

Integration of Biodiversity and Tourism: Korean Case Study

For

UNEP's Biodiversity Planning Support Programme

Dr. Seong-il Kim

Associate Professor
Department of Forest Resources
Seoul National University
Suwon, 441-744 Korea
tel: +8231 290 2321
fax +8231 293 1797
seongil@snu.ac.kr

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1. AN OVERVIEW OF TOURISM DEVELOPMENT IN KOREA

1.1 The Relative Importance of Tourism in the Korean National Economy

In Korea tourism is one of several strategic industries to play a major role in the development of the national economy. Statistics serve to support this notion:

- Between 1988 and 1999 the number of tourists visiting Korea rose 75% from 2.34 million visitors to 4.65 million.
- During the same time period of 1988 to 1999 tourism revenues increased to US\$5.6 billion annually.¹
- In 1996 tourism contributed 3.45% to the Korean Gross Domestic Product, a statistic best considered in comparison to the average 9% contribution of advanced OECD countries. This contribution was also calculated to be higher than that of the petro-chemical, electrical engineering, and machine assembly industries.
- Value added generation within the tourism sector has increased to 54.5%, a substantial distinction given the 44.7% mean value of all other industries in Korea.
- The employment multiplier for tourism is 0.1406. This is the largest of any industry in Korea and stands 1.9 times larger than that of its closest rival, the construction industry and 3 times larger than that of the petro chemical industry.
- More than two million Korean people were employed in 7,000-odd tourism operations as of the year 2000.

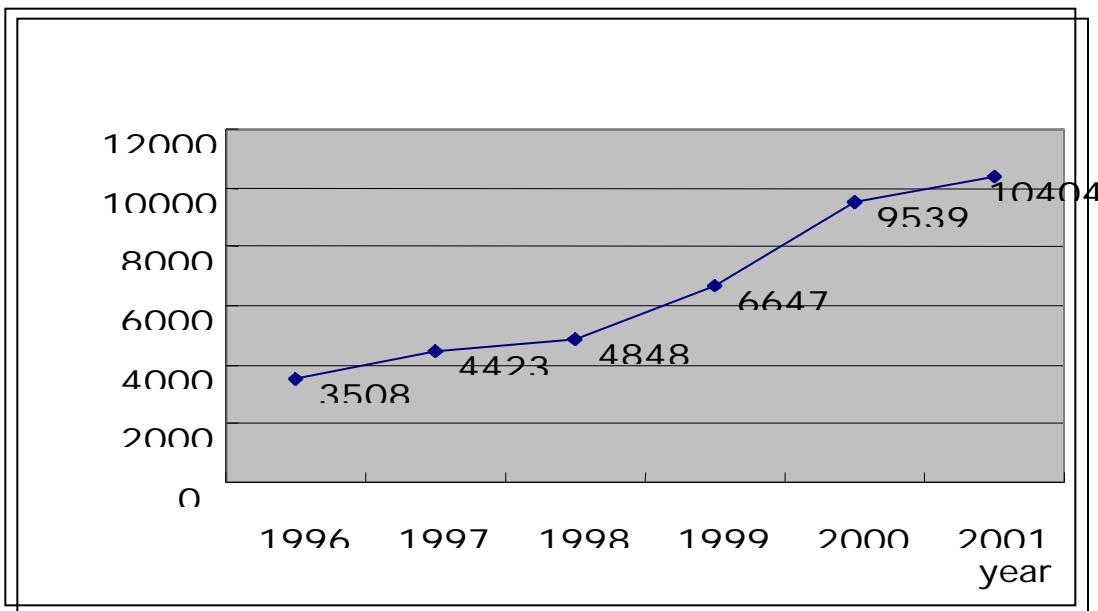
1.2 Relative priority in national planning policy

Tourism administration policy was first initiated in 1954 when the Korean Government established a Tourism Bureau within the Ministry of Transportation. In 1994 this responsibility was transferred to the Ministry of Culture and Sports, which was renamed four years later as the Ministry of Culture and Tourism. It was at this time that tourism began to emerge as a staple industry and in recognition, received a significant show of support from the government of President Kim Dae Jung. Specifically, President Kim designated the promotion of culture and tourism as one of the national projects of the year 1999. Within this mandate the following projects were carried out:

1. Tourism Vision 21
2. Promotion Plan for Top Seven Culture and Tourism Zones
3. Plan for Development of South Coast Tourism Belt
4. Confucius Culture Zone Development

The financial resources appropriated for the Ministry of Culture and Tourism have also undergone dramatic growth, with about \$800 million dispensed in 2001 (accounting for over 1% of the total Korean budget). The dramatic increases in tourism expenditure are best illustrated in figure 1: The Korean National Budget for the Ministry of Culture and Tourism.

¹ Current exchange rate: 1US\$=1200Won



<Figure 1> Budget for MCT by year (unit: 100million won)

1.3. Institutional structure of tourism government planning and policy

Government bodies dealing with Korea's tourism planning and policy include the Tourism Bureau of the Ministry of Culture and Tourism (MCT), the Korean National Tourism Organization (KNTO), and the Korean Tourism Research Institute (KTRI). MCT Tourism Bureau, which has a staff of 45 persons, is to provide assistance to tourism related activities such as: expansion of tourism infrastructure; development of tourism products; improvements of the tourism account balance; and the creation of tourism related employment. The Korean National Tourism Organisation is much larger by comparison. It maintains a staff of 777 and carries out such tasks as: overseas market exploration and promotion; attracting international conferences and large scale events; furthering development in the South Coast Tourism Belt; and extending tourism related assistance to local government and educational bodies. The KTRI is the smallest of the three, beginning in 1996 as a non-profit organisation. The KTRI maintains a staff of 21 and was established with the purpose of conducting research on tourism policy. Other organisations of note include the Tourism Entrepreneur Association, the Korea Tourism Association, the Korea Hotel Association, and the Korea Casino Association. Most of these associations find it difficult to implement their plans due to a lack of funds and excessive reliance on central government for direction.

It is very hard for local governmental bodies to implement tourism promotions on their own due to a lack of budget and local governments' reliance on the central government. In general, municipal or provincial tourism administration bureaus are composed of 2-3 divisions handling facility management, promotion, and development and planning tasks under the department of tourism. The number of personnel ranges from 4 to 25. Municipal-level city tour promotion project, establishment of systemic tourism information center, tourism hotel promotion project, holding local events and development of tourism products can be cited as examples of local governmental

bodies' tourism promotion activities.

There are 153 laws directly or indirectly related to tourism, which can be divided into 29 areas.² The legal system is too complicated to effectively implement tourism administration. Though policies between conservation of the environment and tourism development should be coordinated since tourism is utilized as major natural resources in Korea, there are no related laws stipulating environmental regulations for tourism. Only some environmental regulations, such as the cost-sharing laws for environmental improvement and the Environment Impact Assessment Act related to air pollution and noise level control, water quality preservation and waste management, have indirect influence over tourism. However, when tourism development is implemented, these environment-related regulations may impede tourism development. For example, though natural scenery is being destroyed by the large number of tourists in areas designated as Water Source Protected Areas, the establishment of facilities to minimize tourist-related pollution falls under the Water Quality Management Act, making it difficult to integrate tourism development and the environment.

