

가

A Study on the Institutional Model & Criteria  
for Sustainable Coastal Management

© 2001,

2001-8

가

A Study on the Institutional Model & Criteria  
for Sustainable Coastal Management



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<http://www.krihs.re.kr>

©2001,

\*



가 ( )  
가

.

가 .

1970

1982 UN (UNCED)

「 21」 , 가 12

가 가 .

1998 가 1999

2000 8 .

.

가 가

가

.

가  
,  
.

가

가

가

가

.  
가



1

2

가

177

62

108

3

60  
1999

2000

4

6,228km

( )

77

1,115 9,423.5km<sup>2</sup>

49.7%

3,095km

( : 2000a).

가

가

“

(Planning Control) ”



가

가

77

(

)

50.5%가

, 66.7%가

가

?

가

가 39.6% 가

가 34.2%

24.3% 가

가

5

OECD

가

가 2000

가



;

.

.

;

)

( , ,

.

.

가 ,

.

.

.

;

가 .

.



.....  
.....

**1**

1.	.....	1
1)	.....	1
2)	.....	3
2.	.....	3
1)	.....	3
2)	.....	4
3.	.....	4

**2**

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**4**

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1)	.....	61		
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3)	.....	69		
2.	.....	70		
1)	:	.....	70	
2)	:	/	.....	86
3)	:	.....	102	
3.	.....	109		
1)	.	.....	109	
2)	.....	115		
2)	.....	118		

**5**

1.	.....	123
1)	.....	123
2)	.....	125

3)		.....	132
2.		.....	138
1)		.....	138
2)		.....	142
3)		.....	148
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1)	.....	.....	161
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1.		가	.....	171	
1)		가	.....	171	
2)		가	.....	172	
3)		가	.....	173	
2.		가	.....	174	
1)			.....	174	
2)	( )		.....	193	
3)			.....	196	
3.		.	.....	200	
1)		.	.....	200	
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< 6-6>	가	.....	180
< 6-7>	가	.....	181
< 6-8>	가	.....	182
< 6-9>	가	.....	184
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< 6-12>	가	.....	191
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< 6-14>	가	.....	194
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< 6-16>	가	.....	197
< 6-17>	가	.....	199
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< 1-1> ..... 5

< 2-1> UN ..... 10

< 2-2> ..... 12

< 3-1> ( 49 ) ..... 25

< 4-1> : ..... 85

< 4-2> : / ... 101

< 4-3> : ..... 108

< 5-1> ..... 129

< 5-2> ..... 133

< 5-3> ..... 137

< 5-4> ..... 165

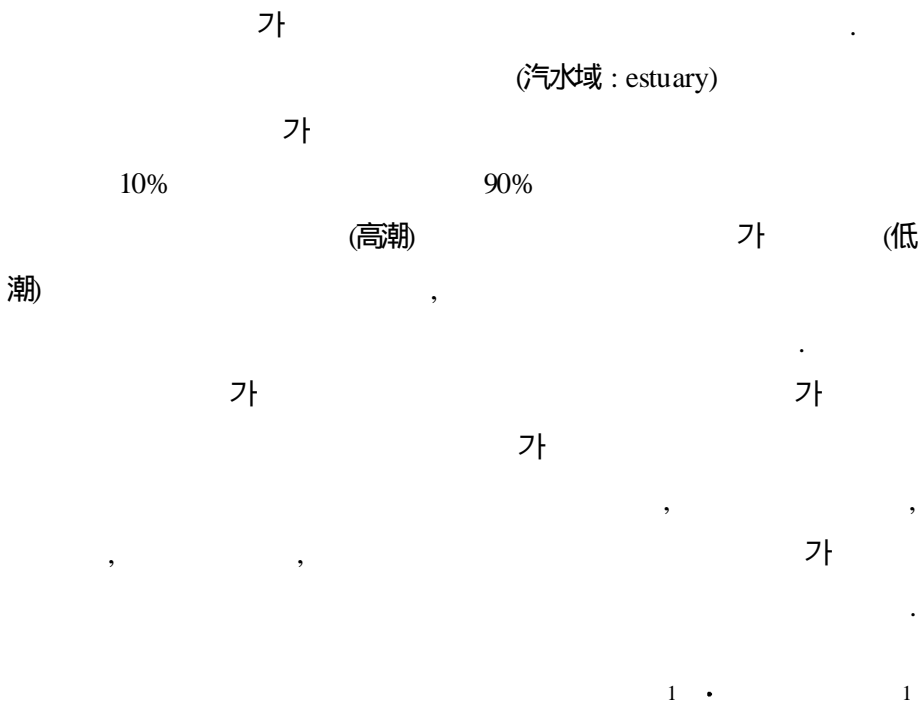
< 5-5> ..... 169

# CHAPTER 1

---

1.

1)



가  
(public good)

가  
(common property)

가

가

가

( , 1992 : 6).

가

가

: coastal zone」

1970

「

가

1999

2000 8

「

: Planning Control」

가

가

2)

/ . . ,

2.

1)

2

500m 1km ( )

. , , , .

2)

(1997 1999)

가

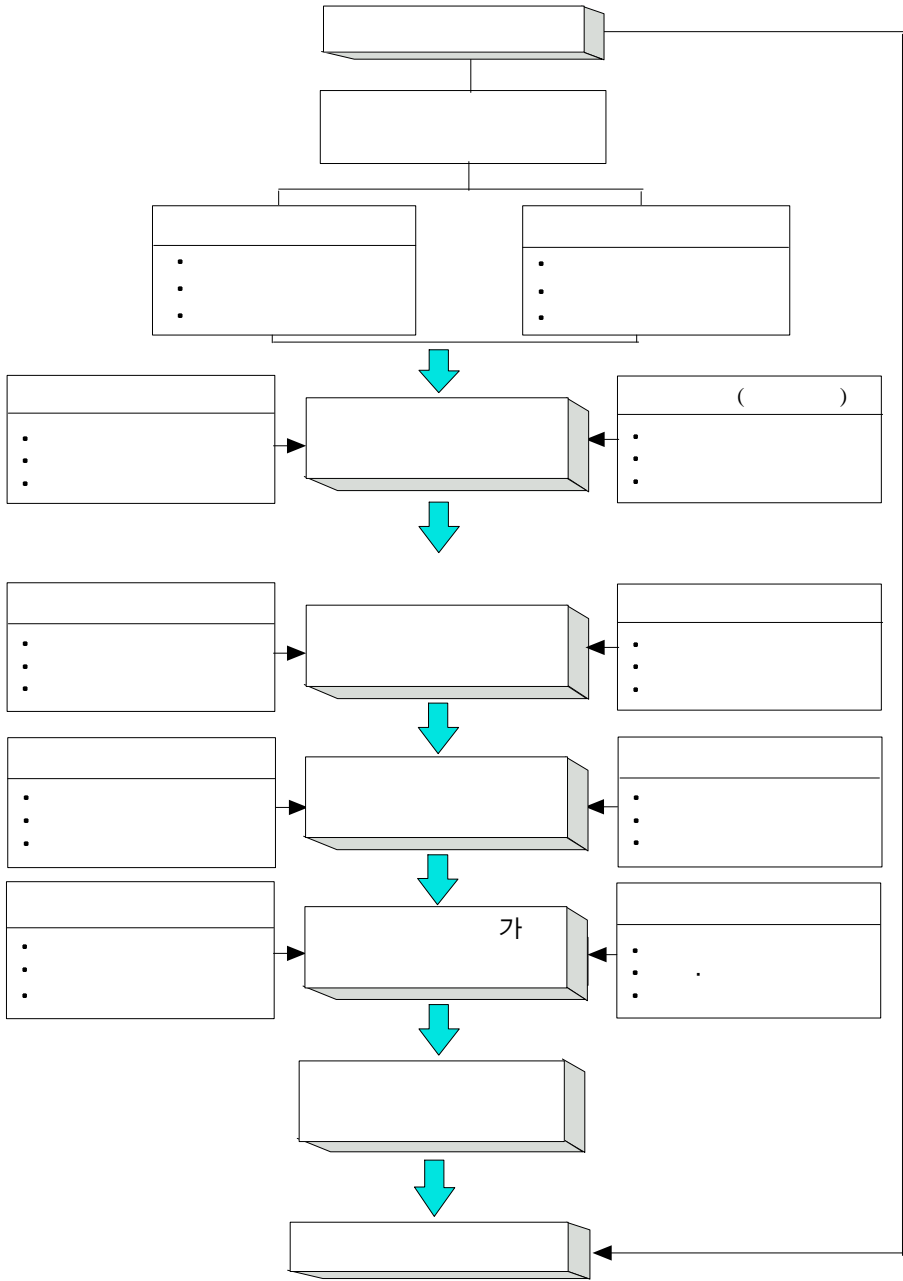
가

3.

3

4

< 1-1 >



# CHAPTER 2

## 1.

### 1) (Territorial Contiguous Zone)

71%(3.61 km<sup>3</sup>)

(

, 1997 : 29-31) <sup>1)</sup>

(遠濱)

200m

18%

가

3,000 4,000m

---

1)

230

1768

가



( , 1997 : 29-31).

UN

(海域)

가

(UN 2 1, 2 ).

1930 Hague

1958 1960 1,2

UN

3 6 12

, 200

가

143

12 가 79.7% 114

200

가가 7.7% 11 3

가가 7 4.9% ( , 1993 : 8 - 12).

3 UN

가

12

(相互對向)

가

가

(中間線)

(權原)

가

2) (Exclusive Economic Zone)

가 .  
1945 (Truman)  
, 1958  
200m 가

가 가  
가 (tuna),  
200

200 가

( , 1993 : 10 -12).

(Exclusive Fishing Zone)

1958 , ,

12 ,

12 .

가 ,

12 가 25 , 50 ,

가 4 , , 19

200 . 1982

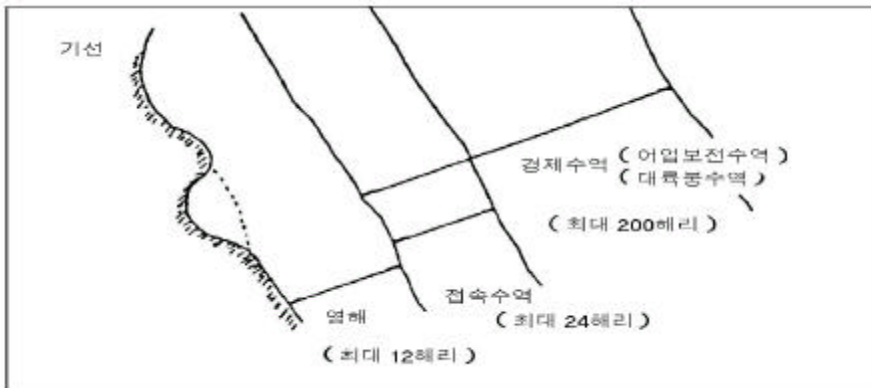
3 UN 200m 200

, 가가 89 , 가가 79 ,

가가 27

1996 5 15  
 7 20 , 가 8 8 200 .  
 가 36%,  
 90%, 89%  
 ( , 1997).

< 2-1 > UN



: , , 1987, P. 10.

3) (Coastal Zone)

(1)

(coast) 가 ,  
 ( , 1973 : 53)

가

“ 가 ”<sup>2)</sup>

2) (水陸) 가  
 ( ) , (海圖)

가

,  
( , 1993 :

12-13).

가

가

(淺海)가

(落潮)

(干潟地)

(汽水域 :

estuary)<sup>3)</sup>

가

, (高潮)

가

(低潮)

가

(Myers, 1984 :74)

(潮水)

(灣)

가

(OECD, 1993 :16).

3)

0.5%

가 (開口部) 3

( . . . 1990 : 196).

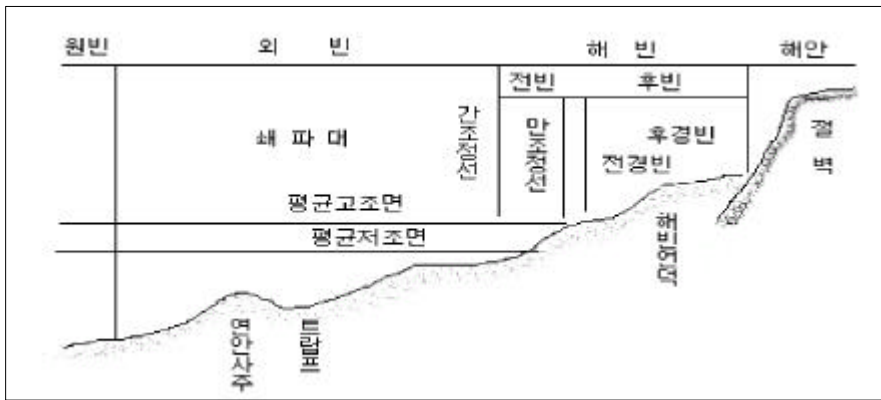
가 . . .

가

가

가

< 2-2 >



: , 1987, P. 9.

(2)

가

가

(Dynamical Enviroment)

가 ,  
가

가

가 가 ,

4)

10 20m 가 ,  
3 (4.8km) 3 (5.6km)  
12

50m 1km ( , 1993 : 78).

3

UN

---

4)

12

50m

가

3 10km

( , 1993 : 76-78).

< 2-1 >

:	200 (60m)	3 (4.8km)
		3 (5.6km)
	5 (8km)	3 (4.8km)
	100 (0.3km)	-
	1,000	-
	20 50m	3 (5.6km) 12
	-	2 (3.7km)
	3km	1km
	50m 100m 1km	50m
	10km	10 15m
		500m
	200m	
	-	200m
	300m	2km
		12
	2km	-

: , , , 1993.

2.

1)

1999 75%가  
 가 “ 가  
 ” (World Bank, 1993 : 21).  
 , ,  
 . , .  
 (sectoral management) . 가  
 가 가  
 가 가 .  
 가  
 ,  
 .  
 ( , 1996 : 13).  
 「 3 」 “  
 ” 가 ,  
 “ ” (OECD, 1993 : 19 ).  
 가 (sustainable development)<sup>5)</sup>



(integrated)

가

“ ”

가

(Cicin & Knecht : 1994).

2)

OECD (1976, 1992)<sup>6)</sup>

가

가

(defensive planning)

(positive planning)

가

5) 가 (sustainable development); 가  
가

6) OECD 1976 . ( , 2001 : 12) , 1992

가

가

가

가

가

(高度)

(密度)

7)

1992

OECD

가

가

가

가

7)

, 視界

,  
 ,  
 , , , ,  
 가 가  
 ,  
 가  
 , ,  
 ,  
 , 가  
 , 2  
 5  
 가 (RAC, 1993 : 109-124)<sup>8)</sup>

---

8) 19 , 7  
 . RAC, Coastal Zone Inquiry, Final Report, 1993, PP.109 124.



가

가

가

가

가

( , 1996 : 72).

3.

가

가

, , (mitigation),  
( , 2001 : 17-23).

,

가

가

,



# CHAPTER 3

---

## 1.

### 1)

가

(1971)

(1972)

MARPOL'73

MARPOL'78

가 '85

1990

(OPRC, 1990)

가

가

가 1992

(UNCED)<sup>9)</sup>

가

가 「 21」

“ ”

「 」

1960

가

1970

가

가

가

1970 1980

「UN

」

가

1980

,

1990

「

9) UN

(UNCED)

1992 6 3

6 4

「 21」

가

12

「

가

」

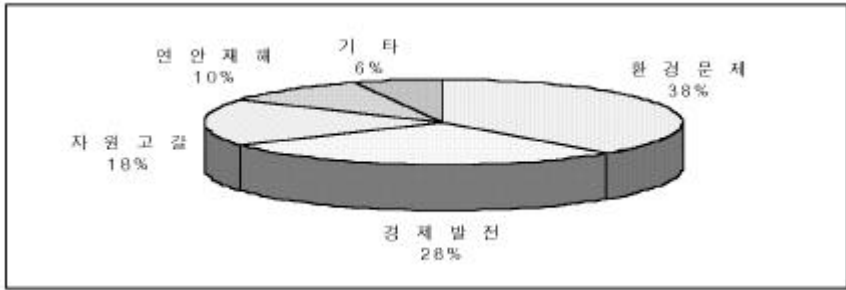


1

( , 1996 : 448-494).

