

Marine Protected Areas in DPR Korea

North-East Asia Marine Protected Areas Network (NEAMPAN) programme



In the service of democracy, peace and development

Hanns Seidel Foundation 2018

Outline of the Presentation

- 1) Preamble and Background
- 2) The Ramsar Wetland Project as a Modell for International Cooperation
- 3) Overview on designated MPA in the DPRK
 - a) General Overview
 - b) Categorization
 - c) Legal Framework
 - d) Activities for the marine ecosystem conservation in MPA
 - e) MPAs in the DPRK and challenges
- 4) Case Study: Mundok Migratory Bird Reserve
 - a) Overview
 - b) Biodiversity
 - c) Ecosystem Services
 - d) Governance
- 5) Coastal Biodiversity Management of DPR Korea's West Sea – A GEF Project

MPAs in DPRK

1) Preamble

Background



- Working in a restricted system
- Data are considered state secrets
- Coastal Areas are under military control
- Limited access, both to sites as well as data and both domestically and international
- Resources are unavailable (Domestic and international)

But

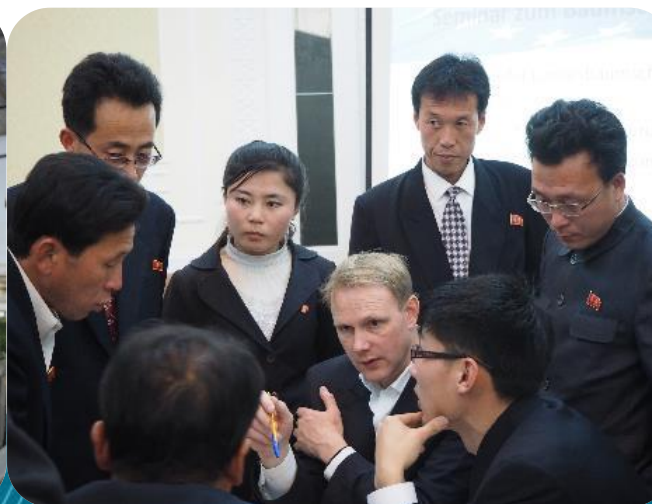
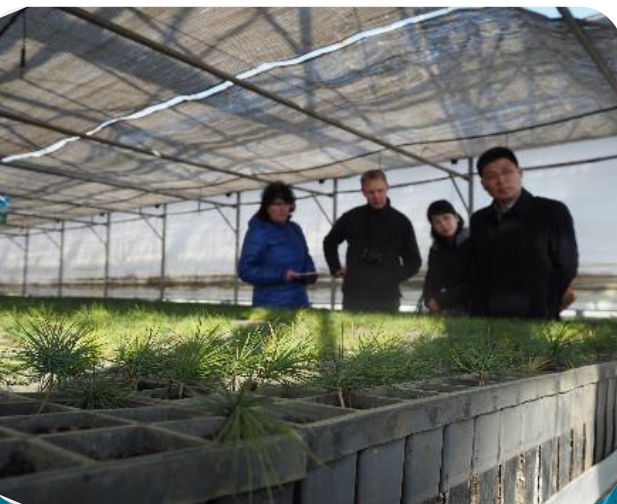
- Increasing interest and efforts on environment conservation
- International partners can empower local stakeholders

1) Preamble and Background

*“Promoting Peace, Democracy and Development
in more than 60 countries worldwide”*

- Active in **South Korea** since 1987
 - Reconciliation on the Korean Peninsula, German experience about division and unification and a focus on the **inner-Korean border area**
- Active in **North Korea** since 2003
 - Today: International transboundary nature cooperation and reintegration of North Korea in the field of environment

“Peace through Trust through Dialogue about the Environment”



2) The Ramsar Wetland Project as a Modell for International Cooperation



China



Project on Wetland Conservation and Wise Use

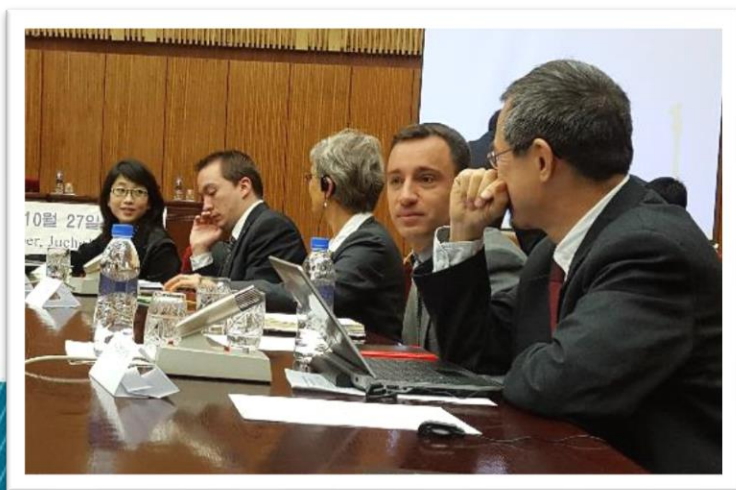
- 4 National Workshops in 2016, 2017 and 2018
- 2 Local Workshops in 2016 and 2017
- Biodiversity Surveys at potential Ramsar Sites
- Workshops in China, Mongolia, Hong Kong, Cambodia, etc.
- Participation at international conferences

Mundok and Rason Migratory Bird Reserves

- Designation in 2018 as Ramsar and FNS sites
- Development as Model Sites in the country
- Research ongoing but limited
- Monitoring and management ongoing but limited
- Efforts to support monitoring, management and awareness in the country

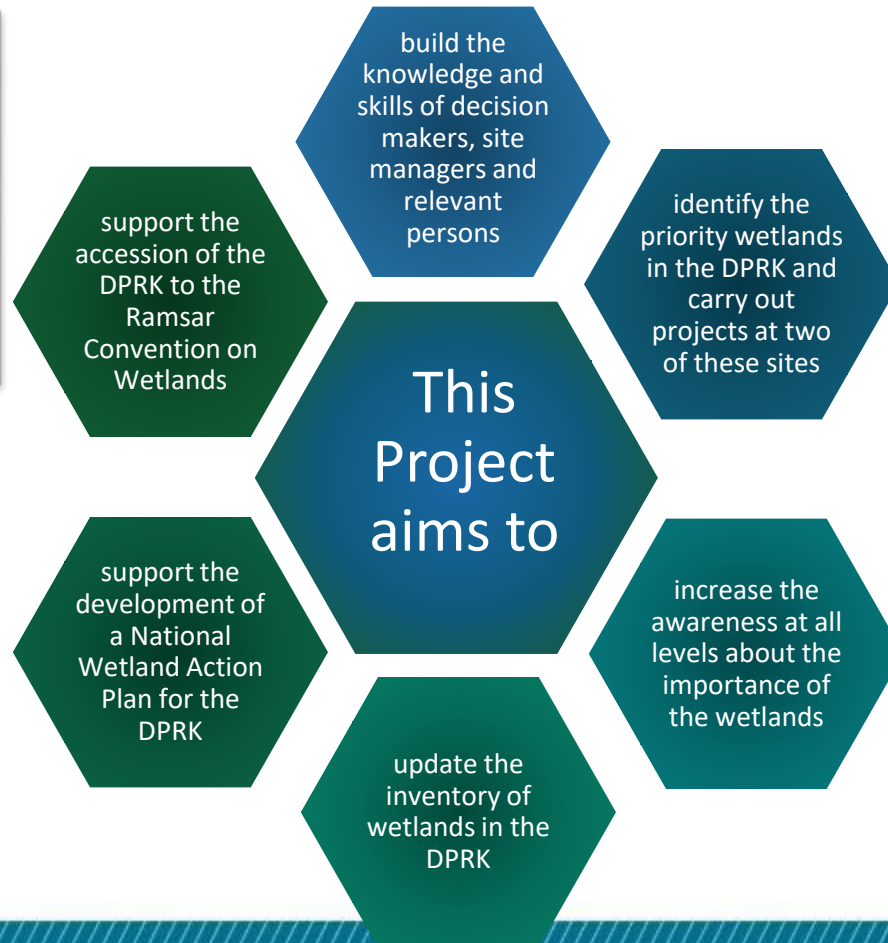
National Workshop on Wetlands in October 2015

- More than 100 central and provincial level officials from all “wetland-related” ministries
- 15 other governmental bodies and institutions
- Introduction of Ramsar Convention, the designation of Ramsar sites and sustainable management
- The role of international organizations, e.g. WWF, IUCN, HSF, etc.