1.4 Dominant types of tourism practiced

KNTO and MCT are dividing major natural resources into two groups: tangible resources and intangible resources. Between the two, most Koreans prefer tourism based on tangible natural scenery resources. Koreans prefer visiting tour destinations based on natural resources such as mountains, hot springs, parks and coasts, including Mt. Sorak, the East Coast, and the South Coast to ecotourism or adventure tourism.³ In particular, Koreans cite "name value of destinations" as main factors considered when selecting tour destinations. It reflects the preference for tour sites already crowded with tourists that is still dominant in the Korean tourism pattern. Through, social and cultural tourism resources are getting more highlighted recently, it cannot yet be regarded as a mainstream pattern.

1.5 Participation and Degree of Interaction Between Stakeholders in the Tourism Process

As governmental organisations, the Ministry of Culture and Tourism (MCT), Korea Natural Tourism Organisation (KNTO) and Korea Tourism Research Institute (KTRI) establish and implement key tourism-related policies and the Tourism Entrepreneur Association represents the interests of major organisations such as hotel businesses, general travel businesses and casinos. When it comes to recent interaction amongst them, the government is more likely to deregulate after listening to difficulties and opinions of related industries for promotion of the tourism industry and expansion of positive economic effect. Since 1998, the government has shown more active

² 21 Acts related to national land development and cities; 15 Acts related to land transportation, aviation and tourism; 11 Acts related to water resources, land and construction

³ Referring to the report on Korean's Tourism Preference during Summer Holidays released by KTRI, preference of tour destinations is as follows; East Coast (17.6%), South Coast (10.9%), Cheju Island (10%), Mt. Sorak (9.7%). (Korea Tourism Research Institute, 1997, Survey on Koreans' Tourism Preference)

involvement by holding meetings on tourism promotion expansion twice with approximately 150 participants including ministers, mayors, governors, tourism organizations and industrial representatives. Cooperation between tourism-linked NGOs and local communities is increasing noticeably. A case in point is a civic group, “Implementation 21” (guidekorea.org) set up last April. With more than one hundred (100) members, mainly composed of college students, corporate employees, and homemakers in their early 20's and mid 30's, Implementation 21 has been contributing to revitalizing Korea's tourism industry by forming rotating groups of up to 15 members that conduct auxiliary activities such as assisting foreigners. The academic sector is also doing its part in assisting national tourism development strategies by carrying out activities such as assessing tourism impact and training employees in the tourism sector within the broader framework of improvement of national economy. Universities have played a pivotal role in launching a civic campaign such as “Cooperation of civic groups for Tourism Culture Campaign” with related industries. These civic groups are created to pursue the establishment of sound tourism culture for local tourism companies.

Controversial issues such as Dong River Project⁴ and Sae Man Keum Reclaiming Project imply that environmental NGOs⁵ are focusing on tourism as an alternative development method that does not destroy natural resources. In other words, tourism is getting more linked to environmental activities and civic movements are emerging as key force to implement and monitor environmentally friendly policies of administrative bodies.

1.6 Education and training of tourism

Tourism training and education in Korea focuses mainly on training tourism specialists. Since 1979 Tourism Education Centers in Seoul and Kyong-Ju city have been providing training and education programmes for interpreters, tour guides at home and abroad, managers, language certificate holders and tour escorts. A tourism specialist certificate system (for interpreters, managers and tour guides at home and abroad) was first introduced in 1961 and managed by the Ministry of Transportation. This task was then commissioned to the Korea Natural Tourism Organization in 1984 and Korea Tourism Association was designated as a body to manage certificate tests for tour guides (home and abroad) plus entrance, room service and restaurant service personnel in 1986. Currently, 23 universities and 56 colleges offer tourism related programs and 9 specialized institutes are providing programmes for tourism managers.

1.7 Compliance with existing international guidelines on best practice for sustainable tourism

When sustainable tourism was launched in the footsteps of the international environmental movement, Korea joined approximately 40 environmental conventions

⁴ Dong River Dam Construction Project was scrapped after 3 years of strong opposition from environmental bodies since 1997.

⁵ Civic groups include Environmental Justice Civic Cooperation, Green Alliance, Environmental Movement Alliance

as of 2001 including the Convention on Biological Diversity, adopted in 1992. These conventions are now indirectly influencing tourism in Korea.

If the Rio Declaration is regarded as a universal guideline for environmentally sound sustainable development, ‘Agenda 21’ can be said to be an action plan supporting the ‘Rio Declaration’. With this international trend, sustainable development has been frequently discussed in Korea recently.

The Korean government showed its commitment to strengthening tourism cooperation among nations in the region by adopting the Seoul Declaration and setting a 4-point policy plan at the first APEC Tourism Ministerial conference held in July 2000. The plan includes “removing hindrance to the tourism industry and investment”, ‘encouraging demand for tourism products and services within APEC region’, ‘sustained management of tourism outcome and effect’ and ‘recognizing tourism as socio-economic tool and enhancing understanding’.

Approximately 170 local governmental organisations out of 250 are participating in Agenda 21 action code, which was adopted at the Rio Convention on the Environment. In addition, the United Nations Environment Programme Committee for the Republic of Korea held the 2nd Country-wide Meetings for Local Agenda 21 in In-Chon city followed by the fist meeting held in Cheju Island. Another actively working group is Eco Family, a family-based movement, which is a modified form of Global Action Plan for the Earth (GAP) adopted as an implementation programme of Agenda 21, adapted to Korean situations.

The role of local communities for sustainable tourism is also important. The designation of Jang Hang village in Kyong-Nam province as a model for sustainable development by UNESCO’s Korean branch has been cited as an experimental case of community tourism development. This village is an exemplary case of local people joining the development of village from the start. Local government played a key role in making residents the main body of “Making Village Resorts” at first stage in 1994. Local community consisted of 70 households contributed capital (\$300,000) jointly for building accommodations. They volunteered to clean village, charge entrance fee for beach, and guide tourists. Nonresidents were not, however, allowed to participate in local capital and development process. The local residents tried to sustain environment-friendly village with low stone fences, flower paths, colza fields, and parking lots made of wood chips. They also contrived to clean the village of filthy and disordered signboards and graffiti.

1.8 Korea’s Principal Ecotourism Attractions

As a nation of which 70% is composed of mountains and 3 sides are encircled with ocean, Korea is abundant in mountain and ocean tourism resources. Out of 20 national parks, 16 are mountainous parks and 3 are sea or seashore parks. It follows that the natural environment is highly used as a tourism resource. In addition, there is increasing demand for 1000+ natural caves, hot springs and domestic demand for ecotourism in

Korea's wetlands (tidal flat areas). Some of major ecotourist destinations are as follows:

- Mt. Sorak National Park: Mt. Sorak National Park (Biosphere Reserve) is located in Kangwon province and has been designated as National Monument No. 171 for its unique view and impressive landscape. Its diverse plant species is estimated to total 1,243 species from 463 genera and 105 families. There are 38 species of mammals, 96 species of birds, 13 species of reptiles, 10 species of amphibians, 96 species of fresh water fishes and 1,378 species of insects recorded so far. More than 2 million tourists visit Mt. Sorak annually to enjoy the beautiful sceneries of the four seasons and its biodiversity.



Pic. 1 Mt. Sorak National Park

- Southern Kangwha: Southern part of Kangwha is a well-known tourist destination not only for its natural attractions but also for its cultural attractions. Wetlands of Southern Kangwha (8Km) were cited in the World Wetland Fund and Asian Wetland Bureau as one of world's major wetlands. This area, where 20,000 migratory birds arrive, is the habitat and spawning site of some fauna and flora, which are in the verge of extinction. Bird experts and professional photographers visit here. Around 4,000 ecotourists also participate in 42 ecotour programs organized annually by the Citizen Solidarity. Kangwha, cultural attractions like Jundung Temple, Kangwha mountain fortress, and Koryo palace sites etc attract 2 million tourists a year.



