



Healthy City Gumi

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Document prepared by :

Public Health Center, Gumi City, Republic of Korea

School of Medicine, Kyungpook National University, Republic of Korea

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c/o Promotion Committee for Healthy Cities,

International Health & Medicine, Graduate School of Tokyo

Medical and Dental University

Yushima 1-5-45, Bunkyo-ku, Tokyo, 113-8519, Japan

Proposed Prepared by :

Gumi City, Public Health Center
853-12 Jisan-dong, Gumi-si,
Gyeongsangbuk-do, Republic of Korea

Contact person

Dr. Wonkyung Lee
Director of Public Health Center
E-mail: kjw518@korea.kr
Tel: +82-54-450-5702
Fax: +82-54-450-5951

In Collaboration with :

Kyungpook National University
#101 Dongin-2 ga, Jung-Gu, Daegu
Republic of Korea

Contact person

Prof. Keonyeop Kim
E-mail: pmkky@knu.ac.kr
Tel: +82-53-420-4863
Fax: +82-53-425-2447

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Policy statement in support of Healthy city Gumi

Gumi has embarked on a journey to build "*Great & Brilliant Gumi*" with the enthusiasm of its 400,000 citizens. Gumi is the hub of information technology industry and has a long-standing scholastic history in Korea. This city is the origin of natural preservation movements and the monumental place of the Saemaoul Movement(a nationwide campaign to revitalize and improve rural areas during 1970s).

In 21st century, everybody will be protected by diseases and right to happiness of healthy life. So health is the essential to promote Quality of Life and it is accomplished by harmonizing actively administrative efforts and individual participation.

We declare the following with applying as a full member the alliance for Healthy Cities.

1. Health is one of the fundamental rights of every human being regardless of age, gender, income and so forth.

1. Our community capacity will concentrate on improvement in Quality of Life and Sustainable development.

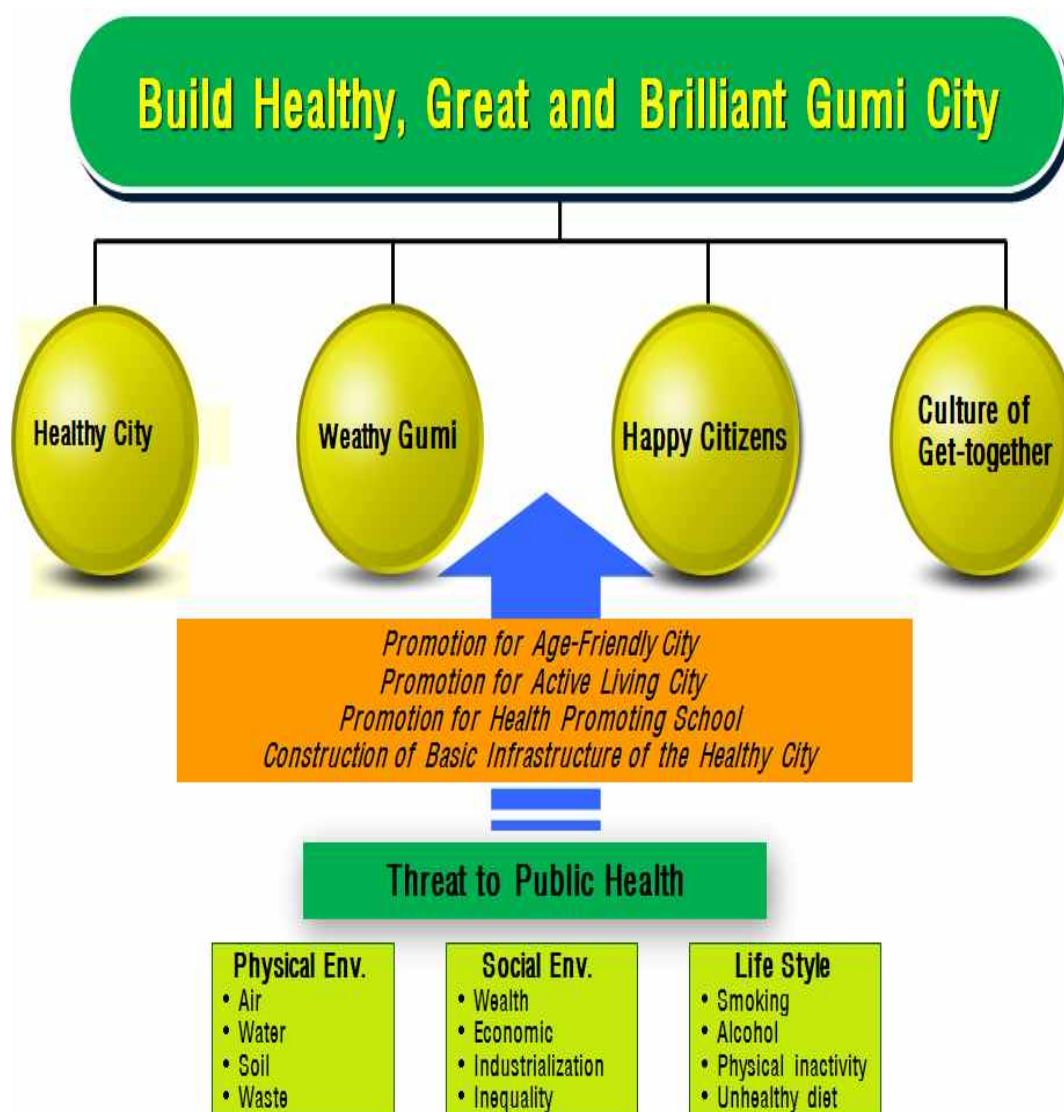
1. We will keep cooperating with AFHC to construct healthy city Gumi based on the five main actions of Ottawa Charter(build healthy public policy, create supportive environments, strengthen community action, develop personal skill, reorient health services).

January, 2010



Honorable Yoochin Nam
Gumi City Mayor
Gumi City
Republic of Korea

Future vision and goal



■ Vision of Healthy City Gumi

Build Healthy, Great and Brilliant Gumi City

■ Goals of Healthy City Gumi

Goal 1 : *Healthy City*

Create a healthy city throughout the year where playgrounds, workplaces, and residences harmoniously exist on the basis of a future-oriented mass transportation system and green and pleasant urban environment and residential conditions.

Goal 2 : *Wealthy Gumi*

Develop the city as the hub of economy in Korea where urban and rural areas alike become prosperous by reviving the sluggish regional economy through the creation of a 'company-friendly city' equipped with enhanced industrial infrastructures.

Goal 3 : *Happy Citizens*

Build up infrastructure and systems including a top-notch education environment for fostering highly educated human resources. With the joy of sharing and of working together, all the citizens will lead happy lives.

Goal 4 : *Culture of Get-together*

Develop an attractive and unique culture of Gumi where traditions and high-tech industries are united. Foster a culture of get-together which concentrates the hearts of citizens to show Gumi's unique color and power.

■ Principal Strategies of Healthy City Gumi

Strategy 1 : *Health-Promoting Setting(Workplace, School, Village)*

Strategy 2 : *Promotion for Active Living by Design*

Strategy 3 : *Promotion for Health in All Policies*

Strategy 4 : *Construction of Basic Infrastructure of the Healthy City*

Healthy City Gumi's Profile

Chapter 1. General Information of Gumi 1)

Gumi is located in the western part of Korea's North Gyeongsang Province, 277.5 km. south of Seoul and 167 km. north of Busan. The city has a population of 398,949 and has the biggest inland industrial complex in Korea (2.38 sq. km.) and covers an area of 616.25 sq. km., covering 3.2% of North Gyeongsang Province (slightly larger than Seoul). The city includes 6 myeon (townships), including Seonsan-eup and Goa-eup, and 19 dong (administrative districts).