The Conservation and Wise Use of Wetlands in the DPR Korea

The Objectives

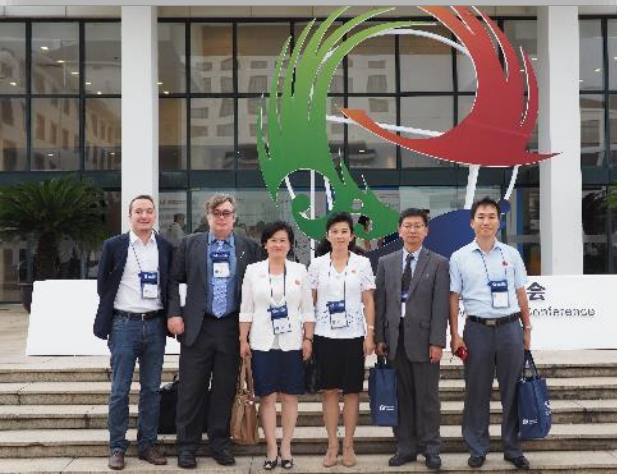


The Conservation and Wise Use of Wetlands in the DPR Korea

Activities

■ Activities 2016

- March Training on Red List with IUCN in Beijing
- April Biodiversity Survey in Rason
- June Biodiversity Survey in Rason
- August Workshop on White-naped Crane Conservation in Mongolia
- August Exhibition on the EAAFP at the Rason Trade Fair
- Sept INTECOL Conference on Wetlands and training at Chongming Dongtan
- Nov Workshop on transboundary nature conservation with UNESCAP in Beijing



The Conservation and Wise Use of Wetlands in the DPR Korea

Activities

■ Activities 2017

January	EAAFP MOP in Singapore
April	Biodiversity Survey in Rason
August	Exhibition on the EAAFP at the Rason Trade Fair
September	Study tour and workshop in Hong Kong, Mai Po, with WWF
December	Study tour and workshop in Cambodia with IUCN
December	Yellow Sea workshop in Yancheng



The Conservation and Wise Use of Wetlands in the DPR Korea

Activities

■ Activities 2018

February Ramsar Regional Pre-COP in Chilaw, Sri Lanka

March Baer's Pochard Meeting in Hengshui

March Biodiversity Survey in Rason

June Biodiversity Survey in Rason

Partnering with more than 20 international organizations in the last four years, among others Ramsar Secretariat, IUCN, WWF, Beijing Forestry University, Wildlife Conservation Centre of Mongolia, and others



The Conservation and Wise Use of Wetlands in the DPR Korea

Outcome

- **Reintegration into International Environment Networks:**

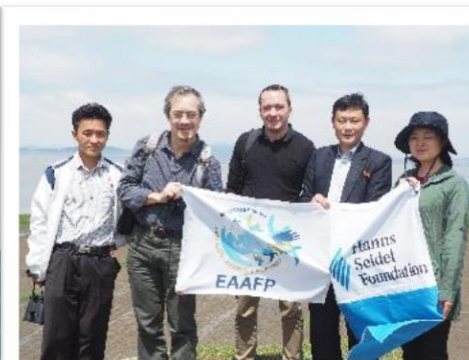
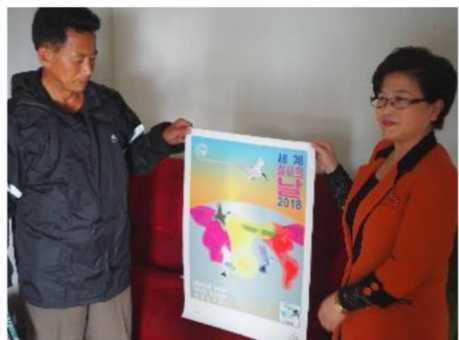
MoLEP became a member to IUCN, DPRK acceded the Ramsar Convention and the EAAFP, leading to international cooperation naturally

- **Capacity Building:**

Trainings abroad and in the DPRK supported the environmental sector in the DPRK and lead to an improvement of skills and knowledge.

- **Ramsar Sites, EAAFP and IUCN Accession**

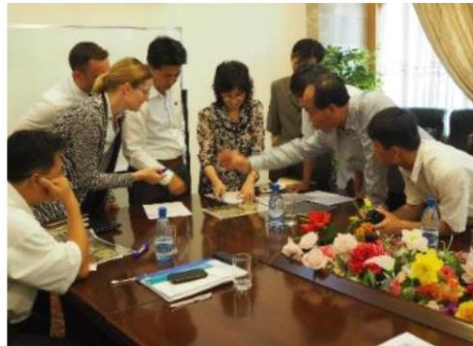
Commitment by DPRK to sustainable management and conservation of Mundok Ramsar Site, Rason Ramsar Site, and Kumya EAAFP Network Site – potential for international cooperation



The Conservation and Wise Use of Wetlands in the DPR Korea

Outcome

- **National Wetlands Inventory:**
Publication in October 2018 and site surveys along the East and West Coast
- **Awareness Raising:**
Awareness-raising activities (e.g. translation of Ramsar Convention and handbooks, celebration of International Environment Days) for a better understanding for healthy ecosystems
- **Enhanced Networks:**
Regular participation of representatives of the North Korea in international meetings, conferences, and workshops, as well as representatives from more than 10 international organizations paying visits to North Korea



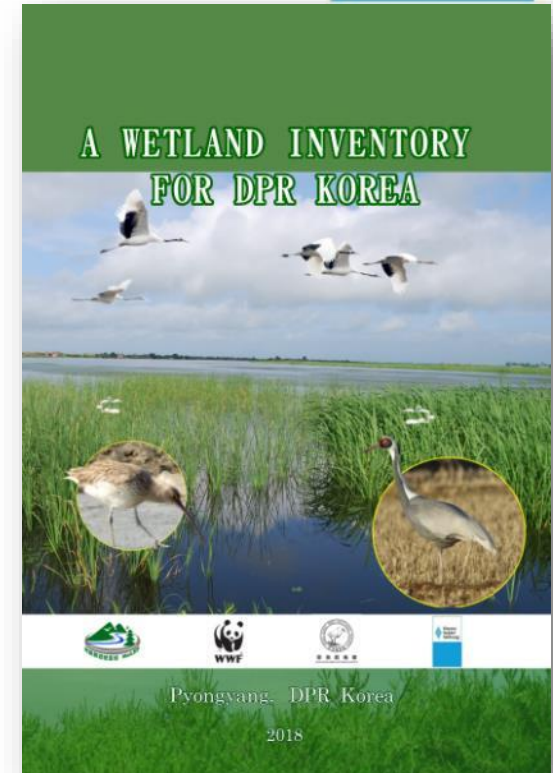
The National Wetlands Inventory in the DPRK