< 3-1>

( 49 )



: Cicin-Sain, B. and R. W. Knecht, Integrated Coastal and Ocean Management Concepts and Practice, 1994.

2) .

가 가

가 .

, , , , , , , ,

, , , , , .

가

가

(The California Coastal Act, 1976)

(The Florida Management Coastal Act, 1978)

, (The Shore line  
 Management Act, 71) ,  
 (Coastal Management Act, 1971) (Protection of  
 Coastal Wetlands Act) (州) , , ,  
 , , , , ,  
 (Domain Public Maritime : DPM, 1963)  
 (Urbanism Code, 1979) ( , 1987  
 : 232-247, , 1996 : 142-155).  
 1963 , 1986  
 가 , ,  
 , ,  
 . 1970  
  
 1956  
  
 가 , 1989  
 .  
  
 가 .  
 ,  
 가 가  
 가 가  
 가 가

가 ( , 1996).

가

가

가

가

1990

가

1992

「 21」

가

“

”가

“

”가

“

”

가( , , , ), 가( , , ), 가( , , ), 가( )

177 62 108  
( , 1996).

가 , 가 가

? ?  
( , 1990 : 151-165).

< 3-1 >

가			
	: 263,000,000 : 60% per capita GDP : \$25,800 12 200 EEZ		• 1970 : • 1972 : • : , , 가 • :
	: 28,000,000 : 25% per capita GDP : \$22,760 12 200 EEZ		• : • 1985 Fraser River Estuary Management Program • 1987 Great Lakes Water Quality Program • 1991 Atlantic Coastal Action Plan, • 1996 Canada Oceans Act ( ) • : , , • : consensus-building • :

가			
	<p>: 58,000,000 per capita GDP : \$17,980 12 200 Exclusive Fishing Zone</p>	<p>, , , , , , , , , ,</p>	<p>• : 1980 , 1990 1990 NGO , , 1992 House of Commons Inquiry • : • : consensus-building • :</p>
	<p>: 58,000,000 per capita GDP : \$18,760 12 200 EEZ</p>	<p>, , , , , , , 가 ( / )</p>	<p>• : 1970 1986 1995 new Secretariat a la Mer • : • : , , , • : new Secretariat a la Mer 가 ,</p>
	<p>: 15,000,000 : 60% per capita GDP : \$17,940 12 200 EEZ</p>	<p>, , , , , , , 가 , ,</p>	<p>• : 1984 North Sea Harmonization Policy 1991 Dynamic Preservation Strategy 1995 • : • : , • :</p>
	<p>: 40,000,000 : 35% per capita GDP : \$13,120 12 200 EEZ</p>	<p>, , , , , , , ,</p>	<p>• : 1988 , 1992 • : • : • :</p>

가			
	: 18,000,000 : 75% per capita GDP : \$20,720 12 200 EEZ	, , , , , , , , ,	<ul style="list-style-type: none"> <li>• : :</li> <li>&lt; &gt;</li> <li>1980-1991-1993 Commonwealth Inquiries</li> <li>1991 Ocean Rescue 2000</li> <li>1995</li> <li>1995 Commonwealth Coastal Policy</li> <li>1996-97 가</li> <li>&lt; &gt;</li> <li>1994-5 Western Australia State Coastal Review</li> <li>1995 Victoria Coastal and Bay Management Act</li> <li>1995 Queensland Coastal Management Bill ( )</li> <li>1995-6 NSW Revised Coastal Policy</li> <li>1996 Tasmanian Draft State Coastal Policy</li> <li>• :</li> <li>• : , , consensus-building,</li> <li>• : commonwealth interdepartmental coastal committee, intergovernmental coastal reference group( / ), national coastal advisory committee, state/ federal MOU</li> </ul>
	: 160,000,000 : 38% per capita GDP : \$5,580 12 200 EEZ	, , , , , , , , ,	<ul style="list-style-type: none"> <li>• : :</li> <li>1974 ,</li> <li>1980 ,</li> <li>1983</li> <li>• :</li> <li>• :</li> <li>• :</li> </ul>
	: 11,000,000 : 45% per capita GDP : \$ 3,840 200	, , , , , ,	<ul style="list-style-type: none"> <li>• : :</li> <li>1981</li> <li>1986 USAID/ CRC</li> <li>1988-89</li> <li>1993 5</li> <li>• :</li> <li>• : , , ,</li> <li>• :</li> </ul>

가	: 63,000,000 : 47% per capita GDP : \$4,910 12 6 200 EEZ	, , , , ,	* : 1980 1988 1988-89 Izmir Bay 1992 * : * : , * :
	: 18,000,000 : 34% per capita GDP : \$3,190 12 200 EEZ	, , , , , ,	* : 1978 1981 1983 가 1988 1990 1995 * : * : , , , 가 * :
	: 73,000,000 : 80% Per capita GDP : \$2,310 100 200 EEZ	, , , ,	* : 1976 가 1978 1980 ASEAN/ US , Lingayen Gulf 1990-94 * : , * : , , , * :
	: 60,000,000 : 70% per capita GDP : \$5,970 12 200 EEZ	, , , ,	* : 1991 가 1992 Bandong Bay Phangnga Bay * : * : , * :

가			
	: 19,000,000 : 70% per capita GDP : \$8,650 12 200 EEZ	, , ,	: 1984 가 1992 가 1992 South Johore . : , ( ) . : . :
	: 203,000,000 : 60% per capita GDP : \$3,090 285 200 EEZ	, , ,	: 1990 1992 Segara Anakan-Cilacap , 1993-1997, 1998-2002 가 . : , . : . :
	: 12 : 40% per capita GDP : \$2,500 12 200 EEZ	, , / , , ,	: 1980-1986 1988-1993 1980 11 1994 Xiamen . : . : , , . :
	: 936,000,000 per capita GDP : \$1,360 12 200 EEZ	, , ,	: 1981 1982 1991 1996 . : . : . :

: Cicin-Sain, B. and Knecht, R, W, Integrated Coastal and Ocean Management : Concepts and Practice(IOC, UNESCO Publishing), 1994



3)

<sup>10)</sup>

가

가 .

(1)

(主導機關)

가

가

가

가

10)

, 1993

가

가

Environmental Land & Water Management Act,  
The State Comprehensive Planning Act, The Land Conservation Act, The  
Florida Water Resource Act

(Interagency Management Committe

: IMC)

23

10

가

가

(100

가가

(Urbanism Code, 1979)



( )

(National Coastal Zone Management Program)

가

가

가

, ,  
, ,  
, ,

, 가

가

5

(CZM Program, Section : 303-309).

40%

(OMS)

(National Program of Action for the Protection of Marine Environment  
from Land-Based Activities : NPA)

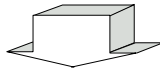
(Commonwealth

Coastal Policy)

가

< 3-2 >

- : , 1972
- : , 1963, , 1979
- : , 1990
- : , 1996, consensus-building ,
- : ('84) , 1992
- : , 1953, ( ), 1980
- : , 1989,
- : , 1889, , 1991



- 
- ( / )
- 
- 
- 
- 
- 
- 
-

(3)

가

(zoning)

가

( , 1989 : 40-45).

( )

가

가

가

(가) :

95 420

6

(University of Rhode Island, 1979 : 38-48).

① : (Conservation Areas)

가

② : (Low-Intensity Use)

가

,가

3 : (High- Intensity Boating)

가

가

가

4 : (Multipurpose Waters)

가

가

(水)

(水)

가

(vitality)

5 : (Commercial & Recreational Harbours)

가



(水)

가 가

[6] : (Industrial Waterfront & Commercial Navigation Channels)

가

가 . 1990

( , 1998a : 533).

3

“ ”

5

( , 1998a : 533-534).

가

가

가

( ) :

(Great Barrier Reef)

1975

((Great Barrier Reef Marine Park Act)

7

가

가

(allowed), 가

(by permit),

(not allowed)

가

가

가

가

가 . 가  
( , 1998 : 534).

( )

1992  
가  
Shore Zone (shore edge line)  
Zone A Shore Zone 50m  
가 Zone B Zone A  
( 50m) 가,  
가 가 ( , 1998a : 535).

( ) : ( )

4  
( , 1979 : 63-70).<sup>12)</sup>



가? > >  
 >  
 가 < <  
 < 가

( ) : ( )

( )  
 1989 7 , , , 4  
 “ ”  
 , , , 11 가

가 5  
 (Li Ming Feing, 1992 : 2-5).

4 가 382  
 300 , 43 , 20 ,  
 7 12 .



2.

1)

(1) 1970 :

11,542km<sup>2</sup>  
 447 km<sup>2</sup> 4.5 ,  
 , , 가 가 297 km<sup>2</sup>가  
 ( , 1993a : 15).

가 . 가가 , , , , , ,  
 14 38 , 178  
 408.8km<sup>2</sup> , 1960  
 , 1960

10 60 11 1971  
 84 , 41 2,972  
 72 가 1,553 94.87km<sup>2</sup> (  
 , 1997, 1998a).  
 1960 , , ,

70

가

( )

가

1971

가

, 1972

13)

1977

가

가

(2) 1980 :

1980 2 (1982 1991)

1982 12 10 UN  
, 1981 「 」

, UNEP

가 80%

1985 5 24

---

13) 1972

가 , 1982



“ .가 ” , 1978

MARPOL 1984 1986 「 」

UNEP IAEA, ILO, IMO, FAO, WHO, WMO, UNESCO

2

가

「

」

2

(1987 1991) 1980

가

가

가

(3) 1990 :

1990 1 “ ” 가  
가 . 1992 6  
UN 가  
12 「 」

(Agenda21)<sup>14)</sup>

가 (1985), (1972)

1994 11 16

UN

가

1990

(1990)

(1990),

(1991),

(1991),

가 (1993)

, 1996

1990

3

( ) 4

「

」

1992 1 8

3

(1992 2001) 「

14) 1992 UN 「 21」

17

」

， ，

，

，

3

， 200

， UN

，

，

(Blue-Belt)

4

(2000 2020)

「

」

가

가 가

가

< 3-3 >

	1960	1970	1980	1990
				.
	.		.	
	UNESCO '60	'72 MARPOL '78	'81 가 '85	UN '92 '94
	'61 '62 '63	'71 '72 '77 '77 '77	'86 '87	'91 가 '93 '99

: , 7, , 1998, 176 .

2)

가

가 가

가

가

,

, , ,

가

.

.

가

.

,

,

500m(

,

1

3

1,000m)

(

2

1 2

)

5

( 2 ).

. .

.

,

가

.

. 가

.

( 6 ).

.

.

.

( 8 ).

( 14 ). , , ,  
, , ,  
, ,  
가 ( 13 ).

· , ·  
· ( )  
· , 가  
( 11 ).

3)

(1)

가  
· ·  
5 · ·

가

, :  
 「 」  
 , :  
 , :  
 , :  
 , :  
 , 「 」 :  
 , 가 :  
 .

(Bio-Belt )

가 . . .  
 가 .

. . 가

(2)

“ ” 「 (先) , (後)  
」 (Zoning)  
(Planning Control)

<sup>15)</sup>

2001) 61 1 (1991)  
26

가

9

가

18

15)

가

가



47

, .

, 가 ,

. , 4 가  
, , , , . 2  
가 .

, .

10 (2000 2009) 590 .

, , 54  
,

10 ,  
가





# CHAPTER 4

## 1.

### 1)

가 3,300  
11,542km  
가 6,228km 54%  
5,256.5km 45.5%, 5,594.9km 48.5%, 428.1km 3.7%  
「 」  
가  
1,632.1km 14.1%, 585.6km 5.1%,  
980.2km 8.5%, 가 8,344.5km 72.3% 1,555 ,  
1,188km , 1,534 , 929km가

< 4-1 >

( : km, %)

	11,542.4	100.0	6,227.5	100.0	5,314.9	100.0	1,632.1	585.6	980.2	8,344.5
	5,256.5	45.5	2,458.2	39.5	2,798.3	52.7	1,086.1	194.8	195.4	3,707.6
	5,594.9	48.5	3,143.4	50.5	2,451.5	46.1	408.8	176.7	585.4	4,424.2
	428.1	3.7	425.8	6.8	2.3	0.0	122.4	195.5	128.2	54.9
	262.9	2.3	200.1	3.2	62.8	1.2	14.8	18.6	71.7	157.8

: , , 1990

2000 28%  
 1,321 가 , (GRP) 41.9% 150  
 5,580 (1996 )  
 ( , 1997: 23-25).

9,423.47km<sup>2</sup> 가 66.8%,  
 가 33.2% ,  
 가 1,040 , 3,131.41km<sup>2</sup> .  
 162 279.51km<sup>2</sup>

가  
 , (land-based  
 Pollution) (sea-based Pollution)  
 77%  
 44%  
 33% (GESAMP, 1990).<sup>19)</sup>

19) 12%, 12%, 1%

km<sup>2</sup> 2.4% 2,393  
 83% 1,980km<sup>2</sup>  
 5 ( , 1998b).

940 , 5,455,371 가 ( , 1997 : 9-39).

가가

< 4-2>

( : km<sup>2</sup> %)

	1,115	9,423.47	953	9,143.96	162	279.51
•	411	837.86	375	724.33	36	113.53
-	57	346.06	46	271.95	11	74.11
-	354	491.80	329	452.38	25	39.42
•	51	1,517.30	45	1,517.30	6	( . . . )
•	76	423.63	63	359.95	13	63.68
•	10	27.36	3	8.21	7	19.15
•	111	132.00	111	132.00	-	-
•	157	164.32	57	81.17	100	83.15
•	224	28.94	224	28.94	-	-
•	9	3,390.16	9	3,390.16	-	-
•	55	154.90	55	154.90	-	-
•	11	2,747.00	11	2,747.00	-	-

: 1) 20 73.74km<sup>2</sup> 35 15.4km<sup>2</sup> ( 4.9km<sup>2</sup>)

2) 30 (1.7km<sup>2</sup>) 15 (118.9km<sup>2</sup>) 9 0.1km<sup>2</sup>

: , 1999

2)

(가)

, , ,  
 , 「 」 .  
<sup>20)</sup>가 10.05 가 가 9.46  
 가 1.67, 가 1.16  
 ( , 1987 : 20).

(押),

가

가

( )

가

가

가

5

20)

( )

I, II, III

pH, COD, DO, SS, , , 8

COD

Nemerow가 1991

(

)<sup>21)</sup>

, COD

(1999)

(2.3

mg/ ), (2.2mg/ )

< 3-3>

(1999)

( : mg/ )

	( )	pH	DO (mg/ )	COD (mg/ )	T-N (mg/ )	T-P (mg/ )	SS (mg/ )
	13.9	8.0	9.2	1.6	0.547	0.031	22.9
	13.7	8.0	9.3	1.6	0.313	0.026	14.6
	14.7	7.9	8.7	1.4	0.150	0.012	10.7
	15.3	8.0	9.9	1.4	0.540	0.019	26.4
	15.9	8.1	8.2	1.4	0.277	0.020	16.4
	17.0	8.2	9.3	2.2	0.079	0.036	8.4
	17.3	8.2	8.7	1.8	0.045	0.008	4.3
	16.4	8.0	6.4	1.5	0.149	0.021	4.6
	16.4	8.1	6.9	1.3	0.097	0.014	3.4
	17.2	8.4	8.8	2.3	0.235	0.027	4.5
	17.5	8.3	8.3	1.4	0.425	0.029	5.6
	17.5	8.3	9.0	1.4	0.338	0.030	4.5
	17.4	8.2	8.4	1.6	0.551	0.021	5.3
	16.2	8.1	8.7	0.9	0.096	0.011	2.9
	16.1	8.1	8.7	0.8	0.103	0.012	3.2
	16.0	8.1	8.8	1.4	0.142	0.016	6.2

: , 2000

21)  $PII = \{[(COD / COD_{st})^2 + (T-N / T-N_{st})^2 + (T-P / T-P_{st})^2 / 3]^{0.5} (st:1) \}$



69.2%

18.3%

4.8%

< 4-4 >

1)	72 ( 69.2)	19 ( 67.9)	23 ( 59.0)	30 ( 81.1)
2)	19 ( 18.3)	7 ( 25.0)	9 ( 23.1)	3 ( 8.1)
3)	5 ( 4.8)	-	2 ( 5.1)	3 ( 8.1)
4)	8 ( 7.7)	2 ( 7.1)	5 ( 12.8)	1 ( 2.7)
	104 (100.0)	28 (100.0)	39 (100.0)	37 (100.0)

:

( )

1999

22)

1,115

9,423.47km<sup>2</sup>

6,228km

49.7%

3,095.6km

34.9%

1,080.1km

77

가

가

가

가

22)

2000

( )

1999

< 5-5>

( : km)

		3,095.6	377.4	1,524.2	1,194.0	
		1,804.9	72.8	1,285.2	446.9	
		456.2	72.8	249.0	134.4	
		1,327.7	0.0	1,015.2	312.5	
		21.0	0.0	21.0	0.0	
		1,080.1	230.7	219.3	630.1	
			619.0	56.4	87.6	475
			305.8	0	0	305.8
			119.4	27.1	31.9	60.4
			104.1	20.4	21.2	62.5
			7.3	0	7.3	0
			33.4	0	0	33.4
			49.0	8.9	27.2	12.9
		335.8	126.0	106.5	103.3	
		21.0	5.1	5.0	10.9	
	( )	104.3	43.2	20.2	40.9	
	210.6	73.9	19.7	117		

: , , 1999.

