

# **SUSTAINABLE PLANNING FOR ENHANCING THE LOCAL COMPETITIVENESS: A CASE STUDY OF NAMHEA COUNTY, KYEONGNAM**

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## **Introduction**

The inauguration of information society brings about drastic changes in overall society. The information society, so called post-industrial one, is very different from industrial one and is characterized by advancing industrial structure with post-tailor production system, electronic business, and customer-oriented marketing. With an increase in income and spare time, people would spend more money and more time on cultural activities and leisure. Therefore, cultural and tourism-oriented businesses come to be a high value-added sector and create good job opportunities which vitalize local economy.

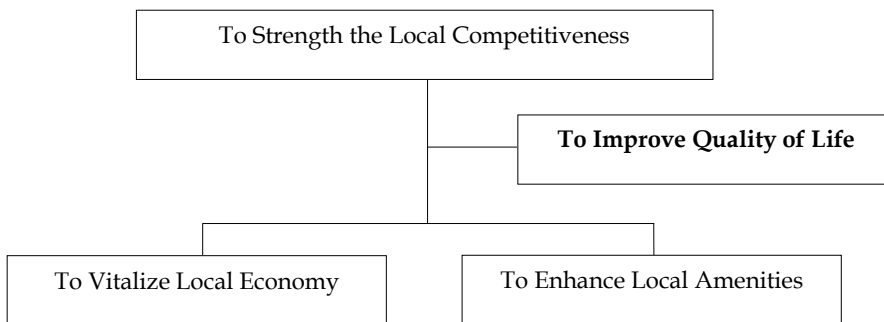
In the process of industrialization, land for urban use has been expanded enormously without considering the carrying capacity. Such an excessive development results in serious environmental problems, which raise the concern about sustainable development. The growth-oriented developmental road, the paradigm of development so far, has been shifted into sustainable one.

Reflecting such trend of sustainable development and eco-tourism activities, counties with clean and beautiful nature would utilize their

comparative advantages and enlarge their potential power in order to strengthen competitiveness. This paper would suggest the model of strengthening the local competitiveness for distressed counties, which wish to keep pleasant natural environments by carrying out environmental-friendly projects and policies.

### **Local Competitiveness in Information Society**

The competitiveness of a community depends mainly on the vitality of its economy and the amenity of its living environments. The former can be enhanced through the increase in the number of jobs, especially high value-added jobs, which make the daily life of residents to be abundant economically. A good amenity would provide the pleasant and safe living and working environments through promoting environmentally sound development.



As the competitiveness of a region during an industrial era depends mainly on economic factors, cities specializing in heavy and chemical industries are the competitive region with many job opportunities. The emphasis on economic growth over the past tens years under the central-governance has resulted in the concentration of production in Seoul and its adjacent regions, which resulted in unbalanced land development and

financial burden to counties outside Seoul Metropolitan Areas. Most counties except ones being adjacent to Seoul have experienced shortages of job opportunities, skilled workers, and public infrastructures.

In the process of urbanization, land for urban use has been expanded continuously for constructing roads, industrial complexes and residential areas without considering the impacts of development on environment. Such expansion results in drastic devastation, deterioration and contamination of natural environments and raises serious environmental problems, which leads to a concern about sustainable development. The growth-oriented developmental road has reached a dead end; the paradigm of development has been shifted into sustainable one.