Presented at the Ramsar COP 2018 in the DPRK

- Listing 54 important coastal, inland and artificial wetlands
- Contribution to the national policy-making for the wetland conservation and management
- Baseline data for achieving SDG 6, 14, 15.1, 15.9

Content

- ✓ General information on wetlands in DPRK
- ✓ Important wetlands in DPRK
- ✓ Summary
- ✓ Level Framework
- ✓ Involved Agencies for conservation, management, etc.
- ✓ Fauna and flora
- ✓ Justification of Ramsar Criteria
- ✓ Conservation and management status
- ✓ Ecosystem services



The Conservation and Wise Use of Wetlands in the DPR Korea

The National Wetlands Inventory in the DPRK

Code	Wetland Types	Representative wetlands
Marine/Coastal Wetlands		
A	Permanent shallow marine waters	Water area around Is. Al, Hamhung bay, Estuary of River Nam
B	Coral reefs	Some areas on east and west coastal area
D	Rocky marine shores	Castal area of estuary of Nam River, Is. Al, Is.Rab
E	Sand, shingle or pebble shores	sand bars in Lake Sijung, Lagoon Chona
F	Estuarine waters;	Estuaries of Amnok. River, Tuman River and Chongchon River and etc.
G	Intertidal mud, sand or salt flats.	Is.Maam Tideland, Taedong Bay, Ongjin Bay
H	Intertidal marshes;	Is. Yo at the estuary of Chongchon River, Is.So at the estuary of Amnok River and etc.
J	Coastal brackish/saline lagoons;	Lagoon Kwang, Lake Tongjong, Lake Sijung and etc.
K	Coastal freshwater lagoons	Lake Jangyon, Lake Mugye and etc.
Zk(a)	Karst and other subterranean hydrological systems, marine/coastal	Kumran Cave

Conservation and Wise Use of Wetlands in the DPR Korea

Wetland types and their distribution in the DPR Korea

Annex 2. The location of significant wetlands in DPR Korea

No	Region	Types of wetlands
1	Coastal Area in East Sea of Korea	Lagoon, bays, rocky marine shores, estuary, etc.
2	Coastal Area in West Sea of Korea	Intertidal flat, estuary, islands, etc.
3	Inland Area	Lake, reservoirs, rivers, streams, paddy field, salt pan, fish farm, Karst



The Way Ahead

1. Global/Regional level

- Supporting the Participation in the YS/West Sea Working Group
- Supporting the Participation in Ramsar Meetings
- Involvement in World Heritage Initiatives
- Strengthening the Network and Partnership in Northeast Asia

2. National level

- Consultation to improve the legal frameworks
- Support of the creation and facilitation of national wetlands committees
- Support of the revision of National wetlands inventories
- Support of the development and implementation of CEPA national strategies
- Support of National Environment Days (World Migratory Bird Days, International Biodiversity Days)

3. Site level: Mundok

- Support of revision of Ramsar Site Information Sheets, Flyway Network Site Information Sheets
- Support of the Creation of site management committees in Protected Areas
- Joint biodiversity and socio-economic research and studies
- Support of the development of management plan
- Support of the development of monitoring programmes
- Support of the development of education programmes and facilities
- Capacity building and trainings at site level

4. Site level: Rason

- Support of revision of Ramsar Site Information Sheets, Flyway Network Site Information Sheets
- Support of the Creation of site management committees in Protected Areas
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- Capacity building and trainings at site level
- TB exchange and cooperation with China, Russia, eco-tourism strategy and implementation

Conservation and Wise Use of Wetlands in the DPR Korea

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The Way Ahead

A International Wetland Strategy for Northeast Asia? On the Global Level

1. Global/Regional level

- Supporting the Participation in the YS/West Sea Working Group
- Supporting the Participation in Ramsar Meetings
- Involvement in World Heritage Initiatives
- Strengthening the Network and Partnership in Northeast Asia



Conservation and Wise Use of Wetlands in the DPR Korea

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The Way Ahead

A International Wetland Strategy for Northeast Asia? On the Global Level

2. National level

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Conservation and Wise Use of Wetlands in the DPR Korea

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The Way Ahead

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Conservation and Wise Use of Wetlands in the DPR Korea

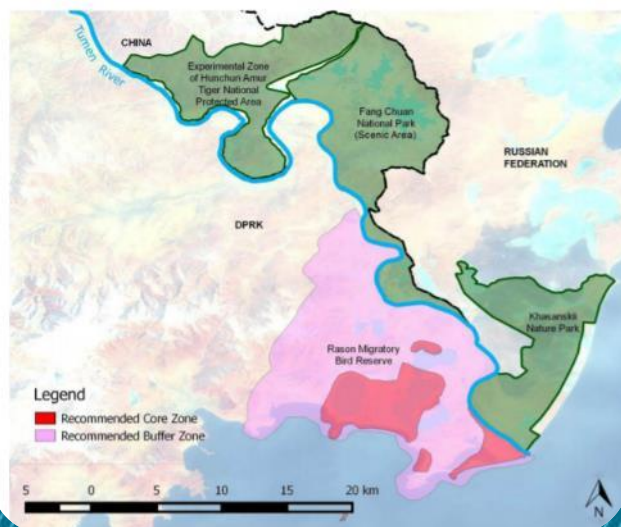
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The Way Ahead

4. Site level: Rason

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- Capacity building and trainings at site level
- TB exchange and cooperation with China, Russia, eco-tourism strategy and implementation

Figure 4
Wetlands and Key Protected Areas in China, DPRK and the Russian Federation at the Tumen River Delta



3) Overview on designated MPA in the DPRK

General Overview

- Abundant marine resources are precious assets of the national economic development and people's livelihood improvement in the East and West Seas of Korea
- DPR Korean Government laid legal framework to conserve the marine resources and ecosystem, while mainstreaming them into the national policy and plans
- Sites, that are important in the regional ecosystem and biodiversity conservation, are designated as Marine Protected Areas (MPA); and protected and managed based on the rules and regulations

3) Overview on designated MPA in the DPRK

Categorization

MPAs are divided into 3 categories:

- 1) **Marine Resources Protected Area** for conserving the natural marine resources peculiar or endemic to particular sites,
- 2) **Tourism and Seaside Resort** for protecting the eco-environmental conditions of scenic spots, and
- 3) **Animal and Plants Protected Area** for conserving the EN/VU species or endemic species of animals and plants inhabit in the sites

3) Overview on designated MPA in the DPRK

Legal Framework

- 1) Law on Prevention of Marine Pollution, DPRK (1997)
- 2) Law on Environment Protection, DPRK" (1986)
- 3) Law on Environment Impact Assessment, DPRK" (2006)
- 4) Law on Scenic Spots and Natural Monuments Protection, DPRK (1995)
- 5) Law on Fishery, DPRK (1998)
- 6) Law on Treatment of Wastes and Waste Material, DPRK (2007)

3) Overview on designated MPA in the DPRK

Legal Framework

1) Law on Prevention of Marine Pollution, DPRK (1997)

- Planning on marine pollution prevention
- Designation of the Marine Protected Areas
- Regular surveys on marine ecosystem and marine animals and plants
- Criteria for the marine pollution evaluation
- Prevention of the sea water contamination by the inland pollutants and vessels
- Monitoring and control of the marine pollution
- Designating the MPAs under the charge of the Ministry of Land and Environment Protection and under the approval of the Cabinet.

