Gwanak-Gu Healthy city Basic Profile



Gwanak-Gu public health center

Health Promotion Team

[Contents]

I	. Gwanak-gu Regional Status	- 9
1.	Regional Properties	- 9
2.	General Status	- 9
3.	Urban Infrastructure	10
11	. Population Properties Index	11
1.	Current Population Status	11
2.	Population Structure and Properties	13
Ш	. Health Index	18
1.	Biological Statistics	18
2.	Health Recognition Status	21
3.	Health Inspection	23
4.	Eruption Rate	24
5.	Maternal and Child Health	26
IV	. Public Health and Medical Service Index	28
1.	Medical Service	28
2.	Medical Service Workforce Status	29
3.	Social Welfare Facility Status	30
4.	Vaccination	32
5.	Public Health Center Service	33

٧	. Lifestyle Index	36
1.	Smoking	36
2.	Drinking	39
3.	Obesity	40
4.	Exercise	42
5.	Diet	44
VI	. Environment Index	45
1.	Temperature and Precipitation	45
2.	Refuse Disposal	46
3.	Amount of water-supply used	47
4.	Green Spaces	47
5.	Water Pollution	51
6.	Sewage Management	52
7.	Air Pollution	53
VII	. Social Economy Index	54
1.	Economic Activities	54
2.	Education	56
3.	Cultural and Athletic Facilities	57
4.	Transportation	58
5.	Housing	60
6.	Urban Security	61

[Picture Contents]

Picture 1. 5year Interval Population Distribution	11
Picture 2. Age Population Distribution	12
Picture 3. Group Properties Population Distribution	13
Picture 4. Total Demographic Changes after 1995	13
Picture 5. The number of Households Changes after 1995	14
Picture 6. Demographic Trends of Old People aged over 65	14
Picture 7. Demographic Trends of Infants aged under 5	15
Picture 8. Marriage and Divorce Trends	16
Picture 9. Foreigner Population Change	17
Picture 10. National Cause of Death	20
Picture 11. Subjective Health Recognition Status	21
Picture 12. Stress	21
Picture 13. Breakfast	22
Picture 14. Seatbelt Wearing Rate in Driving	22
Picture 15. Health Inspection Experienced	23
Picture 16. Self Recognition of Principal Chronic Disease Eruption Rate	24
Picture 17. The Rate of Abortion and Stillbirth Experienced	26
Picture 18. Breastfeeding Status	27
Picture 19. Health Insurance Enrollment Status	28
Picture 20. The number of Medical Workforce per 10,000 People	29
Picture 21. The number of the Handicapped by Obstacle Level	31
Picture 22. Vaccination Status	32
Picture 23. Annual Influenza Vaccination Rate	32
Picture 24. Recognition Rate of Public Health Center Service	33
Picture 25. Experience of Public Health Center	34
Picture 26. Reason for Access to Public Health Center	35

Picture	27.	Reason for No Access to Public Health Center	35
Picture	28.	Lifelong Smoking Experience Rate	36
Picture	29.	Current Smoking Rate	36
Picture	30.	One Day Average Smoking Amount	37
Picture	31.	Forbidding Smoking Rate for 1 year	37
Picture	32.	Forbidding Smoking way of Smokers	38
Picture	33.	Passive Smoking Exposure Rate at Home	38
Picture	34.	First Drinking Experience Age	39
Picture	35.	Average Drinking Amount of Current Drinkers	39
Picture	36.	Obesity Degree Distribution (Age)	40
Picture	37.	Obesity Degree Distribution (Gender)	40
Picture	38.	Obesity Degree Distribution (Age Properties)	41
Picture	39.	The Way of Losing Weight	41
Picture	40.	Self recognition of Exercise Practicing Rate	42
Picture	41.	Regular Middle Level of Exercise Practicing Rate	42
Picture	42.	The kinds of Exercise of Exercisers	43
Picture	43.	One day Average Walking Rate	43
Picture	44.	Regular Ingesting Rate of 3 meals	44
Picture	45.	Breakfast Skipping Rate	44
Picture	46.	Monthly Average Temperature	45
Picture	47.	Monthly Average Precipitation	45
Picture	48.	One day Wastes Discharge Amount	46
Picture	49.	Annual Trash Collection and Disposal Amount	46
Picture	50.	Annual Amount of Supply Water Consumption	47
Picture	51.	Status of Trees Lining a Street	49
Picture	52.	Afforestation Status	50

Picture 53. Dorim Stream Water Quality Change	51
Picture 54. Economic Activities Behavior	54
Picture 55. Monthly Total Income of Families	54
Picture 56. The number of Businesses and Workers by Industry Types	55
Picture 57. School Status	56
Picture 58. Chronological Registered Automobile Status by years	58
Picture 59. The number of Registered Automobile	58
Picture 60. Housing Supply Rate by the Types of Living	60
Picture 61. House owning Types	61
Picture 62. Urban Danger Degree	63
Table 1. Population by Group Properties	12
Table 2. Population Increase of Seoul and Gwanak-gu in Chronological order	14
Table 3. The Component ratio of Population in Gwanak-gu by Age and Class	15
Table 4. Population Distribution by Market Price and Area	16
Table 5. Marriage and Divorce Status	16
Table 6. Foreigner Population Change	17
Table 7. Early Birth Rate	18
Table 8. Mother Birth Rate	18
Table 9. Early Death Rate	19
Table 10. Cause of Death Status of Seoul	19
Table 11. Blood-Pressure Monitor Experienced Rate	23
Table 12. Lifelong Medical diagnosis Eruption Rate	25
Table 13. Abortion and Stillbirth Experienced Rate	26
Table 14. Under-weight Babies Status	27
Table 15. Breastfeeding Status	27
Table 16. Medical Organs Status	28

Table 17.	The number of Sickbed by Medical Organs	- 28
Table 18.	Medical Workforce	- 29
Table 19.	Population of Medically Underserved Class	- 30
Table 20.	Social Welfare Organs	- 30
Table 21.	The number of the Handicapped by the Types of Obstacle	- 31
Table 22.	Park Status	- 48
Table 23.	Comparison of Size of Neighborhood Parks in Seoul and Gwanak-gu	- 48
Table 24.	Status of Trees Lining a Street	- 49
Table 25.	Afforestation Status	- 50
Table 26.	Stream Status	- 51
Table 27.	Sewage Facility	- 52
Table 28.	Air Pollution Status	- 53
Table 29.	Education Facilities Status	- 56
Table 30.	Cultural Facilities Status	- 57
Table 31.	Athletic Facilities Status	- 57
Table 32.	Registered Automobile Status	- 58
Table 33.	Road Status	- 59
Table 34.	Road Breadth Status	- 59
Table 35.	Housing Status	- 60
Table 36.	5 Criminals Eruption Status	- 61
Table 37.	Fire Eruption Status	- 62
Table 38.	Urban Danger Degree	- 62

Symbols of Gwanak-gu



Gwanak-gu City Brand (BI)

Meaning of Slogan

Education City Gwanak which lies nestling in Gwanak Mt. and moving lively is represented as "Fresh (San+Ddeut in Korean)" that is two words combined, which are Mountain (Mountain=San in Korean) and Meaning of learning and truth (Meaning=Ddeut in Korean)

Meaning of Design

Image of Gwanak Mt. which is main symbol of Gwanak-gu is represented with strong brush touch to express developing Gwanak-gu

Meaning of Color

'Mountain Green' implies eco-city, 'Passion Orange' implies education city, 'Hope Blue' implies future city.



Symbol Mark

An insignia is the most important visual to express the image of Gwanak-gu.

Gwanak Mt.'s peaks and the shape of a royal azalea blossom's stamina mean residents' spirit of service and kindliness. The color is Blue and Green and they imply residents who live together with love of nature.



Representative Birds: A magpie

A magpie was considered as good omen because it brings good news. Magpies used to welcome the scholars who were going to take the examination in Hanyang (Current Seoul)



Representative Flowers: Royal Azalea

Royal azalea blossom ornament Spring of Gwanak with its beauty evocative of burst of Pink Flowers. They are easily seen in Spring in Gwanak, which is well known as "Gwanak Mt. Royal Azalea Festival".



Representative Trees: Pine Trees

A Pine Tree had been considered as a symbol of integrity and constancy by scholars and married women because of its dignified and sober characteristics in all seasons of the year.

I. Gwanak-gu Regional Status

1. Regional Properties

O The name of Gwanak is firstly appeared as a name of Seoul administrative organization in the law:1172 on 21th of November in 1962. Since January of 1963, as Seoul administrative area had been expended, Gyeonggi-do Siheung-gun Dong-myun Siheung-ri, Doksan-ri, Garibong-ri, silim-ri, Bongcheon-ri were incorporated into Youngdeungpo-gu and Agency was set up for handling administration of newly incorporated area, naming Gwanak agency. But the name is initially used as a name of our nation local administrative area in Presidential decree: 6548 on 3rd of December when separated territory was newly established, naming as "Seoul Gwanak-gu" as some parts of Dongjak-gu, Seocho-gu and present Gwanak-gu had been separated from Youngdeungpo-gu on 1st of July.

O Gwanak -gu is located northern east area of Gwanak Mt. as a Seoul's South border line of 25 territories of Seoul. That is, it is placed in the middle of connection line from Metropolitan area South city such as Gwacheon, Anyang etc. to gateway area into Seoul, secondary center of Youngdeungpo and secondary center of Youngdong Islanded area.

O Gwanak is march upon Seocho-gu by the boundary of Dongjak highway to the east and Geumcheon-gu, Guro-gu by Gwanak Mt.'s ridge and the boundary of Siheung highway to the west and geographically separated by forming boundary between Gwacheon-si and Anyang-si to the south along Gwanak Mt.'s ridge and march upon Dongjak-gu by along Guksabong Mt.'s ridge and Dorim cheon to the north.

O Subway Line 2 is driven through heart of the territory to make convenient public transportation and there are education facilities including Seoul University which is the cradle of intelligence, monument of General Kang Gam Chan who was the great commander in Korea Dynasty and graceful city nature park, harmonizing with education, culture and nature environment.