Pic. 2 Tidal flats area

- Woopo Swamp: Alongside Nackdong River between Changnyung and Namji in Kyoungnam province, many swamps including Woopo, Bungae, Changchok, Shinjeon, and Pallak swamp scatter in mass. Woopo swamp is the largest primitive natural wetland in Korea with its size standing at around 490 acres. The Woopo Swamp formed when the base of Nackdong River collapsed 140 million years ago is a sole inland wetland in Korea with diverse species and unique freshwater ecosystems. With these ecological characteristics, Woopo Swamp is huge habitat of more than 350 species and is a great natural museum itself. It is a visiting place for main migratory birds such as whistling swan, baikal teal (*Anas Formosa*), and mallard (*Anas platyrhynchos*). It is also home to aquatic plants including *Euryal ferox* Salish, *Zizania latifolia* Turcz, *Salvania natnas* L, along with fishes and aquatic insects. Before 1997 when Woopo Swamp was designated as ecosystem conservation area, Woopo was famous for fishing tourism. Recently, Woopo is offered as a place for people to observe and study ecosystem in its stabilized condition operated by environment NGO.



Pic. 3 Woopo Ecosystem Conservation Area

2. OVERVIEW OF PRESENT STATE OF BIODIVERSITY CONSERVATION AND PLANNING

The Korea Peninsula is located between 33°06' and 43°00' N and has a typical temperate region. The average land elevation is 420m with mountainous characteristics. Coastal areas are connected to a continental shelf and have a diversified geography. The mountainous area in the Korea Peninsula reaches over 70% of the total land mass, and in the case of southern part of Korea, 65% of land surface is occupied by mountain. This is one of the highest percentages of mountains in the world.

The major ecosystems of Korea are forests, agricultural fields, freshwater (lakes and marshes, streams, estuaries and other inland wetland), coast and marine areas and islands.

Forests in South Korea constitute 6,456 thousand ha. 97% of forest consist of planted trees, and denuded areas are limited to only 182 thousand ha (71%). In the composition of tree species coniferous forests cover 2,894 thousand ha (46%); deciduous 1,673 thousand ha; mixed forests 1,722 thousand ha. Young trees under 30 years characterize forests in Korea, and the major species are coniferous trees.

The agricultural fields is 2,031 thousand ha, 20% of total mass of Korea. Rice fields with constant water condition during harvest season are 60% of the total fields. Agricultural fields in Korea are declining due to the development and re-zoning of lands for industry. Increased use of pesticides, fertilization, monocultures, and machinery has contributed to the loss of biological organisms that reside in rural areas.

The freshwater in Korea includes lakes and marshes, streams, estuaries and other inland wetland.

Lakes and marshes

There is only little number of natural lakes in Korea and they are small in size. Since surveys and research on natural lakes are preserved because of the abundance of biodiversity and scientific value as habitats for endangered wetland species and bottom fossil organisms.

Streams

Due to topographical reasons, large streams leading to the Southern Sea and West Sea run slowly, streams leading to the East Sea run quickly. There is a radical seasonal variation of running water due to differences of precipitation in summer and normal times.

Estuaries

Estuarine ecosystems are degraded due to various kinds of pollutants from inland. In this area rich biological diversity is observed which forms an ecotone that provides various habitats for freshwater, mixed, and seawater organisms. Recently, estuarine ecosystems have undergone a change from mixed water systems to closed freshwater system due to dam and crossboard construction.

Other inland wetland

Major onshore wetlands are classified based on location: lake-nearby wetlands, stream-

nearby wetlands, and alpine streams. Korea joined the Ramsar Convention in recognition of an increased concern to preserve wetlands and Yong Marsh on Daeam Mountain was designated as a Ramsar site.

Seas surround the three sides of national boundary, and the coastline is 11,500km long (including inlands). The eastern, western and southern coast is steep, deep, simply shaped, and directly connected to the bottom of the sea due to Hamkyung and Taebaek mountains. Contrary to the east coast, the south and west coasts are complex, and many islands are scattered around the shallow seas. Due to shallow water depth, tidal flats have developed, the continental shelf is distinctive and the tidal difference is large, The total area of continental shelf including tidal flats is 345,000_ comprising 3.5 times the entire land area.

The total number of islands in Korea Peninsula is relatively high. There are 3,153: 464-inhabitable islands and 2,689-uninhabitable islands. They are extensively used as habitats and breeding grounds by rare bird species. Many islands are habitats for rare evergreen coniferous forests that are important for biological diversity conservation.

Up to now a total 29,828 biological species are reported from Korea: 18,029 animals, 8,271 plants, 1,625 fungi, 736 protista and 1,167 prokaryotes. There are about 400 bird species in Korea. Among the more interesting bird species (attractive to bird watchers) are the following: Swan Goose, Mandarin Duck, Baikal Teal, Scaly-sided Merganser, Chinese Egret, Black-faced Spoonbill, Hooded, Red-crowned and White-naped Cranes, Spoonbill Sandpiper, Fairy Pitta and Ochre-rumped Buntings. These animal species are relatively few compared with other countries with similar biogeography. The number of species is expected to increase through continuous survey and research.

Biological diversity in Korea is declining due to rapid economic development. The tiger and Siberian leopard are regarded as extinct, and the fox, wolf and sitka deer are no longer observed. Amul goral, musk deer, otter, and Eurasian flying squirrels are endangered. KACN (Korea Association for the Conservation of Nature) listed 179 species as extinct or endangered. Many of insects and other lower invertebrates are believed to be endangered, but the exact status is unknown due to the lack of research. Loss of biodiversity is mostly due to overexploitation of land and resources, which causes the degradation of biological resources, environmental pollution and other reasons have complexly contributed to the decrease of biodiversity.

Classification	Total	Extinct	Endangered	Rare	Declining
Total	179	6	43	110	20
Mammals	21	1	8	8	4
Birds	54	1	23	30	-
Amphibians, Reptile	12	-	1	6	5
Fishes	29	1	3	18	7
Insects	24	-	1	23	-
Plants	39	3	7	25	4

<Table 1> Number of species by degree of endangered

2.1 The Relative Priority of Biodiversity Conservation Planning in Korean National Policy

Environmental degradation in Korea began with the 5-year economic development planning in the 1960's and rapid industrialization and municipalisation in the 1970's. On the other hand, environment-related Acts and policies have not been properly established and are not effective due to lack of recognition of the seriousness of environmental problems.

Yet, as environmental issues get more attention, efforts have been made for improvement such as guaranteeing the environmental rights under the Constitution, revising the Environment Act and reorganizing the governmental system. Recently, the Korean government has been endeavoring to take part in global efforts for tackling environmental issues by signing international environmental agreements and subsequently establishing follow-up protocols and national strategies. Signing the Convention on Biological Diversity in 1994 was a turning point for the perception of biodiversity issues of which importance had been relatively overlooked. From the start of the 21st century, the strengthening of responses to international environment conventions was included in the 'National Environment Vision for the New Millennium' announced by the government as one of four environmental policy principles and related efforts, such as active participation in discussion on connecting environment to trade, and establishment of a national biodiversity implementation system.

