An Assessment of Residents' Consciousness on Changes in Agricultural Landscape

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ABSTRACT

This study aims both to analyze view resources of on agricultural village and its original view image in order to establish indexation and the direction of development and to present assessment model of agricultural view for expectations in plan change for and improvement of agricultural view and alternative valuation.

To do this, I selected four agricultural villages as the case areas for this study and examined view resources and their residents' consciousness through a questionnaire and investigated the image preference degree of agricultural village view and view preference.

The results of this study are as follows:

1. The newly-introduced artificial view elements, according to development, are a hindrance element of agricultural view; as such Commercial buildings and transmission towers show the highest frequency and are increasing. The problem is that development is being made without any systematic plan.

2. In the examination of images of agricultural villages, the traditional ones are 2.82 on average, which means the view is modern; the natural ones are 3.3 on average, which indicates natural images; the agricultural ones are 3.67 on average, which emerge as agricultural images. View preference degree is 3.34 on average, which is usually good.

3. It is proved that all of the variables of type of location form and view image increase the degree of view preference; size in causal relation can be identified by parameter estimate; that Type I, image variables of agricultural-ness contribute to the dependent variables, view preference degree.

4. It is identified that view preference degree according to location form emerges mountain type, champaign type, and suburbs type in order of preference.

Key Words : Assessment of preference, Assessment of view image, Assessment model of agricultural view

I. INTRODUCTION

As industry and the economy have developed, people have migrated to cities and the agricultural population has been reduced. As a result, city population has increased; the real estate prices have soared; in general, cities have lost the capacity for accommodation. This has a negative impact on

areas adjacent to cities. Agricultural villages in the suburbs have become more and more like cities; everywhere we can see random evolution, which is a main cause of the view destruction of agricultural villages. Random expansion of cities turns semi-agricultural zone to an area of city. This changing use is the cause of impetuous land exploitation scattered without any plan. The view in agricultural areas has been spoiled by evolution; the properties of the view of agricultural areas have often been ignored and thus are being eroded by entirely unplanned development. These phenomena evoke negative images to actual inhabitants and make their life uncomfortable.

This study includes basic data for agricultural development projects through an agricultural residents' consciousness survey and view survey of actual conditions, and provides useful suggestions for view management and assessment through assessment for the image and preference of agricultural view.

II. THEORETICAL INVESTIGATION

Zone refers to a space range, which has markedly distinct geographical properties. Locality means the proper characteristics of such zone. Locality or local property is a concept based on the fact that total space has universal property and characteristic and simultaneously partial space, consisting of total space, has its own property and characteristic (Kang, 1997). View varies in aesthetic content according to surrounding circumstances, but there must be harmony with surrounding circumstance and with in each own collection. On the other hand, perspective of viewing is important because man, as a subject, varies in aesthetic evaluation according to his sense of view. Therefore, when these two are in harmony, view with local identity can be maintained. With view elements, so-called local history or local origin is attributed to local property with progress related to images of the area.

We can form view, which can animate local image by how we collect and arrange scattered view information. That is, it can be said that view is perceived by local property and that local property serves to relate man to local view.

Among the existing studies planned for agricultural villages and them rearrangement, Todoroki (1996) explored the changes of buildings to housing site, open space, a housing site boundary in order to analyze the relation of environmental element to village space; and he analyzed the influence of the relation of environmental elements and also the influence of its change according to each field of vision.

And then it depicts a variety of elements which in effect are agricultural change, widening a street and so on, bring on a change in life style, occupations change, housing and land reformation.

Yoon (1994) and Sim (1996) researched the distance view of villages in the analysis of agricultural view. Kim (1996; 1997) argued ways of planning for the formation and preservation of agricultural village view; in his research of agricultural village view and the rearrangement of farm land, he argued the characteristics of each type of space; he suggested the ways of rearrangement to utilize agricultural view and plan for each type of view. Suh (1996) discussed ways of planning for landscape improvement in agricultural residential areas.

