



**UNDP/GEF PROJECT ENTITLED “REDUCING ENVIRONMENTAL STRESS IN THE
YELLOW SEA LARGE MARINE ECOSYSTEM”**

UNDP/GEF/YS/PC.2/3
Date: 13 October 2007
English only

**The Regional Conference on Protection of the Marine Environment and
Sustainable Use of Marine Resources in the Yellow Sea**
Incheon, Republic of Korea, 11-13 October 2007

Report of the Meeting



Summary of the Regional Conference on Protection of Marine Environment and Sustainable Use of Marine Resources in the Yellow Sea

Following the successful implementation of the “Parliamentary Conference” (Qingdao, China, 28-30 March 2006) and the agreement made by its participants, the UNDP/GEF Yellow Sea Project organised the “Regional Conference on Protection of the Marine Environment and Sustainable Use of Marine Resources in the Yellow Sea” in Incheon, Republic of Korea (ROK), 11-13 October 2007 as a follow-up meeting of the Parliamentary Conference.

Twenty five participants attended this meeting, including prominent regional scientists as well as eight members of national and municipal assemblies in China and ROK. The list of participants is attached as [Annex I](#) to this document, while the “Conference Programme” with presenters’ names and affiliations is attached as [Annex II](#).

During the Opening Ceremony of the Conference, Mr. Eun LEE, Vice Minister, Ministry of Maritime Affairs and Fisheries (MOMAF), ROK gave a welcome speech, followed by Mr. Dunxin HU, Member of the National People’s Congress, China, who gave an opening speech on behalf of the Chinese parliamentarians.

Mr. Seoung-Yong HONG, President of Inha University and Host of the Conference, welcomed all the participants from China and ROK. Joining Mr. Hong to welcome the participants, Mr. Yihang JIANG, Project Manager, UNDP/GEFYellow Sea Project, thanked Inha University, MOMAF, and the ROK National Assembly Ocean Forum for their support and efforts to organise the Conference.

Mr. Jong Geel JE, Member of the National Assembly, ROK, gave a keynote speech on regional co-operation and the role of parliaments for protecting the Yellow Sea ecosystem. The abstracts of speeches of Mr. Je and other speakers are attached to this document as [Annex III](#).

The Regional Conference focused on socio-economic aspects of the Yellow Sea’s ecosystem, such as legislation, economy, and public awareness. Specifically, the Conference addressed the following issues:

- Regional co-operation and the role of parliaments for protecting the Yellow Sea ecosystem;
- Legislation and law enforcement for marine environmental protection and sustainable resource use in the Yellow Sea;
- Economic valuation as a tool to support preparation and enforcement of legislation;
- Public awareness and participation in protection of marine environment and sustainable use of coastal and marine resources; and
- Regular Conference as a mechanism for continuous contribution to sound environment management of the Yellow Sea.

Through presentations and panel discussions, the Conference:

- Enhanced regional co-operation, particularly the co-operation of the parliamentary bodies in the Yellow Sea region, in protecting the marine environment and sustainable use of marine and coastal resources in the Yellow Sea;
- Served as a mechanism to exchange views and information between the parliamentary organisations about protection of marine environment and sustainable use of marine and coastal resources;
- Contributed to strengthening an understanding of a systematic management of coastal and marine resources in the Yellow Sea;
- Contributed to realising a need to mobilise necessary financial support for the integrated management of the marine and coastal resources; and
- Encouraged the participation of the public sector, NGOs, and research communities to raise public awareness of the environmental issues in the Yellow Sea.

The highlight of the Conference was the discussion on how to maintain the momentum created from the two meetings—the Parliamentary Conference and the Regional Conference—to muster strong political will to solve environmental problems in the Yellow Sea.

The participants shared the view that it is important to continue dialogues at the highest level of decision-making among the two participating countries and other relevant countries. Exploring various ways for this purpose, the participants came to an agreement that the Regional Conference would serve as an appropriate mechanism to maintain and expand the dialogues between the two parliamentary bodies in China and ROK. The participants then decided to consult with existing organisations under each parliamentary body (e.g., environment-related committee) as well as other relevant government agencies to formalise the Conference and organise it on a regular basis.

When materialised, the regular conference would be the first formal structure under GEF projects where the parliamentarians addressed transboundary environmental issues, and also the strong force to facilitate conservation efforts in the Yellow Sea, including the ones implemented under the UNDP/GEF Yellow Sea Project's Strategic Action Programme.

The Yellow Sea Project will further support the national assemblies in China and ROK to strengthen their relationship for a better environment in the Yellow Sea by facilitating smooth communication between the two bodies and by providing necessary secretariat support within the project period.