3) Overview on designated MPA in the DPRK

Legal Framework

2) Law on Environment Protection, DPRK” (1986)

- Preventing the environmental damages such as air, water, soil contamination and marine pollution and improving the environmental situation.
- Other laws are related to the marine pollution prevention and designation of the MPAs

3) Law on Environment Impact Assessment, DPRK” (2006)

4) Law on Scenic Spots and Natural Monuments Protection, DPRK (1995)

5) Law on Fishery, DPRK (1998)

6) Law on Treatment of Wastes and Waste Material, DPRK (2007)

3) Overview on designated MPA in the DPRK

Legal Framework

- 7) Law on Natural Reserves (2009)
- 8) Law on Rivers and Streams (2002)
- 9) Law on Conservation of Useful Animals (1998)
- 10) Law on Water Resources (1997)
- 11) Law on Agriculture (1998)
- 12) Law on Prevention of Taedong River Pollution (2008)
- 13) Law on Prevention of Sea Pollution (1997)

3) Overview on designated MPA in the DPRK

National policy for wetland conservation

- To prevent the ecosystem damages caused by the economic developments through the establishment of the national impact assessment system
- To designate protected areas for conservation and rational management
- To develop and implement the environmental management plan
- To conduct Regular surveys on biodiversity
- To extend the total area of the protected areas

3) Overview on designated MPA in the DPRK

Activities for the maritime ecosystem conservation in MPA

Ministry of Land and Environment Protection (MoLEP)

- **reviews** the plans of marine pollution control at the regional and enterprises' levels
- **formulates** the **National Plan of Marine Pollution Prevention** based on detailed review of those plans from different levels
- once the plan is approved by the Cabinet, the MoLEP takes charges in the **execution** of the plan by mainstreaming them into annual plans or **Land Management Plans**

3) Overview on designated MPA in the DPRK

Activities for the maritime ecosystem conservation in MPA

Ministry of Land and Environment Protection (MoLEP)

- designates the MPAs under the approval of the Cabinet
- selects the responsible entities for the MPA management and conservation

Responsible entities should take necessary measures

- development of the environment conservation plan
- regular monitoring and recording of the marine ecosystem and its changes
- conservation activities in the MPAs
- construction of revetments, embankment, waterway and shoreline protection facilities for preventing the ecosystem damages
- sustainable management such as drainage system in MPAs
- prohibiting the exploration and any activities that might cause marine pollution

3) Overview on designated MPA in the DPRK

Activities for the maritime ecosystem conservation in MPA

Land and environment protection entities and the responsible scientific research entities should

- regularly conduct the field surveys on pollution threats and ecological changes based on the criteria set by the MoLEP in fixed survey spots for 3 times per month and recorded any ecological changes monthly, or quarterly
- The land and environment protection entities and responsible scientific research entities should also conduct the regular surveys on status of the marine animals and plants and water quality and should take necessary measures to address the marine pollutants

3) Overview on designated MPA in the DPRK

MPAs in the DPRK

- More than 40 Marine Resources Protected Areas such as Rajin Bay Marine Resources Protected Area
- More than 15 Migratory Birds/Seabird Protected Areas such as Mundok Migratory Bird Reserve and Unmudo Seabird Protected Area.
- Tourism and Seaside Resorts such as Sijungho Seaside Resort and Majon Seaside Resort are included in the MPAs of the country

Challenges

- Natural factors such as sea level rise and temperature rise by the global warming
- Socio-economic activities such as economic development and improper disposal of the wastes nearby the MPAs.

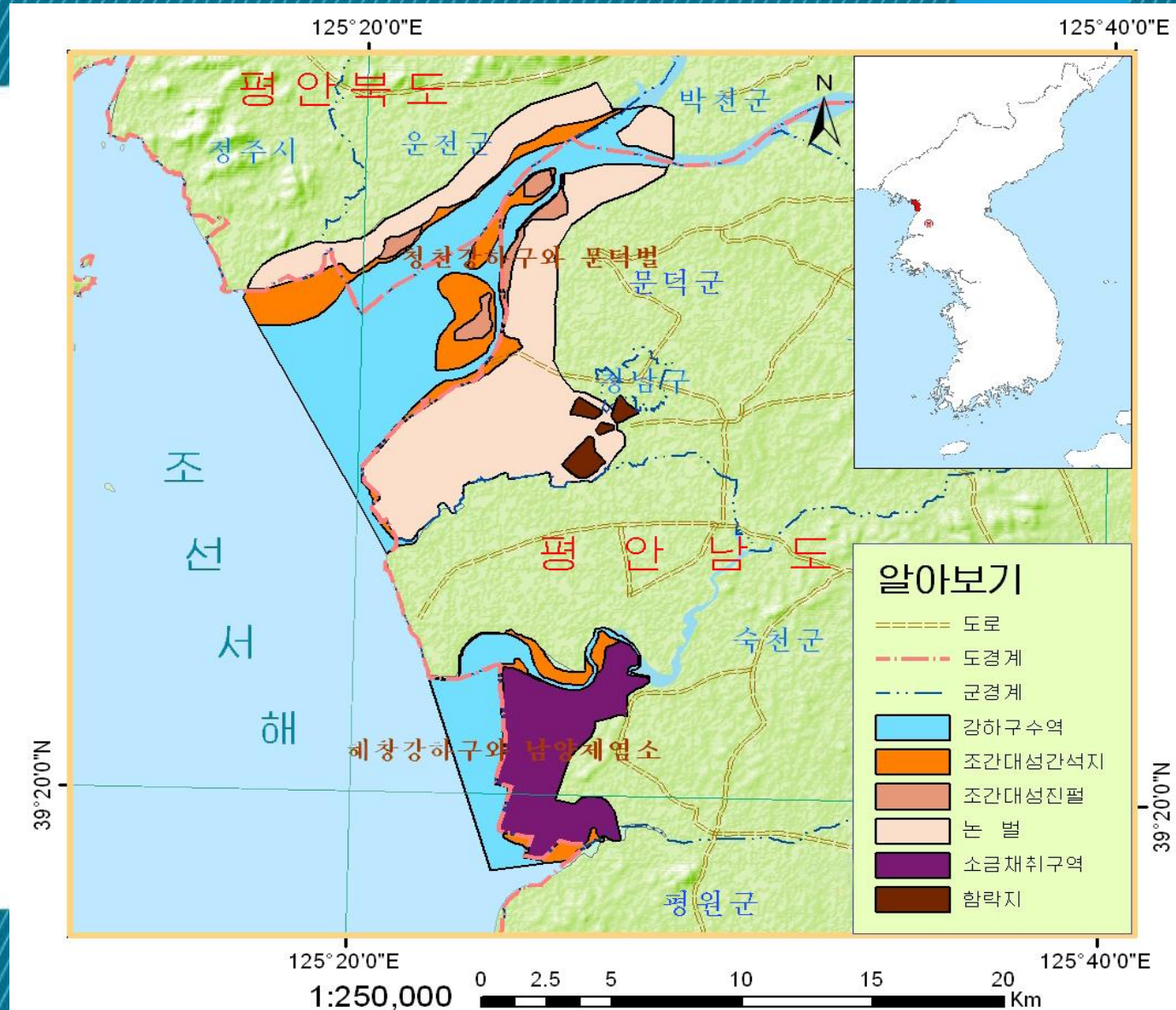
4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) - Overview

- Covering more than 3,715 ha of vast land of tidal flats and rice fields, Chongchon River estuary
- Diverse wetland types such as intertidal flats, rice paddy fields, estuary, reed bed, and natural water ponds
- Regularly supports more than 80,000 individuals of migratory waterbirds of more than 120 species each year



4) Case Study: Mundok Migratory Bird Reserve



4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Biodiversity

Flora: 23 orders, 29 families, 102 species such as *Phragmites communis* and *Suaeda japonica*, *Carex scabrifolia*, and *Scirpus compactus*

Birds: 20 orders, 60 families, 149 species, 280 species such as swan geese and spot-billed duck, *Grus japonica*, *G. vivipar*, *G. monarcha*, *Egretta eulophotes*, *Platalea minor*, spoon-billed sandpiper and *Anser cygnoides*

Fish: 16 orders, 29 families, 62 species such as *Acipenser dabryanus* and *Plecoglossus altivelis*

Mammals: 5 orders, 12 families, 24 species

4) Case Study: Mundok Migratory Bird Reserve

“The wetland supports 23 globally threatened species up to now and the alluvial island is a very important stop over place of Swan goose *Anser cygnoides*(VU) during northward and southward migration.”

