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The Northeast Asian Seas: The Regional Legal Instruments of Cooperation for Marine Environment and Sustainable Development

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The Northeast Asian Seas: The Regional Legal Instruments of Cooperation for Marine Environment and Sustainable Development*

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I Introduction

The Asia Pacific region is characterized by a number of features which give prominence and unique significance in relation with the marine environment issues.

Most people in the region live along the coasts, with one quarter of the world's 75 largest cities being near or on the region's coastlines. The marine resources of the region are economically important to most countries, with 47% of world fisheries production being found in this region. The region is also the centre of global marine culture (87% of total world production) with major consequences for coastal habitats and water quality¹.

As a result of rapid growth in population, economy, and political maturity, marine environment protection and resource management have emerged as a vital task for the individual nations, as well as the Asia Pacific region as a whole. The Asia Pacific region occupies only less than a quarter of the world land area, but has more than half of the total world population. This region is immensely diverse not only in the sense of economy, but also in view of environmental aspect.

In combination with the papers in this panel analyzing the issues of other sub-regions, this study will examine some factors of marine environment and cooperation policy within the sub-region of the Northeast Asia. The Northeast Asian Seas encompass the Yellow Sea, the East China Sea and the East Sea the Sea of Japan².

II. Physical description of the Northeast Asian Seas

The Yellow Sea and the East China Sea are semi-enclosed seas surrounded by the territories of China, Korea and Ryukyu Islands of Japan, enclosed approximately 50% of their perimeters. Geographically, these two seas could be deemed as one

*This paper has been published at page 116~131, in a book titled as "Preservation and Protection of the Marine Environment" edited by Charles M. Hawksley, Su Tao and CMDR Chris Baldwin Ran, on December 2000 by Center for Maritime Policy, University Wollongong. This book was the proceedings of an international conference to mark the "United Nations International Year of the Ocean" held at University of Wollongong, Australia 8~9 October, 1998,

¹ Marine and Coastal Environment, *Asia Pacific Environmental Issues*, UNEP, Regional for Asia and the Pacific. [ROAP on the Web.]

<http://www.unep.org/unep/regoffs/roap> , p.8.

² The semi-enclosed sea between Korea and Japan is referred to as "The East Sea" in Korea, but is called "the Sea of Japan" in Japan. In this paper, hereinafter, it will be referred to as "the East Sea."

primary sea. Conceptually, however, they are usually divided into two characterized seas, the Yellow Sea and the East China Sea by the bordering line connecting from southwestern tip of Chaeju Island in Korea to the Yangtze River mouth in China, a parallel of latitude 33°17' North³. The Yellow Sea and the East China Sea are relatively confined area as an ocean space, with the area of about 460,000 sq. km and 752,000 sq. km, respectively.

The Yellow Sea water space extends 1000 km long and 700 km wide with the average depth of 44 meters. The East China Sea ends at a direct line connecting the Pingtan Island off the mainland coast and the northern end of Taiwan. The sea bottom configuration of the East China Sea forms a broad continental shelf, with the average depth of 120 meters. But the depth changes abruptly into abyssal deep at the east end with a maximum of 2,717 meters in the Okinawa Trough. The sea water movements in this Yellow Sea and East China Sea area could be summarized as follows. Through the centre of the Yellow Sea, relatively clean body of water - the Yellow Sea warm water :YSWW- flows up directly to the north and eventually it flows downwards along the coasts of Korea and China. The famous Kuroshio (the black sea current) passes by the southern tip of the East China Sea, gives virtually no effect to this Yellow Sea. The average speed of sea water movements in the Yellow Sea is less than 0.5 knots⁴. So it is surveyed as that it takes about 5 to 6 years for the sea waters of the Yellow Sea to be exchanged completely⁵. The Yellow Sea basin located in the centre of the Yellow Sea's seabed hinders smooth circulation of fine-grained particles of heavy metal and organic contaminant, increases the harmful sediments and exacerbates the environmental degradation of this water space.

The East Sea is a semi-enclosed sea surrounded by Korean peninsula, territory of Japan and Russia, enclosed approximately 65 the Japan basin in the northern half of the sea which is almost 4,000 meters deep, and Ulleung basin and Yamato basin to the south which are about 2,200 meters deep. The exchanges of sea water from the East Sea area to the North Pacific and to the Sea of Okhotsk are not so free because the main outlets for the sea water exchanges, Tartar, Soya, Tsugaru and Korea Straits have sill depths of 130 meters or less.