The following are needed; view elements of the village must be grasped to rearrange the view of agricultural village; there should be exploration of view plan direction with consideration of aesthetic characteristics of agricultural village view and the

influence of external social-cultural pressures; through these, examination of ways of performing agricultural view plans, based on the idea that agricultural villages form a view in which the spaces of human activities work organically with environmental elements.

III. RESEARCH METHOD

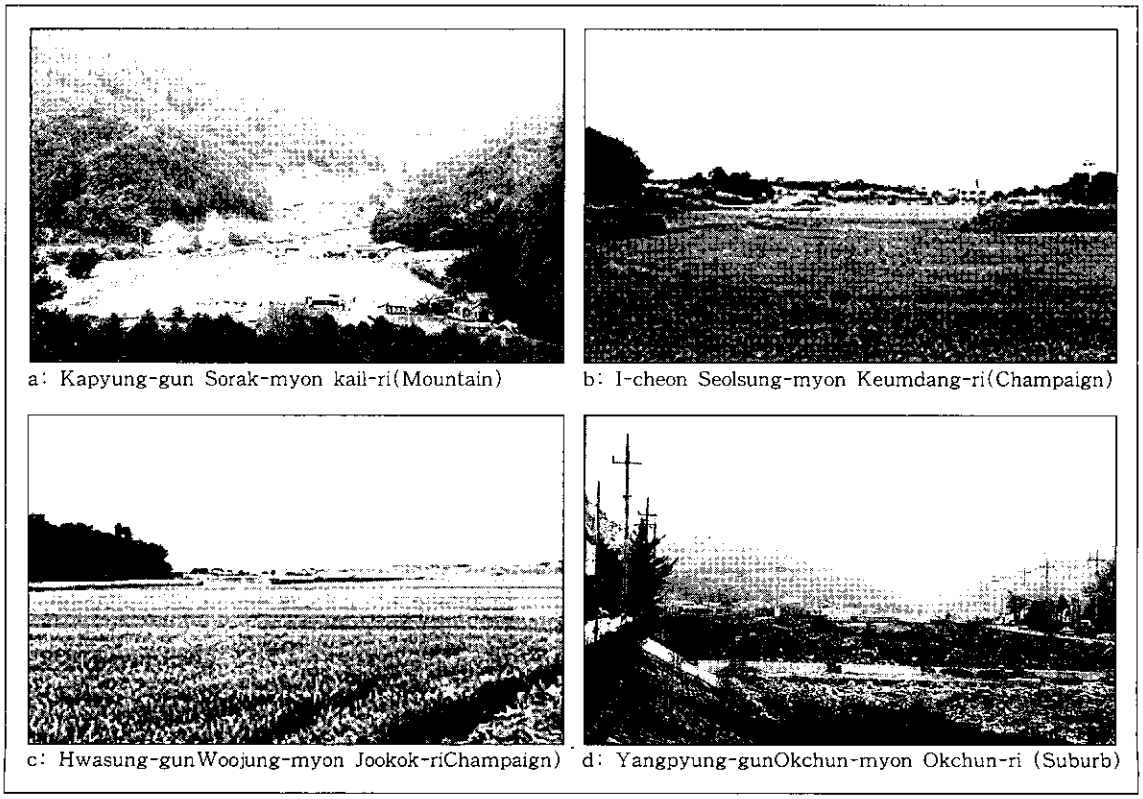
1. Examined Village

This study performed field-studies on 4 agricultural villages in Kyonggi-do, Korea to investigate the real conditions of view resources of agricultural villages and consciousness of residents there. The villages in this study are limited according to executive town. In kyunggi-do, by cultural town creating plan of the Ministry of Agriculture and Forestry the housing development was formed with modern life environment. This village, having images of original views and modern, was selected first According to the agricultural residence, the case villages were re-classified into mountain, champaign land on suburb types. Finally, we decided 4site which are classified as 3 types. 4 site are made up of mountain type, champaign type, suburb type.