가

가

가

< 4-6 >

( : )

		1)				
	41	4	1	2	30	4
	11	2	2	1	5	1
	18	6	1	-	10	1
	(75)	(8)	(38)	2	(25)	2
	23	4	4	3	9	3
	15	2	-	-	12	1
	46	6	-	3	30	2
	(73)	(8)	(18)	1	(45)	1
	(50)	(9)	(3)	-	(36)	2
	55	5	3	2	40	5
	(49)	(8)	(27)	-	(11)	3
	14	-	4	2	2	2

: 1) ,

2) () 2001 7

: , , 1999.

52.3% 가

가 43.2%,  
 가 2.7%

< 4-7>

1)	58 (52.3)	18 (45.0)	40 (56.3)	34 (56.7)	24 (47.1)
2)	48 (43.2)	20 (50.0)	28 (39.4)	23 (38.3)	25 (49.0)
3)	3 (2.7)	1 (2.5)	2 (2.8)	2 (3.3)	1 (2.0)
4)	2 (1.8)	1 (2.5)	1 (1.4)	1 (1.7)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

3)

1 2

가 ,

(灣)

가

가

가

< 4-8 >

( : km, COD mg/ )

	552.7		90,777	99	14	1.1
	68.0		286,652	49	5.6	2.3
	560.7		157,196	79	1.8	1.3
	67.7		123,190	53	0.9	0.8

2.

1) :

(1)

(가)

75% 574.2km

「

328.99km<sup>2</sup>

가

147.33km<sup>2</sup>가

가

가

20m

가 가 10 20m ( , 2000a).

가 10 50m

22 76%

1 51% 2 30%

( , 1994 : 357-365).

10 20m

20 30m

가

0 5m

25m

( )

가

5 10m

( , 2000a).

가

가

가

( , 1993 : 259-271).

가

가

0.5 3.0  $\phi$  ( $\phi : - \ln_2 n$ ,  $n$  )

가

( , 1989 : 20-21).

50%

5%

172.3km<sup>2</sup>

331.3km<sup>2</sup>

30.2%

가 913.0km<sup>2</sup>

54.7%

1%

( )

가 .  
 37.8 , -20.9  
 11.9 , 1,250.2mm  
 ( , 1999).

가 115 200cm  
 / sec, 78.0cm/ sec, 가 177cm/ sec,  
 40cm/ sec , 80cm/ sec  
 ( , 1989 : 36-37). 가  
 1

가 .  
 가 , 가 655.6cm, 가 288.0cm 가  
 471.8cm . , 가 501.4cm, 가 138.4cm  
 가 360.6cm . 가 613.7cm 가 311.0cm  
 가 512.4cm ,  
 가 639.0cm, 가 307.0cm 가 473.0cm  
 ( , 1989 : 36-37).

1995 가  
 , 1997 (COD ) 0.7mg/  
 ( , 1999). 가 .  
 가  
 가 2 8  
 26 27 , 27 28 ( , 2000a : 53-54).

( )

, , 202.7km<sup>2</sup>  
 ( , 1998b).  
 가 ,  
 , ( ), , , ,  
 , , , 9 .  
 A · B 5 48,379 가  
 1990 201  
 15 10 가  
 , 1996 199 20 20  
 가 ( , 1999).  
 (2,894 ), (65  
 9,900 ), (47,603m<sup>2</sup>)가 ( )  
 , 1987) , ,  
 .  
 가 , , ,  
 , , , , ,  
 , , , , , , , .  
 가 , , , ,  
 , , , , , , , 가 ,  
 , , , , ( , 1989 : 60-62).



(2)

(가)

가

2001 4 가 150,028 68,746 , 가 118,504  
 337,278 . 38.8%

130,946 가  
 500m . 32

, 36 21 , 29 가  
 가 . 가

. 10,682 ( 2 ),  
 4,987 ( 14 ), 5,483 ( 1 ), 220  
 ( 1 ) 가 .

1 3 , , , , ,  
 20 2 14  
 ( , 1999a : 11).

( )

99 426.965km<sup>2</sup>

34 , 26 , 4  
 가 1978  
 328.99km<sup>2</sup>( 290.3km<sup>2</sup> 38.69km<sup>2</sup> )  
 1995 9.66km (灣) 147.329km<sup>2</sup>  
 ( 45.917km<sup>2</sup> 101.412km<sup>2</sup> )  
 가 가

90% 1 A · B  
 A B  
 1 2

< 4-9>

( : km<sup>2</sup> )

	가											
	426.965 (99)	5.658 (2)	2.099 (1)	7.106 (5)	6.337 (4)	2.581 (34)	349.676 (26)	9.751 (2)	29.77 (2)	0.269 (4)	9.287 (8)	4.431 (11)
	24.946 (24)	0.909 (1)	2.099 (1)	-	-	-	5.45 (8)	-	-	0.085 (1)	9.287 (8)	-
	361.374 (55)	-	-	-	3.815 (1)	2.401 (32)	336.067 (13)	5.002 (1)	10.67 (1)	0.173 (2)	-	3.246 (5)
	40.655 (20)	4.749 (1)	-	-	2.522 (3)	0.18 (2)	8.159 (5)	4.749 (1)	19.10 (1)	0.011 (1)	-	1.185 (6)

: 1) 가  
 2) 32 , , , , 5 27  
 2.133km<sup>2</sup>  
 : , 2001. 7

□

가

(0.909km<sup>2</sup>), (4.749km<sup>2</sup>)가 (1.66km<sup>2</sup>),  
 (2.099km<sup>2</sup>)가 ,  
 (0.909km<sup>2</sup>) ( 4.749km<sup>2</sup>  
 2.790km<sup>2</sup>) , ,  
 ( 2.099km<sup>2</sup> 0.997km<sup>2</sup> )  
 ( 1.660km<sup>2</sup> 1.430km<sup>2</sup> IMF ( )  
 가 .  
 ( 0.035km<sup>2</sup>) ( 7.0155km<sup>2</sup>), ( )  
 0.056km<sup>2</sup>)가 .

< 4- 10>

( : km<sup>2</sup>)

		16,523	4,200	12,323		
가	, ,	0.909	0.909	-		
	, ,	1.660	0.230	1.430	"	
	, ,	2.099	1.102	0.997		
	, ,	0.035	-	0.035	"	
	, ,	7.015	-	7.015	"	"
-	"	(2.131)	-	(2.131)		"
-	"	(1.566)	-	(1.566)	"	"
-	"	(3.318)	-	(3.318)	"	"
	, ,	0.056		0.056	"	"
-	, ,	(0.056)		(0.056)	"	"
가	, ,	4.749	1.959	2.790		2001

: 14.863km<sup>2</sup> ( 3.97km<sup>2</sup> 10.893km<sup>2</sup>)  
 : , , , , 2001.7

2

25 (43.757km<sup>2</sup>) .  
 2 (29.770km<sup>2</sup>), 8 (7.106km<sup>2</sup>), 4

(0.166km<sup>2</sup>)

(76.5km<sup>2</sup>)

(9.287km<sup>2</sup>)

< 4-11 >

( : km<sup>2</sup> )

	25	-	43.757		
•	(2)		29.770		
			10.670 19.100	, "	
•	(8)		9.287		
	1)	"	0.035 7.015	"	
		"	0.056	"	
		"	0.997	,	
		"	0.099		
		"	1.085	"	
•	(4)		0.269		
			0.155 0.011 0.018 0.085	" ,	
	•	(2)		4.143	
				3.013 1.130	,

•	(7)		0.073	
“			0.015	
“		“	0.010	“
“		“	0.016	“
“			0.008	“
“		“	0.008	“
“		“	0.008	“
“		“	0.008	“
•	(2)		0.215	
			0.192	
			0.023	“

: 1) 3  
: , , , , 2001.7

3

5.002km<sup>2</sup> (8 MWh) ,  
4.749km<sup>2</sup> (24 MWh) 2 가 .  
, 60.2%  
3.013km<sup>2</sup> , 0.645km<sup>2</sup>  
4.749km<sup>2</sup> 23.8% 1.13km<sup>2</sup>

< 4-12 >

( : km<sup>2</sup>)

	, ,	5.002	1.989	3.013		
	, ,	4.749	3.619	1.130		

: 가 ( 2.4km)  
200 kWh .  
: , , , , 2001.7

4

( 328.99km<sup>2</sup> 290.3km<sup>2</sup> )  
 (3.815km<sup>2</sup>), (2.15km<sup>2</sup>) (0.31km<sup>2</sup>),  
 (0.062km<sup>2</sup>) 4 가 .  
 ,  
 (3.815km<sup>2</sup>) 3 2002 .  
 가 (0.2km<sup>2</sup>), (1.435km<sup>2</sup>)  
 (0.83km<sup>2</sup>), (0.12km<sup>2</sup>),  
 (0.158km<sup>2</sup>) .  
 36  
 88.9% 32 .  
 (0.05km<sup>2</sup>), (0.01km<sup>2</sup>), (0.03km<sup>2</sup>)

< 4-13 >

( : km<sup>2</sup> )

		(3.815),	(2.15),	(0.31),	(0.062)		
	가	(0.2), (1.435), (0.83), (0.12), (0.158), (1.54), (0.99), (0.165)	(0.4), (0.1), (0.03), (0.36), (0.3), (0.015), (0.10), (0.015), (0.15), (0.06), (0.05), (0.03), (0.06), (0.02), (0.05), (0.02), (0.06), (0.002), 가 (0.001), (0.02), (0.02), (0.02), (0.02), (0.01), (0.02), (0.02), (0.01), (0.02), (0.008), (0.02), (0.01), (0.2), (0.1), (0.08)	(0.05), (0.182), (0.075),	(328.99), (4.587), (0.153), (0.607),	(1.213), (1.0), (0.049), (0.01), (7.074),	(1.0), (0.015), (0.03)

: 1) 32 , , , 5  
 27 2.133km<sup>2</sup>  
 2) , , 가 3  
 : , , , , 2001.7

(3)

(가)

21

23 (43.757km<sup>2</sup>), 가 7 (7.106km<sup>2</sup>),  
 4 (6.337km<sup>2</sup>) 8 (5.358km<sup>2</sup>)

가 2 (灣口)

가

가

가

( )

가

213.48km<sup>2</sup> 가

1

가

가

가

가

가

2

가

3

100m

2km

가

가

, , , ( , ),

, , ,

, , , , 가

, ,



( )

10% 100m 가

가

559.712km 20.5%(114.871km)

56.8%(65.202km)가 가

49.669km 8.9%

가 가 가 (

16.710km 12.7 가 212.582km

가

23)

가 가 21415km<sup>2</sup> 9.6%

74.049km<sup>2</sup> 가 3.5

가

65 (77.758km<sup>3</sup>)

23) 2 500m

, 1. 3 500m 1,000m

가

가

가 가

< 4- 14>

( : km, km<sup>2</sup>)

	559.712 (100.0)	81.912 (14.6)	32.959 (5.90)	109.001 (19.5)	212.582 (38.0)	123.258 (22.0)
	222.050 (100.0)	30.667 (13.8)	12.439 (5.6)	71.346 (32.1)	74.049 (33.4)	33.549 (15.1)

: 1)

가

12.627km

7.152km<sup>2</sup>

2)

1/ 25,000,

1/ 5,000

ARC/ INFO

(Strength)	(Weakness)
<ul style="list-style-type: none"><li>가</li><li>,</li><li>,</li><li>,</li><li>,</li><li>가</li><li>가</li><li>,</li><li>,</li></ul>	<ul style="list-style-type: none"><li>.</li><li>가</li><li>,</li><li>가</li><li>.</li></ul>
(Opportunity)	(Threat)
<ul style="list-style-type: none"><li>,</li><li>-</li><li>가</li><li>가</li><li>,</li><li>,</li></ul>	<ul style="list-style-type: none"><li>A · B</li><li>23 43.76km<sup>2</sup></li><li>가</li><li>가</li><li>,</li><li>가</li><li>,</li><li>.</li></ul>

< 4-1> :



2) : /

(1)

(가)

(押),

9

, , , ,  
, , , .

46.0%(2,867.2km)

67.0%(656.5km), 32.2% (188.6km)

( 3143.4km ÷ 515km)가 6.1

가 .

, , , ,

323.1km, 68

km 391.1km .

174.3km .

20m

50m

200m가

( )

1,600mm

1

. 17

, 13.76 , 13.97

12.92

가

300m가 , 1.3m, 1.8m, 2.3m, 150  
 1.2m . 10 14sec  
 가 15 19 가  
 가 8 가  
 21 26 , 2 가 5 14 10 1  
 8 .  
 COD , 1990 1.8mg/ 1999  
 1.31mg/ 가 1.8mg/  
 2.3mg/ 가 .  
 가 25km, 25km  
 10 20m  
 가 가 가  
 가 ( 가 ( )  
 , 1995 : 15-16) , .  
 ( ,  
 1995 : 267-271).  
 가 ( ), ( ),  
 . ( , ) .

( )

가

39.6km<sup>2</sup> 가

( 29 ),

( 150 ),

( 152 )

( 276

),

( 299 ),

( 287 )

,

14,000

1.5km

가

가

51%가

, 44.8%가

( , 1990).