Gumi serves as a hub of local development and transportation. Korea's main transportation arteries between Seoul and Busan, the Gyeongbu Railroad line and Gyeongbu Expressway, cross the city, allowing for the smooth flowing of goods and people. Also, the Nakdong River flows north to south through Gumi and has enhanced growth by supplying sufficient water for both agriculture and industry.

Originally, agriculture was the main industry of this region. As a result of the export drive policy in the early 1970s, Gumi has become the center of high-tech industry, leading national exports since the establishment of the Gumi National Industrial Complex. Average age of Gumi city is 33 years, a young city with 65% of the population being under 30 years of age.

Historical culture in the Nakdong River area is reflected from the many relics and

1) <http://english.gumi.go.kr/>

old tombs from the Gaya period, which demonstrate strong evidence that the region once was home to a lively, ancient culture. As the place where Buddhism first came to the peninsula during the Silla dynasty, Gumi was the site on which the first Buddhist Temple of Dori-sa was originally constructed. It also was the blossoming grounds for philosophy and eventually gave birth to many scholars, such as Ya Eun, Gil Jae, Kang Ho, Kim Suk-ja, Jeom Pil-jae, and Kim Jong-jik, as well as patriots like Ha Wee-ji, Lee Meng-jeon, and Huh Wee.

Former President Park Chunghee used Gumi to initiate the Export Drive Policy and the Saemaeul (New Village) Movement to pave the way for the astonishing growth of the Korean Economy. Gumi has been a birthplace of spiritual culture with a strong tradition and long history.



Its economical foundation contains a total of 1,772 companies with 80,000 workers. More than 430 companies are located in Gumi National Industrial Complexes 1, 2, 3, and 4. The rest operate in the Sandong, Goa, and Haepyeong rural industry complexes. Major products are mainly high-tech electronics and LCD's, CRT's, and telecommunication equipment. Exports of these products reached US\$10 bil. in 1999 and US\$34.2 bil. in 2008, achieving the wondrous record of 8.1% of national exports.

Henceforth, the Gumi City plans to enter an age of transportation with the Gyeongbu railways and expressways, overall construction work, and by opening up all traffic in the area's road systems. Also, Gumi is concentrating its efforts on building the infrastructure for the first Korean Silicon Valley, Gumi Technopolis, in which domestic venture companies, as well as foreign companies, can work without

any obstacles.

Gumi produces a number of agricultural products, mainly Seonsan Rice, watermelons, fungi, grapes, and melons. We aim to achieve a level of advanced agriculture by building the Flower Export Complex (about 363,000 sq. meters) for raising agriculture for export and for tourists. We also plan to establish an agriculture development center for assisting in the development of agricultural high technology to provide Gumi with the facilities to make it a global leader in agriculture.



Gumi is becoming a city of culture and a self-governing community, and the efforts of all citizens make it a better place to live. The beauty of Geumo-san Provincial Park, surrounding Cheonsaeng-san and Taejo-san, and the Nakdong River flowing through its center create a natural environment in which to live. The Gumi Cultural Festival is held every October. Overseas Koreans, people who were born and raised in Gumi, persons who live in other regions, and the citizens of the city come together for an exciting festival.

Gumi City is having many changes on the basis of great potential for development since the local self-governing system was commenced and jumping as the nucleus city of Korea and central city of Gyeongbuk. Gumi City, on the basis of the largest inland high tech electronics and information & telecommunication complex and advanced agricultural bases, is the city acting and breathing together with the world for construction of 21 century Technopolis.

Chapter 2. Symbol and Mascot of Gumi

1. Emblem and Mascot

1) Symbol / Emblem



The symbol expresses an image of never ending progress in an ultramodern city compatible with the highest culture. It consists of one core representing a city of the newest industry, another representing a brilliant culture, and a Moebius strip connecting the cores that reflects the infinite possibilities of permanent movement. The movement of electrons is included in the shape of the universal orbit, which leads to symbolizing the potential power of Gumi city as one of the most active locations to lead the world's electronic industry.

2) Mascot



This embodied image plays the role of a message bearer in promotions, campaigns, and various events by showing a familiar and dynamic feeling. 'TOMI' stands for 'Tortoise Of Millennium Intelligence' and represents Gumi's combination of intelligence, emotion, and technology for the new millennium.

3) Character



The character of Gumi city is a personified turtle named "Gumi." The turtle represents intelligence, showing the city's progressive civil spirits. The turtle's bow tie symbolizes courtesy and humanity. Combined, the character represents Gumi as a city harmonized with high-tech and human beings.

4) City Brand



YES GUMI, city brand of Gumi, symbolized the potential and energy of Gumi, and each letter of YES stands for the following:

Y = Young/Youthful (city with flowing youth)

E = Electronic (electronic industrial city)

S = Satisfaction (satisfied by all things and a faith that anything is possible)

2. Symbols of Gumi

1) City Flower- Forsythia (golden-bell flower)



As the first flower to blossom in the spring, it represents the immediate potential of Gumi city to quickly lead the high-tech electronic industry.

2) City Tree - Zelkova tree

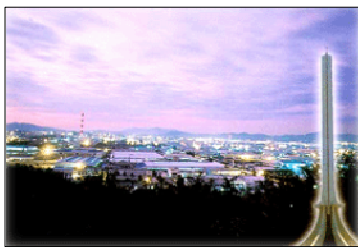


A Zelkova tree can grow well in any place with strong breeding. It stands for the progressive civil spirits found in Gumi city.

3) City Bird - Magpie



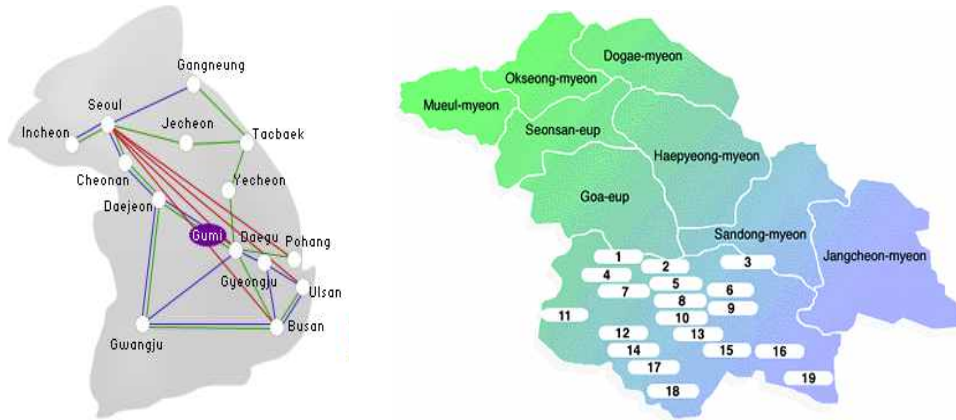
Koreans regard magpies as auspicious birds that deliver good news. For Gumi city, it promises progress and harmony.



Chapter 3. Geography and Area

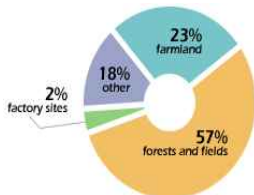
1. Geography

Gumi is located in the western part of Korea's North Gyeongsang Province. Gumi is connected to large cities by the Gyeongbu railways and expressways. Travel by Gyeongbu railway takes about 2 hours from Seoul to Gumi and about 40 minutes from Daegu to Gumi. Travel by car or bus takes about 2.5 hours from Seoul to Gumi and about 30 minutes from Daegu to Gumi. The city includes 6 myeon (townships), including Seonsan-eup and Goa-eup, and 19 dong (administrative districts).