Annex I**List of Participants****PEOPLE'S REPUBLIC OF CHINA****Mr. HU Dunxin**

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Annex II**Conference Programme****DAY 1 – 11TH OCTOBER 2007**

09:00 – 09:30 **REGISTRATION**

09:30 – 10:00 **OPENING CEREMONY**

Facilitator: Mr. HUH Hyung-Tack

Welcome speech by the Host Government

Mr. LEE Eun

Vice Minister

Ministry of Maritime Affairs and Fisheries

ROK

Opening speech by the representative of Chinese parliament members

Mr. HU Dunxin

Member of the National People's Congress

Academician

Chinese Academy of Sciences

Institute of Oceanology

Chinese Academy of Sciences

China

Welcome address by the representative of Ocean Forum

Mr. YI Young-ho

Member of the National Assembly

Representative of the National Assembly Ocean Forum

Member of the People's Solidarity for the Democratization of the

Economy and the Peaceful Reunification

ROK

Welcome address by the representative of Host University

Mr. HONG Seoung-Yong

President

Inha University

ROK

Project Manager's address

Mr. JIANG Yihang

Project Manager

UNDP/GEF Yellow Sea Project

10:30 – 11:00 **KEYNOTE SPEECH**

Chair: Mr. JIANG Yihang

**Regional co-operation for sustainable development in the Yellow Sea:
Creating momentum from the parliaments**

Mr. JE Jong Geel

Member of the National Assembly

Member of the National Assembly Ocean Forum

Vice-Chairman of Environment & Labor Committee

ROK

11:00 – 15:00 **PLENARY PRESENTATION 1**

Legislation and law enforcement for marine environmental protection and sustainable resource use in the Yellow Sea

Chair: Mr. JE Jong Geel

**Current legislation and status of enforcement in Republic of Korea:
Prospects and challenges for the future**

Mr. HAN Kwang-Won

Member of the National Assembly

Member of the National Assembly Ocean Forum

*Member of Agriculture, Forestry, Maritime Affairs and Fisheries
Committee*

ROK

**On-going and planned activities in harmonizing legislation:
Recommendations for strengthening and harmonizing national legal
institutions**

Mr. CHUNG Suh-yong

Assistant Professor

Division of International Studies

Korea University

ROK

**Panel discussion on the harmonization and reform of regional
policies, laws, and institutions for better management of marine and
coastal resources**

Panel members:

Mr. JE Jong Geel (Chair)

Mr. HU Dunxin

Mr. MAI Kangsen

15:30 – 17:00 **PLENARY PRESENTATION 2**

Economic valuation as a tool to support preparation and enforcement of legislation

Chair: Mr. MAI Kangsen

Economic Analysis of Environmental Management Actions

Mr. ENDO Isao

Environmental Economics Officer

UNDP/GEF Yellow Sea Project

Economic analysis of coastal development: How to incorporate economic aspects into environmental decision-making

Mr. KWON Sukjae

Director

Policy Research Department

Korea Ocean Research and Development Institute

ROK

Panel discussion on the use of economic data to enhance environmental decision-making and legislative actions.

Panel members:

Mr. MAI Kangsen (Chair)

Mr. Zhai Shikui

Mr. KWON Sukjae

Mr. ENDO Isao

DAY 1 – 12TH OCTOBER 2007

09:30 – 10:30 **JOINT ACTIVITY** with
“The 7th International Symposium on the Marine Sciences of the Yellow Sea and East China Sea (ISMY-7)”

Attendance at the opening ceremony of ISMY-7

10:30 – 12:00 **PLENARY PRESENTATION 3**
Public awareness and participation in protection of marine environment and sustainable use of coastal and marine resources
Chair: Mr. JE Jong Geel

Raising public awareness of marine environment: Activities of local communities

Mr. JO Kang-Hee

Secretary General

Incheon Federation for Environmental Movement

ROK

Enhanced youth participation in environmental protection for the Yellow Sea

Mr. LI Liyuan

Deputy Director

Marine and Fishery Bureau of Dandong, Liaoning Provincial Government

China

Panel discussion on how to improve awareness and participation of civil society in marine conservation

Panel members:

Mr. JE Jong Geel (Chair)

Mr. NING Shuchen

Ms. SUN Xiuqin

Mr. YOON Hwa Sub

Mr. KIM Kap Geon

13:30 – 15:00 **PANEL DISCUSSION**

Regular Conference as a mechanism for continuous contribution to sound environment management of the Yellow Sea

Continuation and improvement of the Conference mechanism to advance dialogue and co-operation between the two countries at the parliamentary level

Panel members:

Mr. HU Dunxin (Chair)