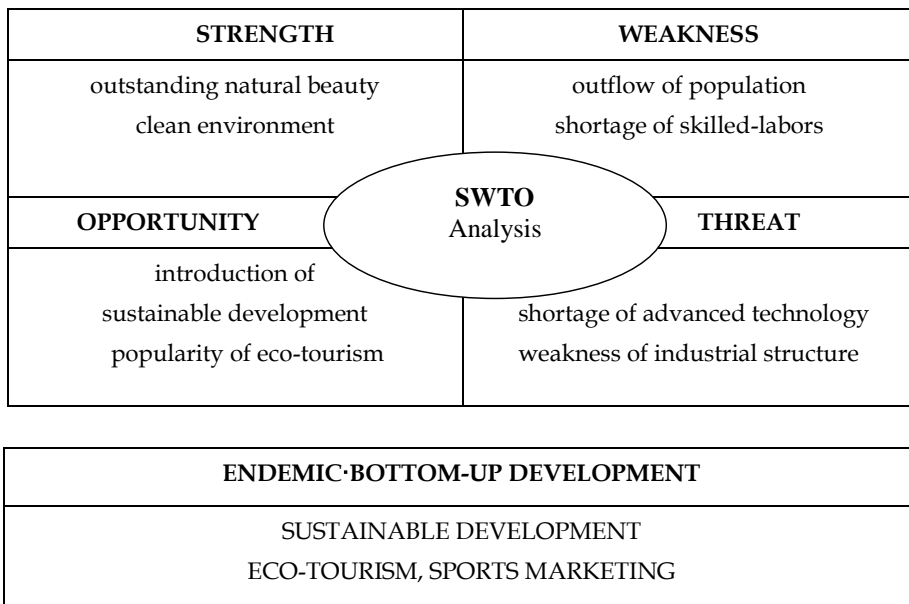
The post-industrial era information society would require good amenities of living and working places in harmony with the trend of emphasizing the quality of life. Thus, the cities based on heavy and chemical industries become to lose their competitiveness due to their pollutant environments. In information society, physical distance can be mitigated, to some degree, by advancement of information and communication networks. Clean and pleasant environment becomes an important determinant for attracting people and jobs. Therefore pleasant and safe environment comes to be a pivotal determinant in strengthening the local competitiveness.

Even though local economy depends on the vitality of high value-added industrial sector, those people engaging in these jobs are likely to choose pleasant residential places, somewhat further, with their high income and mobility and to prefer to enjoying leisure-sports and eco-tourism with increasing spare time. Therefore, those counties with clean and outstanding natural beauty can vitalize their economy by attracting people and jobs, which can strengthen their competitiveness.

On the other hand, since the introduction of local autonomy, local authorities are busy finding out new policies and projects for vitalizing their local economy. The introduction of local autonomy serves as a momentum for implementing bottom-up approach in carrying out endemic developmental projects, departing from top-down approach under the central governance characterized by regional division of resources. Therefore, the local

authorities of the counties with clean and outstanding natural beauty could strengthen their competitiveness by carrying out sustainable development with utilizing their comparative advantages. In other words, those counties should utilize their endemic resources by implementing sustainable development planning in order to strengthen local competitiveness.

**Figure 1. A Model of Strengthening the Local Competitiveness**



The hypothesis of the model is to set the positive impact of sustainable development on local economy and on the amenities of living environments. To measure the impact of the environmental-friendly projects, the indicators measuring the vitality of local economy and the quality of residents' life should be developed. The indicators should reflect something fundamental to the long-term economic, environmental or social health of the local community. For those indicators measuring the effects on local economy, the

ratio of economically active population should be chosen because the ratio of economically active population is very closely related to the vitality of local economy. In general, the age group of 15~64 years old is said to be economically active population, but a high proportion of 15~24 years old is engaged in other activities such as schooling or military services. Therefore, the ratio of 25~64 years old whose group is chosen for analysis. In terms of the distribution of local wealth, resident's income is a representative indicator, whose data is not accessible. Deposit amount per person can be used as the proxy indicator for resident's income. Other indicators related to local economy are the number of tourists, the number of jobs related to lodging and restaurants, and the number of car registered.

**Table 1. Selected Indicators for Measuring the Local Competitiveness**

	Indicators		Indicators
economic vitality	ratio of 25-64 years old (%)	amenities of living environments	area of green space per person (m <sup>2</sup> )
	deposit amount per person (million won)		no. of trees planted (thousand)
	no. of tourists (thousand)		supply ratio of tap water (%)
	no. of jobs related to restaurants and lodging		supply ratio of sewerage (%)
	no. of car registered		ratio of population in garbage treatment area (%)
			no. of athletic facilities

The enhancement of amenities can be measured by area of green space per person, the number of trees planted, the ratio of tap water, sewerage and garbage treatment facilities provided, and the number of athletic facilities. The expansion of green space which keeps the abundance of natural environments can be resources for attracting tourists and creating wealth. As the provision of tap water, sewerage and garbage treatment facilities is a

crucial factor for residents' daily life and economic activities, the capacity of providing water and carrying sewage and garbage is an important determinant to the invitation of industries as well as the enhancement of quality of life. The provision of cultural and athletic facilities can satisfy emotional needs and increase the level of residents' well-being. Also, it can hold comparative advantages in attracting manpower, and vitalize local economy by holding sports and cultural events.

