing efforts through license system

11. The meeting was informed of the progress of license system in terms of limited access by permit system in RO Korea with an excellent introduction by KMI of RO Korea.
12. In response to decrease in fishing grounds and fisheries production, expanding fishing vessel reduction, enhancing stocks (ranching, fry release, artificial reef), strengthening scientific stock assessment, and increasing ALD (abandoned, lost or discarded) fishing gear retrieval could be the key areas in gear management and cooperation between the two countries.
13. The use of TAC for single species management in line with national legal and regulatory framework in RO Korea is appreciated at the meeting. The use of total catch control of yield biomass using the ecosystem-based approach is also highlighted as an effective approach to sustainable fisheries under the Chinese context.

Progress with gear management

14. Gears used in the two countries, major legislation and policies and progress in gear management were exchanged and discussed.
15. Selective fishing is encouraged so as to avoid overfishing. Use of gill net, pot stow netlong-bag set net, modified magnet and ghost fishing which involves hundreds of billions of KRW in economic loss are prohibited in RO Korea. The gear management act is under discussion in RO Korea which will regulate registration, responsibility for clearance and gear sale report. Biodegradable gear under discussion in RO Korea provide a promising alternative while the challenge in costs to individuals, biodegradability in the long-run and ecosystem recovery rate are to be overcome
16. Reducing low selectivity of gear and eco-friendly or biodegradable gear are to the interest of both countries in the future, together with enforcement of existing management measure.

Session 2: Review of the implementation progress of enhancing fish stocks through restocking and habitat improvement

17. Marine ranching is widely recognized as an effective approach to creating habitat and feeding and breeding grounds for enhancing fish stock and household income of fishermen or enterprises.
18. Based on the experiences of PR China and RO Korea introduced at the meeting, marine ranching can be achieved through artificial reef, creating marine forests, fry release, and stocking of different species vertically to manage stocks sustainably while increasing the production. The benefits of marine ranching in increasing three times the outputs are confirmed by RO Korea and PR China without adding feed.
19. Private sector participation, government subsidy, access to sea use, transforming marine ranching benefits into local return through ecotourism and recreational fishing and associated accommodation, product processing to extend the value chain and improved hatchery provide useful case studies for future development of the 64 national marine ranches in PR China and 36 marine ranches in RO Korea.

Session: Assessing fish stock

20. The meeting was briefed of the outcomes of the fish stock workshop held in Tongyeong, RO Korea. The experiences of application of stock assessment methodologies with swimming crab could be continuously shared, preferably through YSLME activities in order to achieve better understanding of the stock status for subsequent adaptive management.
21. A proposal for conducting simulation study to evaluate the stocks of Small Yellow Croaker was presented at the meeting. Actual conduct of the activities is subject to availability of resources.

Session 4: Review of progress with implementation of NSAP in PR China and RO Korea in setting protected areas for conservation of fisheries resources

22. PR China presented the status with establishment of protected areas for the conservation of fisheries resources, while RO Korea presented the results of assessment of the two targets of NSAP in relation to fish stock using indicators established by the RO Korea expert team.
23. The meeting was reminded of the need for final clearance of the review reports by authorities of both countries. Meanwhile, the two countries expressed interest in preparing separate reports using the same indicators and format on the first two targets of SAP coordinated by the PMO.

Work planning for 2019

24. Ongoing activities in 2018 to be carried over in 2019 and newly initiated activities in 2019 were introduced by Project Management Office. The meeting made the following suggestions on activities to be implemented in 2019:
 - a. to organize exchange visits to marine ranches (including at least one scientist from the replanting of macroalgae project undertaken by YSFRI) in the two countries, with one to take place in May 2019 in PR China, and the other in June in 2019 to RO Korea, each with 3-4 experts from both sides;

- b. to delete the workshop on income generation from tourism and change to a workshop to share regional experiences on marine ranching and stock enhancement;
- c. Joint study on fish behaviour/gear selectivity will be arranged in PR China at time convenient to members of RWG-F from both countries; and
- d. The international conference on science-based fishery management would be combined with the PICES annual meeting to be held in PR China in 2020.

Time and venue of next meeting

PR China proposed to conduct the 3rd Meeting of the RWG-F in an inland city in September 2019.