The Tsushima Current, a branch current divided from the Kuroshio enters into the area of the East Sea through Korea Strait. Upon entering into the East Sea area, this Tsushima Current splits into three branches. Most prominent currents are the two branches which flow up to the north along the coast-lines of Korea and Japan. Particularly, in summer when the input water volume of the Tsushima Current becomes abundant, there appears the third branch which flows north through the middle of the East Sea. The average speeds of sea water movements in any of the branches do not exceed 0.5 knots.

In the northern part of the East Sea, there is always an immense body of cold waters which was named as "East Sea Proper Water" (ESPW) by Professor Uda in 1934⁶. It has an average temperature of 1° below zero. Actually this ESPW makes about 86% of

³ International Hydrographic Organization, *Limits of Oceans and Seas*. Special Publication No.23, 4th ed. (1986) Monte-Carlo.

Ying-Jeou Ma, *Legal Problems of Seabed Boundary Delimitation in the East China Sea*, Occasional Papers Reprints Contemporary Asian Studies No. 3-1984(62) School of Law, University of Maryland. p.9.

⁴ Alastair Couper ed., *The Times Atlas and Encyclopedia of the Sea*, (Time Books, 1990), p. 50.

⁵ Nozaki, Kasemsupaya and Tsubota, "Mean Residence Time of the Shelf Water in the East China and the Yellow Sea Determined By ²²⁸Ra/²²⁶Ra Measurements," *Geophysical Research Letters*, No. 16, p.1297.

⁶ Uda M., *The Results of Simultaneous Oceanographic Investigations in the Japan Sea and its adjacent Waters in May and June*, 1932, Imperial Fishery Experimental Station, (1934) pp.57~190.

the whole body of East Sea waters. Relatively warm waters of Tsushima Current only occupy the upper 100 meters in the southern half of the East Sea, separated from the ESPW by the parallel of latitude 40° North⁷. It is noticeable that this cold water body of ESPW has a very high rate of dissolved oxygen (DO) in the range of 5.5~6.5 ml/l, even fairly comparable to that of the North Pacific (5.0 ml/l or less) Because of this high DO concentration an active ventilation process in the East Sea has been assumed⁸. So it could be safe to say that with such a high DO rate, we have very favorable conditions for the environmental rehabilitation in the East Sea.

III An Overview of the Legal Considerations for Environment Policy

Among the consecutive semi-enclosed seas rimmed around the eastern part of Asian continent, these Northeast Asian Seas namely, the East China Sea, the Yellow Sea and the East Sea, have the most important nations like, China, Korea, Japan and Russia as their riparian States. This Northeast Asian region is one of the most rapidly developing areas in the world, and has abundant biological and mineral resources. It accounts for the production over 1/3 of the global annual fish-catch and its seaways are used for over 1/3 of global transportation activities⁹. So naturally, the regionalization and sustainable development are the mandatory subjects for environmental and economic needs of this region.

The political, and economic relations among the riparian States of the Northeast Asian semi-enclosed seas, have been totally refashioning upon the recent occasions of several historical events.

The first defining moment is the dissolution of the Cold-War Confrontation in late 1980s. For instance, Korea and China have normalized their diplomatic relationship in 1992 from years-long ideological rivalry. These developments could work as an impetus, or at least create favorable conditions, for the riparian States concerned to cooperate in coping with the common concerns such as regional environmental matters.

The end of the Cold War, however, has not necessarily rendered any substantive encouraging effects for the cooperation and harmony between the Northeast Asian nations as far as issues of the environment protection and the preservation of marine resources are concerned. On the contrary, the economic and political competitions among the Northeast Asian nations stimulated with the newly emerging nationalism during the post Cold-War era, practically have had them to

⁷ Moriyasu, S., "The Tsushima Current" in H. Stormmel and K. Yoshida ed, *Kuroshio*, (University of Washington Press, 1972), pp.353~369; Sung, Y. H. , "A Simple Model for Separation of East Korean Warm Current and the Formation of North Korean Cold Current," *Journal of the Korean Society of Oceanography*, Vol.27 (1992), pp.189~496.

⁸ Kuh Kim et al, "New Findings from CREAMS Observations; Water Masses and Eddies in the East Sea" *The Journal of the Korean Society of Oceanography*, Vol-31, No.4, December. 1996), pp.155~457.