Mr. NING Shuchen

Mr. JE Jong Geel

Mr. JIANG Yihang

15:30 – 16:30 **CONFERENCE SUMMARY**

Co-chairs: Mr. HU Dunxin & Mr. JE Jong Gee

DAY 3 – 13TH OCTOBER 2007

08:30 – 15:00 **FIELD TRIP AROUND THE SHIHWA LAKE AREA**

Organised by Korean Water Resource Corporation

Annex III
Abstracts of Speeches

Welcome speech by the Host Government
Mr. LEE Eun
Vice Minister
Ministry of Maritime Affairs and Fisheries, Republic of Korea

Before starting my welcome address, I would like to express my warmest welcome to Honorable Congressmen, Mr. HU Dunxin, Mr. MAI Kangsen, Mr. NING Shuchen, Mr. ZHAI Shikui, Ms. SUN Xiuqin of the People's Republic of China. Thank you for attending this event.

I would also like to thank Assemblymen, Mr. JE Jong Geel and Mr. HAN Kwang Won, Representatives of the ROK National Assembly for your participation.

In particular, I wish to express my special thanks to Dr. Hong, Seoung-yong, President of Inha University, for opening this regional conference on the Yellow Sea.

I would also like to thank Assemblyman, Mr. YOON Hwa Sub, Representative of the Gyeonggi Provincial Council, Korean and Chinese experts in government, academia, research and civic fields and YSLME staffs for attending this conference.

It is my pleasure and an honor to participate in today's Regional Conference on Parliamentary Roles in Protection of the Marine Environment and Sustainable Use of Marine Resources in the Yellow Sea and to deliver my welcoming speech to all of you.

The Yellow Sea is an important region for both China and Korea in economic, cultural, and historical terms. It has been the main trade route for two countries for a long time and it still stands as an important economic arena for both countries.

The Yellow Sea is abundant with various fishery and marine resources and it also possesses healthy marine ecosystem.

Furthermore, the expectations on the development of alternative energy in the Yellow Sea is rising recently due to its abundant clean energy resources such as tide, wave and wind.

However, due to the active economic activities of both countries and reckless coastline development, the marine environment of the Yellow Sea is faced with some serious threats such as marine pollution and decreased fishery resources.

In this sense, the two governments have been conducting joint researches on the marine environment of the Yellow Sea through the 'Korea-China Joint Committee on Environment Cooperation' since 1994. We are planning to expand international research activities on sharing reliable data and also to establish a more diversified cooperative measures in protecting the marine environment of the Yellow Sea.

As a part of our cooperative measures, we have launched the YSLME Project (Yellow Sea Large Marine Ecosystem Project) since 2005.

Through the YSLME project, we plan to set up a 'Management Plan for the Environment of the Yellow Sea', which focuses on five areas such as marine pollution, fisheries, marine ecosystem, biodiversity and investment on the Yellow Sea. Once the plan is prepared, the two countries will set up an agreed implementation plan authorized by the government and start off the joint project starting from 2012.

At this juncture, it is very meaningful and timely that the legislative branches in both countries are interested in the environment of the Yellow Sea and have decided to hold this conference, which is an arena of discussion and cooperation on the environment of the Yellow Sea.

Honorable Guests!

At the last year's first meeting, the conference focused on sharing information on the environmental situation of the Yellow Sea and the value of marine ecosystem. It was also an opportunity to discuss cooperative measures for the congress, local governments, academia and the industry to manage the environment of the Yellow Sea. Meanwhile, the second meeting we are having this year is focused more on producing substantial progresses, such as establishing legislatures for protecting the environment of the Yellow Sea.

I believe that your efforts will greatly contribute to strengthening bilateral cooperation on improving the environment of the Yellow Sea.

I hope this conference will be an arena for vibrant discussions and serve as a great opportunity for creating a foundation of a more cleaner and fruitful Yellow Sea.

Thank you.

**Opening speech by the representative of Chinese parliament members
Mr. HU Dunxin
Member of the National People's Congress, China**

Ladies and Gentlemen:

I have the great honor to participate in the Regional Conference on Protection of the Marine Environment and Sustainable Use of Marine Resources in the Yellow Sea, and to give a speech at the opening ceremony.

As all we know, the Yellow Sea is so important to both Korea and China since she links the two great nations, furnishing transportation, providing fish and seaweeds to eat, and offering many marine products to use. However, the Yellow Sea undergoes natural disasters, such as storms and ENSO (El Nino/Southern Oscillation), which can be extremely severe, and anthropogenic impacts, such as riverine discharges of artificial materials, especially heavy metals, over-fertilization-produced nutrients, and waste dumping, which are potentially harmful to the marine environment and coastal ecosystem. Facing the problems, we do have to urgently have measures to deal with. This is the reason why we get together here today to discuss what we should and can do jointly with the present issues. I do believe that through discussion we can find a harmonic and effective way to improve the present situation on protection of the marine environment and sustainable use of marine resources in the Yellow Sea. Ladies and gentlemen, to do this the burden is heavy and the road is long, but I do believe that we will get there anyway. I wish the Conference a great success!