(Ramsar Information Sheet on Mundok Migratory Bird Reserve, November 2018)

G: Intertidal flat (mud)
 F: Estuarine water
 H: Intertidal marshes

Common name	Scientific name	IUCN Status
Baer's pochard	<i>Aythya baeri</i>	CR
Spoon-billed sandpiper	<i>Eurynorhynchus pygmeus</i>	CR
Red-crowned crane	<i>Grus japonensis</i>	EN
Oriental white stork	<i>Ciconia boyciana</i>	EN
Black-faced spoonbill	<i>Platalea minor</i>	EN
Far-eastern curlew	<i>Numenius madagascariensis</i>	EN
Nordmann's greenshank	<i>Tringa guttifer</i>	EN
Great knot	<i>Calidris tenuirostris</i>	EN
Yellow-breasted bunting	<i>Emberiza aureola</i>	EN
Lesser white-fronted goose	<i>Anser erythropus</i>	VU
Swan goose	<i>Anser cygnoides</i>	VU
Common pochard	<i>Aythya ferina</i>	VU
Steller's sea eagle	<i>Haliaeetus pelagicus</i>	VU
Great bustard	<i>Otis tarda</i>	VU
Swinhoe's rail	<i>Coturnicops exquisitus</i>	VU
Horned grebe	<i>Podiceps auritus</i>	VU
Swinhoe's egret	<i>Egretta eulophotes</i>	VU
White-naped crane	<i>Grus vipio</i>	VU
Hooded crane	<i>Grus monacha</i>	VU
Saunders's gull	<i>Chroicocephalus saundersi</i>	VU
Relict gull	<i>Ichthyophaga relictus</i>	VU
Fairy pitta	<i>Pitta brachyura</i>	VU
Rustic bunting	<i>Emberiza rustica</i>	VU

MPAs in DPRK

4) Case Study: Mundok Migratory Bird Reserve

“The wetland supports 23 globally threatened species”

“In this wetland over 80,000 waterbirds inhabit annually and internationally important numbers have been recorded for 10 species with 1% of global population”

(Ramsar Information Sheet on Mundok Migratory Bird Reserve, November 2018)

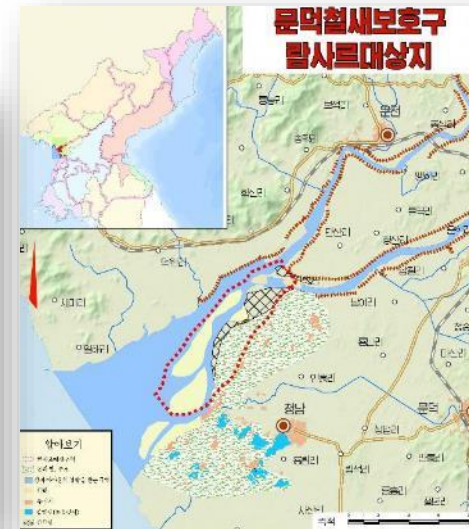
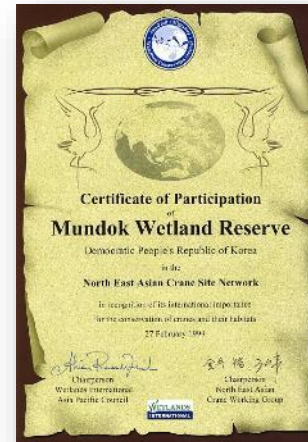
Common name	Scientific name	Waterbird counts	1% used in this table	Rate, %
Greater white-fronted goose	Anser albifrons	7,000	840	>8
Bean goose	Anser fabalis serrirostris	2,300	1,100	>2
Swan goose	Anser cygnoides	40,000	680*	>58
Northern pintail	Anas acuta	3,500	2,400	~1.5
Red-crowned crane	Grus japonensis	39	10	~4
White-naped crane	Grus vipio	300	45	>6
Hooded crane	Grus monacha	1,500	110	>13
Bar-tailed godwit	Limosa lapponica baueri	2 900	1 300	>2
Far-eastern curlew	Numenius madagascariensis	750	320*	>2
Mongolian plover	Charadrius mongolus	280	260	>1

Common name	Scientific name	IUCN Status
Baer's pochard	Aythya baeri	CR
Spoon-billed sandpiper	Eurynorhynchus pygmeus	CR
Red-crowned crane	Grus japonensis	EN
Oriental white stork	Ciconia boyciana	EN
Black-faced spoonbill	Platalea minor	EN
Far-eastern curlew	Numenius madagascariensis	EN
Nordmann's greenshank	Tringa guttifer	EN
Great knot	Calidris tenuirostris	EN
Yellow-breasted bunting	Emberiza aureola	EN
Lesser white-fronted goose	Anser erythropus	VU
Swan goose	Anser cygnoides	VU
Common pochard	Aythya ferina	VU
Steller's sea eagle	Haliaeetus pelagicus	VU
Great bustard	Otis tarda	VU
Swinhoe's rail	Coturnicops exquisitus	VU
Horned grebe	Podiceps auritus	VU
Swinhoe's egret	Egretta eulophotes	VU
White-naped crane	Grus vipio	VU
Hooded crane	Grus monacha	VU
Saunders's gull	Chroicocephalus saundersi	VU
Relict gull	Ichthyaeetus relictus	VU
Fairy pitta	Pitta brachyura	VU
Rustic bunting	Emberiza rustica	VU

4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Ecosystem Services

- Administrative District: Ryongrim-, Tongrim-ris and Soho Workers' District, Mundok County in South Phyongan Province, DPRK
- Geographic Location: in estuary where Chongchon and Taeryong rivers merge together
- The reserve has diverse ecosystems of accumulative land, delta, paddy fields and reed bed.
- Designated as Reserve by the Cabinet Decision in 1995 (Area: 3, 715 ha)
- North East Asian Crane Site in 1992
- Ramsar Site in 2018
- EAAF Network Site in 2018



힌두루미천연기념물표식구조물
Signal of designing Red-crowned crane as state natural treasure

4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Ecosystem Services

“The value of the ecosystem services of MMBR is very high for its high function of provisioning, regulating, cultural and supporting services. The site provides rice, water, and fishery, natural resources needed for the people’s livelihood; regulates climate change, natural disasters, water flows, and salinity; and plays important role in soil formation, primary production, nutrient cycle, water cycle, provision of habitats for the internationally recognized EN species. For those unbelievable ecological functions, the MMBR was designated as Ramsar site and EAA Flying Network Site in 2018.”