CREAMS; abbreviated from the initials of the oceanographic research project "Circulation Research of the East Asian Marginal Sea" began in April, 1993. It has been conducted in the East Sea by RIAM (Research Institute for Applied Mechanics-Kyushu University, Japan), RIO (Research Institute of Oceanography. Seoul National University, Korea) and the Far Eastern Hydro-meteorological Institute in Russia.

⁹ *Asia Pacific Environmental Issues*, UNEP, Regional Office for Asia and the Pacific. [ROAP on the Web]

<http://www.unep.org/unep/regoffs/roap> ; Oceans ad Coastal Areas, <http://www.un.org/esa/agenda21/natlinfo/countr/repkorea> (August 19, 1998), p.12.

deplete the marine living resources and exacerbate the degradation of the confined semi-enclosed sea's environmental conditions.

The second event is the conclusion and entry into force of the United Nations Convention on the Law of the Sea in 1982 and 1994, respectively. The Part XII of this Convention has established a comprehensive legal framework for the protection of the marine environment, for the first time. The most prominent development of the environmental law in this Convention is prescribing the general duties of the States parties to protect and preserve the marine environment as binding treaty obligations. It is also appraised as a significant contribution that it places signatories of the Convention under an obligation to enforce generally accepted international environmental rules and standards established in other maritime conventions even if they are not parties to them¹⁰. As a matter of fact, the substantive rules of this Part XII have obtained the consensus among the parties in relatively early stage of the Law of the Sea negotiation and worked as the decisive guide-lines for the domestic and regional legal systems of the environmental protection and preservation since even before the entry into force of the Convention.

But this Convention still has some significant defects within its environmental provisions. Generally speaking, they are rather hortatory than concretely binding¹¹. Most of the important prescriptions of the Convention rely on other international forums and treaties for definition and implementation¹². It could also be criticized as serious deficiencies that this Convention does not have any due references to the important questions of control of the land-based pollution and disposal of nuclear radio active wastes¹³.

More than these, in the course of implementing the Convention, there are a few significant legal factors which practically hinder any coordinating efforts among the coastal nations to enhance the environmental conditions, particularly in this Northeast Asian region. The 200 miles EEZ regime of this Convention has authorized the coastal States to nationalize the surrounding seas and encouraging them to give priority to the maximum extension of their maritime jurisdictions. Consequently, delineating the boundaries between coastal States in the confined areas has emerged as the most difficult problems. Korea, Japan and China have already had serious territorial disputes and delineating the boundaries has been demanded upon them as some formidable works. Pending such serious maritime boundary disputes between each of them, any effort to prevent, reduce and control marine pollutions in some coordinating or concerted manner is hard even to attempt.

The third event is Rio Summit Meeting for the United Nations Conference on Environment and Development (UNCED) in 1992. With this epoch terminating event, regulating the human activities of harmful effects to the environment is no longer the only mandatory subject of legal instruments of international environmental law. From then on, the main theme of the environmental law has turned out to be "the sustainable development." It has been realized that the significant environmental problems remain deeply embedded in the socio-economic fabrics of countries in all regions. Coastal regions of semi-enclosed seas are at high risk of degradation, particularly from land-based activities. Rapid, unplanned urbanization in coastal areas is exacerbating the degradation of adjacent ecosystem. The exploiting development of renewable

¹⁰ Valencia, *A Maritime Regime for North-East Asia*, (Hong Kong: Oxford University Press, 1996), p.189~490.

¹¹ For instance, see Article 194~196 of the Convention.

¹² For instance, see Article 207~212 of the Convention.

¹³ Arvid Pardo, "Before and After", Remarks delivered at a Dinner in the Symposium on the Law of the Sea Oct. 29, 1982. Cited from Richard Maxwell and Horace Robertson (eds.), *Law and Contemporary Problems: Law of the Sea, Where Now?* (Durham: Duke University Press, 1983), Vol. 46. No.2, p.100.

resources- land, forest, fresh water, fisheries, and even urban air- is already beyond their natural regeneration limits and is therefore unsustainable. It is obvious that economic, social and environmental protections are interdependent. "The sustainable development" as a target conception for the environmental rehabilitation could be defined as; the progressive and balanced achievement of sustained economic development, improved social equity and environmental sustenance.