(2)

(가)

( 72.1km<sup>2</sup>)

18 ( 119,326 ,

59,762),

1

( 432,592 ,

519,798,

,

133,791 )

가

가

가

10km

2

가

5

10km

, 3

500m

3km

100m 1km

2

가

10

( )

128

627.221km<sup>2</sup>

가

가

17

81

가



가

< 4-16> /

( : km<sup>2</sup> )

	가		1)									2)
	627.221 (128)	54.545 (3)	4.772 (3)	14.317 (11)	21.07 (16)	0.436 (5)	514.933 (8)	2.89 (1)	1.875 (5)	5.386 (30)	3.172 (8)	3.825 (38)
	450.296 (79)	-	4.161 (2)	5.543 (6)	9.249 (13)	0.436 (5)	421.083 (7)	2.89 (1)	1.875 (5)	0.678 (10)	2.448 (5)	1.933 (25)
	119.416 (46)	-	4.161 (2)	5.543 (6)	5.660 (7)	0.013 (1)	95.625 (2)	2.89 (1)	0.702 (3)	0.678 (10)	2.448 (5)	1.696 (9)
	330.880 (33)	-	-	-	3.589 (6)	0.423 (4)	325.458 (6)	-	1.173 (2)	-	-	0.237 (16)
	176.925 (49)	54.545 (3)	0.611 (1)	8.774 (5)	11.821 (3)	-	93.850 (1)	-	-	4.708 (20)	0.724 (3)	1.892 (13)
	111.118 (16)	0.793 (1)	-	2.779 (1)	11.720 (2)	0.244 (1)	93.850 (1)	-	-	1.690 (7)	-	0.286 (4)
	53.383 (6)	52.595 (1)	-	-	-	-	-	-	-	0.223 (3)	0.334 (1)	0.231 (1)
	12.424 (27)	1.157 (1)	0.611 (1)	5.995 (4)	0.101 (1)	-	-	-	-	2.795 (10)	0.390 (2)	1.375 (8)

: 1)

2)

3)

: , 2001. 7

가

( )

2가



< 4-17> /

( : km<sup>2</sup>)

	(17)	73.634	64.515	9.119		
가	, ,	0.793	-	0.793	“	
가	, ,	52.595	51.454	1.141	“	
	,	1.157	0.857	0.300	“	
( )	, ,	0.611	0.137	0.474	“	“
	, ,	(3.150)			“	
	, ,	2.561	2.051	0.510		
	, ,	1.600	0.472	1.128		
	,	0.053	0.053	-		
	, ,	0.569	0.569	-	“	“
	, ,	0.104	0.104	-	“	“
	, , 가	2.779	1.025	1.754		
	, 2가	0.052	-	0.052	“	“
	, ,	4.129	3.303	0.826	“	
	, ,	1.761	1.448	0.313	“	“
	,	0.960	0.464	0.496	“	
	,	0.640	0.640	-	“	
	,	0.380	0.380	-	“	“
	,	2.890	1.558	1.332	“	

: , 2001. 7

( )

81 14.258km<sup>2</sup> 17%

14 2.402km<sup>2</sup> 가 . 가 23

가

- 가

가

가

< 4-18 > /

( : km<sup>2</sup> )

	81	-	14.258	
•	(5)		1.875	
		“	0.420	1 “ “
	1	“	0.753	
	2	“	0.286	
		“	0.292	
	“	0.124		
•	(8)		3.172	
		“	0.052	1
		“	0.061	
		“	2.230	
		“	0.025	
		“	0.080	
		“	0.334	
		“	0.300	
	“	0.090		
•	(30)		5.386	
		“	0.005	“ “ “ 1 “ “
		“	0.146	
		“	0.028	
		“	0.256	
		“	0.089	
		“	0.006	
		“	0.017	
	“	0.102		

•	가	“	0.020	
		“	0.009	
			0.199	
		“	0.537	“
		“	0.008	1
		“	0.011	
		“	0.406	
		“	0.298	“
		“	0.231	
			0.018	1
		“	0.198	“
		“	0.007	
			0.007	“
		“	0.134	
		“	0.179	
		“	0.826	
		“	0.061	
		“	0.007	1
		“	0.800	
		“	0.095	
		“	0.655	“
		“	0.031	“
•	(1)		1.332	
			1.332	
•	(37)		2.493	
			0.028	
		“	0.050	
		“	0.130	“
		“	0.025	“
		“	0.102	“

•		“	0.003	
		“	0.020	“
		“	0.006	“
		“	0.015	1
		“	0.007	
		“	0.020	“
		“	0.006	
		“	0.033	“
		“	0.007	“
		“	0.001	“
		“	0.104	“
	1	“	0.002	“
	2	“	0.008	“
		“	0.005	“
		“	0.018	“
		“	0.004	“
		“	0.001	“
		“	0.003	“
		“	0003	“
•		“	0.052	1
		“	0.227	“
		“	0.005	
		“	0.002	“
			0.231	
			0.547	“
		“	0.339	
		“	0.122	
		“	0.001	
		“	0.040	“
		“	0.046	“
		“	0.052	“
		“	0.228	“

: , , , , , , , 2001.7

( )

가

(0.49km<sup>2</sup>), (3.292km<sup>2</sup>), (0.277km<sup>2</sup>)  
 (0.423km<sup>2</sup>), (0.815km<sup>2</sup>), (0.06km<sup>2</sup>),  
 0.321km<sup>2</sup>

(0.02km<sup>2</sup>), (0.01km<sup>2</sup>)

< 4-19 >

( : km<sup>2</sup> )

		(0.815)			
		(0.661), (11.5), (0.22), (0.277), (0.58), (0.27)	(3.292), (0.101)	(0.423), (0.06), (0.3)	(0.8), (0.49), (0.42), (0.321)
		(0.013), (0.21), (0.135)		(0.063), (0.015)	
		93.85, 65.794, (0.023),	( 72.1, 253.323),	29.831), (0.01)	( 0.002),

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(가)

1970

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69

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5 10m

가

가

가

Nemerow가 1991

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22

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1996 : 53),

가

가

COD

가

가

( , 2000).

( )

548.716km  
 39.3%(215.566km)  
 5.6%(30.478km)  
 18.0%(98.71km)  
 2.0%(3.85km<sup>2</sup>) 가  
 가 36.7%(34.697km<sup>2</sup>),  
 19.8%(38.547 km<sup>2</sup>)

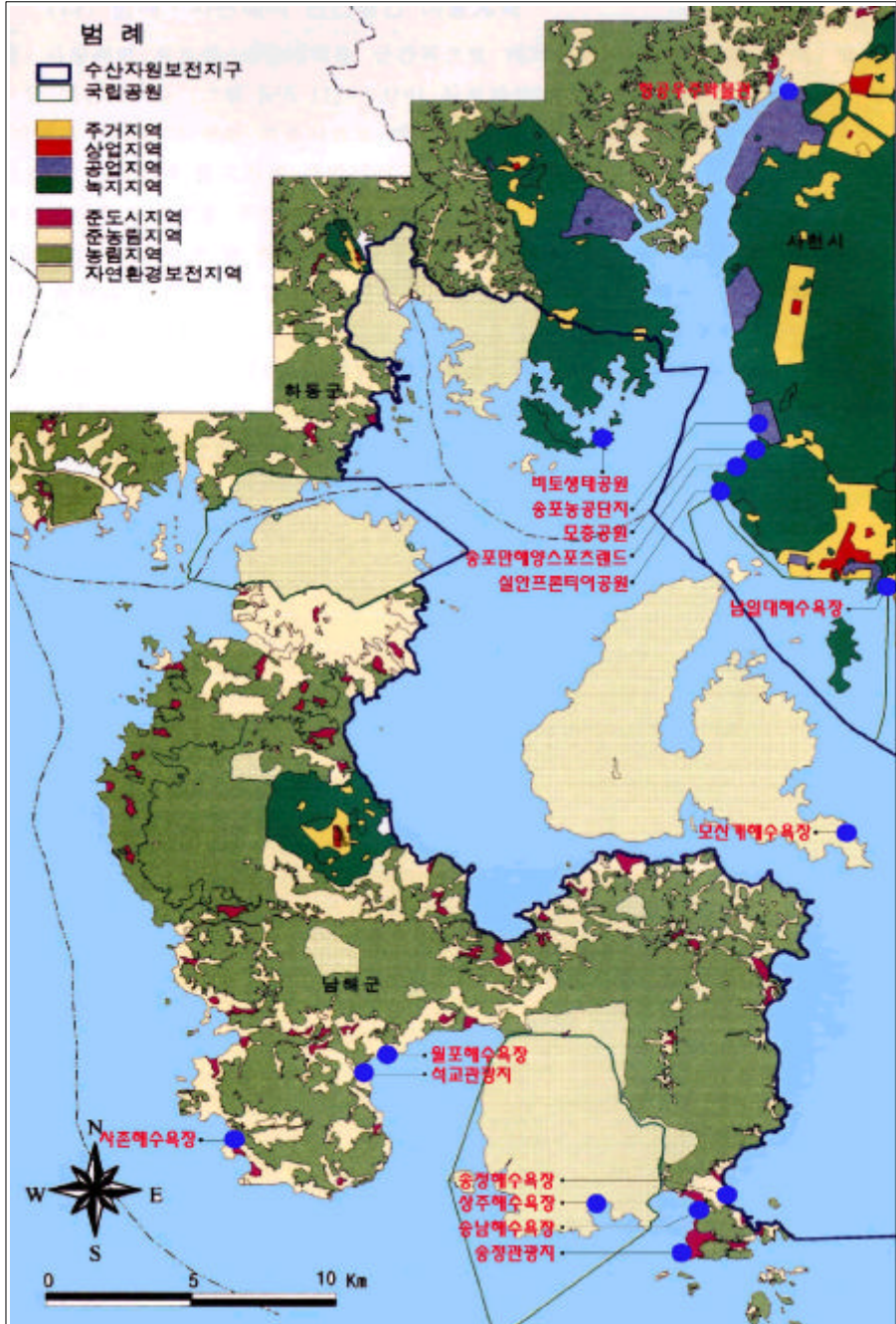
< 4-20 >

( : km, km<sup>2</sup>)

	548.716 (100.0)	201.366 (36.7)	14.200 (2.6)	86.310 (15.7)	98.710 (18.0)	148.130 (27.0)
	194.275 (100.0)	94.600 (48.7)	3.850 (2.0)	28.634 (14.7)	24.351 (12.5)	42.840 (22.1)

: 1) 가 61.278km 34.697km<sup>2</sup>  
 2) 1/ 25,000, 1/ 5,000 ARC/ INFO





3) :

(1)

(가)

가 . 가

4.94 23.5% 7.7% 881.0km  
1.16 .  
3,500m 1,000m

가

( )

1,060.3mm  
Kuroshio  
가 (竹邊)  
(能登) 1.2

가 0.1 1.0 ,  
2.0 가 ,  
가 .

1 0.3m  
3 ,

가 8 .  
 (颱風) (冬季節 低氣壓)  
 10 15sec, 150 350m  
 3.6 5.4m . 6.5m, 7.0m .  
 18 27 26 27 ,  
 18 20 14 18 ,  
 4 13 20 ( , 2000 :  
 50-68). 가  
 가  
 가 .

1999 COD 1.31mg/ ( 0.9mg/ ,  
 0.8mg/ ) . ,  
 COD가 , .  
 ( , 2000).

( )

가 (斷崖)

, 가 .  
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(2)

(가)

2001 4 10 3,654  
 12.6% 15.352km<sup>2</sup>가  
 (23,035 ), (6,422 ) 가

8 2,177  
 (7,286 ) ,  
 가

21  
 , 58.4km

( )

가 ( 1.873km<sup>2</sup>  
 0.4km<sup>2</sup> (1975.12.12) 1990 12 1995 9  
 (0.715km<sup>2</sup>) 1990 12 1995

12

27 , , , , 가

(0.190km<sup>2</sup>)

(0.029km<sup>2</sup>)

(0.150km<sup>2</sup>)

“ ”

11 가

(0.045km<sup>2</sup>)

(0.002km<sup>2</sup>)가

가

가

< 4-21 >

( : km<sup>2</sup> )

		가		1)						
	15.933 (53)	1.873 (1)	0.715 (1)	5.222 (6)	6.041 (5)	0.255 (22)	1.586 (7)	0.106 (4)	0.400 (1)	0.135 (6)
	6.773 (17)	1.873 (1)	0.715 (1)	2.853 (2)	0.691 (1)	0.062 (5)	0.434 (2)	0.062 (2)	0.400 (1)	0.083 (3)
		가 (1.873)	(0.715)	(0.543) (2.310)	(0.691)	가 , ,	(0.295)  (0.139)	(0.017)  (0.045)	(0.40)	(0.046)  (0.025)  (0.012)
	9.160 (35)	-	-	2.369 (4)	5.350 (4)	0.193 (17)	1.152 (1)	0.044 (2)	-	0.052 (3)
		-	-	(0.368) (1.921) (0.050) (0.030)	(0.294) (1.258) (0.374) (3.424)	, , , , , , , ,	(0.530)	1 (0.042) 2 (0.002)	-	(0.033)  (0.013)  (0.006)

: 1)

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0.4km<sup>2</sup>



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22

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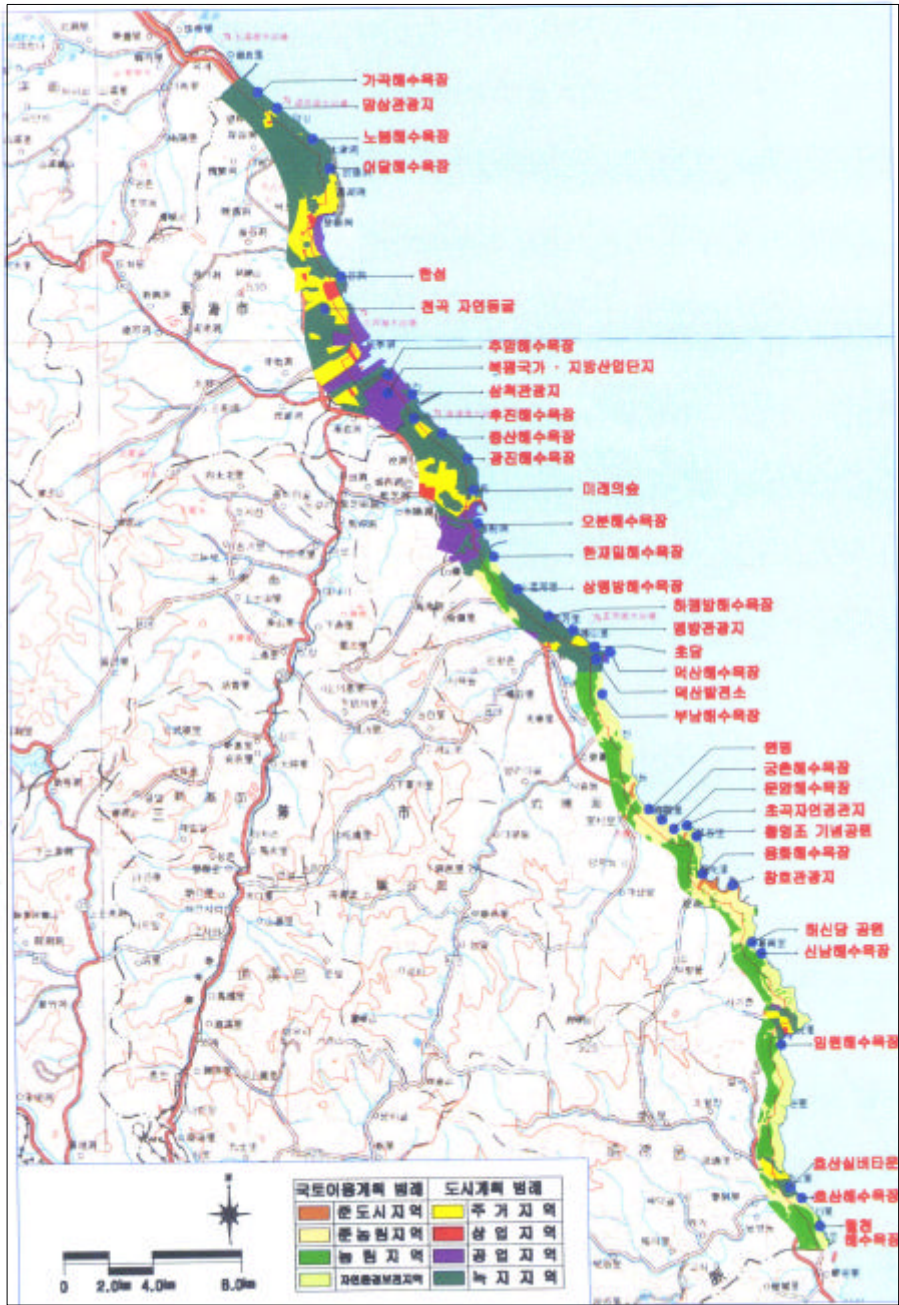
81.4km 가 60.6%(49.353km),  
 가 16.0%(17.634km), 5.8%(4.769  
 km), 33.4% (27.148km), 3.6%(2.927km),  
 2.4%(1.972km)  
 가 34.5%(6.533km),  
 2.3%(0.778km) 가 36.8%(7.311 km)  
 ( , 가  
 )가 13 13.851km<sup>2</sup> 가  
 가 7.311km<sup>2</sup>  
 가  
 가 .

< 4-22>

( : km, km<sup>2</sup>)

	81.400 (100.0)	44.584 (54.8)	4.769 (5.8)	2.927 (3.6)	1.972 (2.4)	27.148 (33.4)
	34.409 (100.0)	18.951 (55.1)	0.778 (2.3)	4.143 (12.0)	3.778 (11.0)	6.759 (19.6)

: 1) 가 17.634km, 6.533km<sup>2</sup>  
 2) 1/ 25,000, 1/ 5,000 ARC/ INFO



3.