4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Ecosystem Services

		rank	Description	Re	Na	Gl
Provisioning Service	Fresh water	+	River provides irrigation water to the nearby agricultural farms.	/		
	Food	++	Cultivating land is used for the food production while the water ponds nearby the estuary are used for the aquaculture such as fish, shrimps and shellfish.		/	
	Fuel	++	Large amount of brown coal deposit is effectively used for the house heating and industrial raw materials.		/	
	Fiber	++	Reeds harvested from the estuary and river bank are used as raw materials for the fiber and also used as building material.	/		
	Genetic resources	+	The sit supports 200species of birds, 20 species of animals, 20 species of reptiles, 60 species of fish, tens species of sea-floor animals, 44 species of <i>Annelida</i> , <i>Mollusk</i> and <i>Crustacea</i> .			/
	Natural medicines	++	Carp, shellfish, mud-snail and other resources are used as natural medicines and medical materials.	/		
	Ornamental resources	++	Reed mattress and baskets increase the local economic opportunities in the Reserve.	/		
	Clay, mineral, aggregate harvesting	++	Brown coal and clay are extracted from the underground pit and collapsed areas.		/	
	Waste disposal	-	Household sewage and agricultural wastes are underlying causes of the water contamination.	/		
Energy harvest	++	The site is potential site for the tidal and wind energy generation.		/		

4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Ecosystem Services

Ecosystem Services of Mundok Migratory Bird Reserve



	rank	Description	Re	Na	Gl
Regulating Services	+	Aquatic lives and riparian vegetative cover contributes to the local air quality regulation.		/	
	++	River estuary and the nearby water ponds play important role in the microclimate regulation.	/		
	+	The wetland ecosystem structure contributes to the GHG emission reduction and carbon storage.			/
	++	The flash water caused by the flood, is stored in the landfall water pools and marshes; and slowly discharged into the sea. Or they can be effectively used during the drought season.	/		
	+	The reed beds and the water ponds near the estuary act as buffer zone to reduce the natural disaster risk of flood, heavy storm and drought.			/
	-	Water ponds and reed bed provide good habitat and breeding conditions for the insects such as mosquitoes.	/		
	+	Aquatic lives purify the water quality while the reptiles and birds eat the insects that spread the pathogenic disease.		/	
	++	Vegetative cover in the reserve play important role in the soil erosion.		/	
	+	The pollutants and substances that might cause eutrophication are mostly self-purifies due to aquatic lives and water cycling process through landfall water ponds and marsh, reed bed in the down-stream of the river.			
	+	Insects such as butterfly, bee and dragon help pollination of the crops and other plants.			
	+	Large area of reed bed reduce the salinity of the water from the sea.			
	++	Landfall water ponds and irrigation channel reduce the risk of fire outbreak/spread.			
0	The site is most consisting of paddy field, which generate less noise pollution.				

4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Ecosystem Services

		rank	Description	Re	Na	Gl
Cultural Services	Cultural heritage	++	Designated as National Natural Monument, International Crane Network Site, Ramsar Site, EAA Flying Network Site			/
	Recreation and tourism	++	It is potential site for the bird-watching and eco-tourism. Not only local people but also from the City and adjacent towns enjoy picnic in Mundok.		/	
	Aesthetic value	+	Diverse wetland ecosystems in harmony with rice paddy field; and hundred thousands of migratory birds roosting, feeding and flying make spectacular scenery of Mundok.		/	
	Spiritual/religious value	?				
	Inspiration value	?		/		
	Social relations	++	Local communities are engaged in diverse activities such as cultivation, fish farming, mining industry and biodiversity conservation.	/		
	Educational and research	++	Regular monitoring and surveys on biodiversity (eg.migratory birds) and hydrology are conducted in the Reserve.	/		
Supporting Services	Soil formation	++	Beside the accumulative island in estuary, soil formation by the Chongchon and Taeryong rivers is constantly taking place.	/		
	Primary production	+	Estuary and nearby wetland plays important role in the primary production by the photosynthesis	/		
	Nutrient cycling	++	Nutrient cycle and nitrogen-fixing is taking place by the micro-organism and soil insects.	/		
	Water recycling	++	The water constantly recycles through the evaporation from the swamps, water pools stored from the river; or through the evaporation from the sea water. Transpiration from rice paddy fields in the Reserve also plays important role in the water cycle.	/		
	Provision of habitat	++	The sit supports 200species of birds, 20 species of animals, 20 species of reptiles, 60 species of fish, tens species of sea-floor animals, 44 species of <i>Annelida</i> , <i>Mollusk</i> and <i>Crustacea</i> .	/		

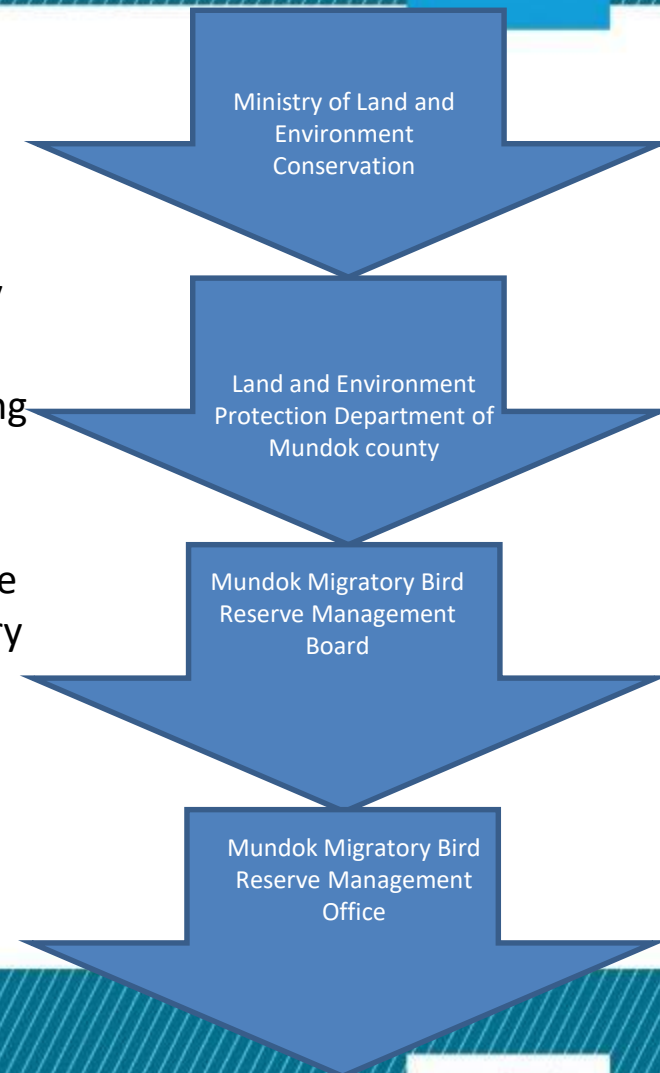
4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Governance

Mundok Migratory Bird Reserve Management Board as supervising authority

- Takes charge in the site-management, conservation of migratory birds and controlling illegal activities in the reserve area
- The staff members are sometimes engaged in the bird monitoring and recording,

It still requires more capacity-building and awareness increase on the management skills, bird-watching, wetland ecosystems and migratory bird conservation.



4) Case Study: Mundok Migratory Bird Reserve

Mundok Migratory Bird Reserve (MMBR) – Governance

National Coordinating Committee for the Environment (NCCE):

- Convened by the Ministry of Foreign Affairs
- Serves as an inter-Ministerial forum where environmental policy is determined in a cross-sectoral manner
- Potentially provides a cross-sectoral and cross-cutting mechanism for environmental administration and planning in DPR Korea, but currently lacks the capacity to implement such projects effectively

Ministry of Land and Environment Protection (MoLEP):

- The lead organization with operational responsibilities for environmental administration
- Total staff complement of about 4815, of which, 255 form its Head Office structure of 13 departments
- A staff of 198 comprise the Environment and Development Centre (EDC) with its 15 units or sections providing the scientific and technical perspective for the Ministry's functions
- Administrative Office in each of the 9 Provinces and in the 4 city administrations (Pyongyang, Nampo, Rajin-Sonbong and Kaesong)
- Departments (DLEP) in each of the 200 Counties.
- In addition, the MLEP has linkages with every other Ministry through their Environment Departments and with every Production Enterprise through their Environment Units.