**Welcome address by the representative of Host University
Mr. HONG Seung-Yong
President
Inha University, Republic of Korea**

Vice Minister LEE Eun of Ministry of Maritime Affairs and Fisheries,
Honorable Lawmakers of the Parliaments, the People's Republic of China and the
Republic of Korea,
Excellencies, ladies and gentlemen!

On behalf of INHA University, it's my great pleasure to welcome all of you to join "The
Regional Conference on the Protection of the Marine Environment and Sustainable
Use of Marine Resources in the Yellow Sea."

Distinguished participants, Welcome!

After 15 years of normalized diplomatic relations between the People's Republic of
China and the Republic of Korea, we have witnessed rapid changes in political,
economic, and cultural areas. Bilateral trade amounted to U\$118 billion last year,
marking a 19-fold increase from the U\$6.3 billion in trade in 1992. Last year, 4.8 million
people from both countries visited the other, marking a 36-fold rise since 1992.
In a similar vein, academic exchanges in the field of maritime affairs, fisheries, and
ocean science have also expanded among universities and oceanographic institutions.
Since 1989, INHA University has developed strong academic ties with the Institute of
Oceanology, Chinese Academy of Sciences.

Distinguished participants!

While communities have continued to develop most rapidly around the coasts, that
growth has accelerated to a point that is now dangerously unstable. Today, most of the
world's seas are suffering from a wide range of human-caused assaults, in a variety of
lethal combinations. In the world's most biologically productive and diverse bodies of
water, ecosystems are on the verge of collapse – and in some cases have already
collapsed.

There are about 35 major seas in the world, some coastal and some enclosed by land.
According to the report in the World Watch Journal in 1995, it is the seven dying seas,
including the Yellow Sea, which illustrates the panoply of ills.
Sustainable use of the oceans, more than most other ocean goals, depends on
effective action by coastal states. Yet the enactment and implementation of satisfactory
sea use agreements and conservation measures are contentious and time consuming.

The Yellow Sea Large Marine Ecosystem (LME) is an important global resource. The
Yellow Sea's biodiversity, including its fishery resources, however, has been
deteriorating for decades due to shortsighted economic activities and unsustainable
uses of the natural resources in the region. Indeed, Yellow Sea LME has been most
significantly affected by human development among the 63 LMEs in the world's
oceans. It is time for all stakeholders to join together in promoting transnational
cooperation to protect, conserve, and manage the Yellow Sea by reducing
development stress and promoting sustainable exploitation of its resource.

I heard that the first regional parliamentary conference in Qingdao enabled parliamentary members to deepen their understanding of the serious environmental issues in the Yellow Sea and to recognize the strong need for taking action to address the problems.

We have no doubt that the National Assembly of the Republic of Korea and the National People's Congress of the People's Republic of China shall play important roles in setting their national regulations, national infrastructure and national budget for the protection of the marine environment of the Yellow Sea. Their roles are very important for the preparation and approval of the Strategic Action Program and the National Yellow Sea Action Plans. It is also important to set up appropriate dialogues among politicians, scientists and all relevant stakeholders, including NGO's, for the better understanding of marine environmental problems of the Yellow Sea.

I believe this conference will be successful in seeking closer regional cooperation to encourage wider and more active participation of all stakeholders in the protection of the environment and sustainable use of marine resources in the Yellow Sea.

I am sure that this conference will provide a framework for better appreciation of how such goals can be achieved, and, in particular, how bilateral cooperation between the parliaments of the People's Republic of China and the Republic of Korea, can be improved.

Finally, I would like to express my sincere appreciation for the hard work of numerous people behind the scenes. My special thanks go to the organizing committee, UNDP, and GEF (Global Environment Facility). Without their valuable sponsorship and contribution, this conference would have been impossible.

Thank you very much!

Project Manager's address
Mr. JIANG Yihang
Project Manager
UNDP/GEF Yellow Sea Project

Good morning,

Distinguished Friends and Colleagues,
Ladies and Gentlemen,

It is my pleasure and honour to participate in this regional Conference on protection of marine environment in the Yellow Sea, with focus on the parliamentary roles in the process. First of all, on behalf of the UNDP/GEF Yellow Sea project, I would like to express my sincere appreciation to the National Assembly of Republic of Korea, the Government of Korea for hosting this important conference. I would like also to welcome all the participants from both China and Korea to attend this important event. I would like to thank Inha University for organising the Conference in beautiful campus of the University.