O Gwanak-gu is located 126°59′ east longitude and 37°27′ north latitude to the east (Namhyung-dong Mt. 93-11),126°53′ east longitude and 37°28′ north latitude to the west (Silim-dong 1674)126°54′ east longitude and 37°25′ north latitude to the south(Silim-dong Mt. 56-2),126°55′ east longitude and 37°29′ north latitude to the north(Bongcheon-dong 1698-1)



[Map of SEOUL]

2. General Status (2009.08.01)

OPopulation: 242,278 households, 533,756persons (Total 5.2% of Seoul)

Maximum Dong: Euncheon Dong(14,968households 37,468persons)

Minimum Dong: Joongang Dong (7,073households, 14.620persons)

Foreigner register 18,382 (Men:8,752persons, Women:9,630persons)

O Area: 29,57 km² (4.9% of Seoul)

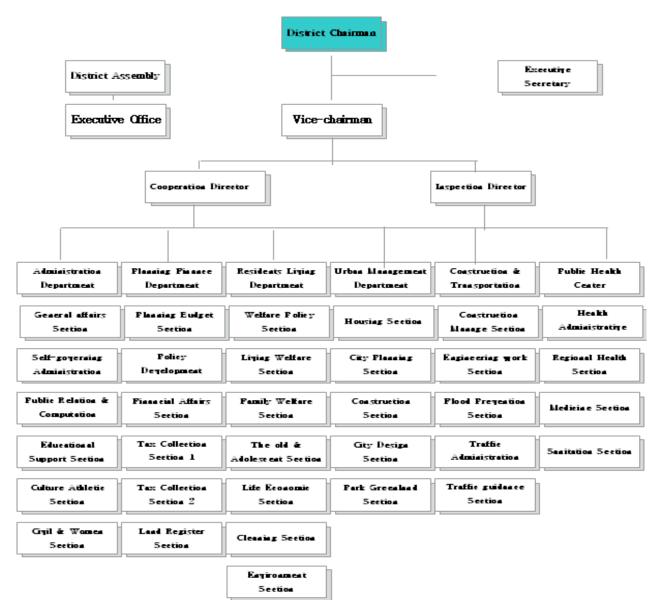
O Residence: 104,784dongs (Supply rate 80.8%)

O Residents Organization: 21dongs 635tongs 5,179bans

O Administrative Organization: 5guk 2officers 29gwa 1ban, 1so, 4gwa, 21dong, gucongress

O Estimate: Total 319,620thousand won

(General account 303,300,000thousand won,



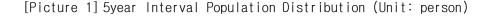
3. Urban Infrastructure

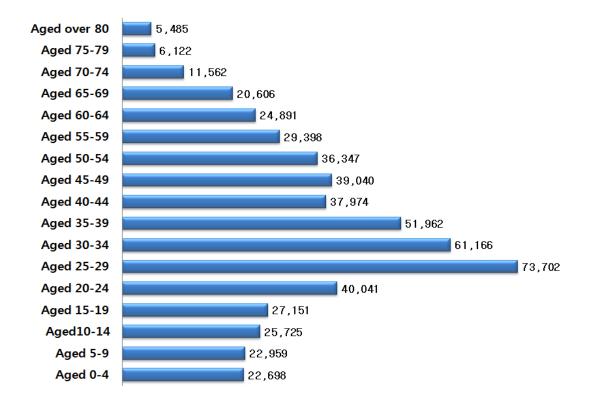
Divide	Contents	Divide	Contents			
Road	315.7km (Road rate 23.04%)	Park	87parks (Area 10.90 km²)			
Sewage	393.26km (Road rate100%)	Subway	Expansion 7.7km (Line 2)			
Urban Gas	238,990 houses (Supply rate 98%)					
Housing	104,784 Dong(Supply rate 80.8%) - Single-family houses 27,273ho, Multi-family houses 33,220ho, Apartment 44,291ho					

II. Population Property Index

1. Current Population Status

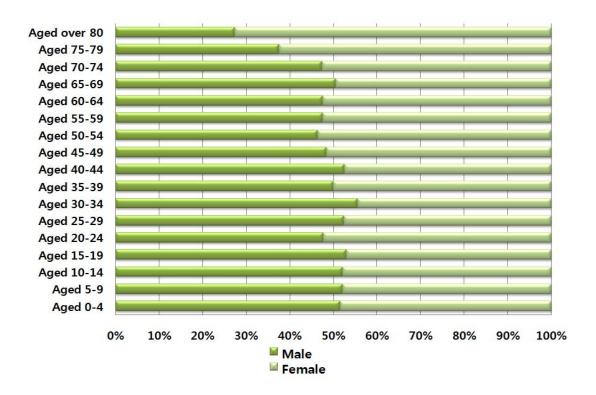
Current population of Gwanak-gu is 241,858houses and 536,829persons by the standard of Sep 1st, 2008 and the difference of population in Men and Women shows 273,133 persons in Men, which is 50.8% out of total and 263,696 persons in Women, which is 49.2% out of total, Men's one is little bit high. The difference in Age represents the highest rate in Group aged 25~29, which is 13.73% out of total and Gender rate has generally similar distribution pattern but Men's is relatively higher in thirties and Women's is a bit higher in fifties and gender rate of Women is getting higher in over forties and higher ages.





Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2008

[Picture 2] Age (Gender) Population Distribution



Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2008

Population distribution by group properties shows that the rate of economically productive population is relatively higher, which is 73.2% (Men 73.7%, Women 72.8) out of total. Infants and teenagers aged under twenties and the ole aged over 65 is each 19.5% and 7.3%.

[Table 1] Population by Group Properties

Age Group		Whole	Men	Women
Aged	Infants and	98,533	51,414	47,119
under20	Adolescents	(18.35%)	(18.82%)	(17.87%)
Aged	Number of economically	394,518	202,037	192,481
20~65	productive population	(73.49%)	(73.97%)	(72.99%)

Aged	Old people	43,778	19,682	24,096
over65	Old people	(8.15%)	(7.21%)	(9.14%)

Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2008

[Picture 3] Group Properties Population Distribution



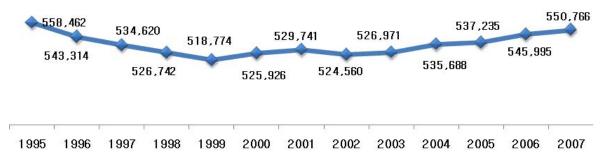
Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2008

2. Population Structure and Properties

Population of Gwanak-gu in 2000 has decreased by 8.7% comparing in 1990 but it is gradually getting higher since 2000.

Moving in and out population in Gwanak-gu in 2007 is each 128000 and 124000, which is 23% out of total and population of moving out is higher than moving in, which shows Gwanak-gu's population is more likely to be declined because of the moving population over last decade.

[Picture 4] Total Demographic Changes after 1995 (Unit: person)



[Picture 5] The number of Households Changes after 1995 (Unit: house)

183,849	182,821 18	1,196 192,53	1 206,08	37 220	,879 236,544
181,947	181,105	186,734	197,578	214,261	230,093

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2008

Population in Seoul and Gwanak-gu may be gradually decreased by 2020 and Gwanak-gu will show more rapid decrease rate (10.57%), which is faster than Seoul's (5.5%).

[Table 2] Population Increase of Seoul and Gwanak-gu in Chronological order

Divide	2005	2010	2015	2020	Population Increase rate (2020/2000)	Annual Increase rate (2000~2020)
Seoul	10.216	10.037	9.913	9.798	-5.54	-0.28
Gwanak-gu	531	496	483	470	-10.57	-0,56

Source of Data: Seoul, [2020 Seoul Urban development plan- 200 Estimate the population per each planning years through using population in resident registration

Infants aged under 5 had been decreased but has increased since 2005 whereas the population of the old aged over 65 is getting increased.

[Picture 6] Demographic Trends of Old People aged over 65

		-	→Male → Female → Total ((Unit: person)		41,667	43,775	
	25,208	26,697	28,096	30,076	32,679	34,974	38,006	*	
23,483	-	-	16,695	17,518	18,666	19,718	21,234	22,951	24,093
14,630	15,477	16,095	- Continue				16,772	18,716	19,682
8,853	9,731	10,602	11,401	12,558	14,013	15,256			•
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008

[Picture 7] Demographic Trends of Infants aged under 5 (Unit: person)

33,056	32,412	30,914					→ Tota	al ᆂ Mal	е
		30,314	28,385	26,707	26,430	24,427	23,705	23,274	22,698
16,940	16,730	15,964	14,758	13,834	13,634	12,502	12,144	11,954	11,699
16,116	15,682	14,950	13,627	12,873	12,796	11,925	11,561	11,320명	10,999명
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008

Source of Data: Gwanak-gu registered residents' statistics, Gwanak-gu, 2007

Population structure by age and class shows decreasing trend in aged 0~14 and increasing trend in aged over 65, which may reach for 11.17% in 2020.

[Table 3] The Component ratio of Population in Gwanak-gu by Age and Class

(Unit: persons, %) Divide 2002 2005 2006 2010 2015 2020 Total Population 522.207 537.235 538.434 542.249 545.407 546.887 Aged 0~14 83.735 79.495 77.242 67.965 58.202 52.972 Aged 410.376 422.488 424.268 431.749 436.816 432.851 15~64 Aged over65 28.096 35.252 36.924 42.535 50.389 61.064 Distribution Ratio 100 100 100 100 100 100 Aged 16.03 14.8 14.35 12.53 10.67 9.69 0~14 Aged 15~64 78.58 78.64 78.8 79.6280.09 79.15 6.56 9.24 Aged over65 5.38 6.86 7.84 11.17

Source of Data: The National Statistical Office Special estimation 2005

Gwanak-gu retains fifth highest number of population of 25 autonomous district in Seoul and shows 13th highest population density, which is higher than Seoul's. Pure population density by the standard of urban containment district excluding greenbelt is

4448persons/ha, which is much higher than Seoul's average 278persons/ha. Consequently, this proves that Gwanak-gu is densely populated.

[Table 4] Population Distribution by Market Price and Area

Divide	Total Population Distribution (People)	Pure Population Distribution(ha)	Market Price and Area(ha)
Seoul	171	278	37.257
Gwanak-gu	185	448	1.218

Source of Data: Seoul Statistical Yearbook 2007 (Using the sum total of use district as development restricted zone excluding green land.)

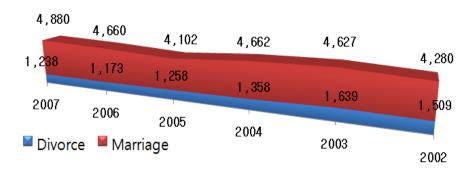
Marriage of residents in Gwanak-gu is accepted more than 4000 cases and divorce rate per marriage recorded highest in 2003 (37.9%) and was 27.2% by December in 2008.