Notice: Data and Numbers as of 2001

5) Coastal Biodiversity Management of DPR Korea's West Sea

Medium-Sized Project Brief: COASTAL BIODIVERSITY MANAGEMENT OF DPR KOREA'S WEST SEA

1. PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. Project name: Coastal Biodiversity Management of DPR Korea's West Sea	2. GEF Implementing Agency: UNDP
3. Country or countries in which the project is implemented: Democratic People's Republic of Korea (DPRK)	4. Country eligibility: Ratified the Convention on Biological Diversity on 26 October 1994
5. GEF Focal Area(s): Biodiversity	6. Operational Program/Short-term Measure: Operational program #2 Marine, coastal and freshwaters (including wetlands)

Project linkage to national priorities, action plans and programs:

The West Sea coast of DPR Korea has high national and global significance for ecosystem and biological diversity. The numerous wetlands form an important link for many species of migratory bird between northern breeding areas and wintering sites in Japan, China and SE Asia. These places are also home to two of the World's rarest and most threatened birds, black-faced spoonbill and Chinese egret. Coastal biodiversity is threatened by a number of processes, the most significant of which is unplanned coastal area management for agricultural land, which results in the reclamation of highly productive wetland areas

In 1994 DPR Korea took an important step in its ratification of the Convention for Biological Diversity (CBD) and in recent years, the CBD has provided an important platform for a new wave of commitments and effort towards biodiversity conservation by the Government. Part of this new commitment was reflected in the establishment of 12 Migratory Bird Wetland Reserves in 1995. These reserves are the focus of current coastal and wetlands biodiversity conservation efforts on the West Sea coast. During 1998, UNDP-GEF funded the preparation of DPR Korea's National Biodiversity Strategy and Action Plan (NBSAP) to identify priorities for biodiversity conservation and use. The NBSAP was adopted by Government in early 1999 and sets out the strategic approach and actions required to meet these priorities.

In the NBSAP DPR Korea has clearly recognised the importance of its West Sea coastal biodiversity and has taken steps to act. In addition to the creation of the Migratory Bird Wetland Reserves, the NBSAP includes in its strategic actions the need to clarify the objectives of management for wetlands within the protected areas system and strengthen their protection and management. In addition, relevant priority projects identified in the NBSAP include the conservation of important West Sea wetlands for migratory birds and the protection of the black-faced spoonbill and Chinese egret.

This proposed intervention will build on all the above national priorities by taking a comprehensive approach to all biodiversity values of global importance along the coastline of the Gulf of West Korea, and developing a strategic, ecosystem-level approach to biodiversity management. The project will focus on developing and implementing an integrated coastal zone management plan for South Pyongan Province and will focus biodiversity management and protection efforts at the Mundok MBWR on the Chongchan Estuary.

5) Coastal Biodiversity Management of DPR Korea's West Sea

COASTAL BIODIVERSITY MANAGEMENT OF DPR KOREA'S WEST SEA

Project Summary

Goal: Plan implement a sustainable development of the coast of the Gulf of West Korea, with a focus on globally significant biodiversity, human health and quality of life, thus securing a balance between protection of natural resources and environmentally-sound development

It will operate at **three levels**:

- (a) at the **provincial** and **national level**, planning processes will be enhanced through capacity building, increased public involvement and the development of broad-based planning processes for South Pyongan Province.
- (b) At the **county level**, a fully developed integrated Coastal Zone Management Plan will be implemented in the Mundok County Coastal zone.
- (c) At the **local level**, demonstration of effective and integrated coastal zone management plans will be implemented for biodiversity conservation, agriculture, and other related sectors, focusing on and around the Mundok reserve.

5) Coastal Biodiversity Management of DPR Korea's West Sea

COASTAL BIODIVERSITY MANAGEMENT OF DPR KOREA'S WEST SEA

Project Summary

Four broad project objectives have been identified:

- (a) planning processes for wetland management effective at national and local levels;
- (b) Public awareness of natural resources and biodiversity values achieved through increased participation in protected areas management;
- (c) implementation of the integrated coastal zone management plan in Mundock County to demonstrate biodiversity conservation with sustainable development;
- (d) Management practices in industries and other sectors with potential environmental impacts improved.

5) Coastal Biodiversity Management of DPR Korea's West Sea

Project Details

GEF Project ID	1317
Project Type	Medium-size Project
Status	Completed
Country	Korea DPR
Region	
Focal Areas	Biodiversity
Funding Source	GEF Trust Fund
Implementing Agencies	United Nations Development Programme
Executing Agencies	National Coordinating Committee for Environment (NCCE) in collaboration with MLEP and the Academy of Sciences
GEF Period:	GEF - 2
Approval Fiscal Year:	2002

Financials

Project Preparation Grant Amount ⓘ	0 USD
GEF Project Grant	774,523 USD
Co-financing Total	540,990 USD
GEF Agency Fees	146,000 USD
Total Cost	1,315,513.00 USD

Project Timeline



What do

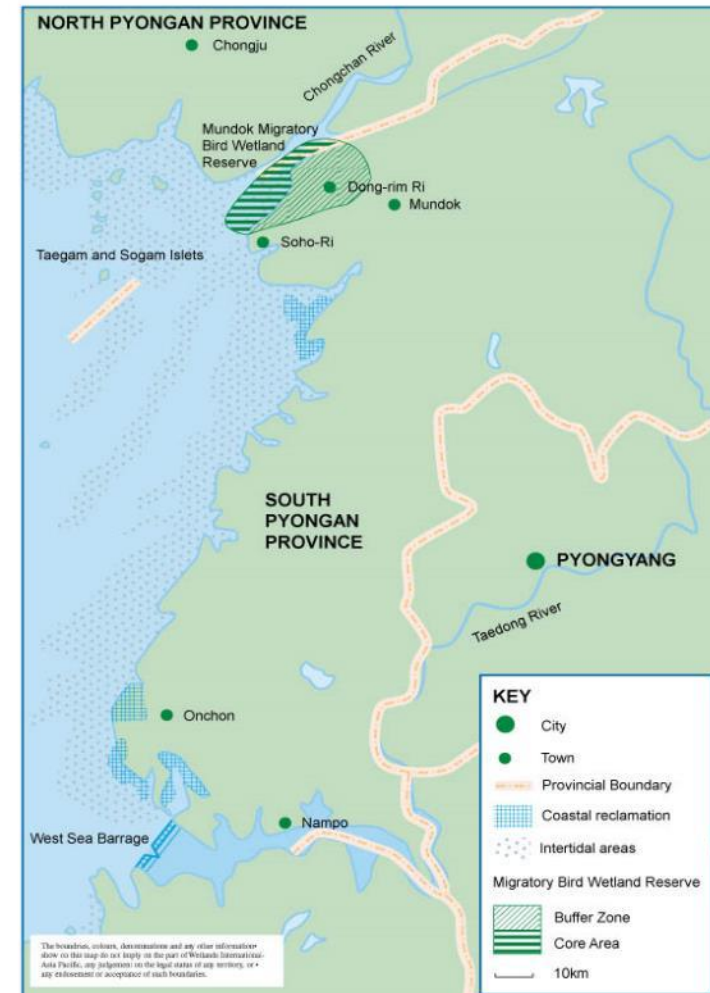
5) Coastal Biodiversity Management of DPR Korea's West Sea

Objectives:

The project has 4 main objectives:

1. Planning process for wetlands management effective at national and local levels.
2. Public awareness of natural resources and biodiversity values achieved through increased participation in protected areas management.
3. Implementation of the Integrated Coastal Area Management Plan in Mundok County to demonstrate biodiversity conservation with sustainable development.
4. Management practices in agriculture and other sectors with potential environmental impacts improved.