2. Area

- Size of land : 616.25 sq. km(forests and field 57%, farmland 23%, factory sites 2%).



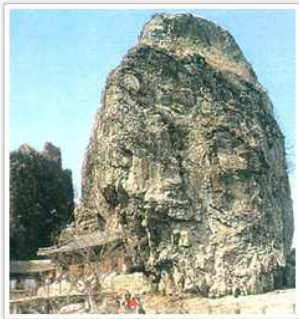
- Administration area : 2 towns, 6 townships, 19 administrative units (167 regions, 420 neighborhood units, 4,215 neighborhood associations)

Chapter 4. Culture



1. Historic sites and treasures

Yaksa-am Temple



This temple was built to honor Saint Uisang's attainment of Nirvana. It is located below a cliff (Yaksa Peak) on the top of the mountain. Reputed to have been built during the Silla period, the grounds contain no relics or remains from that time. Records do not indicate whether the temple took its name from Yaksa Peak or Yaksa Peak was named for the temple. The 2 tile-roof houses, sermon hall (Beop-dang), and a temple dormitory were built recently.

Seonsan Hyanggyo



This traditional village school was constructed at Gyo-ri, Seonsan-eup in the early Joseon Period, but later burned down when Japan invaded Korea. It was reconstructed in 1600 by Kim Yong who was then the governor of Seonsan. It contains several buildings: Daewoong-jeon, Myeongryun-dang, and Cheonga-ru. Local residents hold a memorial service called Seokjeon-je each spring and autumn.

Geumo-san Standing Statue of Buddha



This 5.5-meter Bodhisattva statue was sculptured on the corner of a rock wall. The centerline of the statue is the edge part of rock wall, so it shows special composition of both sides from the edge. It has both a halo and pedestal. Its face is oval-shaped and plentiful. Three lines of the neck are very clear, but the neck is so short that those lines were drawn down to the breast.

Dori-sa Temple Stone Pagoda



This granite pagoda was constructed during the Unified Silla period. It is 10 meters high and the largest in scale in the nation. The lower part has a carved trace and a small chamber inside. It is in Jukjang-sa Temple, located about 2 km. away from Seonsan-eup. According to legend, a brother and sister who lived together boasted of their skills and competed against each other to build a pagoda. The sister won by building this pagoda.

2. Cultural festival

Gumi Festival



Gumi Festival is held for 2 days every October 1-2. It has a major role for friendship and cooperation between residents. The first day begins with the opening ceremony that includes a ceremonial lighting parade and the lighting of the sacred fire in the stadium. Events include Korean traditional games and fireworks at night. The second day begins with mass calisthenics, followed by a masquerade, athletic sports (such as a marathon, volleyball, and soccer), and various traditional folk games and friendship games. The festivities commence with performances by famous entertainers and outdoor movies.

3. Tourist Attractions

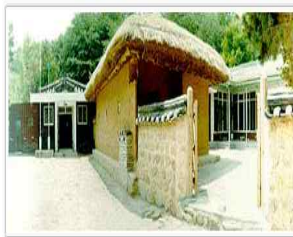
Geumo-san Provincial Park



Geumo-san Mountain, one of the eight famous spots in the Yeongnam region, stands 976 meters tall and attracts more than 2 million tourists throughout the year. The park has a waterfall and a natural cave in the middle of the mountain, a carved standing stone statue of Buddha (estimated to be done over 700 years old) below the top of the mountain, and several Buddhist temples around the mountain. It is also the birthplace of the nature preservation campaign in Korea. The city obtained the international standard certification from the ISO on May 10, 2001.

President Park Chunghee's Birth House

(<http://www.presidentpark.or.kr/english/history.jsp>)



This house is where former President Park Chunghee was born and raised. He contributed a lot to the modernization of the nation and initiated the Sae-ma-eul Movement. It was built around 1900 and has soil walls covered with a straw roof.

Chapter 5. The People of Gumi

○ As of 2008, the total population of Gumi was 398,949. Since 1998, the total population of Gumi has been in a tendency of increment. Being observed by age group, the 30s' was shown the highest composition rate which represented 19.9%.

The composition rate of aged population (over 65) which represented 6.0% was lower than National average. But, since ten years ago, the composition rate of aged population (over 65) and elderly population (45-64) has been in a tendency of increment.

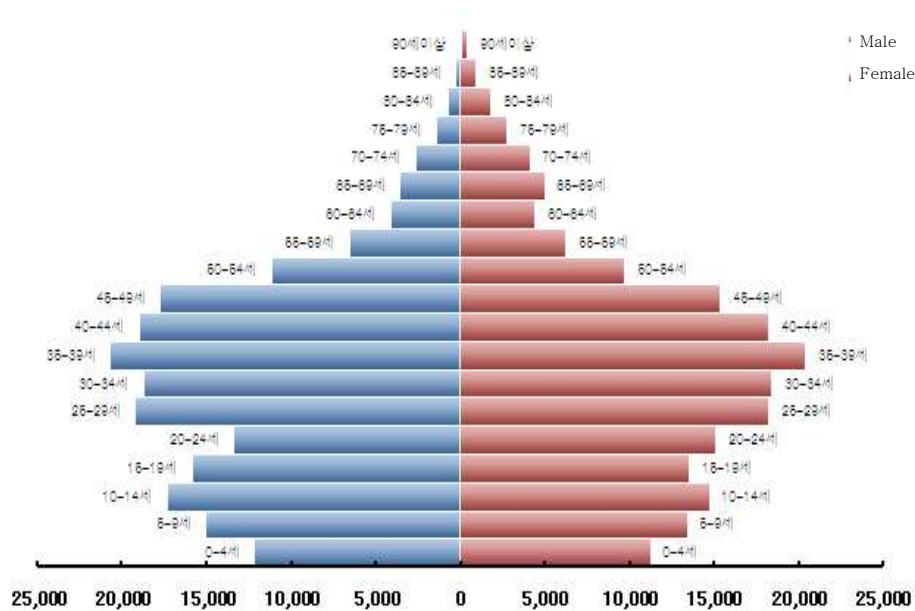


Figure 1. Age pyramid of Gumi Population(12. 31. 2008)

Source : Report on the Social Survey of Gumi City, 2009

Table 1. Annual trends of Population by Life-cycle

Unit: N, %

Life-cycle	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
0 - 4	33,095	32,798	31,603	30,782	29,471	28,477	27,266	25,409	24,353	24,231	23,448
Composition rate	10.1	9.8	9.4	8.9	8.4	8.0	7.5	6.8	6.3	6.2	6.0
5-19	80,262	81,725	82,647	84,238	84,673	85,379	88,005	89,902	91,811	91,265	90,028
Composition rate	24.4	24.4	24.5	24.5	24.2	24.0	24.1	24.0	23.8	23.3	22.9
20-44	162,597	166,023	164,713	167,849	170,680	172,549	175,509	178,385	183,217	183,107	181,552
Composition rate	49.5	49.5	48.9	48.8	48.8	48.5	48.0	47.6	47.4	46.7	46.1
45-64	37,886	39,472	41,671	44,259	47,491	50,610	55,228	60,555	65,858	70,728	75,370
Composition rate	11.5	11.8	12.4	12.9	13.6	14.2	15.1	16.2	17.0	18.0	19.1
over 65	14,819	15,469	16,280	17,031	17,696	18,614	19,673	20,363	21,226	22,566	23,561
Composition rate	4.5	4.6	4.8	4.9	5.1	5.2	5.4	5.4	5.5	5.8	6.0
Total	328,659	335,487	336,914	344,159	350,011	355,629	365,681	374,614	386,465	391,897	393,959

※ Source : Korea National Statistics Office, 2008

○ As of 2008, the total number of birth of Gumi was 4,837, the total number of death was 1,338, so the total number of increment was 3,499 and the total incremental rate was 8.9 increments per 1,000 population.