[Table 5] Marriage and Divorce Status

Divide	Marriage (Persons)	Divorce (Persons)	Divorce rate per Marriage (%)
2002	4,280	1,509	35,2
2003	4,627	1,639	37.9
2004	4,662	1,358	29.1
2005	4,102	1,258	30.7
2006	4,660	1,173	25.2
2007	4,880	1,238	25.4
2008	4.509	1.228	27.2

Source of Data: The National Statistical Office 2008

[Picture 8] Marriage and Divorce Trends (Unit: person)



Source of Data: Gwanak-gu Statistical Yearbook, Gwanak-gu, 2008

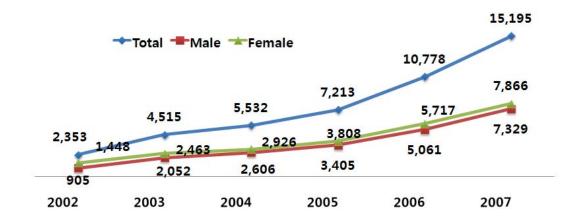
Foreigner population change in Gwanak-gu shows seven times of increase from 2,353 persons in 2002 to 15,195 in the end of December in 2007 and increasing trend in Mongolia, Taiwan, Vietnam, Philippine since 2006.

[Table 6] Foreigner Population Change (Unit: persons)

Divide	Total		China		US		Vietnam		Others		
	Total	Men	Women	Men	Women	Men	Women				
2002	2,353	905	1,448	368	713	176	158	_	_	361	577
2003	4,515	2,052	2,463	410	460	180	132	_	-	1,462	1,871
2004	5,532	2,606	2,926	428	483	173	129	_	-	2,005	2,314
2005	7,213	3,405	3,808	2,578	3,077	192	123	_	-	635	608
2006	10,778	5,061	5,717	4,205	4,896	186	125	95	104	575	592
2007	15,195	7,329	7,866	6,422	6,942	174	122	98	146	635	656

Source of Data: Gwanak-gu Statistical Yearbook, Gwanak-gu, 2008

[Picture 9] Foreigner Population Change (Unit: person)



III. Health Index

1. Biological Statistics

Total birth rate in 2008 has been steadily decreased from 31.2persons/ 10000persons to 9.4/1000persons in whole country, 9.3persons in Seoul and the early birth rate in Gwanak-gu is 9.9/1000persons, which is higher than whole country and the natural increasing rate is 6.3/1000persons.

[Table 7] Early Birth Rate (Unit: person)

	Gender	Born people	Number of Born people per 1,000 persons	Natural increase rate
	Men	2,737		
Gwanak-gu	Women	2,569	10.6 persons	6,3
	Total	5,306		

Source of Data: National Statistical Office, 2008

Mother birth rate in early thirties (aged30~34) in 2007 has been 205704persons increased, which is 10700persons more than in 2006 and the rate in late thirties (aged35~39) in 2007 has been increased 10000persons from 2006. The number of birth rate is 94.4/1000persons in aged 30~34, which is less than 99.9persons in Seoul and the birth rate in twenties is also less than Seoul.

[Table 8] Mother Birth Rate (Unit: person)

	General State	Seoul	Gwanak-gu
Total Birth rate	1,250	1,056	0,996
Number of born baby by simulated age (aged30~34)	101,3	99,9	94,4
Number of born baby by simulated age (age25~29)	95,5	66,7	58,7

Total 5,654

Source of Data: National Statistical Office, 2008

Total Fertility Rate (TFR): It is the sum total of birth rate by the age (ASFR) as an index to show expecting number of born baby per 1woman in her whole life and also to represent the fertility level.

Death rate of our whole nation has been steadily decreased from 8/1000persons to 5.0/1000persons and 3.6persons in Gwanak-gu, which is less than the whole country. Number of death person by the gender shows that men (1,076persons) is more than women (840persons).

[Table 9] Early Death Rate (Unit: person)

	Gender	Death people (persons)	Death people per 1,000 persons
	Men	1,076	
Gwanak-gu	Women	840	3.6
	Total	1,916	

Source of Data: National Statistical Office, 2008

Big three reasons for death of the whole country are malignant neoplasm(cancer), Cerebrovascular disease and Heart disease, occupying 51.6% of total death people, which is higher than the whole country.

[Table 10] Cause of Death Status of Seoul (Unit: year)

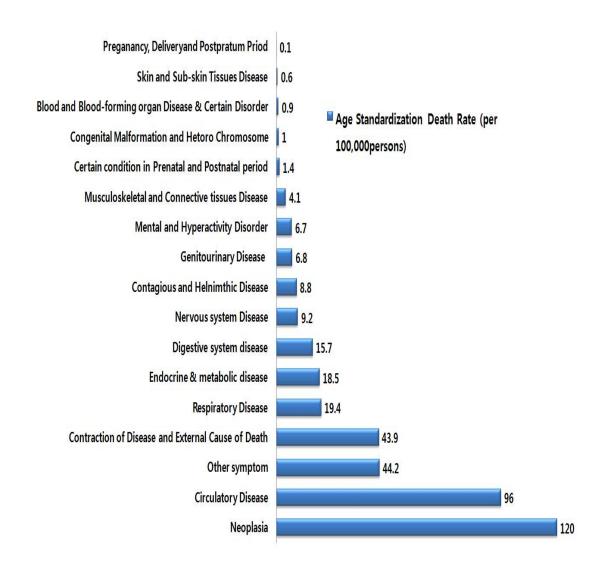
Main reason for Death		nber of Death ple(persons)		Distribution Ratio(%)		persons) persons
	Total	Seoul	Total	Seoul	Total	Seoul
Total	244.874	38.645	100.0	100.0	459.3	397.2
Malignant neoplasm (cancer)	68.335	11,867	27.9	30.7	128.9	120
Cerebrovacular disease	22.297	4.439	9.1	11.5	54.3	44.2

Heart disease (ischemic heart disease+ other heart disease)	21.494	3.626	8.8	9.4	40.1	33.2
Suicide	12.174	2.045	5	5.3	23.9	19.6
Diabetes mellitus	11.272	1.662	4.6	4.3	21	17.5

Source of Data: National Statistical Office, 2008

The reason for death is cancer(malignant neoplasm), which shows highest rate (27.9%) in the whole nation and Circulatory disease, Disease laxity and Exogenous disease are following second and third places.

[Picture 10] National Cause of Death

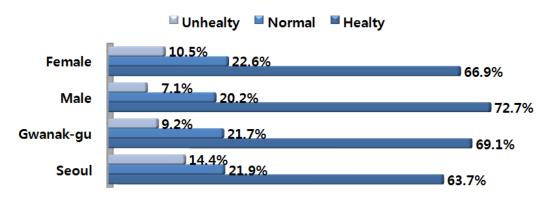


Age-standardized death rate: The death rate excluding the effect of age structure to compare the death levels among the groups that have different population structure.

2. Health Recognition Status

Most residents in Gwanak-gu consider themselves as healthy people according to the subjective health recognition research. 69.1% of whole residents think they are healthy, which was higher than 63.7% of Seoul while 9.2% of residents recognize as they are in poor health, which was lower than 14.4% of Seoul. 7.1% of men think they are unhealthy, which is lower than 10.5% of women and this shows that men is more positive of health recognition than women.

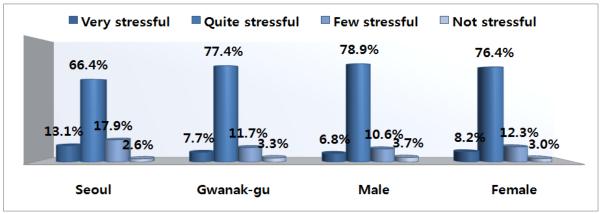
[Picture 11] Subjective Health Recognition Status



Source of Data: Seoul Health Index research, Seoul, 2006

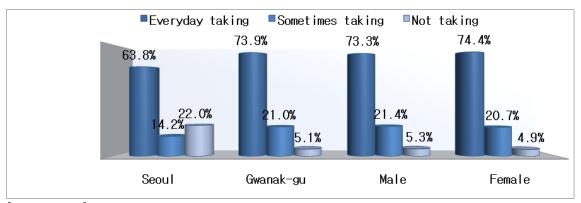
Stress level in daily life shows that only 3.3% of total residents in Gwanak-gu are not under stress. 85.7% of Men and 84.6% of Women answered 'very stressful' and 'quite stressful', which proves that men is more likely to get stressed than women.

[Picture 12] Stress



Source of Data: Seoul Health Index research, Seoul, 2006

According the result of breakfast taking investigation, 40.7% of residents in Gwanak-gu answer 'everyday taking'. 5.3% of men and 4.9% of women answer 'non-taking', which shows higher rate of skipping a breakfast in men.

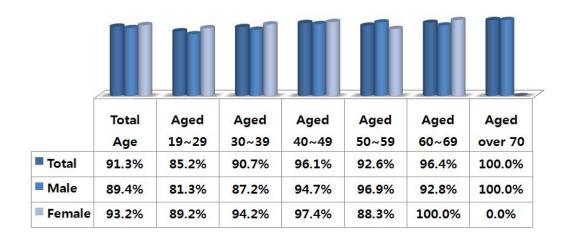


[Picture 13] Breakfast

Source of Data: Seoul Health Index research, Seoul, 2006

The rate of wearing a seatbelt is 90.4% of total, 89.4% of men and 93.2% of women. The rate is highest n seventies and lowest in twenties.

[Picture 14] Seatbelt Wearing Rate in Driving

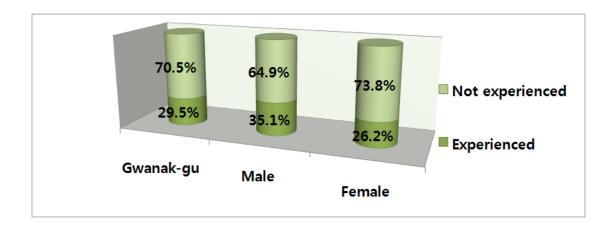


Source of Data: Seoul Gwanak-gu regional society health statistics, 2008

3. Health Inspection

The result of a research on health inspection taking in Gwanak-gu shows 29.5% of total, 35.1% of men and 26.2% of women and the rate of men was higher than women.

[Picture 15] Health Inspection Experienced



Source of Data: Seoul Welfare index research 2006, Seoul Gwanak-gu regional society health statistics, 2008

According to the research of blooding test experience of residents aged 19 in Gwanak-gu, 73.7% of total answer 'yes', which means interest level of blooding test is quite high.