IV. Environmental Policy Efforts by the Individual States.

The concerned riparian States of the Northeast Asian Seas have been fully aware of the immediate relevance of this target conception, "the sustainable development" for their economic development and environment policy. Since 1992 Rio UNCED, they have endeavored to introduce and implement various environmental programmes adopting new policies and principles in line of this conception. Those basic capacity factors of the major Northeast Asian Nations to achieve the environmental policy goals are as follows.

Capacity Factors-1 (1995; unless specified otherwise)

	Korea(1996)	Japan	China	Russia
Population (thousands)	45,248	125,596	1,211,210	147,773
Annual Rate of Increase(1990~1993)	0.9	0.43	1.055	0.9975
Territorial Area (km ²)	99,394	372,826	9,600,000	17,075,400
Population Density(perkm ²)	456	337	126	8.7

Source: <http://www.un.org/esa/earthsummit> (98-05-23)

Capacity Factors-2 (1995; unless specified otherwise)

	Korea (1994)	Japan	China	Russia
GDP per capita(current US \$)	8,539	41,045	574	4,221
Real GDP growth (%)	8.6	1.4	9.7	96
Annual energy consumption per capita (kg of oil equivalent per capita)	3,090	3,856(1994)	583(1992)	5,781.8

Motor vehicles in use (per 1000 inhabitants)	116.6	554.7(1994)	0.85	133.1
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Source: <http://www.un.org/esa/earthsummit> (98-05-23)

Capacity Factors-3 (1995; unless specified otherwise)

	Korea	Japan	China	Russia
Life expectancy at birth (male)	69.5	76.36	68	-
Life expectancy at birth (female)	76.6	82.84	70.9(1990)	-
Infant Mortality(per 1000 live births)	8.8	4.2(1994)	35	18.1
Access to safe drinking water(%)	82.1(1994)	95.5	-	-

Source: Ibid.

Capacity Factors-4 (1995; unless specified otherwise)

	Korea	Japan	China	Russia
Generation of industrial and municipal waste (ton/day)	143,597	1,225,000	744,000,000	1,405,000
Waste recycling rate (%)	23.7	35.4	-	-
Municipal waste disposal(kg/capita)	1.1	0.12	-	-

Source: Ibid.

The individual efforts of each riparian States for their environmental policies could be summarized briefly as follows.

1. Korea

In Korea, more than 45 million people live in the territory of less than 100

thousand sq km. Without any substantive land-resources, marine policy occupies a prominent place on its agenda for socio-economic development. Since mid 1960s, rapid industrialization, growing population density (particularly with rapid urbanization), increased foreign trade, and technological advances have burdened it with every possible environmental problem. Korean government has gradually reinforced and expanded its legal and institutional frameworks and adopted a variety of policies geared towards systematically managing those environmental problems. In 1977 the "Environmental Preservation Act" has been enacted and in 1980 the Environment Administration (EA) established. Ten years later (in 1990), EA was re-inaugurated into the Ministry of Environment (MOE) consisting of 2 offices, 5 bureaus and 5 director generals. In 1990, Korea promulgated the Basic Environment Policy Act and enacted a number of environment related laws.

Korean government's environmental policy goal could be defined as "Environmentally Sound and Sustainable Development (ESSD)". To realize this goal, a nationwide environmental preservation endeavoring is being carried out along with the strategic master-plan named as "Green Vision 21". This plan is a long term programme aiming at the completion of an environmentally friendly society for the 21st century. Some important guiding principles for this "Green Vision 21" are to:

1. enforce pollution prevention rather than pollution control.
2. integrate environmental policy with economic policy.
3. expand and enforce the "polluter-pays principle.
4. promote international cooperation within a global agenda.
5. encourage citizen's participation by guaranteeing the access to environmental information along with the principle of openness.

Some detailed policies for the environment preservation implemented along with this "Plan" could be summarized as follows:

1. For air quality preservation,

- 1) a strict auto fuel standards shall be designated. (non lead, low sulfur)
- 2) ozone-alert system is operating in 6 largest cities.
- 3) auto emission control be implemented. (3 way catalytic converter)

2. For water quality preservation,

- 1) effluence standards shall be stipulated to every water polluting facility.
- 2) Special Countermeasure Area-a kind of tap water source protection area shall be designated.
- 3) strict effluence limits of waste water shall be observed with the government's control and supervise.

