

**Application of the Watershed
Approach in the Management of
Land-based Debris in Han River
Basin, RO Korea**

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*The First Int'l Workshop on Marine Litter in the
Northwest Pacific Region*

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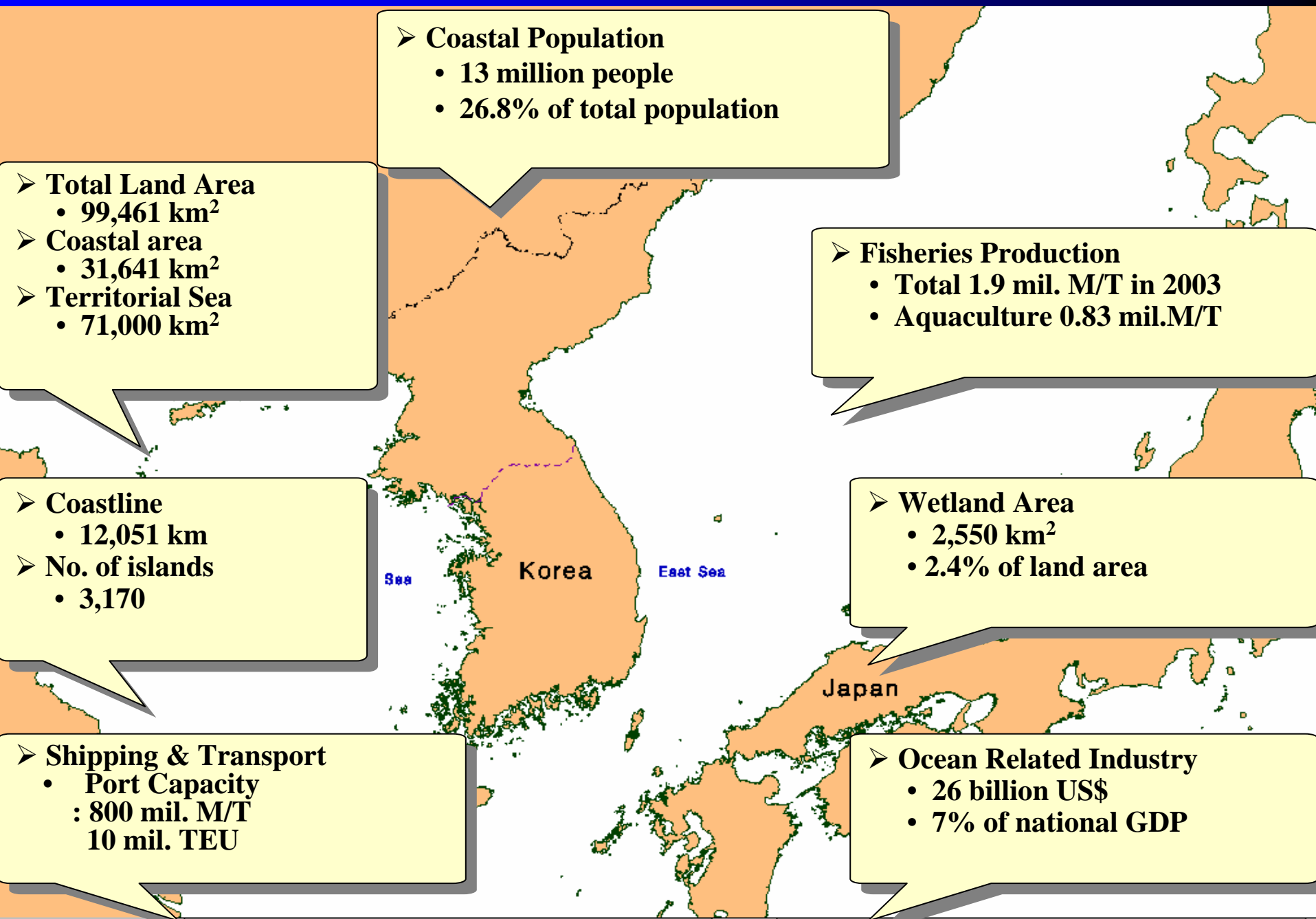
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I. Introduction

