

Study of industrial complex worker's consciousness for surrounding green area - Seongseo industrial complex to

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To evaluate existence value of green area through industrial area worker's consciousness estimation, result that achieve is as following.

According as green area amount of green area decreases, assessment about existence value of green area decreased. Environment that industrial complex worker can work in agreeable psychology need to increase green area in some form to be formed. Existence of green area enhances conscious value about visual improvement effect such as good environment, seasons change, and green quantity, and is judged that green area is exerting positive effect to consciousness regarding environment improvement effect such as cooling sensation, wind control, and noise decrease.

Key words: Industrial complex, Worker's cognitive evaluation, Existence value of green area

1. Introduction

Urban area is achieved mixedly and is various according to land use the purpose activity of various form. But, city is worse varied environment by population's overpopulation anger. Various industry institutions are centering in industrial complex of city. Therefore, much environmental deterioration factors that give thumbprint in human's agreeable activity such as air pollution or noise exist in industrial complex. To prevent environmental deterioration in industrial area, environment green area is placed. This was known as that is playing an important part though reduce aggravation of industrial complex environment. About this, through metrical study finding, effect of environment green area is proved mostly. But, study is very insufficient whether industrial complex green area is realized by some measure to practicing worker in industrial complex and if cause some effect.

Takahasi¹⁾ claimed that there is allopathy effect as characteristic effect and existence effect as use

effect about function of city green area. Maruta²⁾ is sorting function of park green area by 6 according to relation of human and plant, relation of plant and nature component. Also, Takahara³⁾ is sorting function of park green area according to 3 purposes. 3 purposes are objective function (natural sciences enemy plane ability) of green area and subjective function (aesthetic or amenity function), draft of plan and enforcement, and accessibility.

Factors such as temperature, wind pressure, and humidity can appear by result that is admeasured through an experiment in function of park green area. On the other hand, Effects connected with human behavior and cognition have realized as sensuous efficiency simply. But, agreeable environment is formed through connection between human and surrounding environment.⁴⁻⁸⁾

Therefore, that analyze human behavior and cognition about existence effects of green area as metrical is very important at point that supply objective data for industrial complex green area furtherance.

This study achieved to evaluate existence value of green area through industrial complex worker's cognitive evaluation for green area of industrial area.

2. Methods

Seongseo industrial complex that locate in Daegu Metropolitan city that is one of typical

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manufacturing town of the Korea, Kyongsangbukdo for achievement of this study was chosen as study areas.

Each types of characteristic buffer green (Site A) in industrial complex as following, place (Site B) that facilities green belt is placed for main broad way interest, the branch line (Site C) that street tree has planted, and alleyway (Site D) that the tree is hardly planted.

Worker attitude survey for estimation about existence effect of green area executed through the question directly. Survey method enforced to worker who work in factories business which is situated to roadside of each investigation site.

Total 10 valuation items were established for survey. Estimation contents are weather environment improvement efficiency, life preservation efficiency, green volume and seasonality, and comfort environment formation. Estimation angle item by item Likert scale (that hardly feel - a little feeling - Hardly feel - that do not feel entirely: 4 points ~ 1 point) of 4 steps apply and enforced. Analysis yielded estimate average by item, and utilizes to basis data and enforced these. Question survey did at day office hours during June by 3 survey agents, and sample of total 173 was acquired in 4 sites.

General specific characters of question respondents arranged to table 1 ~ table 2.

Seongseo industrial complex, investigation area, is situated west of Daegu Metropolitan city, and is made up to 1,000ha from 1984 to 2000. Fig. 1 Is same as vegetations of investigation sites is appear to Table 3.

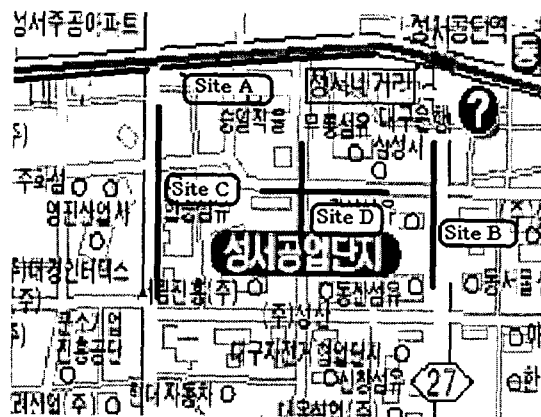


Fig. 1. Position of sites



Site A



Site B

Table 1. General specific characters of question respondents (sex) (unit : samples)

	site A	site B	site C	site D	total
M	17 (9.7%)	29 (16.5%)	19 (10.8%)	66 (37.5%)	131 (74.5%)
F	6 (3.4%)	14 (8%)	7 (3.9%)	18 (10.2%)	45 (25.5%)
total	23 (13.1%)	43 (24.5%)	26 (14.7%)	84 (47.7%)	176 (100%)

Table 2. General specific characters of question respondents (age) (unit : samples)

	site A	site B	site C	site D	total
20	8 (4.6%)	13 (7.5%)	10 (5.8%)	32 (18.5%)	63 (36.4%)
30	5 (2.9%)	18 (10.4%)	9 (5.2%)	28 (16.2%)	60 (34.7%)
40	4 (2.3%)	10 (5.8%)	6 (3.5%)	11 (6.4%)	31 (18%)
50-60	6 (3.5%)	2 (1.1%)	1 (0.5%)	10 (5.8%)	19 (10.9%)
total	23 (13.3%)	43 (24.8%)	26 (15%)	81 (46.9%)	173 (100%)