3. For waste management,

- 1) Volume-based Collection Fee System shall be operated.
- 2) Deposit Refund System shall also be operated.

4. Environment Impact Assessment(EIA)

shall be established and carried out. This is a three-fold approach to mitigate adverse effects of development projects on environment and bio-diversity.

5. Natural Ecosystem Conservation Areas

shall be designated through out the nation. (5% of the whole territory)

6. National Strategies for Bio-Diversity Conservation

shall be established especially for coastal wet-land and marshes¹⁴.

2. China

China has the largest population in this region. China also has a vast maritime space, long coast-line and rich marine resources. Upon completion of its 8th 5 Year Economic Plan, China has achieved a remarkable economic growth. The annual GNP growth rate averaged 12%. The average annual volume of import and export exceeded 200 billion US \$. The actual foreign capital investment surpassed 160 billion US \$. The foreign exchange reserve was over 90 billion US \$. A rapid industrialization is still on going in China with its ambitious 9th 5 Year Economic Plan. China's rapid economic growth has added a great pressure on the environment. City centered pollution is worsening and spreading to rural areas, and the ecological destruction is also spreading. By Chinese Government a comprehensive series of efforts has been implemented to cope with these grave situations. Particularly, since the UNCED in 1992, the Government of China has taken some strenuous efforts to implement its commitments made at UNCED. It finalized and published the sustainable development strategy for China in 1994, "China's Agenda 21". This is the "White Paper" on China's Population, Environment, and Development in the 21st Century. The Leading Group of China's Agenda 21 was established by the Chinese Government to guide and coordinate the formulation and implementation of China's agenda 21. Under the leadership of the State Planning Commission and the State Science and Technology Commission the Administrative Centre for China's Agenda 21 was also established to address the day-to-day work of the implementing.

In the 10 Point Strategy for Sustainable Development adopted by the Chinese Government in August 1992, it was proclaimed that China's inevitable choice is to follow the path of sustainable development. Guided by this China's Agenda 21, many provinces, autonomous regions, and municipalities have developed their respective Agenda 21 or Plan of Action. The strategy of sustainable development has thus been incorporated into national economic and social development plans.

Some detailed policies for the environment preservation implemented along with the China's Agenda 21 could be summarized as follows:

1. Plan for the Total Amount Control of Pollutants.

This is a control measure which is formulated based on China's pollution situation, which specifies the total emissions or discharge quota for several key pollutants to guarantee that in nationwide, the total amount of key pollutant emission will not increase with the economic growth.

2. Cross Century Green Engineering Program

This is a program to resolve the most severe pollution problems of regional river basin nature.

3. Improving the environmental legal system

¹⁴ Mr. Boo-Ho Noh, Director, International Affairs Division MOE, Rep. of Korea "Environmental Policy and Institutions of Republic of Korea," Presentation Script at the 5th Northeast Asia Conference on Environmental Co-operation (7th October 1996, Beijing, China)

4. Increasing the environmental investments.

5. Upgrading the scientific and technological level for environmental protection

6. Developing the environmental protection industries.

7. Intensifying the environmental education and improving public awareness of environmental matters¹⁵.

3. Japan

It is safe to say that Japan is the most advanced nation in this region, in economical and industrial development as well as with environment protection matters. To implement Agenda 21 of 1992 Rio UNCED, Japan formulated National Agenda 21 Action Plan in 1993 and the Basic Environment Plan in 1994. Japan has been promoting and further developed various measures in accordance with the provisions of these two plans.

1. Institutional and Legal Framework for National Agenda 21

In November 1993, Japan enacted the Basic Environmental Law which articulated three basic principles of environmental Policy:

- 1) enjoy and success the environmental blessings
- 2) create a sustainable society which imposes less burdens on the environment
- 3) international cooperation for the conservation of the global environment

In June 1996, the Japan Council for Sustainable Development was established. It is consisted of representatives from the Government, industry, and NGOs. so as to facilitate dialogues among the members concerning the issues of sustainable development.

2. National Policy Measures and Strategies for the Action Plan

- 1) Long-term Objectives of the Action plan;
 - environmentally sound material cycle.
 - harmonious coexistence
 - participation
 - international activities.
- 2) National Strategy on Biological Diversity (adopted in October 1995)
 - to ensure the environment protection and sustainable use of bio diversity in a comprehensive manner.
- 3) Action Programme to Arrest Global Warming
 - a wide range measure to address climate change by controlling the CO₂ emissions
- 4) Household Eco-account Books
 - a device to control the green house gas emission from household¹⁶.