1)

(1)

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 “ ” 가 .  
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 ( , 1991 : 105-111).  
 , 가  
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( 11 )

, 가

24)

( )

“ ” 가  
가

(2)

가

가? ( , 2001 : 81).

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24)

, 1966 : 897)

2000 8 .

「 (先) , (後) .

」 (Zoning)

(Planning Control)

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“ ”

(Goal Oriented)

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(Friedmann, J. 1965 : 359-362)

25)

(Altshuler, 1975 : 299-331).

가 .

(zoning ordinance)

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25) 가  
가

5 , 3  
10 가 ,  
.

4 .

111



가 ,

가 .

가

< 4-23> - ( )

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		○ ( . . . . . )
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		○ - . . . . . - . . . . . ○ 2 . . . . . - . . . . . -
		○ - ○ - ○ - - -
		○ , 가 ○
		○ ○ ○ 가

: , , 2000. 8.  
( 6 5),





(500  
 1,000m) (線) ,  
 , 가 38.7%( 40.0%)  
 . 가가 가  
 가  
 36.9%( 40.0%)

< 4-24> (500m 1,000m)

1)	24 (21.6)	7 (17.5)	17 (23.9)	11 (18.3)	13 (25.5)
2)	41 (36.9)	14 (35.0)	27 (38.0)	24 (40.0)	17 (33.3)
3)	43 (38.7)	18 (45.0)	25 (35.2)	24 (40.0)	19 (37.3)
4)	3 (2.7)	1 (2.5)	2 (2.8)	1 (1.7)	2 (3.9)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

2)

28)

가 , ,

28)

가

5 . . 가

6 6

가

가 66  
18 (27.3%) , 5 (7.6%)

가

가

< 4-25>

			1	2	3	4	5
	34 (51.5)	18	1	2	2	-	1
	32 (48.5)	30	2	-	-	-	-
	32 (48.5)	22	-	2	2	-	-
	34 (51.5)	26	3	-	-	-	1
	66 (100.0)	48 (72.7)	3 (4.5)	4 (6.1)	6 (9.1)	-	5 (7.6)

: ×

, 가



3)

2001 6 2001 7 30)

50.5%

가

66.7%가

17.1%

< 4-26 >

1)	21 (18.9)	8 (20.0)	13 (18.3)	7 (11.7)	14 (27.5)
2)	56 (50.5)	19 (47.5)	37 (52.1)	40 (66.7)	16 (31.4)
3)	19 (17.1)	6 (15.0)	13 (18.3)	6 (10.0)	13 (25.5)
4)	15 (13.5)	7 (17.5)	8 (11.3)	7 (11.7)	8 (15.7)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

78.4% 가

30)

33 64 60 2001 7 7 2001

가

(9.9%)

(13.3%)

< 4-27>

가

1)	87 (78.4)	31 (77.5)	56 (78.9)	44 (73.3)	43 (84.3)
2)	7 (6.3)	3 (7.5)	4 (5.6)	3 (5.0)	4 (7.8)
3) 가	11 (9.9)	4 (10.0)	7 (9.9)	8 (13.3)	3 (5.9)
4)	6 (5.4)	2 (5.0)	4 (5.6)	5 (8.3)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

39.6% 가

가

36.9%

76.5%가

가

< 4-28>

1)	23 (20.7)	8 (20.0)	15 (21.1)	11 (18.3)	12 (23.5)
2)	41 (36.9)	14 (35.0)	28 (39.4)	29 (48.3)	13 (25.5)
3)	44 (39.6)	17 (42.5)	26 (36.6)	18 (30.0)	25 (49.0)
4)	3 (2.7)	1 (2.5)	2 (2.8)	2 (3.3)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

가

가가가

가 45.1%      가 39.6%      가 35.0%  
 가      가      가  
 (34.2%)      38.3%가  
 29.4%가

< 4-29>      가

1)	27 (24.3)	12 (30.0)	15 (21.1)	14 (23.3)	13 (25.5)
2)      가	44 (39.6)	11 (27.5)	33 (46.5)	21 (35.0)	23 (45.1)
3)	38 (34.2)	16 (40.0)	22 (31.0)	23 (38.3)	15 (29.4)
4)	2 (1.8)	1 (2.5)	1 (1.4)	2 (3.3)	-
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

가

49.5%      가

가      34.7%  
 가

< 4-30>

가

		1	2	3
1)	35 (15.8)	10 (9.0)	25 (22.5)	76 (68.5)
2)	110 (49.5)	76 (68.5)	34 (30.6)	1 (0.9)
3)	77 (34.7)	25 (22.5)	52 (46.9)	34 (30.6)
	222 (100.0)	111 (100.0)	111 (100.0)	111 (100.0)

가

45.0% 가

가 32.4%

77.4%

가

가

21.6% 가

가 36.0%

가 64.0%

가

54.0%

가 46.0%

< 4-31>

1)	24 (21.6)	10 (25.0)	14 (19.7)	10 (16.7)	14 (27.5)
2)	50 (45.0)	17 (42.5)	33 (46.5)	33 (55.0)	17 (33.3)
3)	36 (32.4)	13 (32.5)	23 (32.4)	17 (28.3)	19 (37.3)
4)	1 (0.9)	-	1 (1.4)	-	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)



# CHAPTER 5

---

## 1.

### 1)

1996 8 가 ( 5913 , 1999. 2. 8) ( 2000-58 , 2000.8.23)

(Cicin & Knecht : 1994)

( , 1979 : 63-70)

needs

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OECD (1976, 1992)

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4 4 가  
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44

가

32

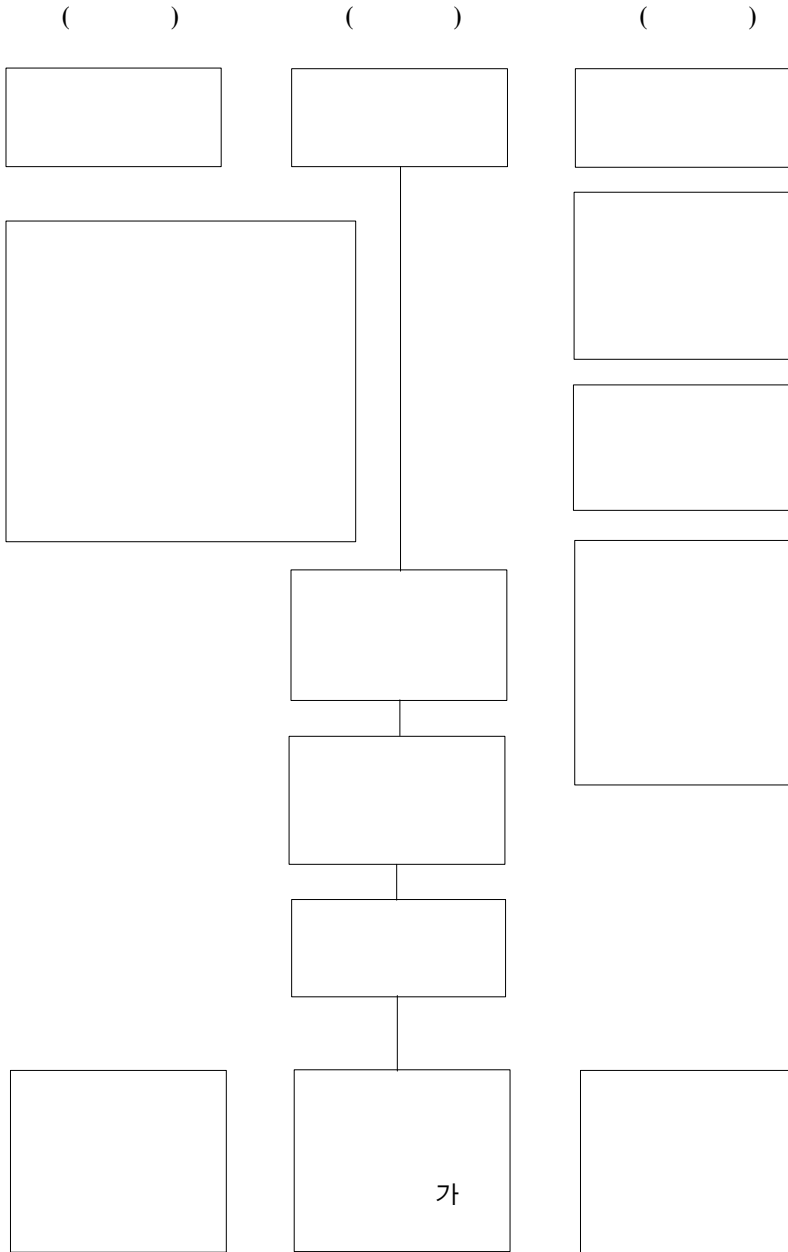
가

가

< 5-1 >

	• • • ( )	• • • 4	• • • •
	• 가 , 가	,	,

< 5-1 >



< 5-2 >

		· ( 2 ) · ( 6 ) · ( 7 )
		· , ( 4 ) · , ( 5 ) · , ( 6 ) · ( 16 )
		· ( 14 ) · ( 25 , 43 )
		· ( 13 ) · , , ( 14 ) · ( 22 )
		· ( ) , ( 4 ) · (( 5 )
		· ( 1 ) · ( 6 )
		· ( 13 ) · ( 20 ) · ( 23 )
		· 가( 3 )
		· ( 5 ) · ( 11 )
		· ( 33 ) · ; ( 67 )
		· , , . ( 2 ) · , , . ( 15·18 )
		· ( 6 ,7 ,8 ,9 ) · ( 13 ) · ( 15 )



		<ul style="list-style-type: none"> <li>· ( 11 , 12 )</li> <li>· ( 17 , 18 )</li> <li>· ( 19 )</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 6 , 7 , 8 )</li> <li>· ( 17,18,19 )</li> <li>· ( 12 )</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 15 )</li> <li>· ( 44 )</li> </ul>
		<ul style="list-style-type: none"> <li>· , ( 4 )</li> <li>· ; ( 8 )</li> <li>· ( 29 )</li> <li>· ( 67 )</li> <li>· ( )</li> <li>· ; ( 70 )</li> <li>· ( )</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 4 )</li> <li>· ( 29 2)</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 1 )</li> <li>· ( 4 )</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 4 , 6 )</li> <li>· ( 7 )</li> </ul>
		<ul style="list-style-type: none"> <li>· 가( 5 )</li> <li>· ( 15 )</li> </ul>
		<ul style="list-style-type: none"> <li>· ( 4 )</li> <li>· ( 9 )</li> </ul>
		<ul style="list-style-type: none"> <li>· 가 ( 1 )</li> <li>· ( 3 )</li> </ul>

3)

(1)

가 , ,  
가 .

가 .

가 가

가 .

「 」

2

15

31)

11

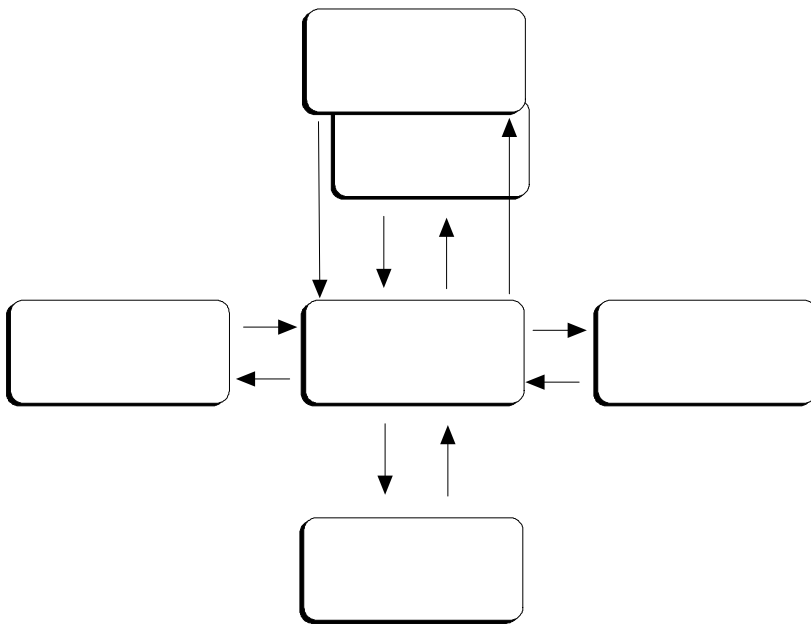
31)

2

15

( ) , 1980」

< 5-2>







가  
가

가

11 ( )

가 ,

가

가 “ ”

가

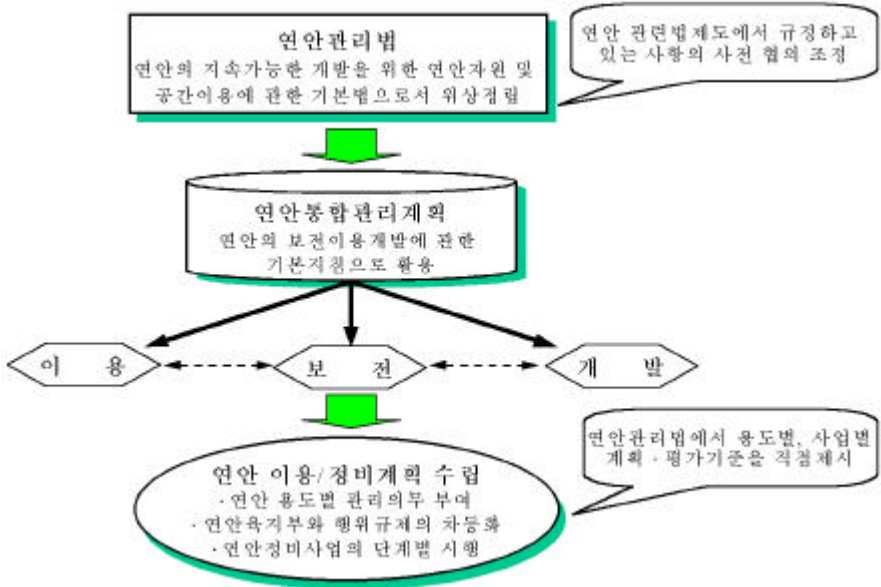
13 2

14 2

(가)

(가)

( 5-3)



2.

1)

(zoning)

( ) 가 ,

가

가

가

가



가

70,671km<sup>2</sup><sup>33)</sup>

8.3%

5,868km<sup>2</sup>가

6,228km

4.5%

282km

가

가

가

33)

3

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, , , , , ,  
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24 , 13  
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가 가  
( )  
가 . 가  
가 ,  
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		( 9 , 14 2)
/		, ( 18 , 29 ) ( 4 )
		( 9 , 14 2)
		, , ( 4 , 5 , 6 ) ( 6 , 8 )
		( 9 , 14 2)
		, ( 67 , 70 )
	.	( 8 ),
/		, ( 2 , 49 ) ( 6 ) ( 5 )
		( 45 )
	1 3	( 4 , 2 )
	2	( 4 , 2 )
	, ,	( 23 ) ( 13 3, 14 2)
	.	( 3 4)
		( 2 )
	2 · 3	, , ( 14 2)
/		( 13 3) ( 6 , 7 ) ( 23 )
		, ( 13 3) ( 11 )
	.	( 14 2) ( 18 1 13)
/		, ( 13 3, 14 2 ) ( 30 )
		( 14 2)
		, ( 14 2)
		( 14 2)



가가 가

2·3

가가 가

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가 가

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가

0 3km

(水)

가

가 가

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2

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(Shoreline Management Act)

가

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< 5-4 >

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	①6		"	"
	①7		"	"
	①8		"	"
	①9		"	"
	②0		"	"
	②1	,		
	②2			"
	②3	( )	-	
	②4		-	"
	②5		-	"
	②6		-	"
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3)

(1)

가

가

가

( 12 , 50 1,000m)

가

가

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(2)

(가)

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가 , ,  
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가 가 .