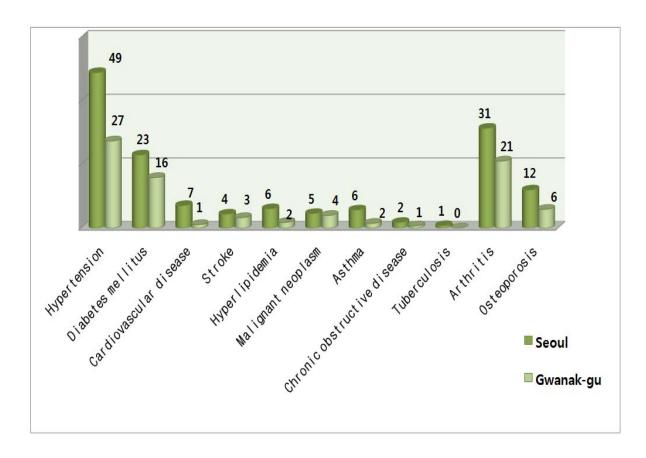
[Table 11] Blood-Pressure Monitor Experienced Rate

Divide	Everyday	Regular	Irregular	Non-experienced
Divide	Measurement(%)	Measurement(%)	Measurement(%)	Measurement(%)
Gwanak-gu	1.1	14.4	58.2	26.3
Seoul	0.8	14.9	55.9	28.4

Source of Data: Seoul Welfare index research 2006

4. Eruption Rate

Self-recognized eruption rate represents 27.4persons of hypertension, 15.9persons of diabetes mellitus and 21.1persons of arthritis per 1000persons, which is lower than total number of eruption in Seoul.



Source of Data: Seoul Welfare index research 2006

The rate of lifelong medical diagnosis eruption by main disease is highest in hypertension (111.4/1000persons), following Osteoarthritis (67.9/1000persons) and allergic rhinitis (65.2/1000persons).

[Table 12] Lifelong Medical diagnosis Eruption Rate (Unit: 1/1000person)

Divide	Disease Name	2008 Regional Society Health Research		Disease Name	2008 Regional Society Health Research
Cancer Disease	Cancer	15.2		Hypertension	111.4
	Osteoarthritis	67.9		Hyperlipidemia	32.0
Musculo- skeletal	Rheumatic arthritis	14.3	Circulatory	Stroke	18.4
Disease	Osteoporosis	35.9	Disease	Myocardial Infarction	0.0
	Back pain	56.9		Angina Pectoris	6.6
Endocrine	Diabetes mellitus	37.1		Hemorrhoid	36.0
&Metabolic Disease	Thyroid dysfunction	32.8		Cataract	35.0
Digestive system Disease	Gastroduodenal Ulcer	36.0	Eye, ear Disease	Glaucoma	6.1
	Hepatitis B	11.6		Otitis Media	17.5
	Asthma	16.1		Anemia	53.8
Respiratory	1100111114	10.1	Other	Atopic Dermatitis	21.1
Disease	Allergic rhinitis	65.2	Disease	Urinary Incontinence	14.8

Source of Data: Seoul Welfare index research 2006,

Seoul Gwanak-gu regional society health statistics, 2008

5. Maternal and Child Health

The rate of abortion and stillbirth experienced in aged 19~49 in Seoul is 17.6persons in spontaneous abortion, 13.8persons in induced abortion and 1.2persons in stillbirth per 1000persons. The rate of spontaneous abortion is highest in aged 25~29 by the age rate,

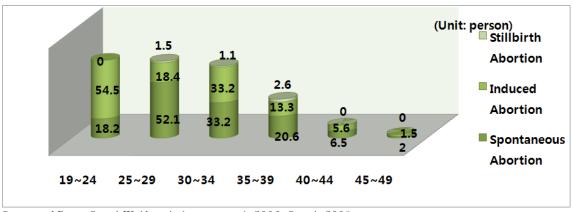
which includes 52.1/1000persons of women of child-bearing age and following 33.2persons in aged 30~34. The rate of induced abortion is highest in aged 19~24 (54.5persons) and following 33.2persons in aged 30~34. Consequently it shows that induced abortion rate is high in young generation and spontaneous abortion is high in an bit older generation.

[Table 13] Abortion and Stillbirth Experienced Rate (Unit: per 1,000persons)

Age	19~24	25~29	30~34	35~39	40~44	45~49
Spontaneous Abortion (persons)	18.2	52.1	33.2	20.6	6.5	2.0
Induced Abortion(persons	54.5	18.4	33.2	13.3	5.6	1.5
Stillbirth (persons)	0	1.5	1.1	2.6	0	0

Source of Data: Seoul Welfare index research 2006, Seoul, 2008

[Picture 17] The Rate of Abortion and Stillbirth Experienced



Source of Data: Seoul Welfare index research 2006, Seoul, 2008

The rate of under-weight babies in Seoul had been increased from 37% in 1997 to 5.3% in 2001, but was decreasing to 3.6% in 2005.

[Table 14] Under-weight Babies Status

Year	1997	2001	2005
%	3.7	5,3	3,6

Source of Data: Seoul Welfare index research 2006, Seoul, 2008

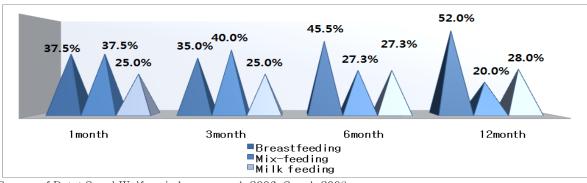
The rate of breastfeeding for the 24-month-old-lastborn baby who were born for two years in Seoul is 49.8% until 1month 1, 36.8% until 6month and 28.8% until 12month. Feeding trend at 6-month-old shows 36.8% in only breastfeeding, 21.8% in only dry milk feeding and 41.3% in mix-feeding.

[Table 15] Breastfeeding Status

Breast feeding Period (month)	Only Breast feeding (%)	Mix- feeding (%)	Only Dry milk feeding (%)	No. of bornbaby by feeding period (persons)	Breast feeding Period (month	Only Breast feeding (%)	Mix- feeding (%)	Only Dry milk feeding (%)	No. of bornbaby by feeding period (persons)
1	49.8	28.8	21.4	669	13	24.2	55.9	19.9	306
2	45.8	32.8	21.5	638	14	21.8	60.2	18.0	284
3	43.0	34.9	22.1	605	15	19.4	64.0	16.6	253
4	39.2	39.0	21.8	577	16	14.8	73.5	11.7	223
5	38.5	39.9	21.6	546	17	14.6	73.7	11.7	205
6	36.8	41.3	21.8	513	18	13.4	75.9	10.7	187
7	34.2	43.9	21.9	488	19	10.4	81.0	8.6	163
8	33.5	44.2	22.3	457	20	10.4	80.6	9.0	134
9	32.8	45.3	21.9	433	21	9.2	85.3	5.5	109
10	31.7	46.2	22.0	413	22	8.8	86.3	5.0	80
11	28.6	49.2	22.2	378	23	8.3	85.4	6.3	48
12	28.8	49.0	22.2	347	24	5.3	94.7	0.0	19

Source of Data: Seoul Welfare index research 2006, Seoul, 2008

[Picture 18] Breastfeeding Status



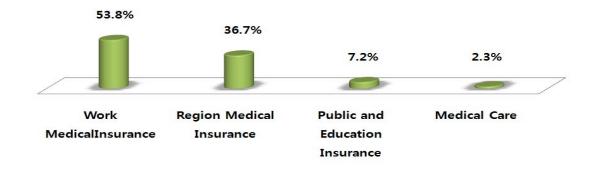
Source of Data: Seoul Welfare index research 2006, Seoul, 2008

IV. Public Health and Medical Service Index

1. Medical Service

The number of medical insurance enrollment is 535,371 persons of total 528,536, which is 98.7% out of total. Work medical insurance 53.8% is highest rate and following region medical insurance 36.7%. The rate of other public and educational medical insurance is 7.2% and medical cared people is 2.3%.

[Picture 19] Health Insurance Enrollment Status



Source of Data: National health Insurance Corporation, 2007

Total number of medical organ is likely to increase, which includes 2 polyclinic, 5 general hospital, 169 dental clinic and 298 oriental medicine clinic.

[Table 16] Medical Organs Status

Total	Polyclinic	General Hospital	Clinic	Dental Clinic	Oriental Medicine Clinic	Public Medical Center
604	2	5	298	169	129	1

Source of Data: Gwanak Statistic Year Book 2008

The number of sickbeds in medical organ in Gwanak-gu is 288 polyclinics, 365 general hospitals and 1,143 clinics.

[Table 17] The number of Sickbed by Medical Organs

Total	Polyclinic	General Hospital	Clinic
1,796	288	365	1,143

Source of Data: Gwanak Statistic 2008

2. Medical Service Workforce Status

There are 370 doctors, 185 dentists, 138 herb doctors and, 175 nurses (except nurse's aide) and 385 medical technicians in medical workforce.

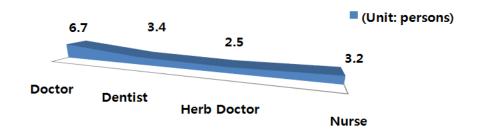
[Table 18] Medical Workforce

Year	Doctor	Dentist	Herb Doctor	Nurse	Medical Technician
2007	370	185	138	175	385

Source of Data: Gwanak Statistic Year Book 2008

In regard of Medical workforce per 1000persons, there are 6.7persons in doctor, 3.4persons in dentist, 2.5persons in herb doctor and 3.2 persons in nurse.

[Picture 20] The number of Medical Workforce per 10,000 People



Source of Data: Gwanak Statistic Year Book 2008

3. Social Welfare Facility Status

The number of unserved class in Gwanak-gu is totally 35,937persons which is 6.72% of whole population (534,556) and the rate of registered handicapped people is 3.61% (19,297persons) out of total and it is the highest rate of the whole.

[Table 19] Population of Medically Under-served Class

Under-served Class	Number of Population	Occupied rate of Total Population
Aged Living Alone(persons)	6,742persons	1.26%
Registered Handicapped patrons (persons)	19,297persons	3.61%
Basic Living Security Subjects (persons)	9,842persons	1.84%
Teen heads of Households(house/persons)	1persons	-
Consignment Households Children	55persons	0.01%
Total	35,937persons	6.72

Source of Data: Gwanak White Paper, 2009

The number of social welfare organs is totally 404 sections. Main welfare facility is focused on infants, the old and handicapped people, expanding the functions of total social welfare organs and newly establishing and improving the old welfare facility to continuously expand welfare infra by increasing welfare demand.

[Table 20] Social Welfare Organs

Facility Divide	Number of section
Infants Welfare Facility (nursery)	282
The old Welfare Facility(Hall for the aged)	109
Welfare Center	5
Teenager Welfare Center	1
Child Welfare Center	2
Disabled Patrons Welfare Center (Place of Entrance Facility)	1
Female Welfare Center	4
Total	404

Source of Data: Gwanak own statistics (by the standard of Aug 1st, 2009)

The number of registered handicapped people is 19.297 persons which is 3.61% of the whole population. Retardation rate is 53.29%, which is highest rate of the whole population.