As most of you know, and some of you participated in, the Parliamentary Conference was organised last year in Qingdao, China. The Parliamentary Conference upgraded understanding of the marine environmental problems in the Yellow Sea, and created strong political support from the parliamentary organisations in the participating countries. There were number of good suggestions from the conference to continue the momentum generated from the conference, and to move forward to have the co-operative mechanism being regular and self-sustainable.

Marine Environmental Problems in the Yellow Sea have received attentions from the Governments of all the coastal countries, the relevant scientists and experts, the non-governmental organisations and the general public. It is urgent to take necessary actions to stop the degradation of the marine environment in the Yellow Sea. Necessary management actions are under consideration of the UNDP/GEF Yellow Sea project as well as other efforts currently going on the region.

To identify the management actions, it is well understandable that the parliamentary organisations in the participating countries have very strong roles to play in define the management actions including legislative, institutional and financial arrangements for better management of the ecosystem in the Yellow Sea. Close co-operation among the parliamentary organisations in the coastal countries will certainly enhance the design and implementation of these critical management actions.

Ladies and gentlemen,

We have a wonderful dream to have clear marine environment around us; we would like enough, fresh and healthy seafood for our families, friends and next generations; we would like to bring our families during holidays to the sea side to enjoy clean beaches and waters those provided by nature to us. For our wonderful dream, we need to work hard and work together.

We understand now that

- total investment to the protection of environment in general is less than 1% of total GNP in most countries in the world, including developed and developing countries;
- existing legislations in protecting marine environment and sustainable uses of marine and coastal resources require improvements and harmonisation;
- the institutional arrangement for more effective management of marine and coastal environment still require extensive investigation and consideration of the coastal countries;

The tasks in front all of us are important, urgent and meaningful. All stakeholders need to joint hands together to achieve our overall objectives. Again, dialogues and co-operation among the parliamentary organisations will be a fundamental requirement for us to achieve our goals.

I do wish draw attention of the all distinguished participants that we need to have all the countries involved in the process to have full geographic coverage of our working areas in the Yellow Sea. Therefore, it is necessary and critical to involve the DPR Korea to work together with us. I am pleased to inform you that DPR Korea has expressed their interests in and decision of joining in the UNDP/GEF Yellow Sea project.

Finally, I wish we would have fruitful discussion and successful conference. I hope all of you will enjoy your stay in Korea.

Thank you for your attention.

Regional co-operation for sustainable development in the Yellow Sea: Creating momentum from the parliaments

Mr. JE Jong Geel

Member of the National Assembly, Republic of Korea

Good morning. Dear esteemed members of the parliaments from China and South Korea, speakers and representatives from YSLME,

It is a great honor to be the first speaker of the first session of the Seminar for Korean and Chinese Parliament Members.

As you know, at the summit meeting between South and North Korea that was held in Pyongyang a few days ago, there was an agreement to establish a Special Region for Peaceful Co-operation in the West Sea Borderline Area between South and North Korea. It has fostered an unsurpassed level of a reconciliatory mood. Yellow Sea was once an area where different policies and ideologies competed with each other. Viewed from a historical perspective, it is also an area where there has been much interaction between the cultures as well as material and human resources of each region, for thousands of years.

This seminar can be viewed as a very meaningful event which provides an opportunity for members of the parliaments from China and South Korea to share their philosophies and to strengthen relationships concerning the Yellow Sea. I sincerely hope that this seminar will provide us with insights on how to regard the Yellow Sea and allow us to prepare a plan of important actions that must be undertaken, not only for this generation but also for our descendents. Also I hope that North Korea, another concerned party regarding the Yellow Sea, will attend the next seminar.

I. Value of the Yellow Sea

First, I would like to tell you about several unique values concerning the ecosystem of the Yellow Sea, from the perspective of an ocean ecologist who spent some time as a youth trying to understand the ocean before becoming a member of the National Assembly.

Yellow Sea possesses great bio diversity and productive capacity for organisms that is incomparable to any other region in the world. About 2,000 species, including approximately 150 types of commercial fish and 200 types of birds, live in the Yellow Sea. Apart from just being a statistic, what makes them special is that a great number of them are indigenous to the Yellow Sea or are endangered species.

What characteristic of the Yellow Sea allows so many species to live there?

First, a large tidal range that results from a semi closed geographic characteristic has formed vast tidelands in many coastal areas. Second, warm current and cold current intersect seasonally and massive rivers located in the coastal areas provide plentiful inflow of organic matter.

The tideland, a boundary area where the sea and land meet, is not only a habitat and spawning ground for diverse marine life, including fish and shellfish. It also serves an important role as a feeding ground for migratory birds. Not only from a bio diversity point of view but also from the economic value perspective, it is a well known fact that productivity per unit area for tideland is more than ten times higher than that of agricultural land.