Champaign type of these is the most general, so we add to one sample of champain type. (Figure 1)

2. Examination of the Actual Conditions of View Resources

In view resources, the followings were



a: Kapyung-gun Sorak-myon kail-ri(Mountain)
b: I-cheon Seolsung-myon Keumdang-ri(Champaign)
c: Hwasung-gunWoojung-myon Jookok-riChampaign)
d: Yangpyung-gunOkchun-myon Okchun-ri (Suburb)

Figure 1. Examined village

examined through interviews with the residents: past type of view; changing condition of view, for example, by newly-introduced facilities; present condition of intangible view resources, social-cultural view such as conventions, festivals, communal occasions. In addition to this, the place, type, introduction of historical and cultural view resources such as a local school annexed to the Confucian shrine(Hyang-gyo), a road idol, village forest, and so forth were examined.

3. Examination of Local Residents' Consciousness of View

Examination of local residents' consciousness was made though questionnaire to the villagers in Koyng-gi-do. The contents of questionnaire covers 7 items on the interviewee: sex, age, occupation, time of residency, housing type, cultivation form, main arbor. It also covers 6 items on view: the causes of improving and deteriorating view of the agricultural village; the harmful and needed elements to village view; by what view element(s) the person is impressed in his or her residence. The answer to the 6 questions was made by free response.

Preference of view(good-bad) was investigated by a 5-step standard and also done with three image variables-traditional(modern-traditional), natural(artificial-natural) and agricultural (urban-rural) in order to assess the preference of agriculture view.

A variable method, already used for assessing of Residents' preference, apply in the single variable method selection for image analysis(jo, soon-jae, 2000).

4. Evaluation Model of Agricultural Village View

Taking total view as its object, this study makes multiple regression analysis on variables according to view preference, image factors, location form of case areas with multivariate. And it explores the relation of the consequence of case area's view valuation to image factors and location form.

IV. CONSEQUENCE AND ARGUMENT

1. The Analysis of Real Condition of Agricultural View Resource

To examine the real condition of view resources, cultural resources were first reviewed. Table 1 shows the outcome of the examination.

Table 1. Condition of historical and cultural resources

Examined village	Historical and Cultural Resources
Kapyung-gun Sorak-myon kail-ri	- kail-2ri Shrine (a small ritual hall and mountain ritual hall) - Yoomyung Mt. Recreation Forest
I-cheon Seolsung-myon Keumdang-ri	- Common well - It was called 'Neutnaru'
Hwasung-gun Woojung-myonJookok-ri	- Noseung Mt. - 3.1 Movement Memorial in front of Hwasu elementary school - Seolsung Mt. (In Korea-Japan war in 1592, they built protective walls with snow.) - former name 'Songsam' (in Korean, 'song' means pine tree, 'sam' means tree). It is also called 'Danghap' (shrine).
Yangpyung-gun Okchun-myon Okchun-ri	- Okchun-1ri Yangguen Hyangyo. A Tombstone of Mrs. Heo, dauther-in-law - Okchun-1ri Okcheonsu Memorial (Its name is from that of the village - Okchun-3ri Dangganjiju

Table 2. Needed Tasks

needed tasks	frequency	%
Road maintenance and improvement	73	21.9
Financial support to rearrangmement task	54	16.2
Rearrangmement of spaces of feeling friendly toward a water	50	15.0
Development of design for buildings and facilities	44	13.2
Maintenance and improvement of green tract of land	40	12.0
Guidance about buildings and facilities	30	9.0
Preservance of traditional view	26	7.8
Publicization of agricultural village mprovement	16	4.8
Total	333	100

The historical and cultural resources in case areas are a shrine, a local school annexed to the Confucian shrine, and river. They are kept as cultural treasures. And there, ritual events can't make. However, an arbor, common well, an out door laundry which forms the villagers' actual community and serves to raise their sense of community, are seen to have disappeared or are no longer used. In another study in a space with an arbor, it is seen to have served as a field of unity and gathering, and it is continuously used and maintained by villagers. Therefore, in carrying out the agenda of development of agricultural villages, it is thought to be needed to establish the ways of facilitating cultural resources.