From 2000 to 2002, the crude birth rate of Gumi was decreased rapidly, and later on the decrease rate of crude birth rate has slowed.

The crude birth rate of Gumi is higher than National average while the crude death rate of Gumi is lower than National average, so the incremental rate of Gumi is higher than National average.

Table 2. Annual trends of Birth, Death and Increment

Unit: N, per 1,000 population

	2000	2001	2002	2003	2004	2005	2006	2007	2008
No. of Birth	6,646	5,653	4,959	5,147	4,867	4,719	4,841	5,208	4,837
Crude birth rate	19.8	16.6	14.3	14.6	13.5	12.7	12.7	13.4	12.3
No. of Death	1,312	1,329	1,426	1,275	1,389	1,398	1,355	1,365	1,338
Crude Death rate	3.9	3.9	4.1	3.6	3.9	3.8	3.6	3.5	3.4
No. of Increment	5,334	4,324	3,533	3,872	3,478	3,321	3,486	3,843	3,499
Crude Increment rate	15.9	12.7	10.2	11.0	9.6	9.0	9.2	9.9	8.9

※ Source : Korea National Statistics Office, 2008

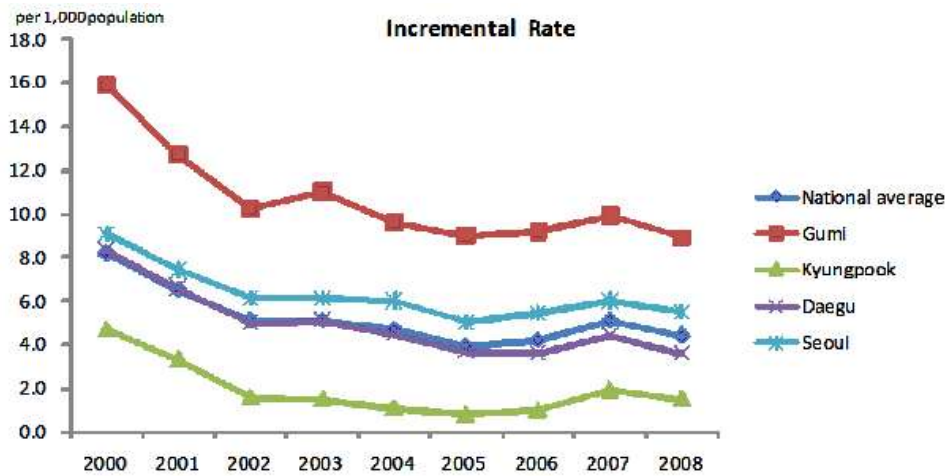


Figure 2. Annual trends of Incremental Rate
 ※ Source : Korea National Statistics Office, 2008

Chapter 6. General Health Status

1. Mortality

○ The total age-adjusted death rate of Gumi which, although, has been in a tendency of decrement since 2005, was higher than National average or Seoul.

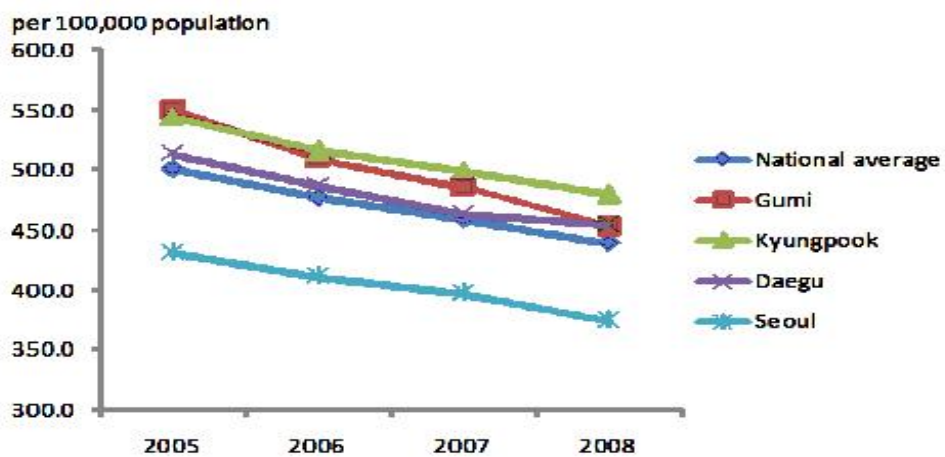


Figure 3. Annual trends of total age-adjusted death rate
 ※ Source : Korea National Statistics Office, 2008

○ The order of major cause of death of Gumi was malignant neoplasm, cerebrovascular disease, heart disease, intentional self-harm etc. Compare to national average, major cause of death was same, but the order was different. Specially, at transport accidents, ranking was higher than national average and also age adjusted death rate was 1.5times higher than national average.

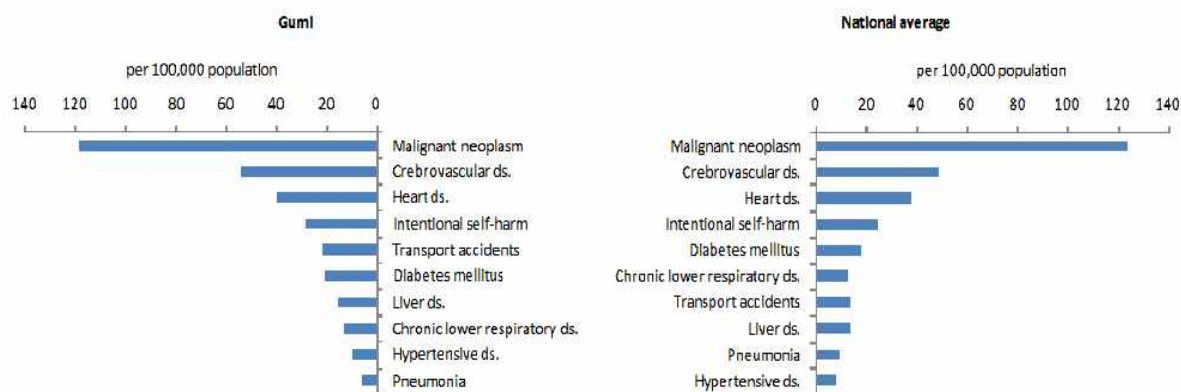


Figure 4. Ranking of major causes of death, 2008. Gumi vs National average
 ※ Source : Korea National Statistics Office, 2008

Table 3. Ranking of major causes of death(2008) by Gender. Gumi vs National average.
 Unit : per 100,000 population, %