Japan has also initiated an important forum for the sustainable development in

¹⁵ Mr. Ye Ruqiu, Deputy Administrator, National Environmental Protection Agency, "An Opening Address" 5th Northeast Asia Conference on Environment Co-operation (October 7, 1996 Beijing, China).

¹⁶ <http://www.un.org/esa/earthsummit/japan-cp.htm>

the region. That is the Environment Congress for Asia and the Pacific (Eco Asia) which has been held in Japan annually since 1992. Very important concept and proposals have been put forwarded in the forum's report, "Eco Asia Long-term Perspectives on Environment and Development in the Asia Pacific Region". It proposed "Asia Pacific Eco Consciousness" as a basic concept. They introduced three proposals; namely, Eco-Partnership, Eco-Technology and Eco-Policy Linkage as the relevant action plans. They are intending to encourage activities to protect the environment which reinforces cooperation and exchange of experiences between various sectors within countries, regionally, and internationally including not only Governments, but also companies, NGOs and local authorities¹⁷.

4. Russia

Russian Federation has the largest territory and the longest coast-line among the Northeast Asian countries. The socio-economic development of Russian society in recent decades, with its rapid rates of economic growth, has caused unprecedented damages to the natural environment. With all its riches of nature, the growing demand of economic exploitation has almost destructed the ecological sustainability. The concept of sustainable development has now been accepted as a national idea which could reunite all strata of society in the cause of Russia's rebirth. The Government's Plan of Action for Environment Protection for 1994-1995, and the Plan for 1996-1997, have enacted on 18 May 1994 and 19 February 1996, respectively.

This plans contains 56 very important measures, 4 bills, 41 special purpose federal programmes, 25 of which for implementation, 6 regulatory instruments and 5 other documents. The Concept of Transition of the Russian Federation to Sustainable Development has been asserted by a Presidential Decree of 1 April 1996.

V. Regional Cooperation Instruments for Marine Environment and Sustainable Development

1. Current Environmental Problems and Issues in the Northeast Asian Seas

With all those strenuous efforts by the individual riparian States of the Northeast Asian Seas, the current environmental situation of this region, particularly as far as the marine environmental condition is concerned, is by no means optimistic.

Every year 181 million tons of domestic sewage and industrial wastes and 0.5 million tons of chemical toxicities are discharged into the near-shore areas of the Eastern Yellow Sea. The Yellow Sea has been publicly designated as one of the 7 "dying" seas of the world. The East Sea has still had the favorable condition for the environmental rehabilitation as far as in oceanographic point of view¹⁸. However, this

¹⁷ Mr. Hironori Hamanaka, Director General of Global Environment Department, Environment Agency, Government of Japan. A Statement in the 5th Northeast Asian Conference on Environmental Co-operation (7. October 1996).

¹⁸ Supra note 7.

confined semi-enclosed sea is not free from contaminating threat with the mercury emission off from Niigata, oil and heavy metal effluents from Peter the Great Bay and the dumping of nuclear radioactive wastes by the Russia.

The depletion of marine resources has already been proceeding into unsustainable degree in this area. Particularly, the living resources have been desperately over-exploited. The Northeast Asian seas are the only few water spaces in the world into which have not yet been introduced the resource management system in the legal framework of the 200 miles exclusive economic zone, controlling the fish catch by the limits of "total allowable catch" (TAC). Since 1989, China has been keeping the first ranking position of the world in fish-catch, and Korea, another strenuous fish catching nation is currently ranked tenth in the world.

In the Yellow Sea and the East China Sea, the total fish catch has steadily been increasing, possibly as a result of these two nation's exploiting efforts in this confined sea areas. However, the catch of valued species has declined. Major target species have been the bottom dwellers such as yellow croaker, hair-tail and cod, and the highly migratory pelagic such as Pacific herring, mackerels and butterfish. Almost all of these species have already been over-fished and replaced by smaller lower tropical level species. The total number of fish species in the Yellow Sea has supposedly declined from 141 to 24 over the past 30 years¹⁹.