COASTAL BIODIVERSITY MANAGEMENT OF DPR KOREA'S WEST SEA:
SOUTH PYONGAN PROVINCE AND MUNDOK MBWR



5) Coastal Biodiversity Management of DPR Korea's West Sea

Project Outcomes - 15 sub-objectives have been identified. These are summarised below:

Sub-objective 1.1: An Integrated Coastal Area Management Planning Process and Capacity Building for its implementation.

Sub-objective 1.2: An effective EIA Process with enhanced EIA capacity of MLEP.

Sub-objective 1.3: Possible DPR Korea membership in the Convention on Wetlands of International Importance

Sub-objective 1.4: An Integrated Coastal Area Management Plan for South Pyongan Province

Sub-objective 1.5: Biodiversity overlays identifying hotspots along the coast of South Pyongan Province for priority conservation action

Sub-objective 2.1: Public Awareness and Participation Action Plan developed and implemented

Sub-objective 2.2: MLEP staff trained in techniques of public participation

Sub-objective 2.3: A fully resourced community outreach programme demonstrated at Mundok County

Sub-objective 2.4: Environmental Education and Information Centre

Sub-objective 2.5: Protected areas and biodiversity interpretation

Sub-objective 3.1: Management Plan for the Mundok MBWR and buffer zone

Sub-objective 3.2: "Community Rangers" Scheme operating in Mundok County focussing on the MBWR

Sub-objective 4.1: Demonstration of optimal agro-chemicals use and organic farming principles within the buffer zone of the Mundok MBWR

Sub-objective 4.2: Environmental Code of Practice for local industries in Mundok County

Sub-objective 4.3: Sustainable and environmentally-friendly income generation schemes for villages within the buffer zone of Mundok MBWR.

5) Coastal Biodiversity Management of DPR Korea's West Sea

Challenges:

- **Human pressure**

Although human population size in the country is rather low (22.1 million in 1996), because 80% of the land is mountainous, population density in the lowlands is very high (187 pax / sq km)

- **Reclamation of inter-tidal lands**

To increase the area of agricultural lands and food production has been a national priority for many years. In the last decade more than 70,000 ha. of coastal land have been reclaimed in South Pyongan Province alone

- **Natural disasters**

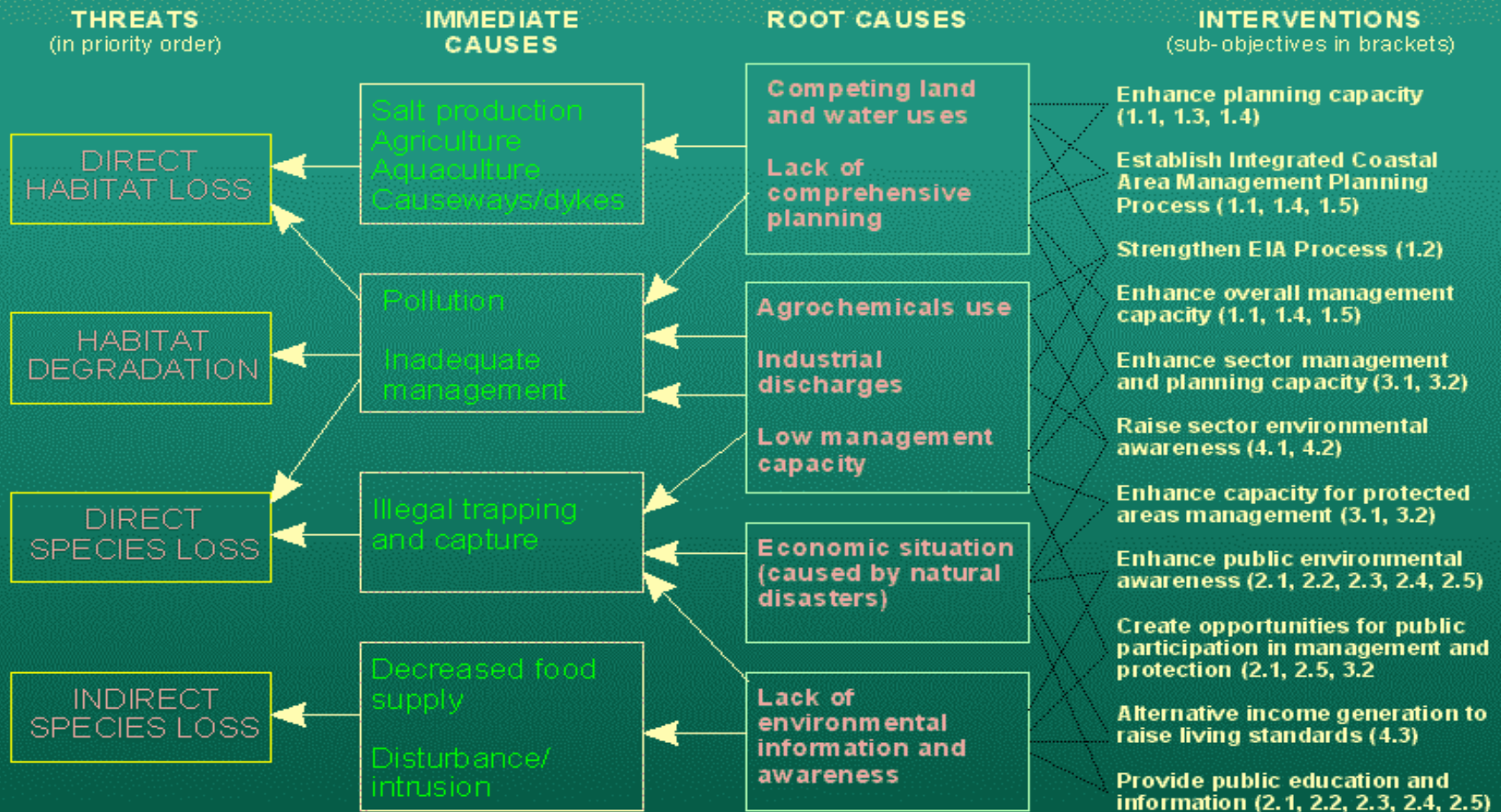
In recent years these pressures have been exacerbated by a series of natural disasters (including drought and floods) which have further increased the need to reclaim more inter-tidal lands, increase agricultural production in general and to use more wild resources for food.



Loss of Biodiversity

Root causes are found primarily in the DPR Korea's low technical capacity and its single sector approach to land use planning. The increasing competition for land and water between different sectors, low, but increasing levels of pollution from agriculture and industry, lack of an effective EIA mechanism for proposed land developments, low management capacity within the PAS and a general lack of environmental information and awareness at all levels seriously compound these problems.

5) Coastal Biodiversity Management of DPR Korea's West Sea



5) Coastal Biodiversity Management of DPR Korea's West Sea

COASTAL BIODIVERSITY MANAGEMENT OF DPR KOREA'S WEST SEA

Project Summary

- Project was finalized in 2006, but no follow-up of the activities took place
- Political situation in 2006 (first nuclear test prevented it)
- A comprehensive overview and project plan was already developed, but was never implemented
- The Global Environment Facility stopped any further projects in the country
- The UNDP programme was heavily affected by a scandal in 2006 and today entirely focuses on humanitarian programmes to mitigate the most urgent needs and priorities of the population

Hanns Seidel Foundation

Thank you for your attention!

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