Ranking	National average				Gumi					
	Male	ASR*	Female	ASR*	Male	ASR*	NR†	Female	ASR*	NR†
1	Malignant neoplasm	189.9	Malignant neoplasm	78.7	Malignant neoplasm	174.8	92.0	Malignant neoplasm	79.4	100.9
2	Cerebral vascular ds.	62.9	Cerebral vascular ds.	39.4	Cerebral vascular ds.	59.2	94.1	Cerebral vascular ds.	48.7	123.6
3	Heart ds.	48.4	Heart ds.	28.8	Heart ds.	52.0	107.4	Heart ds.	30.9	107.3
4	Intentional self-harm	33.7	Intentional self-harm	17.2	Intentional self-harm	40.8	121.1	Intentional self-harm	19.0	110.5
5	Diabetes mellitus	22.9	Diabetes mellitus	14.4	Transport accidents	34.7	157.7	Diabetes mellitus	18.7	129.9
6	Liver ds.	22.6	Hypertensive ds.	8.0	Liver ds.	31.8	140.7	Transport accidents	11.0	169.2
7	Chronic lower respiratory ds.	22.5	Chronic lower respiratory ds.	7.3	Chronic lower respiratory ds.	22.6	100.4	Hypertensive ds.	8.2	102.5
8	Transport accidents	22.0	Pneumonia	6.7	Diabetes mellitus	21.8	95.2	Chronic lower respiratory ds.	8.1	111.0
9	Pneumonia	14.3	Transport accidents	6.5	Pneumonia	15.0	104.9	Pulmonary tuberculosis	3.5	184.2
10	Hypertensive ds.	7.9	Liver ds.	4.5	Hypertensive ds.	10.9	138.0	Alzheimer ds.	3.0	93.8

* ASR : Age-adjusted death rate

† NR : Nation ratio, The ratio of Gumi/National average

※ Source : Korea National Statistics Office, 2008

○ In the male, compare to national average, the age-adjusted death rate of liver

disease, transport accidents and assault were higher, while in the female, the age-adjusted death rate of pulmonary tuberculosis, malignant neoplasm of colon, rectum and anus, transport accidents were higher than national average.

Table 4. Age-adjusted death rate of major causes of death

Unit : per 100,000 population, %

Classification	Nation			Gumi					
	Total	Male	Female	Death rate			Nation ratio		
				Total	Male	Female	Total	Male	Female
Total	438.9	612.8	310.6	452.9	636.6	323.0	103.2	103.9	104.0
Certain infection & parasitic diseases	10.0	14.8	6.6	11.9	15.6	8.2	119.0	105.4	124.2
Respiratory tuberculosis	3.8	6.7	1.9	4.2	4.6	3.5	110.5	68.7	184.2
Neoplasms	125.8	192.1	80.1	120.4	177.0	81.5	95.7	92.1	101.7
Malignant neoplasm of stomach	18.6	29.3	11.2	15.8	26.4	9.0	84.9	90.1	80.4
Malignant neoplasm of colon, rectum and anus	12.3	16.9	9.2	13.8	9.9	15.2	112.2	58.6	165.2
Malignant neoplasm of liver and intrahepatic bile ducts	20.5	34.7	8.8	18.0	27.1	9.6	87.8	78.1	109.1
Malignant neoplasm of trachea, bronchus and lung	26.4	48.2	11.6	24.9	49.6	8.7	94.3	102.9	75.0
Malignant neoplasm of breast	3.2	0.1	6.1	3.2	-	6.1	100.0	-	100.0
Malignant neoplasm of cervix uteri	2.3	-	4.1	1.7	-	3.1	73.9	-	75.6
Endocrine, nutritional and metabolic diseases	19.6	24.6	15.7	23.4	24.8	21.1	119.4	100.8	134.4
Diabetes mellitus	18.1	22.9	14.4	20.7	21.8	18.7	114.4	95.2	129.9
Diseases of the circulatory system	97.2	122.8	77.9	106.8	129.9	89.1	109.9	105.8	114.4
Hypertensive diseases	8.1	7.9	8.0	9.5	10.9	8.2	117.3	138.0	102.5
Ischemic heart diseases	22.4	30.8	15.7	25.0	31.4	19.5	111.6	101.9	124.2
Cerebrovascular diseases	49.0	62.9	39.4	54.3	59.2	48.7	110.8	94.1	123.6
Diseases of the respiratory system	27.7	46.0	17.4	21.7	45.0	11.1	78.3	97.8	63.8
Chronic lower respiratory diseases	12.7	22.5	7.3	12.7	22.6	8.1	100.0	100.4	111.0
Diseases of the digestive system	19.5	31.0	9.3	19.3	37.4	6.6	99.0	120.6	71.0
Disease of the liver	13.2	22.6	4.5	15.1	31.8	2.2	114.4	140.7	48.9
External causes of mortality	57.7	84.1	34.6	66.3	105.7	37.4	114.9	125.7	108.1
Transport accidents	13.9	22.0	6.5	21.3	34.7	11.0	153.2	157.7	169.2
Intentional self-harm	24.7	33.7	17.2	28.0	40.8	19.0	113.4	121.1	110.5
Assault	1.3	1.4	1.3	1.5	2.4	1.1	115.4	171.4	84.6

※ Source : Korea National Statistics Office. 2008.

2. Morbidity

○ The diseases whose prevalence of physician diagnosed chronic disease in Gumi are higher than that of nation and Gyeongbuk province were myocardial infarction, hyperlipidemia. Overall, prevalence of physician diagnosed chronic disease in Gumi-Seonsan County was higher than that of nation and Gyeongbuk province.

Table 5. prevalence of physician diagnosed per 1,000 population

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Hypertension	95.0	171.9	151.6	128.7
Diabetes Mellitus	40.2	68.0	59.3	51.7
Stroke	12.7	20.9	18.2	15.9
Myocardial Infarction	14.9	6.5	9.4	5.6
Angina	7.7	14.2	10.7	11.3
Hyperlipidemia	61.0	56.6	39.8	29.0
Osteoporosis	25.5	61.1	42.5	39.7
Arthritis	41.5	104.5	87.0	102.5
Asthma	13.5	29.8	20.2	21.3

※ Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2005)

3. Health status and Quality of Life(QOL)

○ In Gumi City, the survey on subjective perception of health condition showed that 46.5% of adults said 'fair' and few of them said 'poor' to questionnaire. The rate of adults who said 'very good' and 'good' to questionnaire Gumi-Seonsan County(52.5%) was higher than that of nation and Gyeongbuk province, and also the rate of adults who said 'bad' was higher than that of them.

Table 6. Subjective Perception of Health Status in Adult

Unit : %

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Very Good	1.9	7.6	5.3	32.2
Good	39.0	44.9	36.4	
Fair	46.5	22.3	36.5	67.8
Poor	9.3	17.8	17.2	
Very Poor	3.3	7.5	4.6	

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

○ Quality of life in Gumi was lower than that of Gyeongbuk province, but it was similar level that of nation. Quality of life in Gumi-Seonsan County was lower than that of nation and Gyeongbuk province.

Table 7. Quality of life

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
EQ-5D Index	0.933	0.893	0.944	0.931
Male	0.939	0.910	0.957	0.952
Female	0.927	0.875	0.930	0.909

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

Chapter 7. Health Behavior

1. Smoking

○ Adult smoking rates in Gumi(30.5%) and Gumi-Seonsan County(26.1%) were higher than that of nation and Gyeongbuk province. In particular female smoking rate in Gumi was higher than other area. Try rates of smoking cessation in Gumi(46.0%) and Gumi-Seonsan County(43.4%) were higher than that of Gyeongbuk province, but

they were lower than that of nation(60.8%). For female try rate of smoking cessation in Gumi was low. The starting age of smoking was 19.3 years old in Gumi County and this age remarks the earliest in nation age(20.2 years old), Gyeongbuk province age(22.6 years old) and Gumi-Seonsan County age(20.4 years old).

Table 8. Smoking status in adults

unit : %, years

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Smoking rate	30.5	26.1	26.5	25.0
Male	54.9	49.8	50.0	45.1
Female	6.3	2.4	3.6	5.3
Try rate of smoking cessation	46.0	43.4	35.8	60.8
Male	48.7	43.4	36.0	59.9
Female	22.9	44.0	33.0	67.9
Age at the first smoking	19.3	20.4	22.6	20.2
Male	18.9	19.7	21.6	19.1
Female	22.2	36.3	35.8	25.2

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

2. Alcohol

○ Drinking rate in Gumi(65.4%) was higher than nation, especially for female was high. Age at the first drinking in Gumi(20.1 years old) was earlier than that of nation and Gyeongbuk province.