2.2 Institutional Structure of Biodiversity Government Planning and Policy

It has been repeatedly pointed out that comprehensive and systemic policymaking and implementation is difficult, since Acts related to the conservation of biodiversity are complicatedly divided and many different ministries are involved in the implementation of those Acts. In order to reflect these comments, the Ministry of Environment now handles most of the environment-related activities, for example, by transferring natural park management from the Ministry of Construction and Transportation, and wildlife protection and hunting management from the Forest Service, to the Ministry of Environment in 1998 and 1999 respectively. Though the government has made efforts to continuously improve biodiversity-related laws, there still is room for improvement. The budget appropriated for the Ministry of Environment accounts for only 1.04% of the total government budget. Adequate personnel and resources should be secured to administrate activities in line with existing laws. Two problems can be pointed out in connection with the current laws; (i.e.) lack of compensations and incentives for local residents who have to play an important role in conserving biodiversity; and (ii) ambiguity of roles among related Ministries.

2.3 Perceived Degree of Participation of the Country in the Convention on Biological Diversity (CBD)

The international community has made efforts to protect biodiversity in recognition of

its importance since the 1970's. Yet, species extinction has been on the rise since developing countries, lacking alternatives, have continuously used natural resources therefore destroying habitat. Under the circumstances, UNEP concluded with entry into force of the CBD on December 29, 1993, stipulating transfer of biotechnology and financial support for developing nations for biodiversity conservation and sustainable development.

Korea signed the Convention on October 3, 1994 and ratified it on January 1, 1995. Since then, the Korean government provided legal systems to achieve the goals of the convention and to establish a national biodiversity strategy. While revising the Natural Environment Conservation Act in 1997, regulations related to biodiversity were expanded to effectively implement the CBD, compared with the existing Act, as shown in figure 2.2: Biodiversity related regulations

Articles	Contents
Article 2, subsections 4, 5, 6, 7, 12, 17 and 18	Definition of Biodiversity, Ecosystem Conservation Area and bio resources
Article 3, Subsection 3	Basic principal of Natural Environment Conservation: Conservation of Biodiversity, etc
Art. 6, Sec. 2, Subsec. 6	Basic principal of Natural Environment Conservation: International cooperation related to Natural Environment Conservation
Art. 9~Art. 17	Conservation of endangered species, Conservation organizations besides habitats, Biodiversity management contract, etc
Art. 18~Art. 31	Designation and management of ecosystem conservation area, Provincial and municipal ecosystem conservation area, restoration of ecosystem
Art. 32~Art. 41	Biodiversity conservation, Survey on natural environment, Establishment of biodiversity measures and international cooperation, sending bio-resources abroad and others

<Table 2> Biodiversity related regulations reflected in Natural Environment Conservation Act

At the second CBD Conference of Parties (COP), held in November 1995 in Jakarta, Indonesia, signatories were requested to submit national reports on biodiversity. Thereafter, the Korean government held a meeting of related organizations in February 1997 in order to establish national strategies for biodiversity and formed a biodiversity implementation committee fronted by the Nature Conservation Director of the Ministry of Environment in addition to a working level task force in June 1997. A public hearing was also held in October 1997 in order to listen to opinions of all walks of life on national strategies for biodiversity. After that, national strategies for biodiversity were finally established in December 1997, after passing through a National Assembly meeting. The completed national biodiversity strategies were submitted to the Secretariat of the Convention on Biological Diversity in January 1998.

The strategies include future plans and directions for biodiversity conservation and

sustainable development in Korea.

Major Strategies	Description
Biodiversity conservation strategies	Checking and monitoring of biodiversity composition, conservation within protected areas, conservation outside protected areas, control of threatening factors, restoration of ecosystems
Biodiversity sustainable use strategies	Use strategies for agricultural, forest, water resources, tourism and resort resources, and oil field resources
Strategies for strengthening biodiversity management power	Development of management systems, incentives, research, education and promotion, exchange of information and technology, and international cooperation

<Table 3> National Strategy Direction after the CBD

The Convention may provide our nation opportunities to enhance environmental awareness that is currently relatively low compared with the size of economy.

There are still many problems to tackle before implementing the Convention. Those suggested stumbling blocks include lack of basic surveys on indigenous bio-resources, lack of methods and facilities for in-situ and ex-situ conservation, lack of effective utilization of expert groups.

With regard to these problems, the following measures are recommended

- Strict survey of domestic wildlife and genetic resources and their illegal transport abroad.
- Establishment of organizations and councils specializing in the implementation of strategies on conservation of biodiversity.
- Stepping up conservation of biodiversity with protected areas, and encouraging the establishment of database technology.
- Sustainably using marine species and oil field resources Protection and promotion of products using indigenous bio-resources in a sustainable manner.
- Improving international competitiveness through biotechnology research and development.
- Evaluating safety of biotechnology and its applications.

2.4 The Role of NGOs and Local Communities in Biodiversity Conservation

2.4.1 Local Communities

Proper division of roles among central governmental bodies as well as division of roles between central and local government is critical for enhancing efficiency of administration, especially after the establishment of autonomous democratic organizations elected by the public. In the past, heads of local organizations appointed by the central government were relatively free of development pressure from local residents. Now, the current heads elected by local residents are willing to reflect

development pressure of local residents as much as they can for re-election and to maintain their popularity. These heads must deal with the conflict of interest between development-oriented local governments and the more environment conservation-oriented central government.

Approximately 170 local governmental organizations out of 250 are participating in Agenda 21 action code, which was adopted at the Rio Convention on the Environment. In addition, the UNEP Korean Committee held the 2nd Country-wide Meetings for Local Agenda 21 in In-Chon city followed by the fist meeting held in Cheju Island. Another actively working group is Eco Family, a family-based movement, which is a modified form of Global Action Plan for the Earth (GAP) adopted as an implementation programme of Agenda 21, adapted to Korean situations.

2.4.2 Non-Governmental Organizations

At present, there are approximately 450 non-government environmental organizations (NEO) functioning in Korea, which accounts for 40% of the total number of NGOs. Thus, considering the number, they are relatively active. The main activities of NGOs are campaigns, education, research, service and policy-making, focusing on the campaign for enhancing people's environmental awareness (Korea Administrative Research Institute, 1999). However, most NGOs are facing difficulties due to lack of manpower and finances. According to 1999 statistics, the average number of paid employees per NGO is 4.43 full time, 130 monthly volunteers, and 1028 members. With only four full-time employees, it is literally impossible to effectively educate and manage the volunteers. The financial standing is meager, and the annual budget of more than 50% of NEO is less than \$42,000. The major sources of fund are membership fees and donations, with little support from the government. The Ministry of Administration and Autonomy (MAA) allocates the overall support of the government, and the Ministry of Environment supports individual projects. The total support of MAA and MOE in 1999 was only \$1.5 million.

2.5 National Parks and Protected Areas in Korea

2.5.1 Types of Protected Areas

There are six types of protected area in Korea: Ecosystem Conservation Areas, National Parks, Nature Forests, Wildlife Sanctuaries, Nature Reserves, and Wetland Protected Areas. The designation and management of the areas falls under the control of five government ministries.