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가 가

3)

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가, 가,

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가

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< 5-5>

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		<ul style="list-style-type: none"><li>· , , ,</li><li>·</li><li>·</li></ul>
		<ul style="list-style-type: none"><li>· , , , , 가</li><li>· 가 가</li><li>· , , , 가 가</li><li>· ,</li></ul>
		<ul style="list-style-type: none"><li>· 가 , 가</li></ul>
		<ul style="list-style-type: none"><li>· , , , 가 가</li></ul>
		<ul style="list-style-type: none"><li>· 가 가</li><li>·</li></ul>

		<ul style="list-style-type: none"> <li>· ,</li> <li>·</li> <li>· 가</li> </ul>
		<ul style="list-style-type: none"> <li>· 가</li> <li>·</li> <li>· 가</li> <li>· , , ,</li> </ul>
		<ul style="list-style-type: none"> <li>· , , ,</li> <li>· 가 가 , , ,</li> <li>· . ,</li> <li>· 가 ,</li> </ul>
		<ul style="list-style-type: none"> <li>· ,</li> <li>· 가 .</li> </ul>
		<ul style="list-style-type: none"> <li>·</li> </ul>
	1)	<ul style="list-style-type: none"> <li>· 가 가</li> </ul>

: 1)



(2)

가

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가 , ,

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(3)

(Positive System)

(Negative System)



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- , ( , )
- 가 ,
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□

- , 가 .
- 가
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- , , .
- , , ,
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□



< 5-6 >

( : x, : △ 가 : ○)

/ / 가			
	x	△	○
( 12)	x	△	△
. , 가 . . .		○	○
		○	○
, , , , 가 . . .		○	○
. . .		○	○
. . . .		○	○
		○	○
5 3	x	△	○
, 가 가		○	○
4		○	○
2 .	○	○	○
) (	x	x	△
( )	x	x	△
. .	x	x	△
	x	x	△
. .	x	x	△
, .	x	x	○
	x	x	○
	x	x	○
	x	x	○
.	x	x	○
. .	△	○	○
.	○	○	○

( : ×, : △ 가 : ○)

/ 가			
	×	△	○
· ,	×	△	○
· ·	△	○	○
·	○	○	○
	×	△	○
· ,	×	△	○
· 가 가	△	○	○
·	×	△	○
· ·	×	△	○
	×	△	○
	△	○	○
· · 가	×	△	○
	△	○	○
,	△	○	○
, , , , 가	×	×	×
· ( )	×	×	×
	×	×	×
가 가	×	×	×
가 가	×	×	×
	×	×	×

: 1) , , 50m

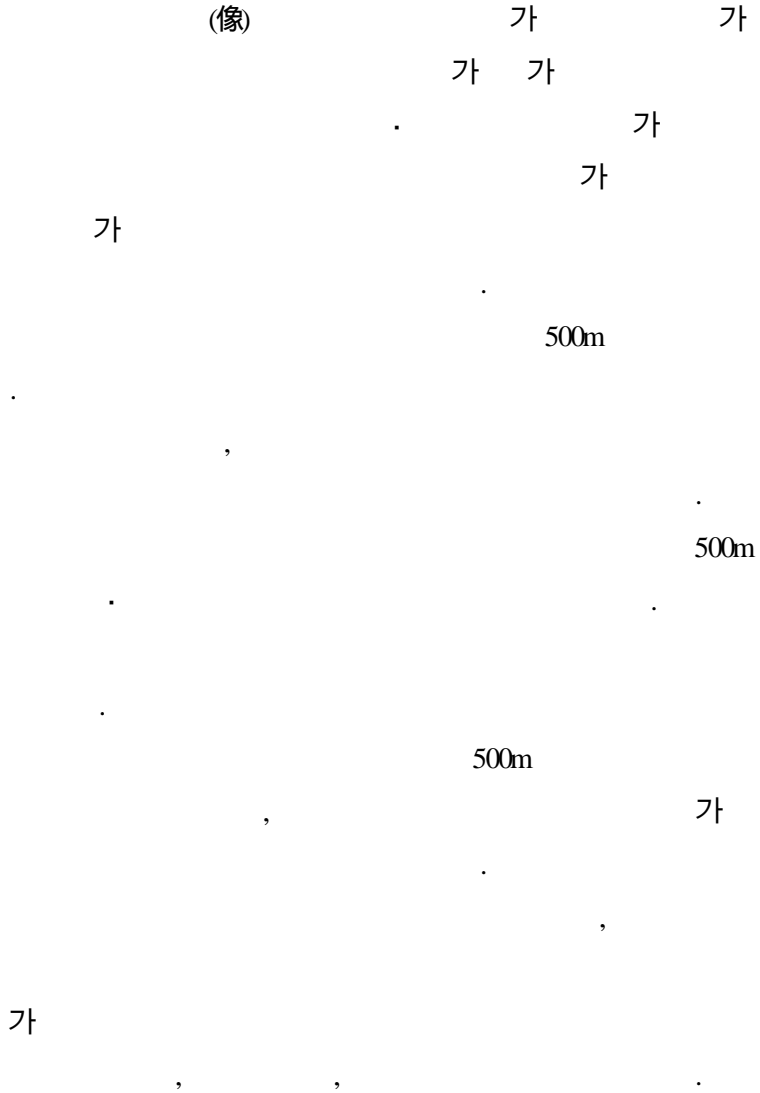
2) , 3 (1998.11.24)

( )

	100m	150m	200m	250m	300m	400m	500m
	26.2m	39.3m	52.4m	65.5m	78.5m	104.7m	130.8m

3.

1)



가 , 가

2) :

(1)

「 」  
328.99km<sup>2</sup>가  
147.33km<sup>2</sup>가

A · B, ,

가 (0.909km<sup>2</sup>), (4.749km<sup>2</sup>)  
(1.66km<sup>2</sup>), (2.099km<sup>2</sup>)

가 2  
IMF 가 ,  
가 가

4



가

가

(2)

가

99 426.965km<sup>2</sup>

328.99km<sup>2</sup>(

290.3km<sup>2</sup>

38.69km<sup>2</sup>)가

9.66km

(灣) 147.329km<sup>2</sup>(

45.917km<sup>2</sup>

101.412km<sup>2</sup>)가

가

가

( , , )

500m

가

가

가

52.3 %

35.8%,

11.9%

0.155km<sup>2</sup>

6.587km<sup>2</sup>가

0.164km<sup>2</sup>

1.014km<sup>2</sup>

9.681km<sup>2</sup>가

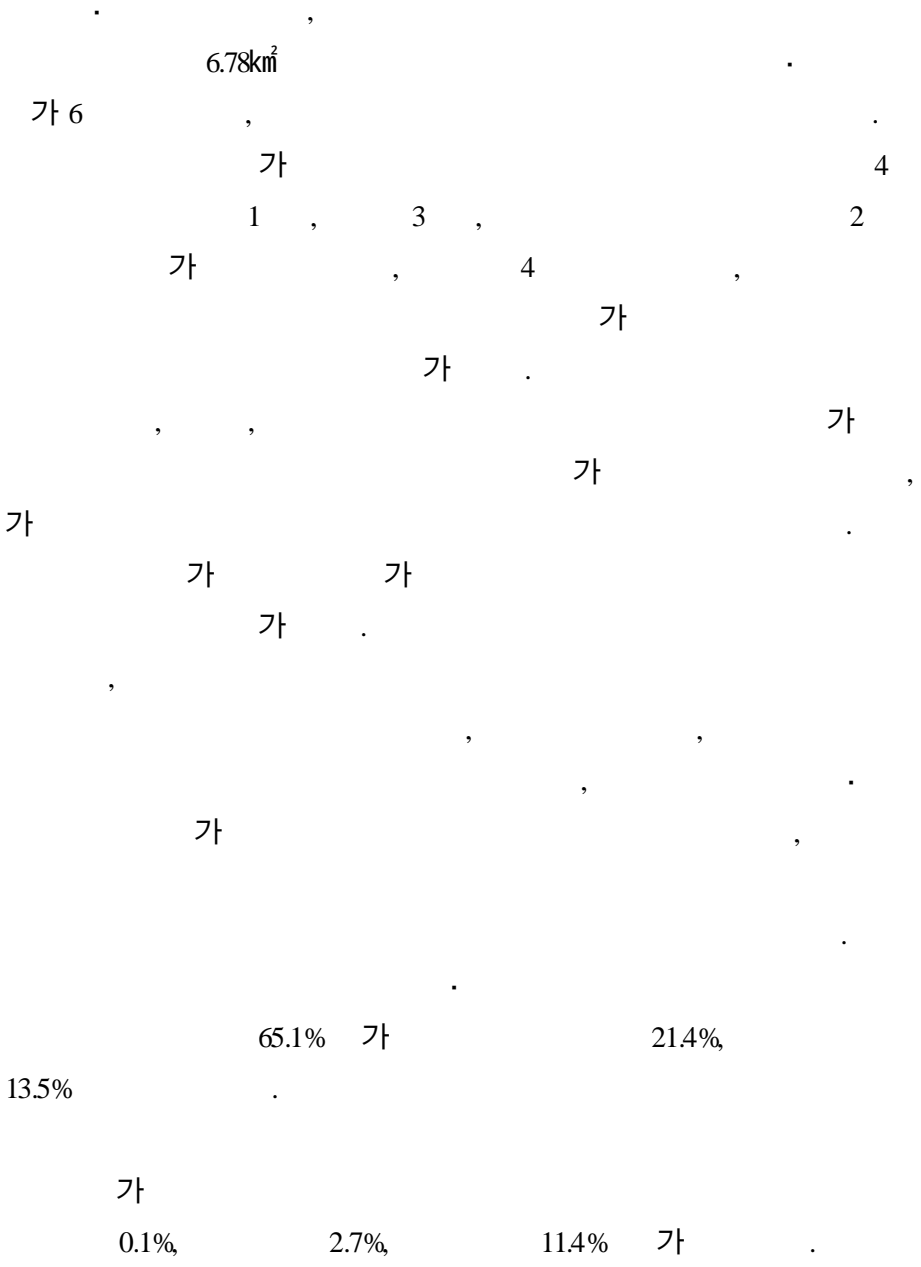
< 5-7 >

	(km <sup>2</sup> )	(%)		(km <sup>2</sup> )	(%)
	67.833	100.0		67.833	100.0
	35.461	52.3		18.712	52.7
				0.155	0.4
				18.557	52.3
				-	0.0
				10.162	28.7
				6.587	18.6
				-	0.0
				1.178	4.9
	24.291	35.8		0.164	0.7
				-	0.0
				1.014	4.2
				-	0.0
				9.681	39.9
				13.432	55.2
				8.081	100.0
	8.081	11.9		1.279	15.8
				0.185	2.3
				5.370	66.5
				1.247	15.4
				-	0.0
				-	0.0
				-	0.0
				-	0.0





(2) 가



< 5-7> .

	(km <sup>2</sup> )	(%)		(km <sup>2</sup> )	(%)
	135.435	100.0		135.435	100.0
	88.228	65.1		9.051	10.3
				0.096	0.1
				8.955	10.1
				2.348	2.7
				21.536	24.4
				10.098	11.4
				45.195	51.2
				28.969	21.4
	0.088	0.3			
	1.115	3.8			
	4.544	15.7			
	0.847	2.9			
	8.987	31.0			
	13.388	46.2			
	18.238	13.5		13.757	75.4
				2.175	11.9
				0.509	2.8
				6.901	37.8
				4.172	22.9
				1.140	6.3
				0.674	3.7
				2.667	14.6



# CHAPTER 6

---

1. 가

1) 가

6,228km

가

가 가 , . , , , , ,  
가

가

가





< 6-1 >

가

	.
「 」	.
「 」	( , ) ( )

3)

가

가

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①

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, ,

가

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가

,

. 가

1 가 (1

Screening ),

가 가

.

< 6-2 >

가

가	[	· ( / ) : , , ,
		· ( / ) : , , , , .
		· ( / ) : , , , ,
		· :
	[	· : , , ,
		· : ,
		· :
		· :

: , , 1983

## 2. 가

1)

(1)

(가) 가

가 , , ,  
 ,  
 .  
 , ,

가 .

1

가 가 , 가 가

, , , ,  
.  
, 가  
, (10 20m) 가 .

가 . ,  
, .

2

, ,  
가 가 , ,

, .  
, 가 가  
, .

가 .

< 6-3>

가

		가			
			가		
0.75	/ (ha/ m)	0.2	0.8 0.79 - 0.5 0.49	10.0 5.0 0.0	
	( ) / ( )	0.15	5.5 5.5 - 3.5 3.5	10.0 5.0 0.0	
	( )	0.15	0-2 m/秒 2-5 m/秒 5 m/秒	10.0 5.0 0.0	
		0.1	0 - 10m 10 - 20m 20m	10.0 5.0	
		0.1		10.0 5.0 0.0	
		0.05	30 30	10.0 5.0	
0.25		0.1	100ha 100-500 ha 500ha	10.0 5.0 0.0	
		0.1	20% 20 - 40% 40%	10.0 5.0 0.0	
		0.05	5,000 5,000	10.0 5.0	

:

, 1983

, 1981,

( ) 가

, , , , ,

6.0<sup>34)</sup>

, 1 , , 가 .  
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 가 ,  
 가 가 .  
 가  
 가 가 가 가 .  
 가 가 가 가  
 가 . 가  
 가 가  
 가 ( 가 ).

< 6-4> 가

				/	/								
			175	2	0.00	0.75	1	0.5	0.5	1	0.50	0.25	650
			9.00	0	1.50	0.75	1	0.5	0.5	0.5	0.00	0.5	525
		1	0.9	0	0.00	1.5	1	0.5	0.5	1	1.00	0.5	600
		2	1.00	0	0.00	1.5	1	0.5	0.5	0	0.00	0.5	4.00
			142	0	1.50	1.5	1	0.5	0.5	1	1.00	0.5	750
			0.3	0	1.50	1.5	1	0.5	0.5	1	0.00	0.5	650
			2.45	0	1.50	1.5	1	0.5	0.5	0.5	0.00	0.5	600
			3.20	0	1.50	1.5	1	0.5	0.5	0.5	0.00	0.5	600

34) 가 6.0 가  
 Z-score 가 (+) 6.0 ,  
 가 , 1999.7 .

(2) /

(가) / 가

/ .  
가 , , , .

, 20m  
가 . /

, .  
가 , / , , ,  
가 ,

가  
(砂礫) 가 .  
가 .

, 가 , .  
,

< 6-5> /

가

		가			
		가			
0.7			0.1	(低地) (段丘)	10.0 5.0 0.0
			0.1	0 - 5° 5 - 10° 10°	10.0 5.0 0.0
		(性状)	0.05		10.0 0.0
		(波高)	0.05	0 - 2m 2 - 5m 5m	10.0 5.0 0.0
			0.15	0 - 5m 5 - 15m 15 - 20m 20m	10.0 5.0 0.0 -
			0.1	20% 20-40% 40%	10.0 5.0 0.0
			0.15	,	10.0 -
	0.3			0.15	(有) (無)
			0.05	0 - 25km 25 - 50km 50km	10.0 5.0 0.0
		IC	0.05	0 - 25km 25 - 50km 50km	10.0 5.0 0.0
			0.05	(無) (有)	10.0 -

: , , 1981  
; , 1983







가 .

< 6-8> 가

		가			
		가			
0.8			0.1	0 - 5 ° 5 - 15 ° 15 - 30 °	10.0 5.0 0.0
			0.1	準海蝕崖	10.0 5.0 0.0
		(標高)	0.1	0 - 10m 10 - 30m 30m	10.0 0.0
			0.2	20m 15 - 20m 5 - 1 5m 5m	10.0 0.5 0.0
			0.15		10.0 0.0
			0.15		10.0 5.0 0.0
0.2		( )	0.1	20km 20 - 50km 50km	10.0 5.0 0.0
			0.05	20% 20 - 40% 40%	10.0 5.0 0.0
			0.05	, ,	10.0 -

: , 1981, 1983

( )

1

가 가  
 , 가  
 .  
 35  
 , ,  
 .  
 1 kW 0.8 1.2ha 100  
 kW 2 200ha 가 .  
 가 가 가  
 가 가  
 (地線水面) . 20m  
 20m  
 . 가

2

가  
 , .  
 ,  
 .  
 40% ,  
 .