Table 9. Drinking status in adults

unit : %, years

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Drinking rate	65.4	52.5	68.2	56.7
Male	79.8	69.3	78.8	73.9
Female	51.2	35.7	53.9	39.9
Age at the first drinking	20.1	22.7	22.8	21.7
Male	18.2	19.1	20.2	19.1
Female	22.1	27.4	26.3	24.6

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

○ The rates of high-risk drinking in Gumi(60.1%) and Gumi-Seonsan County(51.0%) were higher than that of nation and Gyeongbuk province.

Table 10. High-risk drinking rate

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
High-risk drinking rate	60.1	51.0	46.9	49.3

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

3. Physical activity and exercise

○ The rate of adults who did high and middle strength physical exercise in Gumi was low for female but in Gumi-Seonsan County was low for male. The rate of walking was lowest in Gumi-Seonsan County(40.8%).

Table 11. Physical exercise and walking rate in adults

unit : %

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Physical exercises rate of high strength and middle strength	10.5	8.0	7.9	9.9
Male	12.7	9.2	9.6	10.6
Female	8.2	6.8	6.3	9.3
Walking rate	57.9	40.8	59.2	45.8
Male	61.4	37.8	60.8	47.5
Female	54.5	43.8	57.8	44.1

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

4. Obesity and weight control

○ Adult obesity rate in Gumi(27.2%) was higher than of Gyeongbuk province(21.9%) and Gumi-Seonsan County(24.4%), especially for male in Gumi (34.7%) was highest. Trying weight control rate in Gumi(37.3%) was also higher than of Gyeongbuk province(24.7%) and Gumi-Seonsan County(22.2%).

Table 12. Obesity rate in adults

unit : %

	Gumi			Gumi-Seonsan			Gyeongbuk		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Low weight (BMI<18.5)	4.9	2.2	7.5	6.0	4.2	7.8	6.1	3.5	8.7
Normal weight	68.0	63.1	72.8	69.7	66.3	73.3	72.0	71.3	72.8
Obesity (BMI≥25)	27.2	34.7	19.7	24.4	29.6	18.9	21.9	25.2	18.6

* Source : Community Health Survey(2008)

Table 13. Trying weight control in adults

unit : %

	Gumi			Gumi-Seonsan			Gyeongbuk		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Try to lose weight	37.3	28.6	45.9	22.2	17.9	26.4	24.7	19.1	30.1
Try to gain weight	10.1	11.0	9.2	8.5	9.5	7.4	9.9	10.3	9.4
Try to stay weight	5.8	9.3	2.4	1.8	2.7	0.9	3.5	5.0	2.1
Not try	46.7	51.1	42.4	67.6	69.9	65.3	61.9	65.6	58.4

* Source : Community Health Survey(2008)

5. Perception of stress

○ Subjective perception of stress in Gumi(33.4%) was higher than that of nation & Gyeongbuk province(27.1%) and Gumi-Seonsan County(29.1%).

Table 14. Perception of stress in adults

unit : %

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Total	33.4	29.1	27.1	27.1
Male	31.1	32.0	26.7	23.7
Female	35.8	26.1	27.5	30.3

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

Chapter 8. Health Service and Infrastructure

○ As of 2007, the ratio of hospital bed per person was 165 including general hospital, nursing home, clinic, and doctor's office. As of 2007, the ratio of medical personnel per person was 269 including doctors, dentists, traditional Oriental medicine doctors, pharmacist, and nurses; the ratio of doctors per person was 865 and nurses was 635. Medical infrastructure is in need.

Table 15. Number of population per bed

Unit : bed, person

	Nation		Gyeongbuk		Gumi	
	No. of beds	Population per beds	No. of beds	Population per beds	No. of beds	Population per beds
Total	450,119	109	27,749	97	2,421	165
Population	49,268,928		2,681,364		398,949	
Source	Health & Welfare Statistical Yearbook (2008)		Health & Welfare Statistical Yearbook (2008)		Gumi Statistical Yearbook(2007)	

Table 16. Number of Medical Personnel per person

Unit : person

	Nation		Gumi	
	No. of License person	Population per License person	No. of License person	Population per License person
Physicians	91,475	539	461	865
Dentists	23,126	2,130	139	2,870
Oriental Medical Doctors	16,732	2,945	127	3,141
Pharmacists	57,176	862	133	3,000
Nurses	235,687	209	623	635
Total	424,196	116	1,483	269
Population	49,268,928		398,949	
Source	Health & Welfare Statistical Yearbook (2008)		Gumi Statistical Yearbook (2008)	

○ The percentage of people who participated in health examination over the last 2 years in Gumi(54.1%) was higher than that of nation, and the percent of people who participated in cancer screening test in Gumi county(28.7%) was lower than that of nation and Gyeongbuk.

Table 17. Health Examination rate

unit : %

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Health Examination rate during these two years	54.1	61.3	54.1	48.6
Cancer screening	28.7	39.9	33.3	36.2

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

○ Percentage of uncured medical need in Gumi was 19.1%: Gumi-Seonsan(17.8%), Gyeongbuk(13.7%), nation(22.4%). Percentage of uncured medical need for economic reason in Gumi(17.2%) was lower than that of nation(22.3%) and Gyeongbuk(27.2%).

Table 18. Percentage of uncured medical need

unit : %

	Gumi	Gumi-Seonsan	Gyeongbuk	Nation
Percentage of uncured medical need	19.1	17.8	13.7	22.4
Percentage of uncured medical need for economic reason	17.2	28.4	27.2	22.3

* Source : Community Health Survey(2008), Korean National Health and Nutrition Survey(2007)

Chapter 9. Physical and Social Environment

○ Water supply facilities penetration rate is 96.36% and the amount of water supplied per person is 366 ℓ .

○ 20 cases of major waterborne infection were developed at 2000. But, after 2005, developing of waterborne infectious disease was much reduced.

Table 19. Water pollution

Place	PH(pH)	DO(mg/ℓ)	BOD (mg/ℓ)	COD (mg/ℓ)	SS (mg/ℓ)	Coliform Group (MPL/100)
Whole area of Gumi	7.9	9.3	1.6	3.8	7.4	1,204.0
Water drain of Gumi industrial complex.	6.9	5.6	1.8	11.2	4.6	792.8

※ Source : Gumi branch of Daegu Regional Environmental Office.

Table 20. Incidence of Major Waterborne infectious disease

Year	Cholera	Typhoid	Paratyphoid	Bacillary dysentery	EHEC infections	Total
2000	0	13	0	7	0	20
2001	0	5	1	1	0	7
2002	0	1	1	13	0	15
2003	0	2	0	2	1	5
2004	0	6	0	3	0	9
2005	0	1	0	0	0	1
2006	0	4	0	1	0	5
2007	0	1	0	0	1	2

※ Source : Annual Statistics of Gumi City

○ In air pollution of Gumi, most of air pollution criteria has shown a good result except PM-10.

Table 21. Air pollution

Year	SO ₂ (ppm/year)	CO (ppm/8hours)	NO ₂ (ppm/year)	Dust ($\mu\text{g}/\text{m}^3$)/year)	O ₃ (ppm/8hours)
2006	0.006	0.8	0.029	58	0.025
2007	0.006	1.0	0.028	60	0.026

※ Source : Annual Statistics of Gumi City

○ A household trash amount per person in 2007 was 0.64kg and it was less than that of nation (0.99kg) according to the census of dept. of Environment in 2007.