	Related Act	The Purpose of Designation	Designation Status	IUCN Category
Natural Parks	Natural Parks Act	Protection of Ecosystem and Scenery, Sustainable Use	20 National Parks (6,473 km ²) 20 Provincial Parks (732 km ²) 29 County Parks (308 km ²)	20 National Parks as category V
Ecosystem Conservation Areas	Natural Environment Conservation Act	Ecosystem Conservation	10 Areas (100.21km ²)	1 areas as category Ia
Nature Reserves	Cultural Properties Protection Act	Protection of Cultural Properties	5 Areas (366.27 km ²)	2 areas as category Ia 3 areas as category IV
Nature Forests	Forests Law	Protection of Nature Forests	133 Areas (110 km ²)	
Wildlife Sanctuaries	Wildlife Bird /Mammal Protection and Game Act	Protection of Wildlife Birds and Mammals	717 Areas (1,473 km ²)	
Wetland Protected Areas	Wetlands Conservation Act	Conservation of Wetlands and Biodiversity	No designation	

<Table 4> Protected Area Types in Korea

_ Ecosystem Conservation Areas

Ecosystem conservation areas consist of those places that contain habitats for endangered species or that are rich in biodiversity. The President of Korea designates such areas in accordance with the Natural Environment Conservation Act. The criteria for designating ecosystem conservation zones are as follows: i) zones classified as superior quality, ii) zones maintaining a primitive ecosystem, iii) zones that are unique in geology and geography, and are thus in need of natural conservation, iv) zones that are considered valuable as visiting grounds for endangered or protected wild life, and v) model zones that may represent biologically diverse ecosystems. Currently there are five under control of the Ministry of the Environment and five in control of local governments.

National Parks

National parks are places designated to contribute to improvement of public health and their quality of life and to conserve natural ecosystems, scenic landscape, cultural relics, resort resources and to encourage sustainable use. The Minister of Environment through the Natural Parks Act designates them. Mt. Chiri National Parks is the first national park designated in 1967, and Mt. Wolchul National Park is the last one designated in 1988. The total area of the national parks system is 6473.11 km². Among them, land area is 3,824.6 km², accounting for 3.8% of the whole national land mass of Korea.

Nature Reserves

Nature Reserves are those places designated for the conservation of wildlife habitat, including migration routes and breeding grounds. They are often home to endangered species and native wildlife. The Cultural Properties Protection Act designates five sites as nature reserves.

Nature Forests and Wildlife Sanctuaries

Nature Forests are those places designated for the conservation of gene and species or ecosystem by provincial governor, major, administrator of the district office of Forest Service. In present, 133 areas (110 km²) are designated under the Forests Law. 717 areas (1,473 km²) are designated as Wildlife Sanctuaries under the Wildlife Bird/Mammal Protection and Game Act by the Minister of Environment, provincial governor or major.

Wetland Protected Areas

In March 1997, Korea acceded to the Ramsar Convention (the Convention on Wetlands of International Importance especially as Waterfowl Habitats). Korea is partial efficient land use. Meanwhile, a 5-year basic research program on wetlands continues through a 2nd nationwide project on the natural environment. It will be completed in 2002 and is being utilized to organize and disseminate basic data to be used in setting up measures for wetlands conservation. Korea is participating in international efforts to conserve wetlands by designating wetlands in Yong Marsh and Woopo Swamp as Ecosystem Conservation Areas.

2.5.2 Budget for Environmental Conservation

According to the budget of MOE in 2000, the financial allocation for Korea's environmental conservation consisted of \$1.1 million or 1.04% of the total governmental budget. It is relatively low compared with environmentally advanced nations.

3. OVERVIEW OF LINKS BETWEEN TOURISM DEVELOPMENT AND BIODIVERSITY CONSERVATION AND PLANNING

3.1 Critique of National Strategy Regarding Tourism and Biodiversity Conservation Planning

From the 1960s to 1980s, tourism development in Korea has been based on a large-scale plan with only a vague idea about biodiversity conservation or ecological carrying capacity. Since tourism depends highly on the natural environment, this policy has a strong potential to damage ecological resources. In addition, most tourism and recreation activities take place in national parks. Though national parks are places that have outstanding natural ecosystems, scenic landscapes, cultural properties and recreational resources rich in biodiversity, they have been continuously degraded due to excessive development and high use pressure. Now, criticism of development-oriented tourism policy has been raised and environmental conservation is greatly emphasized. In light of this perspective, conservation-oriented and sustainable development policies are being prepared. For example, the National Biodiversity Strategy established in 1997 reflects these shifts in policy and describes management measures for tourism and recreation resources to use them sustainably.

Present day use of natural resources is greatly increasing due to tourism and recreation demand. When the biodiversity present in popular tourism destinations is taken into account, the establishment of an ecologically sound policy is essential. Two strategies for sustainable use of biodiversity in terms of tourism are outlined below:

Strategy	In detail
Implement a sustainable use policy for tourism and recreation resources	<ul style="list-style-type: none">_ Evaluate the impacts of tourism activities on specific target areas, particularly in terms of biodiversity_ Recognize the economic value of continuously used tourism resources in the process of economic development and land use_ Include measures for conservation and management of biodiversity in tourism and recreation projects_ Execute plans for the sustainable use of national, provincial and county natural parks
Ecotourism Development	<ul style="list-style-type: none">_ Strengthen systemic and legislative measures to develop ecotourism programmes._ Implement ecotourism as a means of conserving biodiversity, while providing means for sustainable development._ Strengthen environmental education for tourists and local residents_ In the case of ecologically sensitive regions, limit use to small-scale 'eco-trips' or 'eco-visits'._ provide incentives for local communities that will stimulate

	voluntary participation in ecotourism initiatives
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3.2 Analysis of Main Perceived Problems and Constraints at the National Level

Demands for alternative tourism, including ecotourism, are increasing as negative impacts of mass tourism become publicly reported and as the need for nature conservation increases. Ecotourism is one aspect of sustainable development and will work towards the achievement of protected ecosystems.

3.2.1 Political Constraints

There are a number of political barriers to the introduction of a sustainable tourism policy, including:

- _ Insufficient legislation to support ecotourism

The Minister of Environment has to consult with the Minister of Culture and Tourism to develop ecologically sound tourism (i.e., ecotourism), and they can then support the local authorities, tour operators and NGOs to protect natural resources. They can also advise local authorities to plan and implement education programmes, resource monitoring, and development of training facilities (Natural Environment Conservation Act article 46).

The inclusion of a statement on ecotourism to the Natural Environment Conservation Act is a major step in integrating biodiversity and tourism. It is, however, not effective yet, due to the absence of a concrete action plan with broad enough coverage of the issues.

- _ Excessive centralized decision making process

So far, tourism development policy has been established as part of a comprehensive land development programme or a five-year plan for economic development. So the natural and cultural resources in each local area could not be considered thoroughly. In Korea, there are many ecologically important species with very small population sizes. There are a number of political constraints that impede the introduction of a sustainable tourism policy in Korea. These constraints include:

- 1) Insufficient legislation and overlapping jurisdiction. In particular, there must be consultation between the Minister of Environment and the Minister of Culture and Tourism. Once established they must then gain support of the local authorities, tour operators, and NGOs. They may also wish to implement educational programmes, resource monitoring, and development of worker training facilities. Official recognition of ecotourism must also occur in the Natural Environment Conservation Act.
- 2) An excessively centralized decision making process. In particular, the Korean tourism development policy has been established as part of a comprehensive

land development programme where natural and cultural resources were not necessarily considered. This is especially important in the context of Korea's biodiversity distribution where there are many distinct species with small, localized populations. Regional level development plans are required, rather than national level plans. Unbalanced planning efforts bring serious confusion to natural environment management because of a lack of basic investigation, feasibility assessment and environmental impact assessment.