II. Distress Signal Being Sent by the Yellow Sea

In both South Korea and China, demand for development, in which land is expanded or converted for other uses, is increasing. The Yellow Sea is sending a distress signal

concerning the pressure due to the continuous development aimed at socioeconomic advancement.

Over 65% of the West Coast tideland of South Korea, one of the top five tidelands in the world, has disappeared because of the industrialization that was pursued in the name of economic development. I need not point out that numerous marine life that lived in the tideland has vanished along with it as well.

Important fishery resource like cod, herring and yellow corvina that used to migrate and spawn following the warm current and cold current have lost their commercial value due to over fishing, long time ago. Moreover, it has been estimated that the fishery resource population in the Yellow Sea has been reduced by more than 40% between 1960 to 1980. This is self evident in the reality of the reduced Catch Per Unit of Fishing Effort (CPUE) for both South Korea and China, in spite of the expanded operation area and an increase in the number of fishing vessels.

In addition to the coastal development and resource over fishing, another source of threat faced by the Yellow Sea is pollution caused by material originating from the land. Currently, a population that approaches 10% of the world population live in the coastal areas of the Yellow Sea. Including Incheon, where this seminar is being held, large cities with population in the millions or even tens of millions like Seoul, and Chinese cities from which some of you may have come from such as Tianjin, Dalian, Tsingtao and Shanghai are distributed all along the coast. Pollutants from these large cities all flow into the Yellow Sea. Over 80% of the pollution in the Yellow Sea originate from activities on land. Pollutants originating from the land increase the organic matter excessively in the Yellow Sea and has become the cause for the red tide. Because of this red tide, fish hatcheries and farms in Korea lose 10 million dollars each year. In China, Liaoning province alone loses 20 million dollars each year from such damages.

Appearance of marine organisms that have been exposed to environmental hormones and heavy metals and degradation of water quality are clear evidence concerning continuous change that has been going on in the Yellow Sea environment.

III. Regional Co-operation for Sustainable Development

We have an obligation to pass on the Yellow Sea, the bountiful natural resource we inherited from our ancestors, to the next generation, in the same condition. I have searched for several programs of cooperation in order to carry out such duties.

We know by experience that environmental problems are part of our vast social and cultural system. Because environmental problems include many parties with often conflicting interests, a multi-dimensional consideration is essential for finding a viable solution. Within the large scope of conservation of the Yellow Sea, co-operation between local authorities, government ministries and countries is very important. The role of the parliament is also important. The parliament must play the role of combining the interests of various parties, determining the priority of values, adjusting conflicting legal, institutional and financial systems and ultimately harmonizing and merging them.

Co-operation between members of the parliaments from China and South Korea are needed for the following reasons.

First, South Korea and China must make an effort for North Korea, another geographical party regarding the Yellow Sea, to become actively involved. Because Yellow Sea is a great sphere ecosystem that is organically connected, it is important for us to have a complete geographical knowledge and understanding about it in order to

improve this ecosystem. From this point of view, the three countries must prepare systematic procedures for active participation. As the summit meeting between South Korea and North Korea showed, if there is a will to achieve a goal, it is not that hard to realize.

Second, South Korea and China must make an effort to draft common policies that will become the legal basis for maintaining and managing the Yellow Sea. For example, we can think of establishing a common marine protection region to guarantee a sustainable marine production, which is the ultimate goal of the YSLME project. This will become the first step in protecting the habitat for marine life that has already been destroyed by human activities.

Third, we must share the information and experience gained by each country about the Yellow Sea, through continuous exchanges and co-operations. As I mentioned earlier, this is because the Yellow Sea is a great sphere ecosystem that is not isolated.

Finally, I hope that this seminar will become a meaningful place where realistic proposals of co-operation can be agreed to. I believe that this seminar is a wonderful opportunity that will provide new visions and ideas for better management of the Yellow Sea. Thank you.

**Current legislation and status of enforcement in Republic of Korea: Prospects
and challenges for the future**

Mr. HAN Kwang-Won

Member of the National Assembly, Republic of Korea

Korea actively endeavors to improve the national marine environmental laws and regulations, which includes the recent enactment of “the Law on the Conservation and Management of Marine Ecosystem” in October, 2006 and “the Marine Environmental Law” in January, 2007.

Along with the growing global concern on the importance of marine environment, it is also increasing nationwide. The mode of regulations is also shifting from the Command and Control Approach to the Precautionary Integrated Management Approach.

These institutional changes in Korea have implications in that it has started to internalize the Sustainable Development Principle and the Precautionary Principle in the form of 'law' and 'policy.'

The enactment efforts for conservation and sustainable use of marine environment will continue as the legal demand of public for coastal erosion prevention and climate change mitigation increase. This calls for robust revision for more logical framework and coherence of marine environment laws and regulations as well as efficient implementation of policies.