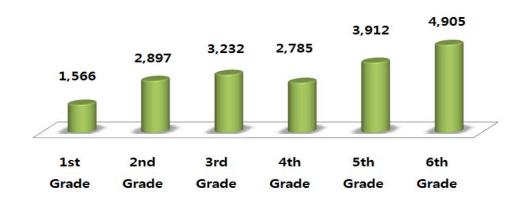
[Table 21] The number of the Handicapped by the Types of Obstacle

		Obstacle Divide by Registered Type									
Yea r	Total	Retardatio n		Vis ual Disorde r		У	Hear t	Mental Retardatio n	Mental Disorde r	Development al Disabilities	
200	19,29 7	10,283	1,904	2,180	2.063	547	139	1.006	701	131	39 3

Source of Data: Gwanak White Paper, 2009

The number of Handicapped people in the first degree is 1,566persons (8.1%), 2,897persons (15%) in the second degree and 4.905persons (25.4%) in sixth degree.

[Picture 21] The number of the Handicapped by Obstacle Level (Unit: person)

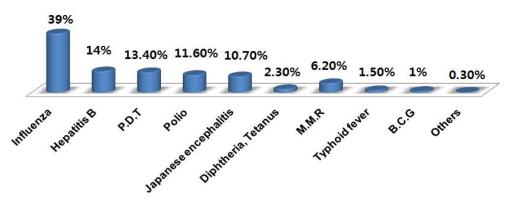


Source of Data: Gwanak Statistic Year Book 2008

4. Vaccination

Vaccination status of Gwanak-gu shows the highest rate in Influenza (39%) and following rate in Hepatitis (14%), P.D.T (13.4%), Polio (11.6%) and Japanese encephalitis (10.7%).

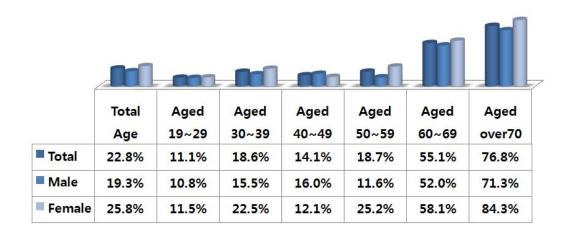
[Picture 22] Vaccination Status



Source of Data: Gwanak Statistic Year Book 2008

Annual Vaccination rate of influenza is totally 22.8%, which includes men 19.3% and women 25.8%, which is higher than men's. And it was highest in over seventies and lowest in twenties.

[Picture 23] Annual Influenza Vaccination Rate

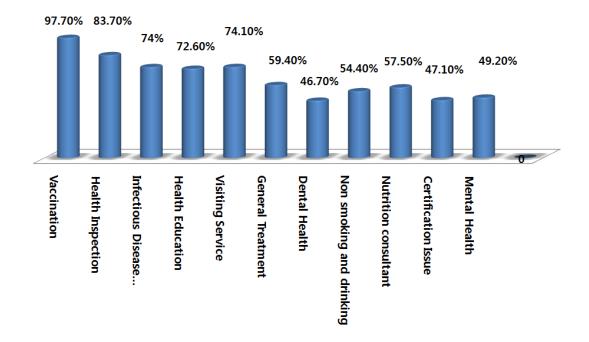


Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

5. The Public Health Center Service

The result of Recognition Rate of Public Health Center Service was highest in vaccination 97.7%, health inspection 83.7%, visiting service for patients and the old 74.1%, management of infectious disease 74.0% and health education 72.6% in order.

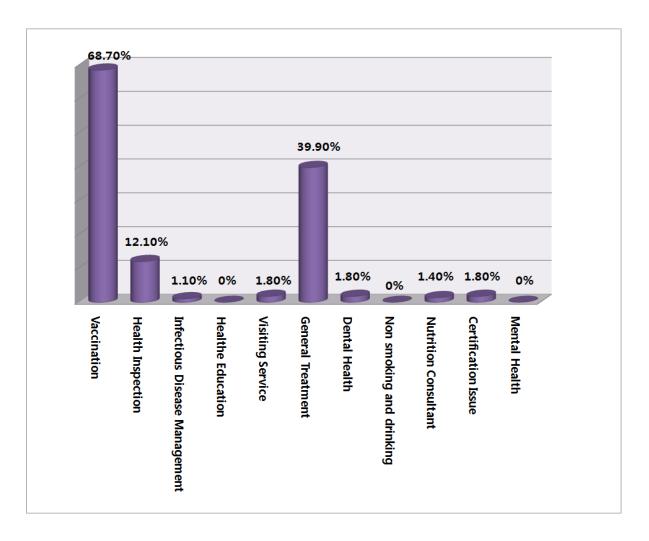
[Picture 24] Recognition Rate of Public Health Center Service



Source of Data: Seoul Health Index Research, Seoul 2006

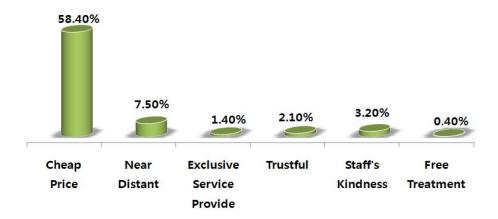
The rate of people who experienced public health center is 32.8% and most main reason for visiting is vaccination (68.7%) and following general treatment (39.9%) and health inspection (12.1%) in order. The rate of other services is less than 10%.

[Picture 25] Experience of Public Health Center



Source of Data: Seoul Health Index Research, Seoul 2006

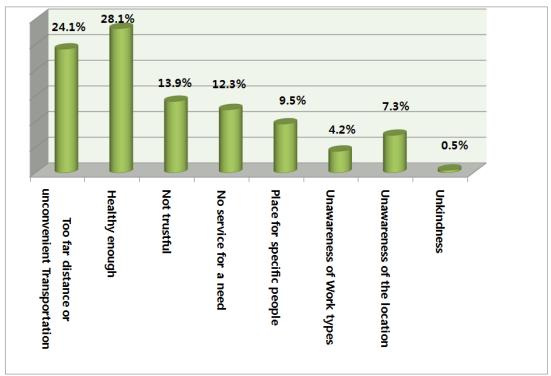
General reason for going to the public health center is because 'cheap (85.4%)' and following 'near (7.5%)'.



Source of Data: Seoul Health Index Research, Seoul 2006

The reason for not going to the public health center is because 'healthy (28.1%)' and following 'too far (24.1%)' and 'untrustful (13.9%)'.

[Picture 27] Reason for No Access to Public Health Center



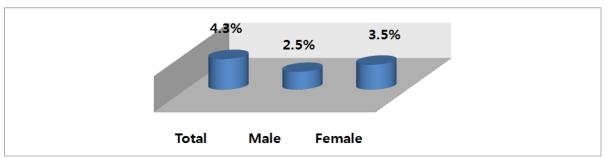
Source of Data: Seoul Health Index Research, Seoul 2006

V. Lifestyle Index

1. Smoking

The rate of lifelong smoking experience of residents in Gwanak-gu is 37.8% (past and present), 66.8% of men and 8.1% of women. The rate of lifelong smoking is highest in men aged forties (81.9%) and in women aged sixties (14.8%).

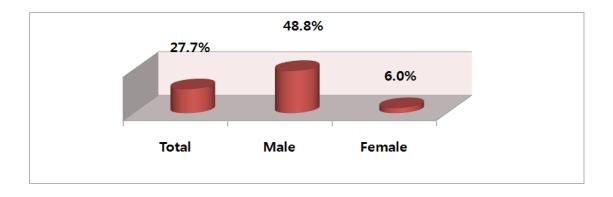
[Picture 28] Lifelong Smoking Experience Rate



Source of Data: Seoul Gwanak-gu regional society Health statistics, 2008 regional society Health Research

Present smoking rate of people who smokes more than 5packs of cigarettes (more than 100 pieces) in their whole life is 27.7% out of total, 48.8% in men, 6.0% in women and 10.7% in women aged seventies.

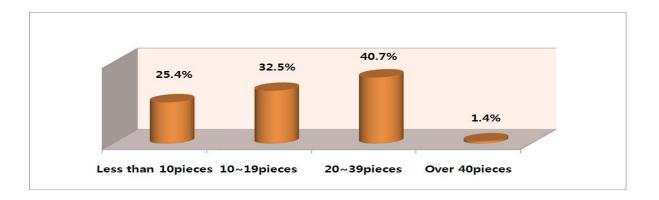
[Picture 29] Current Smoking Rate



Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

On average day smoking amount of smoking population shows 40.7% in 20~39 pieces which is the highest rate of the whole and 32.5% in 10~19pieces and 25.4% in less than 10 pieces and therefore average is 14.3 pieces.

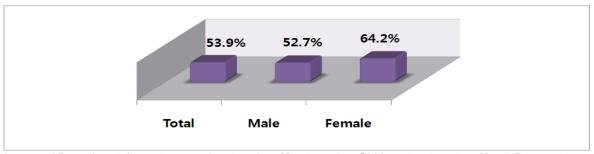
[Picture 30] One Day Average Smoking Amount



Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

Non smoking attempt rate of the smokers (present smoker and those who smoked less than 1year) who have tried nonsmoking for more than 24hours in recent 1year is 53.9% out of total, 52.7% in men, 64.2% in women, which is higher than men's and the rate is high in men aged sixties and women aged over seventies by the age category.

[Picture 31] Forbidding Smoking Rate for 1 year



Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

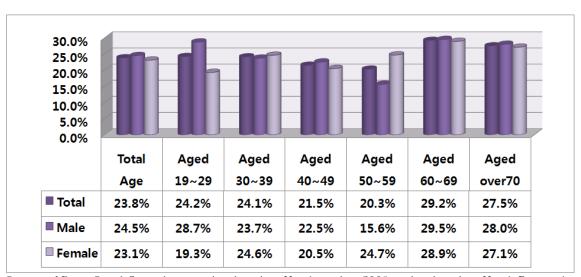
The way of non smoking rate is highest in 'by own will' (56.2%) and following 'alternative objects' and the 'others' in order.

56.2% 7.8% 3.4% 0.2% 4.8% 0.8% 3.1% Own will Others Non Smoking Alternative Quit Smoking Quit Smoking Objects **Freatment** Medicine

[Picture 32] Forbidding Smoking way of Smokers

Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

Exposing rate of smoking in a family is 23.8% out of total, 23.1% in women and 24.5% in men and number of persons who smoke inside a house total 1.3persons, 1.4persons in men and 1.2persons in women on average and there is not big difference of gender.