2. Analysis of Villagers' Consciousness

To examine facilities for agricultural villagers to demand and the images of local view, case areas in Kapyung-gun Sorak-myon kail-ri, I-cheon Seolsung-myon Keumdang-ri, Hwasung-gun Woojung-myon Jookok-ri, Yangpyung-gun Okchun-myon Okchun-ri were selected.

1) The Degree of the villagers' demanding the rearrangement of the agricultural village.

Table 2 shows the tasks of rearrangement, which the local residents think are needed, and the results of this examination. As shown in table 3, the villagers demand road maintenance and improvement most (21.9%) for increasing accessibility to adjacent areas and cities. Demand of government's financial support to agricultural village development amounts to 16.2% because the villagers cannot implement the rearrangement task for themselves in spite of their desire for improving living circumstances, expanding water oriented active space is highy demanded (15.0%)

However, they show low degree of demand for the tasks which do not influence the villagers' life directly or which may make them uncomfortable: polarization of agricultural rearrangement; guidance and inducement of preserving traditional view and buildings. Therefore, to effetely implement the tasks of agricultural village development, plans for residents' active participation are needed.

Table 3. Hindrance Elements of Agricultural View

Hindrance Elements	Frequency	Percent
Commercial buildings	16	14.4
Transmission tower	14	12.6
Environment pollution	11	9.9
Deforesting	8	7.2
Factory	7	6.3
Houses and its things attached	5	4.5
New pavement of road	4	3.6
Others	2	1.8
There is no hindrance	44	39.6
Total	111	100.0

2) Hindrance Elements of Agricultural View. The residents in case areas pointed out commercial buildings most frequently(14.4%) as a hindrance elements to agricultural view. Transmission towers in the middle of mountain are highly regarded as a hindrance elements (12.6%)

The introduction of new facilities such as factories, pens, vinyl-house, all of which have been introduced in the course of developing agricultural villages, have caused air pollution, and waste; in

Table 4. Summary statistical of variables

Var.		N.	Mean	S.D.	S.E.
Preference of view	Ka-pyoung	26	4.0769	.7442	.1460
	Hwa-sung	27	3.3333	.6794	.1307
	I-cheon	28	3.0357	.8812	.1665
	Yang-pyong	30	3.0000	.9469	.1729
	Total	111	3.3423	.9194	8.727E-02
Traditional	Ka-pyoung	26	2.8462	1.2551	.2462
	Hwa-sung	27	3.1111	1.0860	.2090
	I-cheon	28	2.4286	.9201	.1739
	Yang-pyong	30	2.9000	1.0289	.1878
	Total	111	2.8198	1.0888	.1033
Natural	Ka-pyoung	26	3.3077	1.1232	.2203
	Hwa-sung	27	3.6667	1.0742	.2067
	I-cheon	28	2.8929	1.0306	.1948
	Yang-pyong	30	3.3333	1.0933	.1996
	Total	111	3.2973	1.1004	.1044
Agricultural	Ka-pyoung	26	4.0385	.7200	.1412
	Hwa-sung	27	3.7778	.9740	.1875
	I-cheon	28	3.3929	.9940	.1879
	Yang-pyong	30	3.5000	.9377	.1712
	Total	111	3.6667	.9374	8.898E-02

terms of view, it is seen to have had a negative influence to agricultural view.

In addition to the introduction of new facilities, development of agricultural villages is seen to be another main cause of destroying forest. From these, it is known that m· · of hindrance elements of agricultural view ar associated with random agricultural village development; and that the newly-introduced scattered facilities have a negative but strong influence. Therefore, systematic maintenance of agricultural view, the introduction to new facilities and development within a planned frame work are required.

3. Assessment of Preference of View Image

1) Analysis with a single variable method.

Table 4 contains a statistical summary of variables for analysis of preference of view.