3.2.2 Economic Constraints

There are a number of economic constraints regarding the introduction of a sustainable tourism policy. These include the absence of benefit derived from tourism and nature conservation. At present, tourist expenditure does not help tourism destinations or boundary regions because money does not get recycled in the local economy. Clear linkages between benefits from ecotourism (employment, currency exchange) and ecological management are mandatory in making the case for conservation.

3.2.3 Social Constraints

There are a number of social constraints to the introduction of a sustainable tourism policy, including degradation of natural resources and local community due to excessive inflows of foreign guests. In some instances it is possible that traditional practices and cultures be impacted negatively. This is sometimes referred to as the "Westernization" of developing countries. It is perceived that, because of increasing presence of foreign tourists, local residents may encounter problems such as increasing transportation problems, crime, and juvenile delinquency.

3.2.4 Technical Constraints

There are a number of technical/managerial barriers to the introduction of a sustainable tourism policy, including absence of an ecotourism certification system. Of particular concern is the number of tourism agencies that make souvenirs from wild flora and fauna, thus jeopardizing the biodiversity upon which the industry depends. This practice must be stopped by introducing souvenirs derived from plentiful renewable resources and be educating visitors to shop in the best interest of the local ecology.

3.2.5 Human Resource Constraints

There are too few human resources available for the successful introduction of a sustainable tourism policy. Of greatest concern is the lack of qualified guides and interpreters for foreign visitors. Education in environmental matters is also low amongst Korea's rural populations.

3.2.6 Biodiversity Conservation Issues

_ Ecosystem Management:
In accordance with the Natural Environment Conservation Act, the Ministry of

Environment conducts basic nation wide surveys on the natural environment every ten years. The first basic survey of natural ecosystems was conducted from 1986 to 1990. The second survey began in 1997 and is expected to be completed by 2001. The survey areas were divided into land and water habitats, and the condition of flora, fauna and soil was examined. In order to study the conditions of the flora, special floral groups and distribution charts by habitats and naturalness ratios were drawn according to the survey area. The fauna surveyed includes mammals, birds, amphibians, reptiles, and insects, so as to ascertain the habitat requirements of each species. The river surveys involved an inspection of the nation's major waterways in order to determine the distribution of freshwater fish, aquatic insects, benthos, and aquatic life.

Species management:

To protect sensitive habitats and prevent ecosystem fragmentation, those areas classified as protected should be expanded as they account for only 0.1% of all Korean territory. Also required are seed banks, gene banks, zoological parks, botanical gardens, aquariums, and a micro-organism resource center.

3.2.7 Examples of bad practices and failures

One of the most serious constraints regarding appropriate links between tourism development and biodiversity conservation and planning has to do with the zoning schemes within the national parks.

Under the National Parks Authority (NPA), national parks are organized into four land use zones: Nature Conservation Zone, Nature Environment Zone, Human Settlements Zone and Mass Facility Zone. The following table details the permitted land use in each category of protected area.

Zoning	Description
Nature conservation zone	<ul style="list-style-type: none"> _The areas which sustain primitive ecosystems, protected flora and fauna, natural monuments, and unique scenic beauty _Limited research activities and minimum level facilities are allowed.
Nature environment zone	<ul style="list-style-type: none"> _Recreational park facilities are permitted.
Human settlements zone	<ul style="list-style-type: none"> _Residential and farm use is permitted.
Mass facility zone	<ul style="list-style-type: none"> _Construction of some park facilities permitted.

While the Nature Conservation Zone should implement the preservation, research and monitoring functions, the Nature Environment Zone should be dedicated to do research and monitoring, environmental education and training, recreation and ecotourism functions. The Mass Facility Zone and the Human Settlement Zone are to be used for different sustainable development options.

There have been many questions raised regarding whether the zoning of national parks

is appropriately set. The core areas of these parks require legal enforcement to protect biodiversity. Under the NPA, all activities other than "activities recognised to be required for academic research or nature protection "are strictly prohibited within the Nature Conservation Zone, yet in reality ecosystems are seriously damaged by indiscriminate use. It is not easy in practice to restrict use to protect the Nature Conservation Zone. Providing the environment where the public can enjoy recreation or travel without special restrictions is not in line with the concept of core area protection, where entrance should be allowed only for research and monitoring and stringently protected.

Under the NPA, the Nature Environment Zone is defined as area excluding the other three zones.. It can be an area for sound ecological activities such as environmental education, recreation, ecotourism and research.

The Human Settlements and Mass Facility Zone are full of concessionaires and ordinary souvenirs one can buy in any tourism destination. This differs very much from the objectives of maintaining traditional ways of life and implementing sustainable development near the national parks.

Another serious problem is that the NPA is not considering the participation of local communities at all. Efforts to grasp demands from local communities can make or break the sustainable development of the Human Settlements and Mass Facility Zones. Subsequently, education and training should be provided and local communities themselves ought to be self-dependent to achieve sustainable development.

The Nature Environment and Mass Facility Zones must become sites for ecotourism or sustainable tourism. By developing environmental education and training programmes so as to induce environmentally friendly use, not only local residents but also users should be provided with opportunities to understand natural ecosystems; to know the relations between ecosystems and their sustainable use by human beings; and to introduce activities in harmony with nature.

4. PROPOSED STRATEGIES AND SOLUTIONS

4.1 Policy-oriented Solutions

High-level projects should be considered first in establishing tourism policies. Tourism Infrastructure Establishment Projects or Tourism Complex Development Projects, which are designated as part of Comprehensive Ten-Year-National Land Development Plan, ought to be prioritised in implementation as high-level national plans. For these projects, it is necessary to harmonise policy with related Ministries such as the Ministry of Finance and Economy, the Ministry of Construction and Transportation, the Ministry of Environment and the Ministry of Agriculture and Forests. Currently, the Committee Consulting Tourism Policy is composed of approximately 20 members including the Culture and Tourism Minister and Deputy Minister and experts in charge of arbitrating conflicting ideas among related Ministries in connection with the Long-Term Tourism Plan.

Recently, many organisations have established inter-disciplinary departments to cope with sensitive issues in current society or problems in the future. It is essential that tourism and environmental development be characterised as a cross-disciplinary phenomenon, especially now that interest in interconnecting sustainable environment-friendly tourism and development is growing. Since environmental protection and development are frequently perceived as opposing factors, it is vital that we set up a political system that will protect and meet both parties' agendas. As stated in the first chapter, the complexity of South Korea's tourism policies is evident in the Nature Environment Regulations, and this frequently results in over-developed regions destroying natural life and under-developed regions being ignored or abused. As a solution, the former need restriction and protection programmes and the latter need reduced regulation to allow essential development. This coordinating task should be done by a cross-disciplinary department which should also deal with international policies pertaining to environmental issues.

Meanwhile, the enforcement of the CBD and related national strategy are in progress, led by the Ministry of the Environment, and interconnected NGOs and academic institutions. However, many of these institutions are biased towards protection and regulation, and a more balanced approach between regional development and conservation of biodiversity is needed. For this, inter-departmental cooperation in establishing and implementing policies should be established.

The governments' role is to propose and develop the regulatory system necessary for the improvement of regions or communities. It is also their role to set up appropriate amendments to their regulations in order to meet social demands. The environmental organisations' role is to develop regulations and policies that meet the demands of the people as well as international environmental conventions. This process should also be people-centred, or focused on the needs of the respective regions. The Nature Environment Regulation (NER) established in 1997 is an exemplary case which successfully reflects both the nation's and the local person's view on environment and wildlife.