< 6-9 >

가

		가			
		가			
0.7			0.2	, , .	10.0 5.0 0.0
			0.15	0 - 5° 5 - 15° 15°	10.0 5.0 0.0
		(標高)	0.1	0 - 10m 10m	10.0 0.0
			0.1		10.0 0.0
			0.15		10.0 5.0 0.0
0.3	10		0.1	50km 20 - 50km 20km	10.0 5.0 0.0
			0.05	20% 20 - 40% 40%	10.0 5.0 0.0
			0.05	, ,	10.0  0.0

: , 1981, 1983

( )

①

가 가 가  
 4m . 가 가  
 . 가 가  
 , (潮地面積),  
 가 , ,

②

가 ,  
 . 가 .  
 가 (110km<sup>2</sup>) (210km<sup>2</sup>)  
 ,가 가  
 . 가  
 가 ,  
 A · B ,  
 가 ,  
 ( , 1989 : 313-314).

< 6-10 >

가

		가			
			가		
0.6			0.1		10.0 5.0
			0.05	0 - 4m/ 4m	10.0 5.0
			0.05	0 - 3m 3m	10.0 0.0
			0.2	6m 4 - 6m 4m	10.0 5.0 0.0
			0.2	100km <sup>2</sup> 100km <sup>2</sup>	10.0 0.0
0.4			0.2	20% 20 - 40% 40%	10.0 5.0 0.0
			0.1	20km 20 - 40km 40km	10.0 5.0 0.0
			0.1	,	10.0  0.0

: , 1981, 1983

( )

1

가

2가 가

「 」

「 」 ,

「 」

가

「 」가

35m ,

6.5km,

,

, 500 kℓ

200ha

가

가

2

(CTS)

가

가



< 6-11>

가

		가			
		가			
	0.6		0.20	35m 20 - 35m 20m	10.0 5.0 0.0
			0.10		10.0 0.0
			0.10	6.5km 0 - 6.5km	10.0 0.0
			0.10	0 - 100m 100m	10.0 0.0
			0.10	0 - 1m 1 - 3m 3m	10.0 5.0 0.0
	0.4	CTS	0.10		10.0 0.0
			0.10	50km 25 - 50km 25km	10.0 5.0 0.0
			0.10	25km 25 - 50km 50km	10.0 5.0 0.0
			0.05		10.0 0.0
			0.05		10.0 0.0

: , 1981, 1983

(4) .

(가)

, 가 , , .

□

가 가 , 가

. 가 ,

가

3,000 5,000D/ WT

13m

5m

가 가

가

가

가

2

(卵浮市場),

( )

1

, , 가 , 5ha  
 가 .  
 (砂礫) 가 .  
 ,가  
 ,  
 , 가  
 . , , 가  
 .

2

가 ,  
 . 가  
 , 가 .  
 .

< 6-12 >

가

		가			
		가			
0.7		0.15	12m 6 - 12m 6m	10.0 5.0 0.0	
		0.05	0 - 5 <sup>0</sup> 5 <sup>0</sup> - 15 <sup>0</sup> 15 <sup>0</sup>	10.0 5.0 0.0	
		0.05	50m 50 - 100m 100m	10.0 0.0	
		0.05		10.0 0.0	
		0.05	4m 4 - 6m 6m	10.0 5.0 0.0	
		0.1	500m 350 - 500m 350m	10.0 5.0 0.0	
	(水)	0.1	600 m <sup>2</sup> 60 - 600m <sup>2</sup> 60 m <sup>2</sup>	10.0 5.0 0.0	
		0.1	1m 1 - 3m 3m	10.0 5.0 0.0	
		0.05		10.0 5.0 0.0	
0.3		0.05	25km 25 - 50km 50km	10.0 5.0 0.0	
	I.C	0.1	25km 25 - 50km 50km	10.0 5.0 0.0	
		0.1	25km 25 - 50km 50km	10.0 5.0 0.0	
		0.05	100ha 100ha - 500ha 500ha	10.0 5.0 0.0	
		0.05		10.0 0.0	

: , 1981, 1983

< 6-13>

가

		가			
		가			
0.55		0.2	4m	10.0	
			2 - 4m	5.0	
			2m	0.0	
		0.1	0 - 5°	10.0	
			5° - 15°	5.0	
15°	0.0				
0.1	4m	10.0			
	4 - 6m 6m	5.0 0.0			
0.1	1m	10.0			
	1 - 3m 3m	5.0 0.0			
0.05	0 - 30	10.0			
	30	5.0			
0.45		0.15		10.0	
				5.0	
		0.1	100ha	10.0	
			100ha - 500ha	5.0	
500ha	0.0				
0.1	25km	10.0			
	25 - 50km	5.0			
	50km	0.0			
0.05		10.0			
		0.0			

: , 1981, 1983

2) ( )

(1)

가

, 5m/

, 0.7m

50 100m,

500m

2mm

가

8 2

25°C

, 1.5m

(2)

, 10m/

, 5m/

, 10°C

< 6-14>

가

		가			
			가		
0.8			0.08	210 195 - 210 140 - 194	10.0 5.0 1.0
			0.10	25 <sup>o</sup> C 23 - 25 <sup>o</sup> C 21 - 23 <sup>o</sup> C	10.0 5.0 1.0
		( 30m )	0.08	1.5m 1.5 - 2.0m	10.0 5.0
			0.05	5m/ 5 - 9m/	10.0 5.0
			0.04	0.5m 0.5 - 1.0m 1.1 - 3.0m	10.0 5.0 1.0
			0.08	0.8 - 1.0km 0.6 - 0.7km 0.3 - 0.5km	10.0 5.0 1.0
		( )	0.10	100m 60 - 100m 30 - 60m	10.0 5.0 1.0
		( mm )	0.08	90 - 100% 70 - 89 % 50 - 69 %	10.0 5.0 1.0
			0.06		10.0 5.0
			0.04		10.0 5.0
			0.04		10.0 5.0 1.0
		( )	0.05	90 -100% 70 - 89% 50 - 69%	10.0 5.0 1.0
0.2	( )	0.06	1 1 - 2 2	10.0 5.0 1.0	
	( )	0.04	+	10.0 5.0 1.0	
	( )	0.02	3 1 - 3 1	10.0 5.0 1.0	
	( )	0.02	3 - 4 2 1	10.0 5.0 1.0	
	( )	0.06		10.0 1.0	

: , , 1987

< 6- 15>

가

		가			
		가			
0.8		0.03	41° - 50° 40° 51° - 70°	10.0 5.0 1.0	
		0.04	24 25 - 30 31 - 35	10.0 5.0 1.0	
		0.08	6 - 10m/ 2 - 5m/	10.0 5.0	
		0.05	15° C 10° - 14°C	10.0 5.0	
		0.07	102 93 - 102	10.0 5.0	
		0.06	21 21 - 33	10.0 5.0	
		0.06	3 - 5 1 - 2	10.0 5.0	
		0.07	1.0m 1.0 - 1.5m 1.6 - 3.0m	10.0 5.0 1.0	
	( 15°C )	0.06	11 - 12 7 - 10 4 - 6	10.0 5.0 1.0	
		0.08	0.3 - 0.7m 0.8 - 1.0m	10.0 5.0	
		0.05	2.0 - 3.5m 3.5m	10.0 5.0	
		0.05	0.8 - 1.0km 0.5 - 0.7km	10.0 5.0	
	( )	0.06	76 - 100% 51 - 75% 25 - 50%	10.0 5.0 1.0	
		0.02		10.0 1.0	
		0.02		10.0 5.0 1.0	
0.2	( )	0.04	2 2 - 3	10.0 5.0	
	( )	0.05	+	10.0 5.0 1.0	
	( , )	0.04	20km 11 - 20km 10km	10.0 5.0 1.0	
	( )	0.03	3 - 4 2 1	10.0 5.0 1.0	
	( )	0.04		10.0 1.0	

: , , 1987



3)

(1)

가  
1km  
5km  
20° C 가 가  
가  
가 30 33%  
CO<sub>2</sub>  
(plankton)  
가 가  
가  
1<sup>35)</sup>  
3 가 가  
가 가

---

35) 1 가 7.8 8.3pH,  
1mg/ 95% , 10mg/ 200MPN/ 100mg

< 6-16 >

가

		가			
		가			
0.8		0.1		10.0	0.0
		-	20m 5km		
		0.1		10.0	0.0
		0.2		10.0	5.0
		0.2	2 3 - 4 5	10.0	5.0
		-	5°C		
		0.2	1 2 3	10.0	5.0
		0.1	5 5 - 30 30	10.0	5.0
0.2		0.05	25km 25 - 50km 50km	10.0	5.0
		0.05	20km 20 - 40km 40km	10.0	5.0
		0.1	2km 2 - 5km 5km	10.0	5.0

: , , 1981, 1983



< 6-17>

가

가		가	
	가		
·	0.1	·	10.0
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	0.1	55. C - 75. C	10.0
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	0.2	30,000m <sup>2</sup>	10.0
		30,000m <sup>2</sup>	5.0
	0.05	長·深	10.0
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		短·淺	0.0
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	0.1	稀·多	10.0
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: , , 1981, 1983

3.

1)

가?

(game theory : J. Neumann & O. Morgenster)

(HFI: Hierarchical Fuzzy Integrals)

가, 가

Nagao

<sup>37)</sup>

1986 : 121-149)

(

가

(HFI : Hierarchical Fuzzy Integrals)

(2000.9)<sup>38)</sup>

가

37) 1944 J. Neumann & O. Morgenster 가 “ Theory of Games and Economic Behavior ” , Nagao & Morikawark

. An Activities Allocation Model Considering Interactive Effects For Coastal Zone Planning, Ocean Space Utilization, 1985.

38)



가 .  
 가  
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< 6-18> Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1.												
2.	B <sub>3</sub>											
3.	A	B <sub>2</sub>										
4.	A	B <sub>2</sub>	AA									
5.	C	C	C	C								
6.	A	A	A	B <sub>3</sub>	A							
7.	C	C	C	C	B <sub>3</sub>	A						
8.	C	C	C	C	B <sub>3</sub>	B <sub>3</sub>	C					
9.	B <sub>3</sub>	C	A	C	A	A	C	C				
10.	C	C	C	C	B	A	A	A	C			
11.	B <sub>1</sub>	C	C	B <sub>3</sub>	B	A	C	C	A	C		
12.	C	C	C	B <sub>3</sub>	B	A	A	A	C	AA	C	

: AA :  
 A : ,  
 B :  
 B1 :  
 B2 :  
 B3 :  
 C : 가  
 : , , 1975

(2) Matrix

Matrix

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Matrix

Matrix

, , ,

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(負)

가

< 6-19 >

Matrix

( )	1	2	3	4	5	6	7	8	9	10	11	12
1.		B <sub>3</sub>	A	C	A	A	C	C	AA	C	A	C
2.	B <sub>3</sub>		C	A	B <sub>3</sub>	A	A	A	AA	A	A	A
3.	A	BC		AA	B <sub>3</sub>	A	A	A	A	A	C	C
4.	A	A	AA		AA	A	A	A	C	A	A	B <sub>3</sub>
5.	A	C	C	AA		A	A	A	B <sub>3</sub>	A	C	C
6.	B	B <sub>3</sub>	C	A	A		A	C	B <sub>3</sub>	A	A	A
7.	C	C	C	C	C	A		A	B <sub>3</sub>	AA	A	A
8.	C	C	C	C	C	C	A		C	C	A	A
9.	A	B <sub>3</sub>	A	B <sub>3</sub>	B <sub>3</sub>	AA	A	C		B <sub>3</sub>	A	A
10.	C	C	C	C	C	A	A	A	B <sub>3</sub>		A	A
11.	C	C	C	A	C	A	A	A	B <sub>3</sub>	AA		AA
12.	C	C	AA	B <sub>3</sub>	C	A	AA	A	A	AA	AA	

: AA :

A :

B :

B1 :

B2 :

B3 :

C : 가



3) Matrix

Matrix  
(負) 가

가

(case by case)

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가

가

가

Matrix

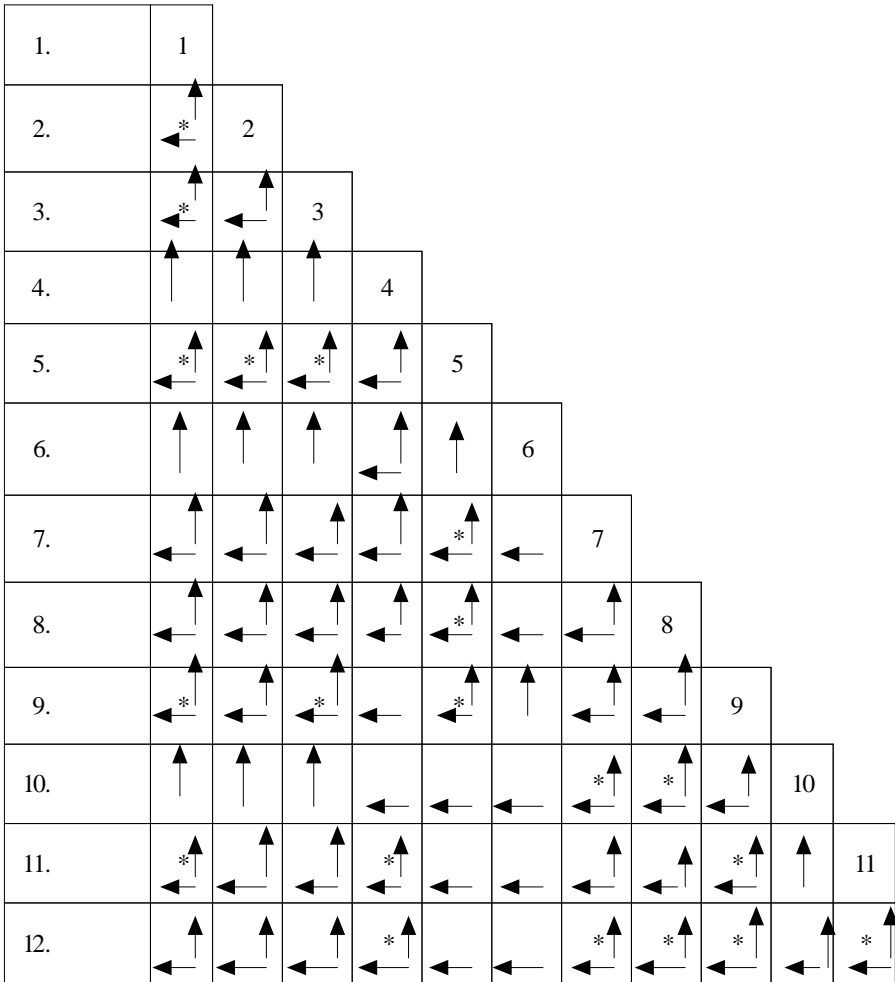
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: \* :  
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 : , , 1975.  
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# CHAPTER 7

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①

6,228km

가

가 가

4

「U」

가

「3」

가

177

62

108

②

가 , 가 (sustainable development) (integrated)

가

“ ”

가

3

(sectoral management)

가

가

, 77 .  
1,115 9,423.5km<sup>2</sup> , 6,228km  
49.7% 3,095km ,

2000 8 “

( 2000-58 , 2000 8 23 )”

“ (Planning Control) ” 가

가

( )

50.5%가

66.7%가

가

가

가 39.6% 가

가 34.2%

24.3% 가

4

OECD

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가

가

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(Guideline)

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OECD

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## Summary

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A Study on the Institutional Model & Criteria  
for Sustainable Coastal Management

Ki-Chul Oum, Sung-Soo Hwang

The purpose of this study is to propose the system for managing integrated coastal area and to suggest methods for enhancing the efficiency and execution of integrated coastal management plan by the re-structure of existing system and appropriate recommendations.

This study consists of : the review of theoretical models for coastal management; the analysis of the foreign countries' policies and systems; the analysis of characteristics and potential condition within the cases of coastal area; the review of the ' Coastal Management Act ' and the ' Integrated Coastal Management Plan ' ; survey about the concerned officials' perception and opinion; the establishment of desirable models and strategies for coastal management through a comparative analysis between Korean and other countries' experiences; the suggestion of detailed criteria for facility location and management of zoning; and, recommendations and conclusions.