As the result of case analysis, The view preference variable to investigate the degree of view preference to agricultural view, is 3.34 on average. This means that the agricultural view is good. Kapyung-gun Sorak-myon kail-ri, showing 4.08, is seen as the best agricultural view; Yangpyung-gun Okchun-myon Okchun-ri shows 3.00 and is assessed as the lowest.

This indicates that there is a close relation between view preference and surrounding view. Traditional image of agricultural village averages 2.82, which indicates the view is somewhat modern. I-cheon Seolsung-myon Keumdang-ri has the lowest average, showing 2.43 and thus it is more modern; Hwasung-gun Woojung-myon Jookok-ri with its average 3.11 recognizes the view as traditional. Natural image of agricultural view amounts to 3.3 on average, which means the view is natural. I-cheon Seolsung-myon Keumdang-ri shows the lowest, 2.89. In variables to assess traditional and natural image, from location form, I-cheon Seolsung-myon Keumdang-ri has the lowest average while Hwasung-gun Woojung-myon Jookok-ri the highest. Both of them are classified as champaign type. This suggests that transformation of agricultural view is determined by city development in spite of the same champaign land type.

The average is 3.67 in the assessment to investigate agricultural-ness of agricultural view. This average means that the view is agricultural. I-cheon Seolsung-myon Keumdang-ri shows the lowest, 3.39, but it still belongs to the average range.

The residents think that their own villages keep an agricultural view.

In variables to assess agricultural-ness, it is shown that I-cheon Seolsung-myon Keumdang-ri is the most urban while Kapyung-gun Sorak-myon kail-ri is the most agricultural. This shows that there is a difference of degree according to location forms: Champaign type, which is easily developed,

or mountain type, which is difficult to develop.

Therefore, in champaign type land, which is near a city and artificial view and which is easy to develop, transformation of view has been easily made and may cause the negative images of agricultural view. When this type land is developed, a thorough plan for view and the maintenance of view is required.

2) The examination of relation between dependent variable and independent variable.

The result of Pearson's correlation analysis between view preference and 6 independent variables related to view preference has statistical significance among all types of models within 5% except the champaign type, and among every view image variable and location form the mountain type has (+) relation and type II and type III have (-) relations.

As a result of correlation analysis the relation with 6 independent variables influenced with view preference have a correlation coefficient of 0.696

Table 5. Result of Pearson's Correlation Analysis

	Preference of view	Mountain Type I	Champaign Type II	Suburb Type III	Traditional	Natural	Agricultural
Preference of view	1.000						
Mountain Type I	.444** (.000)	1.000					
Champaign Type II	-.174 (.068)	-.548** (.000)	1.000				
Suburb Type III	-.228* (.016)	-.337** (.000)	-.603** (.000)	1.000			
Traditional	.344** (.000)	.013 (.889)	-.051 (.592)	.045 (.639)	1.000		
Natural	.447** (.000)	.005 (.956)	-.022 (.817)	.020 (.835)	.455** (.000)	1.000	
Agricultural	.555** (.000)	.220* (.020)	-.090 (.347)	-.109 (.256)	.431** (.000)	.696** (.000)	1.000

**: Correlation is significant at the 0.01 level
*: Correlation is significant at the 0.05 level

which is highest between natural and agricultural, and correlation coefficient 0.005 which is lowest relation between natural and type I.

Finally, in the case of constancy in other conditions, if we consider the relation only between dependent variable and each independent variable, we can understand that view preference is controlled by agricultural-ness and effected by natural.

As a result of correlation analysis with independent variables of correlation, the highest variables are the relation with natural and agricultural which is 0.696

3) Assessment Model of Agricultural View.

The followings are the result of multiple linear regression analysis on the sub-variable, view preference, three view image variables, and two Dummy variables such as type I (mountain type), type II (champaign type).

(1) Model Inspection

Regression model inspection can be assessed by Root MSE value, F-inspection, and R-value. As shown in Table 6, the results of regression analysis show that the hypothesis that slope of regression equation is beta=0 is rejected because the possibility value is below 0.0001 in all regression equations, and that the determinant index value is 0.642. Considering these results, it can be said that these regression models are acceptable.