Such a set of regulations aids in developing balanced central and regulation-oriented policies in order that they will further promote local regions' participation. In addition, this regulation succeeded in reconciling human and environmental interests, which were considered to be the opposing force in the past. In short, this regulation not only preserved wildlife that was on the verge of extinction, but also rewarded local residents for any loss that the environment protection may have caused them. It seems still insufficient, however, in that the environmental organisations view local resident's objections to the environment conservation policy as unfounded. More importantly, local residents still protest against biodiversity convention and domestic Nature Environment Regulation that are related to their region, so what is essential at the moment is to convert their negative opinions and views on environment development. In this regard, we will further discuss the environment conservation policy and tourism development programmes that brought in regional profits in the next section.

Furthermore, the revised Nature Environment Regulation has limited itself to taking local residents' opinions into consideration merely in the decision process of assigning protected areas but never fully involving them in management of that area because the policies to encourage their participation have never been established in the designation of the Basic Plan for Management of Ecosystem Conservation Areas. As the case studies of South Korea show, the idea of obtaining local residents' full participation without any financial incentives seems a very unrealistic ideal. Thus, the problem of how to manage and protect these related regions as they set up environment development programmes still remains. Considering the recent NGO organisations' activities in Korea and evaluating their results, the tourism and environment NGO's local post or local community-centred management system can be suggested as a solution. The government's role, then, would be to encourage these organisations to fulfil their tasks by providing financial support and appropriate regulations.

In order for central policy to establish and become functional in the regional areas, it must first guarantee that it will actively act upon local community's ideas and concerns. Thus, the Ministry of Environment has made recommendations on polices and amendments to enable the local communities to petition against damage of ecosystem in their area. Such governmental policies can ensure individual's participation in environment protection. But what is more essential is the fundamental structure to ensure the local residents' engagement in setting up programmes of regional developments and preservations. Considering that very few regions have conducted even basic research on biodiversity, existing resources should be released to many organisations and used for environment-friendly development programmes.

Since Korea joined the CBD, it has completed "Korea's Biodiversity 2000" project. Such researches should be further developed in relation to local, regional development programmes rather than remaining merely as another research result. In other words, the local residents and professionals should work together to create environment development programmes that will protect and benefit both local residents and natural life.

Additionally, related researches and studies conducted by different institutes should be

converged into a single institute at a national level to conserve biodiversity.

4. 2 Economic Solutions

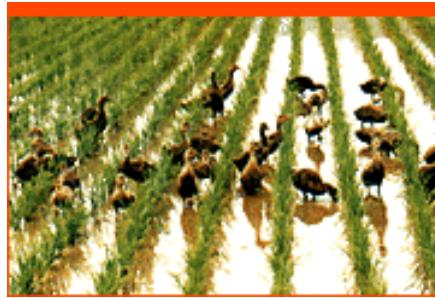
While it is urgently necessary to establish an administration institute for biodiversity policy and research support in 4.1, a better way to realise both conservation of biodiversity and tourism development would be discussed.

As have already seen, following current policy, national parks and nature tourism enclaves have a zoning system, which means that even in one park, building and business can be done in some places and not in others. But a scale-ignoring strategy like this is far from attaining sound conservation and tourism management effects. It must be recognized that Korea is not vast enough to allow multiple use zoning in a single park, as is the case in other countries having huge land areas. At present, it is not illegal to station golf courses, ski resorts, accommodation, military establishment in one park, particularly on a mountain below 1900m. As a solution, macro-scale development should be considered. A macro-scaled region can include park, and other tourism attractions as one or two units of management. For instance, if the whole park is assigned as a conservation zone and for carrying out ecotourism activities, programmes are intensified; biodiversity can be managed better with economic benefits. For this, facilities should be built outside the parks and biodiversity reserves and should be assessed for easy accessibility to other tourism attractions.

A change in thinking on possibilities of linking biodiversity and tourism is required, and existing ideas and policy should be reviewed. For instance, the "National Conservation Centre for Biodiversity" which the Ministry of Environment plans to build could be developed as a visitor centre for tourists if accommodation facilities were added. This type of tourism with an educational motivation could be suitable for family tourists, students going on a school tour, official and even private enterprise environmental research programmes.

Another type of linkage between biodiversity and tourism is programme development at local level for facilities for tourism activities using biodiversity. After local democratisation in 1995, local governments have established hundreds of regional events and festivals of which natural resources like butterflies, dragonflies, grasshoppers, fireflies, mud, cherry blossoms and reeds are main subjects. These programmes are useful cases to demonstrate that environmental conservation can be the basis of tourism development for local economies. At present, these programmes are prepared and hosted predominantly by the government, not by local communities. It is one of the defects to be overcome, in order to further develop management of these festivals and cultural activities at the local level. Besides, marketing, publicising and educating successful cases of linking biodiversity and tourism should be done actively to spread to other cases and regions. To note some cases in Korea, there are successful programmes in which the local community is the main body of development like: "Eco-village planning in Mun-Dang," "Ecotourism in Janghang Village," "Green Tourism in Yang-Pyung," "Ecotourism in Jangwhai-ri."

"Eco-village planning in Mun-Dang : Mun-Dang Eco-village in Chungchung province was an ordinary farming village with 65 households before 1994, when the non-polluting agriculture technique "Ori" (means duck in Korean) in a 1-ha arable land was tried and proved to be successful in Korea. Since urban buyers prefer crops raised without the use of chemicals, local growers who adopted "Ori farming" have increased their number by 70%. Owing to such success, Mun-Dang has become a model eco-village. Consequently, the number of young generation farmers is much higher than other rural villages in Mun-Dang. Currently, the village is in the process of transforming itself not only as extraordinary agricultural areas but also as an ecotourist spot from where Southeast Asian farmers can learn valuable lessons.



Pic. 4 Organic farming by Drakes

- "Ecotourism in Janghang Village: As mentioned above in 1.7, accommodation facilities established from 1995 are run by local people themselves and also they earn money the beach pool where attract 2,000\$ in last summer.
- "Green Tourism in Yang-Pyung": MyungDal-Ri in YangPyung-Gun is small rural area secluded by mountains and is composed of 70 households. It is not until officers from the local government in YangPyung-Gun and professionals from several universities have persuade local people several times to realize the possibility of green tourism in their village that "Green Tourism Project" is pushed forward. Successful cases in other countries are introduced through screening and several fora and meeting in person between local people and experts let them have the confidence that "we can do it." As a result, village committee was made and propelled Green Tourism Project organizing various cultural and environmental program and visiting green tourism spot in Japan.



Pic. 5 MyungDal-Ri in YangPyung-Gun

- “Ecotourism in Jangwhai-ri. : as explained in 4.6



Pic. 6 Bridge for the environmental education

4.3. Technical/managerial proposed solutions

The need to recognize the importance of environmental conservation is present in all sectors of society but particularly amongst those that can affect change most rapidly including policy makers, administrative officials, scholars, and community members. Network development between local people, scholars, citizens' solidarity groups and various NGOs should also be encouraged. Korea would also benefit from national posts designed to integrate inter-departmental law and policy; and to accumulate

natural resource information for the development of tourism programmes. The central government must also provide "seed" financial assistance in the initial stages of tourism programmes. In this fashion community members will have the opportunity to meet specialists, planners and related officials in a comfortable and low risk environment. Ideally community members will recognize the value of biodiversity and work to integrate the notion into the local economy.