○ Total number of parks in Gumi was 180. The size of urban park per person was 36.6m².

Table 22. Annual trends of distribution of park

Unit : N, 1000m²

Year	Total		Natural park		Urban park		Urban natural park area	
	No. of park	Size	No. of park	Size	No. of park	Size	No. of park	Size
1999	180	36,011.7	1	21,330	179	14,681.7	1	5,744.9
2000	180	36,011.7	1	21,330	179	14,681.7	1	5,744.9
2001	180	36,011.7	1	21,330	179	14,681.7	1	5,744.9
2002	180	36,011.7	1	21,330	179	14,681.7	1	5,744.9
2003	180	36,011.7	1	21,330	179	14,681.7	1	5,744.9
2004	179	35,966.8	1	21,330	178	14,636.8	2	6,059.3
2005	179	35,966.8	1	21,330	178	14,636.8	2	6,059.3
2006	179	35,966.4	1	21,330	178	14,636.4	2	6,059.3
2007	180	35,958.7	1	21,330	179	14,628.7	2	6,059

※ Source : Annual Statistics of Gumi City

○ The number of registered autos is growing: As of 2009, the registered cars in Gumi were 157,559 and the ratio of people per a car was 2.53 people.

Table 23. Number of motor vehicles

Year	2006	2007	2008	2009
Number	145,373	150,466	152,944	157,559

※ Source : Gumi City Office, 2009

○ The annual crime occurrence from 1999 to 2007 has increased. As of 2007, crime occurrence frequency was 18,335 cases and arrest rate was 79%.

Table 24. Cases of crimes occurrence

Year	Incidence	Arrest
1999	13,059	12,635
2000	15,914	12,654
2001	14,701	12,110
2002	13,568	12,332
2003	16,377	14,048
2004	21,301	18,555
2005	17,537	14,318
2006	17,152	13,567
2007	18,335	14,509

※ Source : Gumi Police Station

○ Traffic accident occurrence in 2007 was 2,373 cases including that the dead was 60 people and the injured was 3,636 people. The ratio of the dead per 100,000 persons was 15 people and it was higher than nation average. It is necessary to have a plan to prevent and administrate traffic accident to secure safety of residents.

Table 25. Annual trends of transport accidents

Year	No. of Transport accident		No. of the dead		No. of the injured	
	Total	per 10,000 motor vehicle	Total	per 100,000 population	Total	per 100,000 population
1999	2,701	286	91	27	3,474	1,026
2000	3,015	302	125	37	3,965	1,163
2001	2,683	250	93	26	3,500	1,004
2002	2,567	216	64	18	3,332	939
2003	2,715	219	60	16	3,332	925
2004	2,422	189	71	19	3,057	826
2005	2,528	183	72	19	3,953	1,055
2006	2,560	176	51	13	3,949	1,009
2007	2,373	157	60	15	3,636	916

※ Source : Annual Statistics of Gumi City, 2008.

○ The order of public facilities to be more established from now on that recognized by residents was Park · Amusement park, Social welfare facility, Health care facility and so on, the composition rate was 17.6%, 16.0%, 13.5%, respectively. Being observed by age group, 10s' chose Library at a rate of 32.7% which is highest, while aged population (over 60) was Social welfare facility by 35.9%.

Table 26. The composition rate of public facilities to be more established from now on

Unit : %

	Child care facility	Park · Amusement park	Health care facility	Social welfare facility	Public parking lot	Cultural facility	Library	Athletic facility
Total	12.8	17.6	13.5	16.0	8.6	8.0	9.3	9.8
Male	12.1	16.6	12.4	15.1	11.5	6.8	8.2	13.5
Female	13.5	18.7	14.7	16.9	5.8	9.1	10.4	6.1
15~19	5.5	15.1	5.9	7.9	2.2	12.8	32.7	15.9
20~29	19.0	21.6	4.8	8.9	8.2	8.2	9.4	13.8
30~39	21.4	21.0	10.4	8.4	9.2	9.8	8.4	7.6
40~49	6.7	19.3	14.5	15.4	11.4	8.8	10.1	10.5
50~59	9.1	13.4	19.1	25.4	12.6	5.1	2.7	8.4
Over 60	8.8	9.0	26.7	35.9	2.1	2.0	1.9	6.3
Over 65	5.9	8.4	27.4	39.5	1.2	2.0	2.1	6.6

※ Source : Report on the Social Survey of Gumi City(2009)

Analysis of priority health problem of Gumi

○ Directions of Healthy City Gumi through analysis of main health problems of Gumi are below;

Health Problem 1. Being observed by age group, the younger group is shown the highest composition rate, so the target groups are workers in factory and students in school. And some rural areas show aged societies, the health promotion and active ageing programs to the elderly are necessary.

Health-Promoting Setting(Workplace, School, Village)

Health Problem 2. The major cause of death of Gumi and main morbidity were chronic diseases(malignant neoplasm, cerebrovascular disease, cardiovascular disease, suicide, accident etc), so the programs(health promotion and disease management) to prevent and control the chronic diseases are necessary.

Promotion for Health in All Policies

Health Problem 3. Adult smoking rates were higher than that of nation and Gyeongbuk province. In particular female smoking rate in Gumi was higher and female try rate of smoking cessation in Gumi was lower than other area. Drinking rate and high-risk drinking rate in Gumi was higher than nation, especially for female was high.

Promotion for Health in All Policies(Smoking, Alcohol)

Health Problem 4. The rate of adults physical exercise was about 10.0%. Adult obesity rate(especially for male) in Gumi was higher than other area. The rate of physical activity & exercise practice is low, so due to this, obesity population increases. Countermeasures to solve this problem is required. The citizens' subjective satisfaction of walkability environments was not good.

Promotion for Active Living by Design

Health Problem 5. Subjective perception of stress in Gumi was higher than that of nation & Gyeongbuk province. And the mortality of suicide has been increased recently. So the mental health programs are necessary.

Promotion for Health in All Policies(Mental Health)

Health Problem 6. Percentage of uncured medical need and uncured medical need for economic reason in Gumi were 19.1% and 17.2%.

Promotion for Health in All Policies(Health Inequality)

Health Problem 7. Recently developing of waterborne infectious diseases were much reduced, but the preventive and comprehensive programs to the infectious disease are needed. Emerging(for example, swine influenza) and re-emerging infectious diseases are always great harms to the city and citizens.

Promotion for Health in All Policies(Infectious Disease)

Health Problem 8. The first order of public facilities to be more established from citizens is Park · Amusement park. Being observed by age group, 10s' chose Library, while aged population is Social welfare facility.