The situation in the East Sea is not encouraging either. The Law of the Sea Convention prescription to ensure conservation and management of the living resources has not been adopted yet, in this area. Each State bordering this semi-enclosed sea simply prefers to catch more fish rather than conserve them.

2. Initiatives for Regional Cooperation

Obviously, any effort to rehabilitate the degraded ecological condition and to preserve the natural resources in such confined areas as the Northeast Asian semi-enclosed seas would not be effective and practical if it is not attempted and endeavored in some coordinating or concerted manner. An enclosed or semi-enclosed seas could be defined as;

..... a gulf, basin or sea, surrounded by two or more States and connected to another sea or the ocean by a narrow outlet (geographical condition), or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States.²⁰

The Northeast Asian seas fulfill both of the geographical and legal conditions of this definition as semi-enclosed seas. The cooperation among the States bordering enclosed or semi-enclosed seas is emphasized in the Convention as that they should endeavor directly or through an appropriate regional organization:

- (a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea,
- (b) to coordinate the implementation of their rights and duties with respect to the protection and to coordinate preservation of the marine environment,
- (c) to coordinate their scientific research policies and undertake, where

¹⁹ Mark J. Valencia, *A Maritime Regime for Northeast Asia*, op. cit., p.175.

²⁰ LOSC Article 122.

appropriate, joint programmes of scientific research in the area,

(d) to invite as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article²¹.

In this context, for the coordinated efforts of ocean management, the concerned coastal States of the Northeast Asian Seas have initiated the environmental forums of various levels in this region, in addition to those afore-mentioned individual efforts.

(1) Senior Officials Meeting on Northeast Asian Environmental Cooperation

The first such forum was the Senior Officials Meeting on Northeast Asian Environmental Cooperation, organized by the Economic and Social Commission for Asia and Pacific (ESCAP). The participating countries were Korea, China, Japan, Russia and Mongolia. This forum has now become the Governing Body for Northeast Asian Environmental Cooperation Project. In this forum information and experiences in the field of environment preservation have been exchanged in a non-binding format.

(2) Northeast Asian Conference on Environmental Cooperation

The second forum is the Northeast Asian Conference on Environmental Cooperation involving environmental departments in Northeast Asian countries. In this important annual conference, the officials and representatives from the environmental departments of Northeast Asian countries discuss together the environmental issues, exchange timely information, experiences, and share with each other the latest development of environmental management and environmental protection policies and measures. The participating countries are Korea, China, Japan, Russia and Mongolia. The topics discussed in this conference have covered a comprehensive range of issues including:

- a. atmospheric pollution monitoring and prevention,
- b. water pollution prevention,
- c. marine environmental issues,
- d. solid waste management,
- e. toxic hazard wastes and chemicals management,
- f. eco-system and bio-diversity protection,
- g. global climate changes, and etc.

This forum has enhanced mutual understanding, cleared possible sources of disputes, and coordinated the different positions of the States on global environmental issues.

(3) Northwest Pacific Region Action Plan (NOWPAP)

This forum is a multilateral cooperative effort for the marine environment protection which has been undertaken as a part of the UNEP's Regional Seas Programme (RSP). UNEP's Regional Seas Programme encompasses thirteen regional

²¹ LOSC Article 123.

seas all over the world and involves the participation of over 140 coastal countries and island states. Nine "Action Plans" are currently operating in connection with the UNEP's RSP. In 1989, the UNEP Governing Council decided²² to prepare new action plans for the seas which have not been covered by its RSP so far, namely, Northwest Pacific and the Black Sea in its 15th session. In May 1991, the interests and intentions of the concerned governments in the Northwest Pacific region were confirmed in an informal meeting convened by UNEP Activity Centre, during 16th session of its Governing Council in Nairobi, Kenya. To prepare and develop this action plan, four consecutive consultative meetings of experts and three inter-governmental meetings have been held. The participating nations are Korea, China, Japan, Russia. The North Korea joined only the second and third Experts Meeting.

At the first NOWPAP Experts Meeting in 1991, it was agreed that the geographical scope of Action Plan should cover the area of the East Sea and the Yellow Sea. Actually, the expression of the geographical scope was controversial. Later, in the 4th Experts Meeting in September 1994, it was finally agreed that the geographical scope of the NOWPAP span from about 115°E longitude, and from approximately 52°North, to 33°North latitude. In the consecutive Experts Meetings, the work plan and timetable were formulated, and the national reports, regional overview and the draft of the Action Plan were reviewed²³. At the First Inter-governmental Meeting in 1994, the NOWPAP Action Plan and three Resolutions had been adopted. The Action Plan clarified the overall goal of the NOWPAP as;

the wise use, development and management of the coastal and marine environment so as to obtain the utmost long-term benefits for the human populations of the region, while protecting human health, ecological integrity and the region's sustainability for future generations.