Site C



Site D

Picture 1. The present condition picture

Table 3. vegetations of investigation sites

Survey Sites		site A	
Green area form		buffer green	
VSC	T	width	15m
		dominance	<i>Zelkoba, Platanus, Cedrus</i>
		topography	flat terrain
		coverage	5
		hight	12m
		STD	25/100 m'
		forest type	mixed forest
S	dominance	<i>Cercis, Ligustrum</i>	
	coverage	1	
	hight	3m	

site B	site C	site D
facilities green area + street tree	street tree	alleyway
8m + 4m(CW)	CW : 5m	-
<i>Prunus, Pinus, Zelkoba</i>	<i>Platanus</i>	<i>Platanus</i>
flat terrain	flat terrain	flat terrain
4	-	+
10m	14m	-
16/100 m'	8/100 m'	-
mixed forest	uniform forest	-
-	-	-
2	-	-
2m	-	-

VSC: Vegetation Specific Characters,

T: Tree Layer, S: Shrub Layer

STD: standing tree density, CW: Crown Width

Zelkoba: Zelkoba serrata, Platanus: Platanus occidentalis,

Cedrus: Cedrus deodara, Prunus: Prunus yedoensis,

Pinus: Pinus koraiensis, Cercis: Cercis chinensis,

Ligustrum: Ligustrum japonicum

Table 4. Evaluation result of survey sites Ave.(SD)

	site A	site B	site C	site D	total
CCS	3.4(0.59)	2.8(0.90)	2.7(0.91)	2.7(0.90)	2.9
D	3.4(0.66)	2.9(0.85)	2.5(0.98)	2.8(1.02)	2.2
WD	2.7(0.79)	2.5(0.85)	2.3(0.93)	2.2(0.91)	2.9
HC	2.7(0.67)	2.6(0.75)	2.4(0.81)	2.4(0.90)	2.4
AC	3.1(0.81)	2.8(0.90)	2.8(0.92)	2.6(1.00)	2.5
ND	2.6(0.68)	2.5(0.76)	2.4(0.85)	2.4(0.93)	2.8
GVI	3.3(0.65)	3.0(0.79)	2.8(0.90)	2.7(1.04)	2.5
SV	3.4(0.66)	3.0(0.92)	3.0(0.80)	2.8(0.94)	3.0
EFL	3.2(0.90)	2.7(0.90)	2.6(0.97)	2.4(1.08)	2.7
AWE	3.1(0.71)	3.0(0.87)	2.8(0.90)	2.6(1.00)	2.9

CCS: cooling sensation, D: dew, WD: wind decrease,

HC: humidity control, AC: air cleaning, ND: noise decrease,

GVI: green volume increase, SV: seasonal variation,

EFL: existence feeling of life,

AWE: agreeable working environment

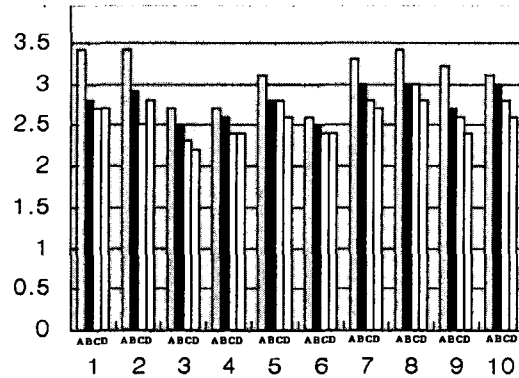


Fig. 2. Existence valuation of green spaces in survey sites

3. Result and Discussion

General tendency of estimation result site A estimation about existence effect of green area is high from most items, and site B appeared assessment high in some items. Site C and site D are appearing that evaluate about existence effect from all items low. Also, it is decreasing that evaluate about existence effect according as rust quantity of green belt with estimation result decreases to site D in site A.

Only street tree was insufficient effect that green area exerts screen plantation in agreeable labor environment of industrial complex worker in case of was done to roadside. Therefore, make up green belt more than given scale and should makes existence effect of green area improved.

Assessment about existence effect of green area appeared relatively high from valuation items

connected with environment improvement effect with valuation items connected with visual effect by valuation items. Valuation items connected with visual effect are change of the four seasons and agreeable working environment, and valuation items connected with environment improvement effect are coolness impression, reduction of manners, and noise decrease. The other side, dew, air humidity, air cleaning, and assessment for amount of green area appeared that evaluate relatively low.

Existence effect of green area is appearing high from a lot of valuation items such as cooling sensation, a rust quantity, seasonal variation, existence of creature, and good working environment in occasion of site A that assessment appears high. But, evaluation about control of wind, humidity control, and noise decrease are appearing low. Usually, it is said that need width of green belt more than 20m for weather control effect. Therefore, valuation items that assessment appears low are thought that relativity is high with this standard.

4. Conclusions

To evaluate existence value of green area through industrial area worker's consciousness estimation, result that achieve is as following. According as green area amount of green area decreases, assessment about existence value of green area decreased.

Existence of green area enhances conscious value about visual improvement effect such as good environment, seasons change, and green quantity, and is judged that green area is exerting positive effect to consciousness regarding environment improvement effect such as cooling sensation, wind control, and noise decrease.

Only street tree was insufficient effect that green area exerts screen plantation in agreeable labor environment of industrial complex worker in case of was done to roadside. Therefore, make up green belt more than given scale and should makes existence effect of green area improved. Also, environment that industrial complex worker can work in agreeable psychology need to increase green area in some form to be formed. To prove efficiency of labor productivity and work, green area of industrial area is element that exerts important effect.

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