In addition, it is strongly required that the effort should now take account of the transitional ecosystem where terrestrial and marine ecosystems coexist. Systematical research and survey, laws and policies should be taken accordingly for effective conservation.

**On-going and planned activities in harmonizing legislation: Recommendations
for strengthening and harmonizing national legal institutions**

Mr. CHUNG Suh-yong
Assistant Professor
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Yellow Sea environment is under pressure due to the rapid economic development and population growth without adequate balance with the environment protection. Pollution, threats to biodiversity, decreasing fishing stocks and deteriorating ecosystem in the Yellow Sea can be counted as the major issues.

The transnational nature of the Yellow Sea environmental issues requires cooperative efforts among the coastal states. However, focus and interests of each state such as China, South Korea and North Korea are widely different, posing difficulties in establishing effective cooperative mechanisms. Furthermore, the roles of international organizations, private sectors, NGOs and parliaments, which could be equally important to build up effective cooperative efforts, remain limited. Furthermore, non-environmental issues such as the North Korea's nuclear arms test, adds more difficulties and complexities to the regional efforts.

On the other hand, existing institutions reveal their ineffectiveness as well. Relevant international treaties such as the United Nations Convention on the Law of the Sea, MARPOL Convention and London Convention don't play their proper roles as the main regulatory standards to address the marine environmental issues in the region. Bilateral treaties such as Agreement on Fisheries between China and Korea and Agreement on Environmental Cooperation between China and Korea contributed their limited impacts to the protection of the environment. Weak regional governance in the Yellow Sea region concerning the marine environmental protection can be also found in relatively ineffective intergovernmental cooperative mechanisms such as NOWPAP, and PEAMSEA.

Therefore, the Yellow Sea region needs to find out a better way of strengthening its regional governance. Creating the Yellow Sea LME Commission may be an example. This Commission may serve as a main body to address various issues related to the marine environmental protection in the Yellow Sea including strengthening and harmonizing national legal institutions.

Economic Analysis of Environmental Management Actions

Mr. ENDO Isao

Environmental Economics Officer

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This presentation introduces the basics of economic analysis of environmental management actions, explaining the valuation of environmental quality and the cost-benefit analysis of conservation activities. The presentation also discusses, as a case study, the economy of introducing environmentally-friendly mariculture practices.

“Economic value” can be defined as the sum of “consumer surplus” and “producer surplus.” The consumer and producer surpluses are derived from the demand and supply curves of concerned environmental goods or services, respectively. Society is well-off when the economic value is maximised at least in terms of economy.

There are various techniques available to estimate the demand and/or producer surpluses (i.e., economic value), including empirical technique, travel cost method (TCM), and contingent valuation method (CVM). The empirical technique is for market goods (e.g., commercial fish), while the TCM and CVM are for non-market goods (e.g., scenic views).

Environmental degradation might decrease the economic value of environmental goods. For example, reduced fish stock size due to overexploitation may increase fishing cost; as a result, the economic value of commercial fisheries declines.

The benefit of management actions to mitigate environmental problems can be defined as the prevented future loss measured in economic value, while the cost of management actions is defined as the cost incurred to implement proposed actions.

Analysing the benefits and costs of proposed management actions helps decision-makers decide whether to implement the actions. Estimating the net benefits (i.e., the difference between [gross] benefits and costs) of management actions under two scenarios, with or without the actions, cost-benefit analyses compare what would happen if management actions were implemented to what would have happened if they were not. According to normative economics, comparing the gains (benefits) with the losses (costs) of an action, if the former exceeds the latter, a rational decision should support the action; otherwise, the decision should oppose it.

The procedure of a cost-benefit analysis consists of various steps, including: predict future environmental degradation, list expected benefits and costs of the actions, monetise the benefits and costs, calculate the net present value of the benefits and costs, and conduct a sensitivity analysis to check the robustness of analytical results.

According to the cost-benefit analysis of introducing different management schemes in mariculture production, “polyculture,” a type of aquaculture to grow different complementary species (i.e., finfish, shellfish, and marine plants) together, is expected to increase revenues as well as to reduce environmental impacts by removing excess nutrients. The preliminary result of the analysis shows that the net benefit of the polyculture (i.e., culturing scallop and kelp) over the monoculture (i.e., culturing scallop only) is approximately 500 to 2,000 Chinese yuan per hectare.

Economic analysis of coastal development: How to incorporate economic aspects into environmental decision-making

**Mr. KWON Sukjae
Director**

Korea Ocean Research and Development Institute, Republic of Korea

Externalities are a ubiquitous problem in modern societies. Research to estimate damages and potential efficient solutions therefore is important for addressing such problems. Since various developments in modern world bring external effects, there exist huge social losses if decision maker does not produce the policy, which is to internalize environmental costs. The ideal way to derive the optimal level of sustainable development is to make mitigation market failure. Finding the optimal level of development is to start from calculating abatement cost(or implementation policy cost to avoid damage) and benefits from policy implementation (or damage from development).