Korea is a maritime country surrounded by sea on all sides but one



and has a long coastline, 6,227km, which has led to the sea-oriented spatial developments. The trend will continue in the future, and the pressure of development on coastal area is expected to increase gradually. Therefore, the need the efficient management of coastal area has become a pressing question.

As seen in the section of case study, the current coastal plan applies to 1,115 areas, which runs into 9,423.5km<sup>2</sup>, and the coastline within the areas designated for coastal management reaches at 49.7%(3,095km) of the total coastline, 6,227km. Naturally, such situation has led to the discordance and conflict between new facility location and existing facility location, and between new facility locations. Accordingly the land use for a certain project needed to be suitable for the original purpose of zoning around the project, however occasionally the project was discordant with the zoning based on the ' National Land Use Plan'.

In order to cope with such problem, the Ministry of Maritime and Fisheries(MOMF) established the ' Coastal Management Act ' in 1999, and formulated and announced the ' Integrated Coastal Management Plan ' in August 2000. Nevertheless, the act only accepts ' Zoning ' regulated by other acts, which means that the act does not take the aspects of substantive law but the one of procedural law. Besides, the ' Coastal Management Plan ' aims at ' Planing Control', but it also has the same procedural nature as the ' Coastal management Act'.

For making alternatives and methods to deal with theses questions, the survey toward local official in 77 cities and countries formulated the coastal management plans, was carried out through the questionnaire. According to the results of the survey, 50.5 percent of officials believed that the current act and plan were insufficient for integrated coastal management, especially 66.7 percent of officials in charge of the coastal management pointed out the same problem. In relation to the question about methods to mediate and compromise conflicts related to the coastal

management, 39.6 percent of total responders preferred the method of regulation of sanction through the existing law. The second method was to discuss and negotiate with the concerned departments and organization for drawing an agreement or compromise, which was 32.4 percent, and finally, the method to apply the 'Integrated Coastal Management' was only 24.3 percent.

In order to resolve these problems and to supplement the insufficiency of current system mentioned above, first, the introduction of classification for coastal zoning and the establishment of the criteria for coastal management plan and facility location are suggested in this study.

Secondly, this study proposes the re-establishment of inter-relationship between the 'National Land Use Act' and the 'Coastal Management Act'. At the same time it suggests that the 'Coastal Management Act' need to be transferred from the procedural act to the substantial one to manage and control behavior in coastal area. According to the introduction of the 'Coastal Management Act', the discordance of zoning between the 'Coastal Management Plan' and 'National Land Use Plan', between the coastal management and the individual laws can be occurred. When there is some discordance with zoning under each law, the demarcation of desirable zoning is needed through discussion or negotiation considering the inter-relationship between the various zoning systems. Based on the coastal zoning classification, the regulation and permission of behavior which are separated from the regulation in the inland areas, should be conducted within coastal zoning areas.

Finally, when a development project is conducted within a coastal zoning area, it is considered that an assessment on the propriety of the project should be applied carefully through the comparative analysis between a neighboring area and the proposed area. According to the

result of the assessment, the sanction to acts related to the coastal development project should be issued. In this context, the criteria of facility location and location assessment are suggested in this study, which will be helpful for the executive of coastal management.

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1

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( 5913 : 1999.2.8)  
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2001 6 2001 7  
가  
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3.

가.

1)

1 , 2 , 3

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1 , 2 , 3 , 33 , 64 , 223

3)

320 115 (35.9%) , 4 111 (34.7%) , 1 ( ) 7 (21.2%), 2 ( ) 34 (53.1%), 3 ( ) 70 (31.4%)

2

1.

1) 가

가

69.2% 가 가 41.7%

18.3%

가 4.8%

< - 1 >

1)	72 (69.2)	19 (67.9)	23 (59.0)	30 (81.1)
2)	19 (18.3)	7 (25.0)	9 (23.1)	3 (8.1)
3)	5 (4.8)	-	2 (5.1)	3 (8.1)
4)	8 (7.7)	2 (7.1)	5 (12.8)	1 (2.7)
	104 (100.0)	28 (100.0)	39 (100.0)	37 (100.0)

가

< -2>

1)	77 (69.4)	26 (65.0)	51 (71.8)	43 (71.6)	34 (66.7)
2)	21 (18.9)	10 (25.0)	11 (15.5)	11 (18.4)	10 (19.6)
3)	5 (4.5)	2 (5.0)	3 (4.2)	3 (5.0)	2 (3.9)
4)	8 (7.2)	2 (5.0)	6 (8.5)	3 (5.0)	5 (9.8)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

2) , ,

, 가

가 54.8% 가

가

가 38.5%

5.8%

가

가

< -3> , ,

1) .	57 (54.8)	15 (53.6)	23 (59.0)	19 (51.4)
2) 가	40 (38.5)	13 (46.4)	13 (33.3)	14 (37.8)
3)	6 (5.8)	-	3 (7.7)	3 (8.1)
4)	1 (1.0)	-	-	1 (2.7)
	104 (100.0)	28 (100.0)	39 (100.0)	37 (100.0)

. .



39.6%, 53.2%, 6.3%, 가

가

< -4> , ,

1)	59 (53.2)	18 (45.0)	41 (57.7)	35 (58.3)	24 (47.1)
2) 가	44 (39.6)	21 (52.5)	23 (32.4)	22 (36.7)	22 (43.1)
3)	7 (6.3)	1 (2.5)	6 (8.5)	2 (3.3)	5 (9.8)
4)	1 (0.9)	-	1 (1.4)	1 (1.7)	-
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

3)

52.3%, 43.2%, 2.7%, 1.8%

(45.0%)

(56.3%), (47.1%), (56.7%)

가

(39.4%) (50.0%)가

(38.3%) (49.0%)

< -5> , ,

1)	58 (52.3)	18 (45.0)	40 (56.3)	34 (56.7)	24 (47.1)
2)	48 (43.2)	20 (50.0)	28 (39.4)	23 (38.3)	25 (49.0)
3)	3 (2.7)	1 (2.5)	2 (2.8)	2 (3.3)	1 (2.0)
4)	2 (1.8)	1 (2.5)	1 (1.4)	1 (1.7)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

2.

1)

78.4% 가  
 . 가 9.9%,  
 6.3%, 5.4% . 가  
 (9.9%) (13.3%)

< -6>

1)	87 (78.4)	31 (77.5)	56 (78.9)	44 (73.3)	43 (84.3)
2)	7 (6.3)	3 (7.5)	4 (5.6)	3 (5.0)	4 (7.8)
3) . 가	11 (9.9)	4 (10.0)	7 (9.9)	8 (13.3)	3 (5.9)
4)	6 (5.4)	2 (5.0)	4 (5.6)	5 (8.3)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

2)

39.6% 가 ,  
 가 36.9% 76.5%가  
 가  
 < -7>

1)	23 (20.7)	8 (20.0)	15 (21.1)	11 (18.3)	12 (23.5)
2)	41 (36.9)	14 (35.0)	28 (39.4)	29 (48.3)	13 (25.5)
3)	44 (39.6)	17 (42.5)	26 (36.6)	18 (30.0)	25 (49.0)
4)	3 (2.7)	1 (2.5)	2 (2.8)	2 (3.3)	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

3)

,  
 ( 11 : ).  
 ( 가  
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6 6

가

가

56 8 (14.3%)

, 66 18 (27.3%)

가

55

가

2.5

가

가 1.6

가

2 5

27.8%

< -8>

			1	2	3	4	5
	24 (42.8)	18 (45.0)	1 (2.5)	2 (5.0)	2 (5.0)	-	1 (2.5)
	32 (57.2)	30 (42.3)	2 (2.8)	-	-	-	-
	26 (46.4)	22 (36.7)	-	2 (3.3)	2 (3.3)	-	-
	30 (53.6)	26 (51.9)	3 (5.9)	-	-	-	1 (2.0)
	56 (100.0)	48 (85.7)	3 (5.3)	2 (3.5)	2 (3.5)	-	1 (2.0)

< -9>

가

	16	40.0
	39	54.9
	34	56.7
	21	41.2
	55	49.5

< - 10 >

			1	2	3	4	5
	24	23	-	-	1	-	-
	32	31	-	1	-	-	-
	26	26	-	-	-	-	-
	30	28	-	1	1	-	-
	56	54	-	1	1	-	-

3.

1) . 가

. 가가 가

가 39.6% 가 가

35.0% 가 45.1% 가 .

(34.2%)

38.3%가 29.4%가

< - 11 > . 가

1)	27 (24.3)	12 (30.0)	15 (21.1)	14 (23.3)	13 (25.5)
2) . 가	44 (39.6)	11 (27.5)	33 (46.5)	21 (35.0)	23 (45.1)
3)	38 (34.2)	16 (40.0)	22 (31.0)	23 (38.3)	15 (29.4)
4)	2 (1.8)	1 (2.5)	1 (1.4)	2 (3.3)	-
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

2) 가 .

가 39.7% ,  
 36.0% , 가  
 24.3% .

< - 12> 가 .

	1·2	1	2	3
	88 (39.7)	70 (63.1)	18 (16.2)	23 (20.7)
	80 (36.0)	22 (19.8)	58 (52.3)	31 (27.9)
	54 (24.3)	19 (17.1)	35 (31.5)	57 (51.4)
	222 (100.0)	111 (100.0)	111 (100.0)	111 (100.0)

3) 가

가  
 73.9% .

13.5%  
 가 10.8%

가

가

< - 14 >

가

1)	12 (10.8)	6 (15.0)	6 (8.5)	5 (8.3)	7 (13.7)
2)	15 (13.5)	4 (10.0)	11 (15.5)	9 (15.0)	6 (11.8)
3)	82 (73.9)	30 (75.0)	52 (73.2)	46 (76.7)	36 (70.6)
4)	2 (1.8)	-	2 (2.8)	-	2 (3.9)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

4.

1)

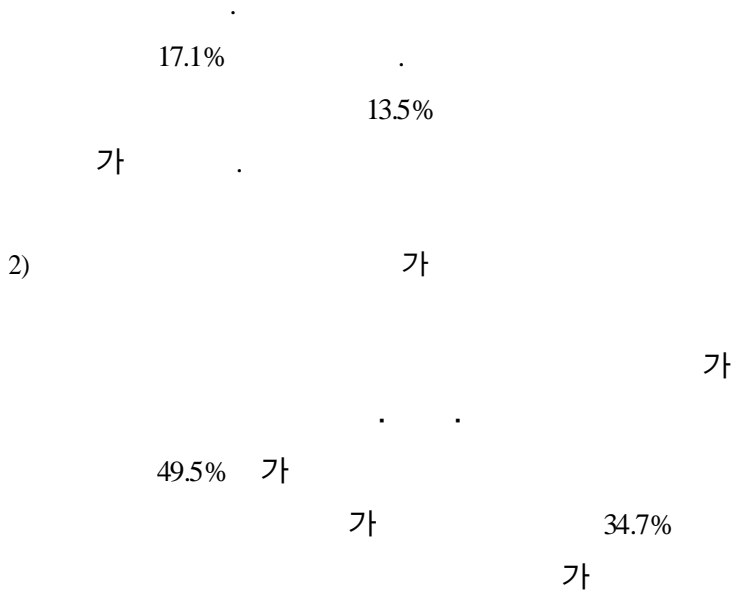
50.5%

가

66.7%가

< - 14 >

1)	21 (18.9)	8 (20.0)	13 (18.3)	7 (11.7)	14 (27.5)
2)	56 (50.5)	19 (47.5)	37 (52.1)	40 (66.7)	16 (31.4)
3)	19 (17.1)	6 (15.0)	13 (18.3)	6 (10.0)	13 (25.5)
4)	15 (13.5)	7 (17.5)	8 (11.3)	7 (11.7)	8 (15.7)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)



< - 15> 가

		1	2	3
	35 (15.8)	10 (9.0)	25 (22.5)	76 (68.5)
	110 (49.5)	76 (68.5)	34 (30.6)	1 (0.9)
	77 (34.7)	25 (22.5)	52 (46.9)	34 (30.6)
	222 (100.0)	111 (100.0)	111 (100.0)	111 (100.0)



3)

가  
45.0% 가

,

가 32.4%

77.4% . 가

가 ,

21.6% 가 .

가 36.0%, 가 64.0% 가 54.0%,

가 46.0% .

< - 16 >

1)	24 (21.6)	10 (25.0)	14 (19.7)	10 (16.7)	14 (27.5)
2)	50 (45.0)	17 (42.5)	33 (46.5)	33 (55.0)	17 (33.3)
3)	36 (32.4)	13 (32.5)	23 (32.4)	17 (28.3)	19 (37.3)
4)	1 (0.9)	-	1 (1.4)	-	1 (2.0)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

4)

(500 1,000m)

(線) ,

가 38.7%( 40.0%)

· 가가 가

가

36.9%( 40.0%)

< - 17> (500m 1,000m)

1)	24 (21.6)	7 (17.5)	17 (23.9)	11 (18.3)	13 (25.5)
2)	41 (36.9)	14 (35.0)	27 (38.0)	24 (40.0)	17 (33.3)
3)	43 (38.7)	18 (45.0)	25 (35.2)	24 (40.0)	19 (37.3)
4)	3 (2.7)	1 (2.5)	2 (2.8)	1 (1.7)	2 (3.9)
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

5) 가

가 가

1,2 ( ),

가 45.9% 가

, 가 33.8%

가 20.3% 가

36% 64% 가 46%

54% .

< - 18> (500m 1,000m)

	1.2	1	2	3
'	75 (33.8)	46 (41.5)	29 (26.1)	36 (32.4)
'	102 (45.9)	33 (29.7)	69 (62.2)	9 (8.1)
	45 (20.3)	32 (28.8)	13 (11.7)	66 (59.5)
	222 (100.0)	111 (100.0)	111 (100.0)	111 (100.0)

5. 가

가 44.1% 가

27.0%

가

(27.9%)

가

< - 19>

가

1)	30 (27.0)	14 (35.0)	16 (22.5)	13 (21.7)	17 (33.3)
2)	49 (44.1)	11 (27.5)	38 (53.5)	31 (51.7)	18 (35.3)
3)	31 (27.9)	15 (37.5)	16 (22.5)	15 (25.0)	16 (31.4)
4)	1 (0.9)	-	1 (1.4)	1 (1.7)	-
	111 (100.0)	40 (100.0)	71 (100.0)	60 (100.0)	51 (100.0)

· ( ✓ )

1. 가 가

?

- 1) .
- 2) .
- 3) 가 .
- 4) \_\_\_\_\_ :

2. . 가

?

- 1) .
- 2) 가 .
- 3) .
- 4) \_\_\_\_\_ :

3.

?

- 1) .
- 2) .
- 3) 가 .
- 4) \_\_\_\_\_ :

.

4. 가
- ?
- 1) .
  - 2) .
  - 3) . 가 .
  - 4) \_\_\_\_\_ :

5. ?
- 1) . 가 가 .
  - 2) .
  - 3) .
  - 4) \_\_\_\_\_ :

- 6.
- ?
- 1) ( ) .
  - 2) ( ) .
  - 3) 가 .



- 2)
- 3)
- 4)

11. 가  
 ? 1 2 3  
 1)  
 2) . .  
 3) 가  
 4) \_\_\_\_\_ :

12. ?  
 1) 가 가  
 2) ,  
 가  
 3) ,  
 4) \_\_\_\_\_ :

13. (500 1,000m) 가  
 ?  
 1)  
 2) . 가가가 가  
 ,  
 3) (500 1,000m) (線) ,

4) \_\_\_\_\_ :

14. \_\_\_\_\_ ?

1 2 3

1) \_\_\_\_\_ , \_\_\_\_\_ .

2) \_\_\_\_\_ ( ) , \_\_\_\_\_ .

3) \_\_\_\_\_ , \_\_\_\_\_ .

4) \_\_\_\_\_ :

15. \_\_\_\_\_ 가 \_\_\_\_\_ ?

1) \_\_\_\_\_ .

2) \_\_\_\_\_ .

3) \_\_\_\_\_ , \_\_\_\_\_ 가가

4) \_\_\_\_\_ :

가 \_\_\_\_\_ , \_\_\_\_\_ .

16. \_\_\_\_\_ ( . ) \_\_\_\_\_ ( ) \_\_\_\_\_ , \_\_\_\_\_ . ( )