[Picture 33] Passive Smoking Exposure Rate at Home

Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

2. Drinking

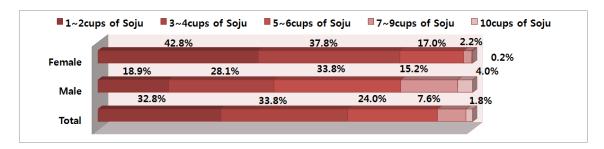
The initially experienced age of drinking is 21.8 year on average, 20.2 year in men and 22.9 year in women. The whole research on beginning age of drinking in Seoul shows 20.3 year in men and 24.3 year in women, which are quite similar age.

21.8 20.2 22.9 Seoul Gwanak-gu Gwanak-gu Total Male Female

[Picture 34] First Drinking Experience Age (Unit: year)

Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

Drinking amount per one drinking party is 32.8% in $1\sim2$ cups of Soju and 33.8% in $3\sim4$ cups of Soju. While, the rate of those who drink more than a bottle of Soju is 9.4% out of total, 19.4% of men and 9.4% of women, which proves the rate is much higher in men.



[Picture 35] Average Drinking Amount of Current Drinkers

Source of Data: Seoul Health Index Research, Seoul 2006

3. Obesity

Subjective recognition rate of obesity is 30.0% out of total, 27.1% of men and 33.0% of women which is higher than men's. The rate is highest in aged forties and lowest in aged over seventies. Population rate of obesity is 20.0% out of total, 23.6% of men and 16.3% of women, which shows the rate is higher in men than women. And the rate is highest in aged forties and lowest in twenties.

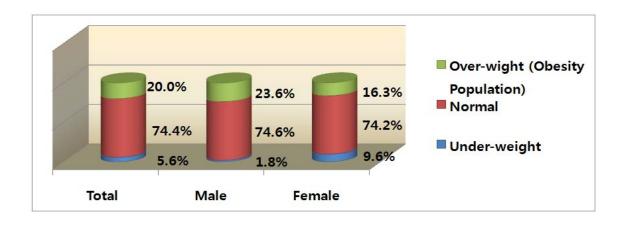
[Picture 36] Obesity Degree Distribution (Age)



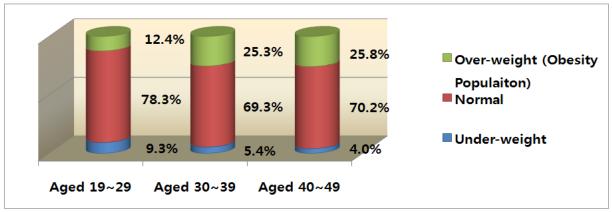
Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

Obesity population rate by residents' BMI is 20.0% out of total, 23.6% of men and 16.3% of women, which shows that the rate is higher in men and highest in aged forties and lowest in twenties by the age category.

[Picture 37] Obesity Degree Distribution (Gender)



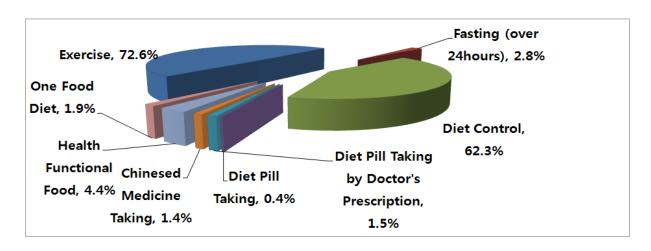
Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research [Picture 38] Obesity Degree Distribution (Age Properties)



Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

The way of losing weight for recent 1 year is 'no efforts for diet' (61.6%). While, the way of losing weight people have tried is mostly 'exercising' (27.9%) and 'Diet control' (8.2%).

[Picture 39] The Way of Losing Weight

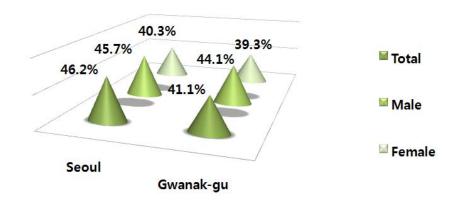


Source of Data: Seoul Gwanak-gu regional society Heath statics, 2008 regional society Heath Research

4. Exercise

Exercising population rate in Gwanak-gu is totally 41.1%, which is lower than Seoul and 44.1% in men and 39.3% in women.

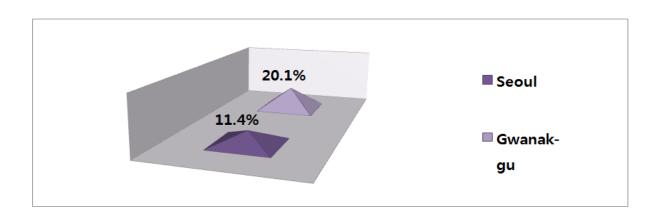
[Picture 40] Self recognition of Exercise Practicing Rate



Source of Data: Seoul Health Index Research, Seoul 2006

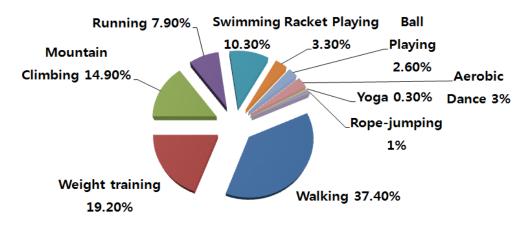
Exercise practicing rate which make exercisers pant and sweated and keep more than 15minutes a day, more than 3times a week is 20.1%, which is higher than Seoul (11.4%).

[Picture 41] Regular Middle Level of Exercise Practicing Rate



Source of Data: Seoul Health Index Research, Seoul 2006

Main types of exercise of those who practice exercising are walking 37.4%, weight-training 19%, mountain climbing 14.9% and running 7.9%.

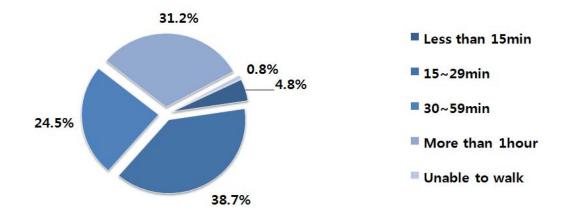


[Picture 42] The kinds of Exercise of Exercisers

Source of Data: Seoul Health Index Research, Seoul 2006

Walking period per day is 31.2% in 'more than 1hour', 24.5% in '30~59minutes' and 4.8% in 'less than 15minutes'.

[Picture 43] One day Average Walking Rate

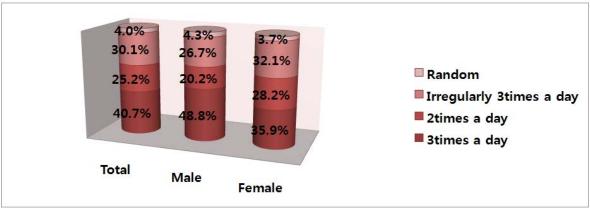


Source of Data: Seoul Health Index Research, Seoul 2006

5. Diet

The rate of those who have a regular meal 'three times a day' is 40.7% and 25.2% in 'two times a day' and 30.1% in 'three times but irregularly'. The rate shows women (32.1%) are more likely to have regular meal three times a day than men(26.7%).

[Picture 44] Regular Ingesting Rate of 3 meals

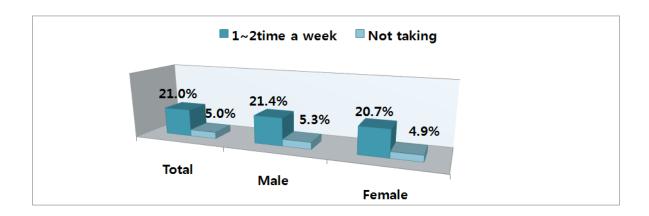


Source of Data: Seoul Health Index Research, Seoul 2006

The rate of skipping a breakfast is 26.0% in 'skipping or having only 1 or 2 times a week'.

The skipping rate of men is 26.7%, women is 25.6%.

[Picture 45] Breakfast Skipping Rate



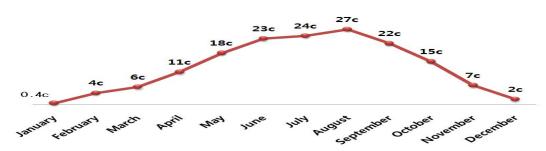
Source of Data: Seoul Health Index Research, Seoul 2006

VI. Environment Index

1. Temperature and Precipitation

Monthly average temperature of Gwanak-gu is 13.3° C on month average, 26.5° C in August which is highest and 0.4° C in January which is lowest.

[Picture 46] Monthly Average Temperature



Source of Data: Gwanak Statistic Year Book 2008

Monthly Average Precipitation of Gwanak-gu in 2007 is 1,212.3 mm and is focused on the rainy season, summer. The rainy season is about one month from the end of June to the end of July and winter Precipitation is less than 10% of the whole.

[Picture 47] Monthly Average Precipitation

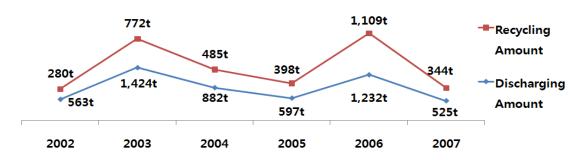


Source of Data: Gwanak Statistic Year Book 2008

2. Refuse Disposal

One day wastes discharging and recycling amount was 1,424 ton in 2003 and had decreased in 2004~2005 and increased to 1.232 in 2006 and discharging rate had generally increased and decreased to 525 ton in 2007 comparing the amounts of recycling. Recycling center buys and sells the secondhand goods and is planning to operate environment experience program and advertise ecological products by utilizing or renting the places for sorting and collecting reusable things and establishing environmental PR center through resident's application, free collecting and collecting tour.

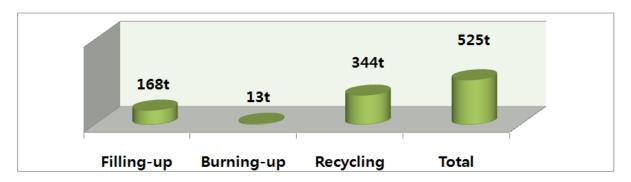
[Picture 48] One day Wastes Discharge Amount (Unit: tone)



Source of Data: Gwanak Statistic Year Book 2008

The rate of trash collecting in Gwanak-gu is 100%. Whole rate of refuse disposal is high in recycling and reclaiming but low in incineration.