4.4. Human resources

In short term, adding environmentally-friendly development programmes into existing education programmes for policy makers, officers on development position in national and local government, tourism operators, etc. is required. For example, tourism education in Korea is biased toward practical education of hotel staff, etc., therefore, adding an environment programme can raise awareness of conservation of biodiversity and the potentiality for development of ecotourism. The purpose of this sort of education is to understand that biodiversity can be conserved by well-controlled development as well as by regulation and restriction. In the long-term, an education institute should be established to take a role in publishing successful case studies for other communities to follow, as well as playing a straight education role.

In addition, meetings should be organized and proposed for local people to meet professionals through public hearings, professional debates, workshops, fora, and camps. To spread positive results, community magazines can be produced.

In the long run, a sustainable tourism education programme for middle education and high school should be considered. Because the current environment education system is so passive, including only one or two chapters on geography and sociology class, an additional environment class should be established to change individual behavior and attitudes toward biodiversity. Education in this regard should begin at an early age to promote long-standing values. In the case of "Ecovillage planning in Mun-Dang," environmental education in schools takes a dominant role to promote sustainable conservation and development.

Pulmu Agriculture High School is essential to explain the success of Mun-Dang. Small school having only 78 students has long history from 1958. It was founded as the means of education movement in rural area. In school, students raised crops including vegetables and flowers by themselves. The field is the teacher for them. The graduate introduced "ori (duck) technique" which was a main reason of successful ecovillage in 1978 for the first time in Korea. Near the school, there is a community where the graduates are practicing several environmentally-friendly activities like making natural food, recycled soap, environment newspaper. Some of the graduates from Pulmu school are core members in Mun-Dang and this alternative school guaranteed the succeeding of Mun-Dang.

Currently, an assembly hall is under construction. The capital to make this building is environment fund set aside through selling "Ori Rice" for 3 years. This hall will be used for education of "Ori technique" and marketing Mun Dang to the outer world.

Usually, the main purpose of ecotourism in Korea is the education of their children and therefore, education programme is common. In Mundang, designated consumer visits at least two times a year to release ducks into cultivated land and enjoyed the experience of weeding out in orchard and harvesting potatoes. But most programmes are limited to experience like harvest experience, wetland experience etc. Various ecotourist activities have to be contrived.

4.5 Biodiversity Conservation

Research on the present situation and location of natural resources including species should be done regularly. In every tourism site based on protected ecosystems, such as recreation forests and national parks, education programmes should be strengthened to reduce visitor impact and ensure that the ecosystem is not irreversibly damaged.. Prohibition of visitors for a few years in certain parks and reserves can be enforced in some cases, in addition to development of controlled visitor routes.

A proposed national institute of biodiversity should gather all the research reports, data, and current situation of conservation facilities from seed bank, genetic bank, zoo, botanical garden, aquarium, and micro-organism center. This institute could cope with the emergent situation efficiently because it would be directly related to national policy. Through the development of methods to evaluate environmental effects and classification of biodiversity by fragility, certain decisions can be made whether certain places should be under conservation management or development.

Such an inventory would act as a keen tool for education and provide an opportunity to discuss the importance of reduced visitor impact with in-coming tourists. A library to house such a database and to conduct visitor seminars would of course be an invaluable resource.

4.6 Examples of best practices in linking tourism development and biodiversity conservation planning BCP

Generally speaking, in Korea most examples of tourism are still biased towards economic benefits, with little concern for biodiversity conservation, which is normally ignored by local people, as it does not provide short-term benefits to them.

A good example of an established link between tourism and biodiversity conservation can be found in the Jangwha-ri tideland, within the metropolitan area of Inchon city. This city has heartily adopted the Agenda 21 principles on biodiversity conservation (through the CBD) and is now poised to take on an effective ecotourism programme. Until recently the tideland of the West Sea had been considered a desolate land and it was therefore converted into what was considered useful agricultural and industrial property. The emerging side effects of this vast conversion process have challenged the validity of this sort of development. The rich biodiversity of the area is now being examined for its ecotourism potential and some local communities have even realized that there could be industry through the conservation of the original biodiversity . Jangwha-ri is very fortunate in the sense that it has relevant environmental resources,

as well as an active community, helpful NGOs, and a core of volunteers keen to learn more about ecotourism program and their benefits to biodiversity conservation and sustainable community development. Through Agenda 21, Jangwha-ri has also received US\$300 000 to assist in future ecotourism endeavor

4.6.1 Name of project or development: Ecotourism development in Jangwha-ri tidal land

4.6.2 Exact Location:

The Jangwha-ri tideland is located on the west coast of Korea, adjoining the Yellow Sea, in Jangwha-ri, Whado-myeon, Kangwha, within the metropolitan area of Inchon City. This area is only 20 kms west of Seoul, with very good accessibility by Local Highway #348.

4.6.3 Management and coordination:

Recently, local government in the coastal region tends to competitively promote coastal ecotourism development as a way to secure tax revenue. Development of sustainable ecotourism plan for wetland conservation is one of effective and safe means to conserve wetlands by preventing indiscreet land development and contamination and by encouraging the local residents to voluntarily participate in wetland preservation. In Jangwha-ri, the local church and an NGO called Citizen Solidarity are the main bodies conducting the programme of biodiversity conservation and wildlife observation. They have operated this programme since last year, rebuilding abandoned houses, transforming them into lodging for ecotourists, and developing a unique programme called "Let's party on". During three days in August 2000, local people conducted programmes they designed themselves and even housewives served as tour guides, after having received some environmental training. Citizen Solidarity (CS) coordinates a travel schedule for group tourists supposed to visit. Tourists can rent binoculars, telescope to investigate birds and be introduced local guide by CS. The members of CS can guide group tourists and they guide about 700 persons per year and sell environment materials. In 1990, they published the book titled "The Introduction of Migratory Birds" and 50% of the earnings is put aside as an environment fund. While local people and environment NGOs are practicing ecotourism, Inchon city enacted "The Charter of Inchon Citizen" and erected charter monument to make people know the value of wetlands. City government is supposed to issue municipal ordinance by this year.

Additionally, an institution called Environmental Research & Training Center for Youth, operated by Inchon City Government, has been a useful asset in educating youngsters through environmental activities and experiences. Environment education organized by the institution is stepping in wetland and capturing sea animals. Family with children is main visitor in programs of "Science Camp for Children," "Exploration of Wetland," "The Composition Meeting for Children" etc. Children can feel soft and sticky mud on feet; over 40 species of benthos habitat and they also see the flying migratory birds over their heads. After these experiences, children can learn the value of wetlands naturally.



Pic. 7 Environmental Education

4.6.4 Description of main objectives, achievements, and constraints:

Though Janghwa-ri's ecotourism development is still in the initial stages, it has high potentiality to be a fine example of ecotourism if things are done correctly. The city government must give financial support to build a guesthouse, a visitor's (interpretative) centre, and a parking lot, as part of the programme of "Inchon Agenda 21". While the national government must have enough funds to research basic data for biodiversity conservation and planning, this data should also be incorporated into the tourism sector at the local level. NGOs can utilize this information to develop ecotourism programmes and train local people as environmental tour guides allowing the community of Inchon City to improve both conservation of biodiversity and sustainable economic development.

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