### **Strengthening The Local Competitiveness through Sustainable Development: Case Study of Namhae County, Kyeongsangnam-Do**

With the paradigm shift into sustainable development, this study would suggest a model of strengthening competitiveness of local authorities which has limitations in inviting industry due to the outflow of population and to the deficiency of public infrastructures. Namhae County in Kyeongsangnam-do is presented as a sample case for this analysis.

Generally, counties at local level have comparative advantages to ones at city level in the abundance of beautiful and pleasant environments. The strategies for strengthening its competitiveness is to set up environmental-friendly developmental policies based on well-preserved natural resources, reflecting the social trends of spending much more on leisure, sports and tourism according to the increase in spare time and income. Those counties with good natural resources can strengthen their competitiveness through connecting endemic developmental projects with sustainable development.

#### **Implementation of sustainable development**

Namhae County, the fourth largest island with 357.3km<sup>2</sup>, is located in the southern part of Korean Peninsular and connected with main land by a bridge built in 1973. Located in the southern coast, Namhae County is a treasury of natural resources and beautiful scenery where a variety of both fauna and flora are well preserved. To preserve the uncontaminated sea, the local

authorities have carried out 「Green Plan of Namhae County」 since 1986, which did not work successfully at the beginning stage. After the inauguration of elected-chief, environmental-friendly approach has been applied to overall public administration. As a result, Namhae County was designated as a model county for environmentally managed local authority by the Ministry of Environment and has privileges in getting financial aids and skilled consultants.

The environmental-oriented policies include the recovery of ecosystem in river, greening wall and roof and the implementation of green design to urban facilities. All public policies have been approached from the environmental oriented perspective, for example, renaming 「Dept. of Regional Development」 into 「Dept. of Urban Environment」. Climate and tourist industries based on uncontaminated nature and warm climate has come to be its base industries.

As shown in Table 2, local authorities began carrying out the projects after 1996. The most pivotal project is 「sports marketing strategy」 whose goal is to be a sports-mecca based on clean and pleasant climate and natural environments. Green design approach is applied while constructing sports facilities. The lawn grounds have been constructed, which contributes to the improvement of residents' health, the expansion of green space, and the provision of resting areas. A variety of athletic competitions have been held, which has attracted many people from outside and contributed to the vitality of local economy.

The symbolic project is Seosang Sports Park in Seosang-meun. At first, residents once planned to build shell-treatment factories and were persuaded to build the sports park by local authorities. While constructing sports park, green design has been applied to ground with grass and rainwater drainage system. A series of athletic competitions such as soccer, archery, and gateball have been held. With the comparative advantages of mild climate in winter, they have been used for winter athletic training camp.

While constructing sewerage treatment facilities, they adapted aquatic plant-pebble sewerage treatment system using aquatic plants and pebbles, which is utilized as an eco-botanic garden for environmental education. It has

**Table 2. Important Sustainable Developmental Projects and Policies**

Projects	duration	96	97	98	99	00	01	02	02	budgetary required (million won)
Construction of lawn playground	96-99	-	-	-	-					100
academic survey of ecosystem and environmental pollution	97-2000		-	-	-					695
assistance in treatment facility of livestock waste	97-2002		-	-	-	-	-			1,902
construction of passing road for animals	97-2002		-	-	-	-	-			1,250
restoration of ecosystem in river	97-2003		-	-	-	-	-	-		6,511
management of industrial waste treatment facilities	97-98.11	-	-							342
Nursery garden of wild flowers	98-2000		-	-	-					697
construction of piped-water in Chanseon-meun	98-2000		-	-	-					5,000
construction of complex treatment for waste in rural areas	98-2000		-	-	-					5,000
construction of eco-residential site in Noryang	98-2001		-	-	-	-				9,196
construction of sewerage treatment facility in Namhae-eup	98-2001		-	-	-	-				17,139
Butterfly eco-garden	98-2002		-	-	-	-	-			4,000
aquatic botanical garden for treating sewerage	98-99		-	-						-
model project of greening wall	98-99		-	-						20
expansion of environmental-friendly pavement	98-99		-	-						500
eco-garden of urban road	98.12- 99.6		-	-						326
implementing model of sustainable schools program	98.3-2001		-	-	-	-				-
construction of eco-park in Songjeung	98.5-99.5		-	-						428
supply of wind power generation	99-2002			-	-	-	-			1,763
Planning of constructing eco-village	99-2008			-	-	-	-	-		-