[Picture 49] Annual Trash Collection and Disposal Amount (Unit: tone)

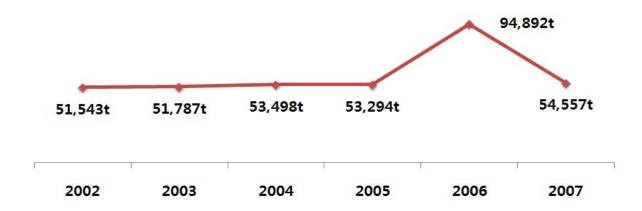


Source of Data: Gwanak Statistic Year Book 2008

3. Amount of water supply used

Two third of annual precipitation in Korea is centralized in summer and there are lots of steep mountain area, which drive rainwater into the sea right away. For this reason, it is difficult to manage the water system in Korea. Water consumption of Gwanak-gu had been gradually increasing since 2002.

[Picture 50] Annual Amount of Supply Water Consumption (Unit: tone)



Source of Data: Gwanak Statistic Year Book 2008

4. Green Spaces

The area of Gwanak-gu Is 29.57 km², which is 4.9% of total area of Seoul. The forest land is 16.44 km², which is 55.6% out of total and the ground is 8.21 km², which is 27.76% of total. The south side of Gwanak-gu, which is green lands and greenbelts including Gwanak Mt. nature park and non built-up area is totally 17.50 km², which is 59.18% of total area. There are an urban nature park, 5neighboring parks, 73children parks and 7 pocket parks. Especially, total area of Gwanak Mt. nature park is 10.42km, which is largest of parks in Seoul and has beautiful landscapes. There are Nakseongdae park retaining the portrait of General Kang Gam Chan, Gwaneumsa which is traditional temple and Yaksuam and other various facilities to promote "Making Great Gwanak Mt. Park Project"

Divide	Urban Nature Park	Neighboring Park	Children Park	Pocket Park	Total
Section	1	6	73	7	87
Area(km²)	10,42	0.4	0.07	0.0096	10.90

Source of Data: Gwanak White Paper, 2009

Park green area assigned per person of Gwanak-gu in 2005 is 1.076.5ha, which is 36.38% of administrative district in Gwanak-gu and it is 20.03 m² per person. Although Gwanak Mt. is highly occupied because it is forest urban nature park of the outskirts of the city, residents do not bodily feel as they are fully surrounded by green lands in Urban container district.

[Table 23] Comparison of Size of Neighborhood Parks in Seoul and Gwanak-gu

Divide	Park Area(ha)	Life Zone Park Area(ha)	Park Rate(%)	Number of Population (thousand persons)	Area per person(㎡)
Gwanak-gu	1.076.5	1.076.5	36.38	635	20.03
Seoul	16.422	12.546	27.13	10.297	5.19

Source of Data: Gwanak-gu office Park Green land corporation, Seoul

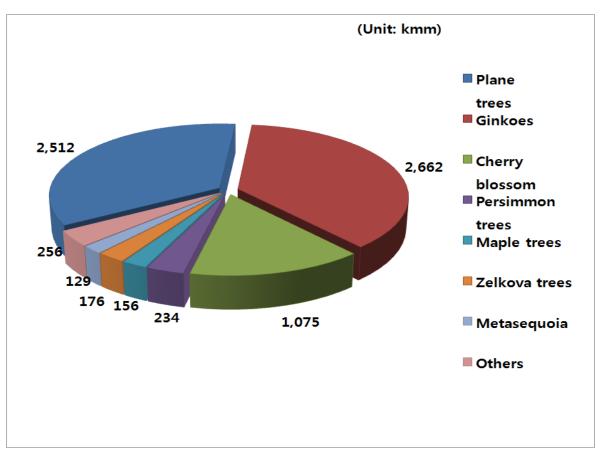
There are trees lining a street in 13line 38Km in Gwanak-gu, which mostly include 34.98% of plane trees, 36.94% of Ginkoes and 2.44% of Zelkova trees.

[Table 24] Status of Trees Lining a Street

Total	Plane trees	Ginkoes	Cherry blossom	Persimmon trees	Maple trees	Zelkova trees	Metasequoia	Etc.
7,200	2,512	2,662	1,075	234	156	176	129	556
Ratio (100%)	34,98	36,94	14,9	3,24	2,16	2,44	1,79	3,55

Source of Data: Gwanak-gu Park Green Land Corporation 2009

[Picture 51] Status of Trees Lining a Street



Source of Data: Gwanak-gu Park Green Land Corporation 2009

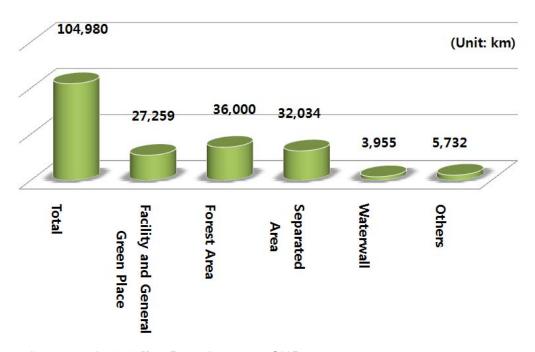
Total green lands in Gwanak-gu is 768,630 m², which include 80.3% of facilities and general green lands, 8.6% of forests and 2.1% of malls.

[Table 25] Afforestation Status

Total(m²)	Facility and General Green Place	Forest Area	Separated Area	Water wall	Etc.
104,980	27,259	36,000	32,034	3,955	5,732

Source of Data: Gwanak-gu Park Green Land Corporation 2009

[Picture 52] Afforestation Status



Source of Data: Gwanak-gu Statistic Year Book, Gwanak-gu 2007

5. Water Pollution

Water supply district is mainly divided into Anyang stream and Han riverside but living and industrial sewages are all gathered and disposed into Gayang sewage disposal plant.

[Table 26] Stream Status

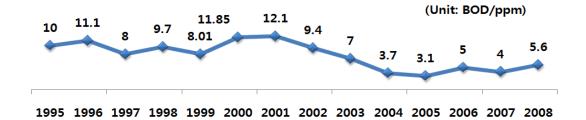
		Recovering		
Divide	Expansion((km)	Recovered (km)	Non-recovered (km)	Reference
Total	12.62	9.85	2.77	
Dorim Stream	7.47	4.7 (Half- recovered 4.12)	2.77	Rural Grade2 Stream
Bongcheon Stream	5.15	5.15		Rural Grade2 Stream

Source of Data: Gwanak White Paper, 2009

Streams which flow in Gwanak-gu are Dorim Stream and Bongcheon Stream. Dorim Stream is 4.7km recovered of total 7.47km and Bongcheon Stream's total area 5.15km is all recovered. They flow together and join the Anyang Stream and then joint the downside of Han River to flow into front Sea of Incheon.

Water pollution degree of Dorim Stream had been decreased from 16.6ppm in 1994 to 1.0ppm in 1995 and greatly improved by 11.1ppm~5.0ppm in 1996~2008.

[Picture 53] Dorim Stream Water Quality Change



Source of Data: Gwanak White Paper, 2009

5. Sewage Management

Gwanak-gu is mostly comprised of steel inclination, which helps sewage disposal but some parts have difficulties of sewage disposal

Sewage means polluted and rain water which is generated from house living and industrial activities. There is not accurate statistic data about sewage amounts for each region because it is difficult to take statistics on them due to the various factors. Sewage which is generated from Gwanak-gu flows into the southwest water recycling center (past southwest sewage disposal center) and exfiltration on sewage pipe is combined sewer system. Total length of sewage is 395km and total facility area is 15.92km and supply rate is 100%.

[Table 27] Sewage Facility

	Sewage Pipe(m)				Sewage Pipe(m) Sewage Facility(section)					
	Total	Culvert	Pipe	0pen	U-shape Channel	Total	Manhole	Dripstone	Cross Sewage	Grit Chamber
	395	33	355	4	3	33.506	7.893	25.254	342section	17section

Source of Data: Gwanak White Paper, 2009

It is the residential area which is made around Bongcheon Stream and Dorim Stream, which are provision applied stream. Bongcheon Stream is completely recovered and used as a road and Dorim Stream is also used as road in both sides.

6. Air Pollution

There are principle park green land, Gwanak Mt. Nature Park in Gwanak-gu and residential area in rest of administrative district. For this reason, establishing of plants that provoke air pollution and manufacturing facilities is basically limited.

Although the problems of environmental pollution are fewer than the other areas under this circumstance, air pollution is still problematic due to the factors from increasing number of car holding and etc.

According to the average level of selected materials as air pollution source, such as sulfurous acid gas, carbon monoxide, dust and ozone, it shows that level of air pollution in Gwanak-gu is lower than the Ministry Environment and similar to whole average in Seoul; sulfurous acid gas 0.007ppm, dust $56 \,\mu\text{g/m}^3$, Ozone 0.019ppm, Nitrogen monoxide 0.43ppm and Carbon dioxide 0.043ppm.

[Table 28] Air Pollution Status

	Sulfurous Acid Gas (ppm/year)	Dust (µg/m³/year)	Ozone (ppm/8hours)	Nitrogen Dioxide (ppm/year)	Carbon Monoxide (ppm/8hours)
Standard of the Ministry of Environment	0.020	50	0.06	0.03	9
Standard of Seoul Environment	0.010	50	0.06	0.03	9
Seoul Average	0.006	55	0.019	0.038	0.6
Gwanak-gu	0.007	56	0.019	0.043	0.6

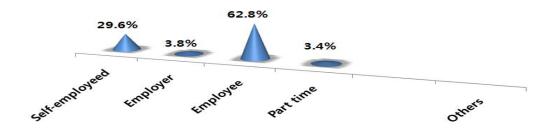
Source of Data: Gwanak White Paper, 2009

VII. Social Economy Index

1. Economic activities

Economical activities in Gwanak-gu show that the rate of self-employed people is 29.6% and the rate of employees is 62.8%.

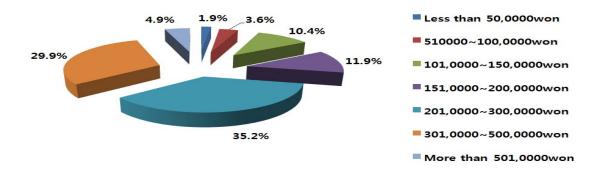
[Picture 54] Economic Activities Behavior



Source of Data: Seoul Health Index Research, Seoul 2006

Monthly average of family total income is 5.5% in 'less than million won', 22.3% in 'less than 2million won', 34.8% in 'more than 3million won' and 4.9% in 'more than 5million won' which is less than 6.7 of Seoul.