Major Features of Coastal and Marine Sectors in Korea



Historical Outline of Marine Environmental Management in Korea

Better Oceans, Better World, Better Future

Local Level

Words into Action

Formulation of Institutions

- Reunion of Ecology and Economics
- Coexistence of Present and Future

Emergence of New Concepts

- MOMAF
- New laws & Policies
- Investment expansion
- Int'l cooperation

Incorporation of GPA Framework

MANGO

Episodic Management

- Agenda 21 Ch. 17
- Survey & Research
- Red tides, Oil spills
- Wetlands loss

1992

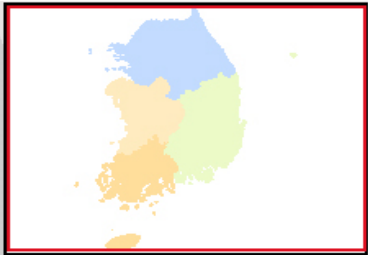
1996

2000

End-of-Pipe Approach

Front-of-Pipe

(modified from Nam and Kang, 2003)



- ✓ More than 130 islands
- ✓ Connected to Han River Basin
- ✓ Wetlands and submerged sandbars
- ✓ Coastal landscape such as seastacks with aesthetic value
- ✓ High tidal range (8m) and fast currents
- ✓ Small inlets and indented coastline

DRP KOREA

RO KOREA

Gyeonggi Province

Han River

Incheon

Seoul



II. Historical Outline and Major Activities

Backgrounds –Conflicts Emergence

- **Coastal degradation** and deterioration from socio-economic activities
- **Negative impacts** on fisheries and tourism, economic and ecological
- **Marine debris : priority issue** in Incheon coastal area
- **Incheon**, require Provincial governments to share responsibilities in 1996 : Seoul Metropolitan City, Gyeonggi Province, Gangwon Province
- **Three Stages for Watershed Approach Application** :
Beginning, Formative, and Implementation (*polluters pay principle*)

Beginning Stage : 1996 to August 1998

- **Initiation of pilot survey** on marine debris March 1997 to March 1998, by Incheon Metro City
- **Agreement and MOU establishment** on co-financing for gathering more accurate data among relevant local governments
 - geographical boundary
 - research institutes
 - methods
 - cost allocation etc.
- **Launching new survey project in June 1998**

Formative Stage : 1998 to March 2000

- **Institutional mechanism for discussion and negotiation**
 - Administrative Council for Capital Region (establishment in 1988, based on Local Autonomy Act)
- **Clarification of financial responsibilities** of each local governments in **1999**, based on the survey results
- **MOU with two phases**
 - 1st Phase : Building cooperative mechanism. 2000 to March 2001
 - 2nd Phase : Actual Implementation, 2001 to 2006