been installed in five communities and has improved the living environments of rural communities. Also, each household can save 150,000 won per month of management cost paid if operated by chemical treatment method. In addition, taking the advantage of being an island, they built three wind force generators to maintain clean air and to produce clean energy. They are not operating as yet; they are used as a tourist site at present.

The fourth project is the construction of eco-parking space in Songjeung Resort Park, Dumo Park and Training Camp for Youth. The eco-parking lot is also used as the space for planting crops and resting. The ground floor being made of grass-block is shadowed by the vines of crops, such as bean, kiwi and pumpkin. This environmental-friendly construction method provides residents with resting areas and crops, and preserves clean environment.

The fifth project is an expansion of environmental-friendly streetscape. Local authorities developed the environmental-friendly pavement method using endemic materials such as stones and grass-blocks, shells.

## **Analysis and Results**

The implementation plan for the sustainable project calls for periodic assessment of the program to determine its effectiveness. Reflecting the necessity of periodic assessment, the method of analysis used for this paper is a simple comparative assessment by analysing the trend for each indicator. Because projects began to be implemented after 1996, this paper has the limitations of short time span for periodic assessment, which is difficult to measure these effects in good earnest. The periodic time is set for ten years of 1990~1999 with the availability of data even though it requires at least 10 years before and after the beginning year of 1996. Also, it has the limitation that the data before 1993 of some indicator is not accessible.

To analyze the effects of these projects on contributing to the vitality of local economy, the indicators, such as the ratio of 25~64 years old, the amount of deposit per person, the number of tourists, the number of jobs related to restaurants and lodging, and the number of cars registered, are measured.

Even though the number of 25~64 years olds has decreased according to the decrease of number of total population, the ratio of 25~64 years old to total population has decreased until 1995 and thereafter has increased somewhat. The most characteristic feature in the composition of rural population is the outflow of economically active population, which results in the shortage of young labors in rural area. Therefore, the rise in the ratio of these age group has somewhat mitigated the shortage of young and middle aged-labor in rural counties.

In terms of the amount of deposit per person, it shows a greater increase in the latter half of 1990 than the first half of 1990 except the rapid increase of the year in 1995. The amount of deposit per person in 1999 is in par with that in 1996, one year before the outbreak of IMF management system due to economic recession. The number of tourists generally shows the continuous increase to three millions excepting the rapid decrease in 1995. The indicator has not been influenced by the IMF management system. The number of jobs related to restaurants and lodgings has increased continuously since 1995, which is closely related to the increase in number of tourists and to the vitality of tourist industry. The number of cars registered has increased to 100,000 even though the decrease of total population and the experience of IMF.

As Korean economy experienced the IMF management system in 1997, one year after beginning to carry out those projects, the local economy also experienced serious economic recession due to the breakdown of many businesses. Even though, those indicators selected generally show the improvement in spite of some fluctuations.

The improvement in the quality of residents' life can be measured by the area of green space per person, the number of trees planted, the ratio of provision of tap water, sewerage and garbage treatment facilities. The renovation and construction of housing have occurred actively in the latter half of 1990, during which the number has decreased gradually after the peak in 1996.

Even though the total area of green space has not changed, the area of green space per person has increased continuously due to the decrease in total

population. The number of trees planted has not increased over the given period. The number of trees planted much more in the first half of 1990 than in the latter half of 1990. Since 1995 which shows the least number of trees planted, there are some ups and downs.