[Picture 55] Monthly Total Income of Families

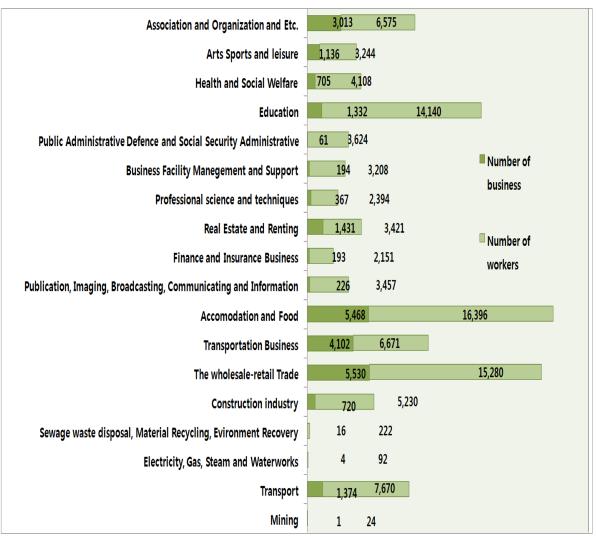


Source of Data: Seoul Health Index Research, Seoul 2006

Total number of business companies is 25,873, in which worker are 97,907persons. Number of whole sale-retail trades is 5,530 of them, which is 21.4% of total so it is the highest rate in the number of business companies and there are 16,396workers in service job, which is 16.8% of total and it is highest rate in the number of workers.

Number of business companies from 2001 to 2007 has been increased in educational service, welfare and social welfare, real estate and renting business while decreased in manufacturing, business service, constructing business. Workers has rapidly decreased in whole sale-retail trade and increased in educational service.

[Picture 56] The number of Businesses and Workers by Industry Types (Unit: person)



Source of Data: Gwanak Statistic Year Book 2007

2. Education

The number of schools in Gwanak-gu is totally 104, which include 7Universities, 11general high schools, 5vocational high schools, 16middle schools, 22primary schools, 38kindergartens and 4other schools.

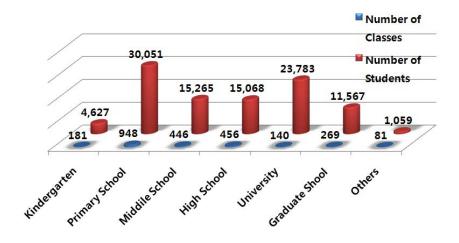
[Table 29] Education Facilities Status

h	Kinder-	Primarv	Middle	High	School			Graduate	
Total	garten	Primary School	School	General Vocational	College Unive	University	Graduate School	Etc.	
104	38	22	16	11	5	0	1	7	4

Source of Data: Gwanak Statistic Year Book 2008

The number of students in each educational organ is totally 101,420 and 30,051 in primary school, which is 29.6% of total number of student and it shows students in Gwanak-gu are mostly primary school students.

[Picture 57] School Status (Unit: class / person)



Source of Data: Gwanak Statistic Year Book 20088

3. Cultural and Athletic Facility

Sightseeing places in Gwanak-gu are Horim Museum, Art center in Seoul University, Kyujanggak and Seoul University Museum, Nakseongdae traditional outdoor little theater and traditional wedding market and Gwanak culture center which has a theater including 700seat and library are ranked in 8th of total area and 5th in size of seats.

[Table 30] Cultural Facilities Status

Divide	Gwanak-gu	Maximum Holdings (autonomous district)	Seoul Average
All-around Theater (over 1,000seats)	0	3(Gwangjin-gu)	0.48
General Theater (300~999seats)	1	14(Joong-gu)	2.36
Little Theater (under 300seats)	0	47(Jongro-gu)	3.56
Movie Theater	2	11(Jongro-gu)	2.88
Museum	3	31(Jongro-gu)	4.92
Art center	3	14(Jongro-gu)	1.24
Culture and Art Center	1	2(Jongro-gu)	0.52

Source of Data: Gwanak Statistic Year Book 2006

Athletic facilities in Gwanak-gu are similar to average of Seoul.

[Table 31] Athletic Facilities Status

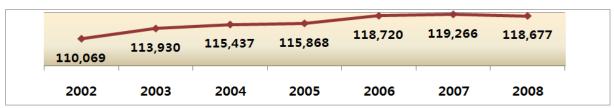
Facility Name	Gwanak-gu	Maximum Holdings (autonomous district)	Seoul Average
Gymnasium	2	7(Songpa)	2.68
Baseball and Soccer Field	1	10(Youngdeungpo)	2.32
Tennis Court	3	6(Songpa-gu)	2.04
Swimming Pool	2	5(Songpa-gu)	2.52

Source of Data: Gwanak Statistic Year Book 2006

4. Transportation

The number of registered cars (including individual, commercial and official use) in Gwanak-gu has been annually increased since 2002 and it was 118,677 by standard on 31th of Dec, 2008. The number of passenger cars is 95,322, which is most of the whole and vans are 8,252, trucks are 15,018 and custom cars are 85.

[Picture 58] Chronological Registered Automobile Status by Years (Unit: car)



Source of Data: Gwanak White Paper, 2009

The rate of registered cars per population in Gwanak-gu is 0.216%, which is lower than in Seoul, which shows that residents in Gwanak-gu mostly rely on public transportation.

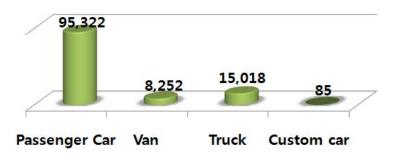
[Table 32] Registered Automobile Status

Divide	Seoul	Gwanak-gu	Ratio
Total	2.803.135	115.875	4.13
Register Ratio by Population	0.272	0.216	-

Source of Data: Seoul, 2006, Gwanak Statistic Year Book 2006

(Rate per population = The number of registered cars/ The number of population)

[Picture 59] The number of Registered Automobile (Unit: car)



Source of Data: Gwanak White Paper, 2009

Road area of Gwanak-gu is 8.5% out of total, 20.9% per non developing area which is similar to 21.19% of Seoul, but road area per population of Gwanak-gu is 4.6 m² which is much lower than 7.6 m² of Seoul and is 65% of Seoul.

[Table 33]Road Status

Divide	Road	Gwanak-gu Total Costs	Ratio by Market Price Area	Area by Population
Gwanak-gu	2.522.390	8.5	20.9	4.6
Seoul	74.598.798	12.3	21.2	7.6

Source of Data: Seoul statistic Year Book 2006,

(Seoul average road rate = 2001 road area%non developing area x 100)

The rate of small road in Gwanak-gu is 84% of total, which is quite high and the rate of high road is relatively low.

[Table 34] Road Breadth Status

Divide	Total	Wide Road (over 40m)	Large Road (25~40m)	Middle Road (12~25m)	Small Road (under 12m)
Seoul	8.045.932	243.575	707.124	842.308	6.252.925
	100	3.0	8.8	10.5	77.7
Gwanak-	314.563	11.597	9.385	29.279	264.302
gu	100	3.7	3.0	9.3	84.0

Source of Data: Seoul 2006, Gwanak-gu statistic data, 2006

5. Housing

The number of houses in Gwanak-gu is totally 103,908, which includes 44,291 Apartments (42.7%), 27,256 single-houses (26.2%) and 32,361row and multiplex-houses (31.1%) and Current housing supply rate is 80.7%.

[Table 35] Housing Status

Divide Year	2002	2003	2004	2005	2006	2007	2008	2009
Total	98.317	104.266	104.745	116.987	102.971	103.762	103.908	104,784
Single	42.670	42.310	41.845	41.480	27.554	27.368	27.256	27,273
Apartment	25.314	32.957	33.359	42.495	41.362	43.254	44.291	
Multi-Row Houses	31.333	28.999	29.541	33.012	33.055	33.140	32.361	

Source of Data: Gwanak White Paper, 2009

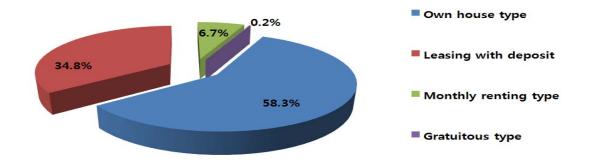
[Picture 60] Housing Supply Rate by the Types of Living (Unit: house)



Source of Data: Gwanak Statistic Year Book 2007

House owning type shows that 58.3 houses are own-house type and the rate of leasing with deposit type is 34.8%, monthly renting type is 6.7% and gratuitous type is 0.2%.

[Picture 61] House-owning Types



Source of Data: Seoul Health Index Research, Seoul 2006

6. Urban Security

5 Criminal eruption rate is 4.88% of the eruption rate of Seoul and the eruption number of Robbery, Assault, and Burglary is a little much comparing non developing area.

[Table 36] 5 Criminals Eruption Status

Divide	Total	Murder	Robbery	Assault	Burglary	Violence
Seoul	107.609	220	948	2.221	28.914	74.306
Gwanak-gu	5.249	10	33	121	1.561	3.524
Joongnang-gu	4.113	6	27	63	922	3.095

Source of Data: Seoul Metropolitan Police Agency Homepage Data (2008) Seoul Gwanak Metropolitan Police Agency Homepage Data (2008) Seoul Joongnang Metropolitan Police Agency Homepage Data (2008)

The eruption number of fire has been annually decreased except in 2004 and the accidental fire is the most eruption.

[Table 37] Fire Eruption Status

Divide	Total	Accidentalness	Incendiary	Etc.
2002	269	210	39	20
2003	176	121	25	30
2004	215	146	32	37
2005	177	132	21	24
2006	151	102	18	31
2007	257	147	44	66

Source of Data: Gwanak Statistic Year Book 2008

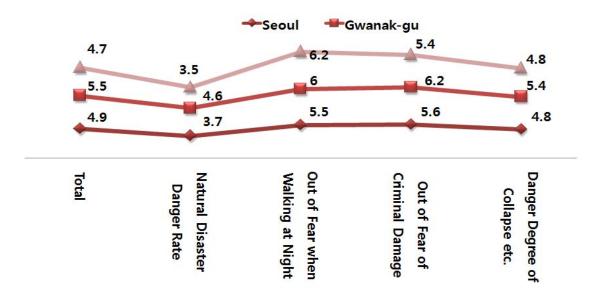
Urban danger degree that residents of Gwanak-gu feel is 5.5 point out of 10 and the whole danger degree including Natural disaster, Criminal and Collapse is higher than in Seoul average.

[Table 38] Urban Danger Degree

Divide	Total	Natural Disaster	Out of Fear when	Out of Fear of	Danger Degree	
	TOtal	Danger Rate	Walking at Night	Criminal Damage	of Collapse etc.	
Seoul	4.9	3.7	5.5	5.6	4.8	
Gwanak-gu	5.5	4.6	6.0	6.2	5.4	
Seocho-gu	4.7	3.5	6.2	5.4	4.8	

Source of Data: Seoul (2006), Seoul Survey

[Picture 62] Urban Danger Degree



Source of Data: Seoul (2006), Seoul Survey