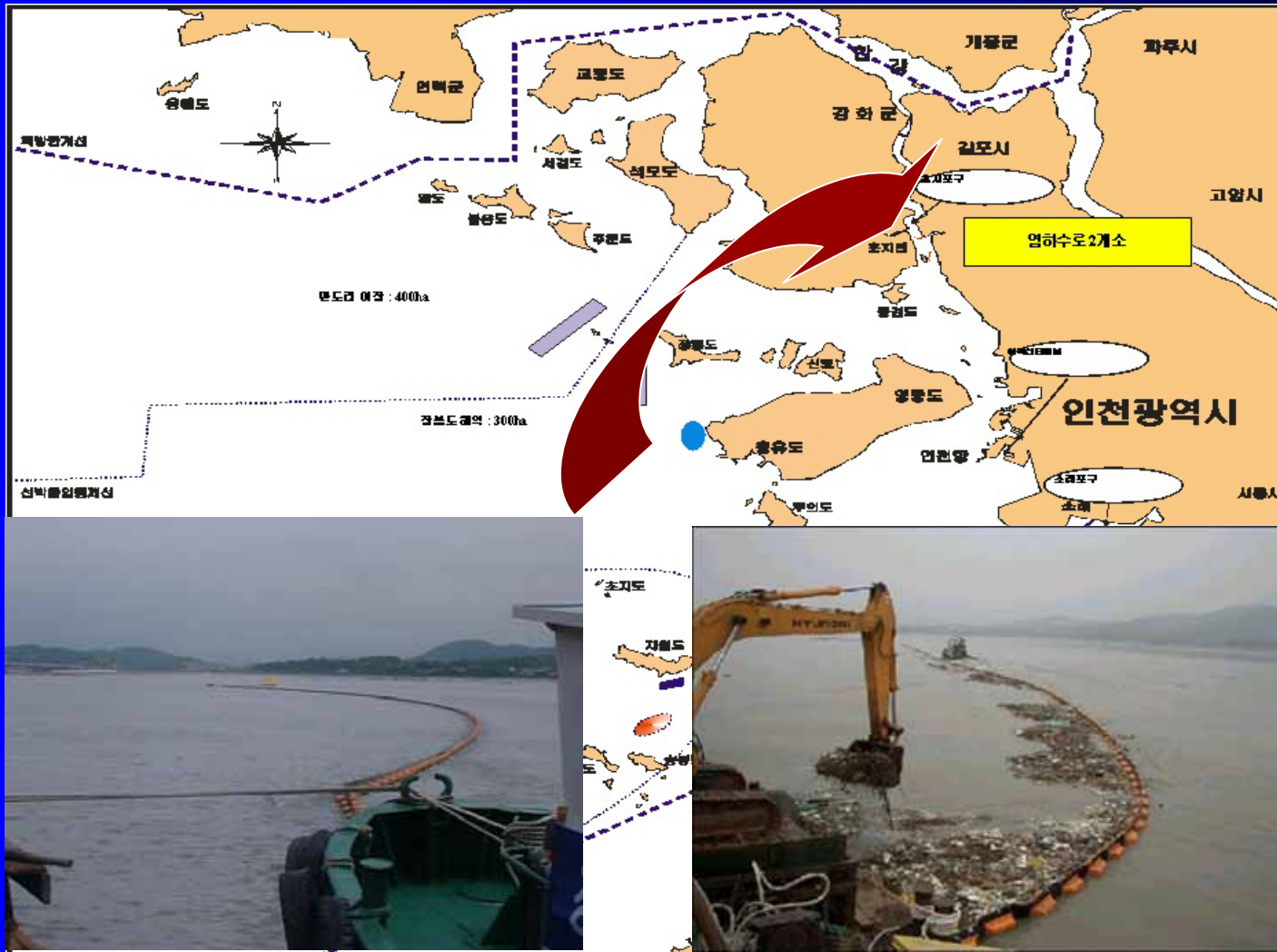
Implementation Stage : from April to 2000

● Major arrangements of the MOU

- Total budget : USD 20 million (2000 to 2006)
- Specified proportion : Incheon (50.2%), Gyeonggi (27%), Seoul (22.8%)
- Main activities : survey, collection & treatment, building a vessel etc
- Commitment : sharing stewardship, building cooperation & partnership, scientific approach

Implementation Stage : from April to 2000

- Installation of marine debris fences during heavy rain falls in summer



Implementation Stage : from April to 2000

- Purchase of marine debris collected by fishermen (\$ 6 /60L)



Beyond “principles”

Polluters vs. Beneficiary

→ *To mobilize all available measures*



Implementation Stage : from April to 2000

- Collection of deposited litter



Implementation Stage : from April to 2000

- Coastlines and islands



Implementation Stage : from April to 2000

- Building vessels and environment monitoring



Implementation Stage : from April to 2000

- Installation of marine debris fences during heavy rain falls in summer



III. Lessons and Concluding Remarks

Lessons Learned

- Concrete Issue Identification
 - Linkage of Coastal Area to Watershed / River Basin
 - Application of Scientific Approach for Conflict Resolution
 - Establishment of Institutional Mechanism : MOU
 - Application of Polluters Pay Principle
- Applicable to other Marine Environmental Issues

Remarks for Land-based Marine Debris

- Don't Come into our Precinct ?
 - Manage : not Manage Marine Debris, but Socio-economic Activities and Humans
- Translate Words (*buzzword*) in to Action
 - Genuine Cooperation based on willingness to share responsibilities

Thanks for your attention

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