**Table 3. Selected indicators of measuring local competitiveness in Namhae County**

	Indicator	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
economic vitality	ratio of 25-64 years old (%)	-	-	-	56.6	54.2	47.9	49.5	47.5	49.4	49.7	
	deposit amount per person (million won)	1,659	1,897	2,026	2,801	3,587	12,502	7,545	6,993	4,376	7,203	
	No. of tourists (thousand)	1,851	1,895	1,942	1,956	2,209	1,643	2,875	2,981	2,995	2,950	
	no. of jobs related to restaurants and lodging	-	-	-	803	889	944	1,027	1,039	1,069	1,071	
	no. of car registered	2,589	3,434	4,222	5,113	6,171	7,280	8,190	9,147	9,326	9,645	
amenity of living environments	area of green space per person (m <sup>2</sup> )	535	515	517	516	519	521	525	532	529	537	
	no. of trees planted (thousand)	288	233.6	282	279	248	133	182	174	195	143	
	supply ratio of tap water (%)	22.0	23.0	23.3	26.1	26.5	31.5	32.2	31.6	33.1	32.6	
	supply ratio of sewerage (%)	0	0	0	0	0	0	0	0	0	0.455	
	ratio of population in garbage treatment area (%)	33.8	40.0	24.3	26.8	27.4	30.3	77.0	99.64	99.7	99.7	
	no. of athletic facilities	gymnasium	0	2	2	2	2	2	2	2	2	3
		sports complex	0	0	0	1	1	1	1	1	1	1

The ratio of tap water provided has increased continuously to one third of total population, even though being still lower than other areas. The proportion of population living in the garbage treatment areas has increased up to 99.7%. Likewise, environmental facilities have recently expanded over the whole county and the quality of living environments has been much improved. Especially, as the sewerage treatment facility constructed in Namhae-eup recently, population of 282, even though in a very limited

population, could be provided.

## **Conclusion**

From the approach of environmentally sound and sustainable development, development fulfilling the basic needs for the present generation should be incorporated into reservation using resources limitedly for the next generation. Likewise, the objectives of strengthening their competitiveness of distressed local counties should simultaneously pursue two goals of developing without exploitation and preserving their clean and beautiful natural resources.

Even though the methods or the levels of approaching sustainable development are various at worldwide level, sustainable development is getting recognition as the new developmental paradigm. The city of Crystal in Australia is the harbinger to sustainable development. In Korea, implementing sustainable development is just at the beginning stage. Recently, the Ministry of Environment has planned to designate one or more cities as an eco-city. Also, local authorities began to implement the developmental projects from the sustainable perspectives.

Namhae County has also started to implement sustainable projects since 1996. Implementation of sustainable development is on going and evolving process. The data is based on too a short time period to be conclusive. Nevertheless, because the chief's strong will to implement environmental-friendly approach to overall public policies and projects began to bear fruits, it is good enough to conclude that implementing environmental-friendly approach vitalizes local economy.

Especially, sports marketing strategies based on its mild climate and lawn playgrounds have been very successful. Two thousand players on National Archery League in March, 2000 and one thousand and sixty players on Gateball Competition in April, 2000 visited Namhae to participate. Moreover, ten thousand people from 169 elementary schools participated in the National League of Soccer Game for Elementary Schools on August, 2000. Whenever

sports events are being held, a lot of residents have engaged in private lodging business, which resulted in an increase in residents' income. According to survey done after games, above 90 % of participants responded to be very satisfied with the quality of lodging.

Nowadays, Namhae County is trying out for the authorized 2002 World Cup Training Camp having successfully held a series of sports competition. The strategic goal of becoming sports-mecca is about to be reached. Also, sustainable design and building elements have been incorporated into streets, the public buildings and facilities. Streetscape renovations to improve pedestrian safety and neighborhood quality are underway.

In conclusion, sustainable development in distressed local counties with pleasant natural environments could be a good strategy to strengthening the their competitiveness. The concept of sustainability should be introduced into the local short and long-term planning processes. In the future, local development projects will be required to meet a certain threshold of guideline performance or to incorporate a minimum number of guideline recommended practices. In terms of planning perspectives, two conditions are prerequisite to carry out effectively the principles of sustainable development at the local level. Implementation in urban design is one thing. Another is institutionalization as a code and guidance. The local authorities should prepare to formulate guidance for green design of buildings and public facilities. The guidelines present required and recommended practices intended to reduce environmental impact associated with the construction and operation of local development.

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