***Promotion for Health in All Policies
(Physical and Social Environment Approach)
Promotion for Active Living by Design***



Toward Healthy City Gumi

Chapter 1. Healthy City Gumi Passage

- *2000 yr* : Initiating Community Health Promotion Programs
- *2000 – Present* : Continuing and Expanding Community Health Promotion Programs
- *Aug. 2008* : Preparing Healthy City Gumi(**Mayor resolving**)
- *Jan. 2009* : Starting "**Healthy City Team**" in Public Health Center
- *Jan. 2009* : Benchmarking to Healthy City Andong(a member of AFHC, ROK)
- *Mar. 2009* : Education about Healthy Cities to Public Health Center Personnels
- *Mar. 2009* : Benchmarking to Healthy City Changwon(a member of AFHC, ROK)
- *Mar. 2009* : Healthy City Gumi Promotional leaflets produced
- *Apr. 2009* : Explanation about Healthy Cities to Council
- *Apr. 2009 – Present* : Publicity and Education about Healthy Cities to Citizens



- *May. 2009* : Healthy City Gumi instructional videos produced

- *Jul. 2009* : Attending the "Workshop for Healthy Cities" in Andong



- *Jul. 2009* : Benchmarking to Healthy City Wonju(a member of AFHC, ROK)
- *Sept. 2000* : **Healthy City Gumi Local Government Ordinance** enacted
- *Oct. 2008* : Joining a full member of "Korea Healthy Cities Partnership"
- *Nov. 2008* : Attending the "Health Promotion Forum(The Present and Future of Korea Healthy City Project)" in Jeonju
- *Dec. 2008* : Explanation about Health City research projects to Steering Committee



Chapter 2. The Past & Current Health Promotion Programs of Gumi

- Strategy of Health Promotion in Gumi
 - Improvement of Health behavior and practice(Primary Prevention)
 - Early detection and management of illness(Secondary Prevention)
 - Supporting service function of health rehabilitation(Tertiary Prevention)
 - Promotion and improvement of healthy environment
 - Reinforcement of preventive-centered health management
 - Construction of the health management system according to the life cycle
 - Reinforcement of health potentials
 - Acquirement of health equity

- The Past & Current Programs of Health Promotion in Gumi(<http://phc.gumi.go.kr/>)
 - Improvement of health behavior : Alcohol, Healthy Eating Education Program



- Improvement of health behavior : Physical Activity Program in Elementary School



- Improvement of health behavior : Walking-Leader Education Program



- Improvement of health behavior : Walking Day Program(every month)



- Operation of anti-smoking program



- Create health-friendly environments



Chapter 3. The Future Strategy and Programs of Healthy City Gumi

Strategy 1 : *Health-Promoting Setting (Workplace, School, Village)*

○ A healthy setting is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to support each other in performing all the functions of life and in developing themselves to their maximum potential.

○ A *healthy workplace* is a place where individuals and the organization both thrive and take responsibility for improving their own health, as well as creating a healthy workplace environment.

Program 1. Health & Safety

- The environment in which people work is a major influence on employee health.
- Noise level, Air quality, Ergonomics, Toxic substances, Workplace design, Safe lifting, Employee violence, Physical demands, Safety guidelines

Program 2. Culture & Social Environment

- Basic human needs such as sense of belonging, purpose and mission, sense of control and freedom from harassment.
- Balance between work and family, Staff involvement in decision making, Flex time, Peer communication, Employee training and development, Employee satisfaction, Positive supervisor communication and feedback, Staff morale, Employee recognition, Social atmosphere

Program 3. Lifestyle Practices of Employees

- Workplaces that support health practices encourage healthy behaviors/coping skills.
- Healthy weight, Healthy eating, Physical activity, Women's health issues, Hygiene, Stress management, Coping with shiftwork, Healthy pregnancy, Alcohol use

○ A *health-promoting school* is a school constantly strengthening its capacity to implement a comprehensive school health program and serve as a healthy setting for living, learning, sharing and working.

Program 1. School healthy policy

- Designation of health promotion schools, conferences, education for teachers and workshop, student school health committee

Program 2. Improvement of school physical environment

- Desks and chair that fit students' body structure, student road safety, school parks, prevention of epidemic and disinfection, painting, improvement of bath room, improvement of student cafeteria facility, toothbrush school

Program 3. Improvement of school social environment

- Facility and program of the handicapped children, bullying prevention and management program, low income children management program, mental health education

Program 4. Strengthening local community Partnership

- Opening library and school yards, school health day event, Health seminar for parents, parents volunteering program, activation of school support program of local companies (society oriented companies), Dream tree academy (social leaders' lecture for students)

Program 5. Improvement of Individual health skill

- Obesity prevention exercise and nutrition education, non-smoking, stopping drinking alcohol, dental education, proper posture education, children health club.

Program 6. School medical health care service

- Student health examination, improvement of medical health care facility and program.

Strategy 2 : Promotion for Active Living by Design

○ Changes in city environments, less physically demanding working lives and technological innovation have all contributed to sedentary lifestyles, posing a threat to public health. Active Living is a way of life that integrates physical activity into daily routines. Individuals may achieve this by walking or bicycling for transportation, exercise or pleasure; playing in the park; working in the yard; taking the stairs; and using recreation facilities. Community give a supportive active living environments.

○ Civil and public partnership, barrier removal, capacity construction, education and promotion, community members' recognition change and participation, active healthy city network construction(organization of the community members, universities, public institutions living sports association, and hospitals)

Program 1. Providing Active Living Program

- "Go Walk, Go Bicycle, Go Transit" Program
- "Active School, Active Business, Active Neighborhood" Program
- Operation of the Walking, Bicycling school
- One individual One health club project

Program 2. Supporting and Designing Active Living Program

- Designing the health-friendly urban planning
- Development of theme parks of walking and bicycling
- Making Active Healthy Parks
- Establishment of Health Promotion Center
- Walking along the cultural heritage sites
- Development of bicycling course and maps for walking
- Development of "beautiful village road" for walking
- Designation of physical activity(walking) day
- The national wide, international, community sports competitions
- Bicycling and Walking Competition

Strategy 3 : *Promotion for Health in All Policies*

○ Health in all policies based on a recognition that population health is not merely a product of health sector activities but largely determined by policies and actions beyond the health sector. Health in all policies addresses all policies such as those influencing transport, housing and urban development, the environment, education, agriculture, fiscal policies, tax policies and economic policies.

Program 1. Caring and supportive environments

○ A healthy city should be above all a city for all its citizens, inclusive, supportive, sensitive and responsive to their diverse needs and expectations.

○ Better outcomes for all children : Atopy & Asthma Prevention, Nutrition Plus(WIC)

○ Age-friendly cities : Elderly-Elderly Health School, Activation of the senior centers, First aid education, Providing customized job and expansion of social participation

○ Multicultural group and social inclusion : Multicultural family & worker support(physical & social)

○ Health and social services : particularly for vulnerable groups

Program 2. Healthy living

○ A healthy city provides conditions and opportunities that support healthy lifestyles

○ Preventing noncommunicable diseases : Prevention & Surveillance, Hand-Washing

○ Strengthening the capacity of local health systems : Cancer & Cardiovascular disease management, Home visiting

- Tobacco-free cities/Prevent alcohol abuse
- Active living : Walking day, Sports club & facilities
- Healthy food and diet : Obesity control
- Violence and injuries : Preventing Car-accidents
- Well-being and happiness : Mental Health(Preventing suicide)

Program 3. Healthy urban environment and design

- A healthy city offers a physical and built environment that supports health, recreation and well-being, safety, social interaction, easy mobility, a sense of pride and cultural identity and that is accessible to the needs of all its citizens
- Healthy urban planning : master planning, transport accessibility and neighbourhood planning
- Housing and regeneration : healthy urban design, Saemaeul movement
- Healthy transport
- Climate change and public health : 10 million tree planting movement

Strategy 4 : Construction of Basic Infrastructure of the Healthy City

- Considering comprehensive health determinants, inter-sectoral collaboration among various sectors as well as a health medical sector is required. Through constructing the basic infrastructure for citizen participation for a healthy city, the base to improve health and quality of life of Gumi community members must be established.

- Health Advocacy
- Political Commitment & Structure(healthy city team)
- Capacity Building
- Intra- and International network
 - Activity as a member of Korea Healthy Cities Partnership
 - Activity as a member of AFHC
- Health Impact Assessment
- Expansion of Intersectional collaboration and community participation
 - intersectional collaboration to improve health behavior and community member's participation



<Blue waters revive bike team with mayor>