The participating States have also adopted the three subsidiary and complementary goals for the NOWPAP implementation namely:

- (1) the control, halting, and prevention of any further degradation and deterioration of the coastal and marine environment and its resources,
- (2) the recovery and rehabilitation of coastal and marine environments that have been degraded and which still have the potential for recovery ; and
- (3) the long-term sustain of coastal and marine environmental quality and resources as asserts for the present and future human populations of the region.

The adopted five NOWPAP mid-term objectives to complete the afore-mentioned goals are:

- (1) monitoring and assessment of the state of the regional marine environment,
- (2) creation of an efficient and effective information data base,
- (3) integrated coastal area pre-emptive and precautionary planning,

²² Decision 15/1, Nairobi 15~26 May, 1989.

²³ Reports of Consultative Meeting of Experts, and National Focal Points on the Development of NOWPAP.
UNEP (OCA)/NOWP. WG.1, WG2, WG3.

- (4) integrated coastal area management planning, and
- (5) establishment of a collaborative and cooperative legal framework.

Five priority projects of NOWPAP have also been approved:

- (1) NOWPAP/1: Establishment of a comprehensive data base and information management system,
- (2) NOWPAP/2: Survey of national environmental legislation, objectives, strategies and policies,
- (3) NOWPAP/3: Establishment of a collaborative regional monitoring programme
- (4) NOWPAP/4: Development of effective measures for regional cooperation in marine pollution preparedness and response
- (5) NOWPAP/5: Commence the establishment of regional activity centers and their work.

These projects are in the progress of implementation²⁴. Early in April this year at the 3rd Inter-Governmental Meeting, the arrangement for the NOWPAP Trust Funds, and the establishment of a Regional Coordination Unit (RCU) and a network of the Regional Activity Centers (RACs) were intensively discussed. Needless to say, financing the NOWPAP projects with some reliable fund is the crucial precondition to put them on a full-fledged operational phase, guarantee that implementation of NOWPAP proceed smoothly. As for the question of institutional arrangement, the establishments of the following organs have been suggested in the national reports and reaffirmed in each delegation's recent remarks:

- (1) The Activity Center for NOWPAP/1 Marine Data and Information in China.
- (2) The Activity Center for NOWPAP/4 Marine Pollution Preparedness and Response in Korea.
- (3) The Activity Center for NOWPAP/3 Marine and Coastal Environment Monitoring in Russia.

A RCU is to be established with the assistance of UNEP to coordinate the managed execution of Action Plan projects. Until the RCU is completely set up, UNEP will coordinate NOWPAP projects and preparation of cooperative legal frameworks.

Compared with the cases in other semi-enclosed seas, there are still some unique technical and political problems in implementing this multilateral coordinated programme in Northeast Asia. The coastal nations have different levels of economic development and different discharge standards. The vague or nominal participation of the North Korea has also served to threaten the comprehensiveness of this action plan as an environmental programme in a semi-enclosed sea.

Nevertheless, NOWPAP Action Plan does have unique positive factors to be successful comparing with other UNEP's RSPs. The scientific capabilities of the coastal nations in the Northeast Asia are excellent. Through various NOWPAP forums, and special meetings the level and quality of knowledge of regional seas, has been enhanced. The marine scientific knowledge and technology has been transferred to developing countries in the region. The regional elites have already been educated through the NOWPAP endeavor on the requirement for more comprehensive environmental policy,

²⁴ At the First Inter-governmental Meeting in 1994, Seoul, Korea.

at both national and regional level.

□. **Conclusion**

1998 has been designated as the “International Year of the Ocean” by the United Nations. Like this meaningful international academic meeting which we are gathering now, many events and activities are planned and executed to promote the importance of the ocean, its environment and resource sustainability. Taking account of all the technical and political problems in the region, I am nevertheless confident the multi-lateral coordinating bodies for the environmental rehabilitation in the Northeast Asian region will achieve due capacity and confidence in their endeavors to keep this region clean and abundant.

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