This study estimates the potential external costs from heavy-duty truck traffic noise in the context of a proposed container port development. The study also explores economic valuation methods including theoretical concepts and a comparison of hedonic model specifications for estimating losses.

The results of a hedonic property model (n=712) for TF Green Airport, show that noise has a statistically significant and quantitatively important negative effect on property values. The key results for the best model show that damages (in year 2000 dollars) are - \$5000 * (ln dB), where dB is noise measured in decibels, allowing for the influence of other factors. Because ln(dB) is a strictly concave function, the "noise damage function" exhibits diminishing marginal effects with noise.

Aggregate estimated property damages to single family homes exposed to incremental port traffic noise along the main port connector road ranges from \$34,873 to \$38,590 (in year 2000 dollars), depending upon the discount rate (5.875% or 3%) used. The results of sensitivity analyses show that using the 5.875% discount rate, across cases damages range from a low of \$20,666 for a Base Case with a 25 mph speed enforced for trucks, to a high of \$106,404 - \$95,823(depending upon the discount rate used) for the "worst case".

The costs of a noise dampening barrier are considerably larger than the benefits gained from damage avoided in all cases considered. Areas along the main route for least-cost shipment of containers by truck were divided into north (N) and South (S) sides each with tiers indicating distance from the road. For example, area S2 has the highest estimated damages (\$15,093), but a least-cost noise barrier of even three meters to protect S2 from noise is \$349,800. Thus, a barrier cannot be justified based only on the incremental traffic and the associated noise from the container port cases considered. A stronger case for installing noise barriers can be made if all residential development, not just single family homes, is considered. Several apartment complexes exist along the connector road. Taking estimated noise damages to multi-unit residential structures into account \$20,069 to \$34,873, the overall costs of \$1,062,123 for the 3 meter barrier and \$54,962 (with 5.875% discount rate) are closer to the benefits which would be realized by reducing noise to all residential units. Further, although costs exceed benefits for incremental noise because of the

hypothetical port, the case for a barrier is stronger when all sources of noise, and not just incremental noise from a new port, are considered.

Raising public awareness of marine environment: Activities of local communities
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INTRODUCTION

KFEM(Korean Federation for Environmental Movement) Ocean Committee was made in 2005, when IWC meeting was held in Korea, and originated from two special committees, Special Committee for Conservation of Whales and Special Committee to Save Ocean. Now most of the sea-fronted KFEM branches are campaigning together to conserve whales and to stop ocean dumping.

CAMPAINGING

- Stopping Ocean Dumping
- Saving Whales
- Stopping Sea Dredging
- Stopping Reclamation of Wetlands

1. Stopping Ocean Dumping

Korea has dumped wastes in the sea since 1990. And 8,481km² (14times of Seoul) area has been used for ocean dumping and 730million tons of wastes have been dumped into the sea. This sludge caused contamination of seawater and ocean lives. KFEM has campaigned to stop ocean dumping as early as 2012 and is propose recycling wastes.

2. Saving Whales

Since IWC meeting in Korea, KFEM has campaigned to protect whales. 87% of whale by-catch is occurred by Korea and Japan. In Korea, mink and dolphins are illegally fished and even butchered on the deck to disguise crimes. KFEM is proposing whale tour instead of whale catch and is emphasising Protected Area for Whales to conserve whales.

3. Stopping Sea Dredging

KFEM has campaigned against sea dredging for many years. Dredging sea sand and gravels has been occurred in large quantities to construct ports and apartments. And dredging is periodically taken place to build and maintain sea ports. Dredging has drastically destructed ecosystems and diminished sea lives and other species. KFEM suggests that unnecessary dredging should be stopped immediately. And to avoid unnecessary dredging in the sea, laws and systems are to be revised, ex. recycling of sea sand and gravels by dredging on the construction site.

4. Stopping Reclamation of Wetlands

Korea has reclaimed more than 20% of coastal wetlands for 20 years. And 1,136 km² of wetlands is in crisis. KFEM has campaigned to stop reclamation of wetlands, ex. Save Our Saemangum Campaign, Janghang wetland Campaign. And KFEM has also campaigned to protect wetland habitat for birds and has monitored wetlands for years. In recent times Janghang wetland was saved from reclamation and KFEM is working for its alternative project. KFEM is also campaigning to stop bills for reclamation, ex. Special Law for the Development of Coastal Areas, Specail Law for the Development and Encouraging Invest of Southwest Areas and other Underdeveloped Areas.