(2) Result of Analysis

① Causal relation

The direction of causal relation, in which each independent variable influences dependent variables, view preference, can be known by the direction of the parameter regression index. The following are proof that all of the variables of type of location form and view image increases the degree of view preference

The size in causal relation can be known by

parameter estimate. It can be said that the value of variables, mountain type, Type Ⅰ, and agricultural image variables contribute to the dependent variable, view preference.

This means that compared with normative category, Type III (suburbs type), Type I(mountain type) shows 0.942, difference in the degree of view

Table 6. Result of multiple linear regression model
a: Analysis of variance

Model	Sum of quares	df	Mean quare	F	Sig.
Regression	42.956	5	8.591	18.029	.000(a)
Residual	50.035	105	.477		
Total	92.991	110			

b; Result of multiful lilear regression
R-square: 0.462; Root MSE: 0.6903;
Adj R-square: 0.436

Var.	Coeff	Std. Error	Std. Coeff.	T	Sig.
Constant	1.182	.291		4.062	.000
Type Ⅰ	.942	.194	.436	4.853	.000
Type Ⅱ	.185	.157	.101	1.176	.242
Traditional	.116	.069	.137	1.670	.098
Natural	.161	.088	.192	1.833	.070
Agricultural	.271	.105	.276	2.582	.011

preference, and Type II (champaign type), 0.185. In multvariate analysis nearer reality, basically if the value of view image variables is 0, this means the difference of view preference degree according to forms to transmit view information. If other conditions are the same, Type I is the highest in view preference degree while Type II the lowest. That is, it is identified that view preference degree according to location form appears as mountain, champaign, suburbs type and this is consistent with statistics using a single variable method. This shows the influence of location form on determining view preference degree.

② Size of relative contribution to dependent variables

Relative importance of each independent variable to influence the value of the dependent variables is assessed through the comparison of the absolute value of correlative index.

The following can be interpreted: the greater the absolute value of standard correlation coefficient of independent value, the greater the contribution of dependent variables; among view image variables, the value of agricultural-ness, 0.267, compared with the coefficient of the traditional, 0.137, is twice as important; among location forms, the value of the coefficient of Type I is 0.436; compared with that of Type II, 0.101, it may be a variable with four times importance.

V. CONCLUSION AND SUGGESTION

Changing use of land in agricultural villages according to city development has caused unplanned and rash development of agricultural areas. As the result, the present agricultural village views are being changed into those without harmony and not fit to the images of agricultural village. This study aims to suggest basic information for systematic planning and maintenance of agricultural view. The following is the summary of this study.

1) In the rearrangement and improvement task, residents highly demand road maintenance and improvement, financial support, improvement of spaces of feeling friendly toward a water, all of which directly influence the improvement of life, while their demand of tasks which do not directly influence residents' life or may cause discomfort, is low.

2) As hindrance elements of agricultural view, the frequency of newly-introduced artificial view elements, commercial buildings and transmission towers are the highest, and they are being increased. The problem is that development has been made

without any systematic plan.

3) The degree of view preference of agricultural village is 3.34 in average, which is evaluated as good, and the difference in the preference has a close relation to the image of surrounding view. The traditional image of agricultural view is 2.82 in average, which means traditional and its natural image, 3.3 which means natural. From location form, in the case of the champaign type, view transformation is determined by city development. In assessment of agricultural-ness, the average is 3.67, which shows the residents keep agricultural view, and there are differences in transformation according to the champaign type, which is easy to develop, and the mountain type, which is difficult to develop.

4) The following is proved: all of the variables of type of location form and view image increase the degree of view preference; size in causal relation can be identified by parameter estimate; Type I, image variables of agricultural-ness contribute to the dependent variables, view preference degree.

Because this study suggests basic data available to view maintenance and evaluation, with its research of agricultural view image variables and the increasing degree of view preference according to location form, subsequent studies are required for concrete direction for planning and maintenance.

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