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Trust in Professionals and Solving Social Conflicts Location

**: A Study on Determinants in Accepting
Landfill Location**

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Trust in Professionals and Solving Social Conflicts: A Study on Determinants in Accepting Landfill Location¹

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Introduction

Korean Society can be called as “conflict society” for having many conflicts in variety, which include stratification, labor and management, regionalism, ideology, generation, environment, and education conflict etc. These conflicts have been embossed seriously in the whole society and the aspect has been gradually complicated than ever. Environmental conflict, one of these conflicts, has become more frequent and intense as a result of the economic growth and the rise of standard of living or the enhancement of environmental awareness. Now it is one of serious social conflicts in South Korea.

Environmental conflict in South Korea has been complex and deepened since 1960's, when local residents resisted Pusan thermoelectric power plant (Jung, 1998; Park, 1999). Because the damage of environmental deterioration is wide and continuous, many people who are victims participate directly or indirectly to an environmental conflict. The different values or interests over the development and the conservation can give rise to a conflict, which also can be led by the unilateral decision-making of the government, the deficiency of legal system to prevent an environmental contamination or the limit of scientific techniques to protect a disaster (Na & Kim, 1997).

The conflict on a trash landfill location is the representative case of environmental conflict. Life improvement with growing population and technical development with the economic growth have increased a lot of wastes rapidly, so the trash landfill is now inevitable anywhere. But these are thought as hatred facilities for inconvenience in life and negative external effect. It leads to struggle

¹ I cooperated with professor Yoon and other colleagues to accomplish this paper. I am thankful for the presentation of this research on behalf of them at this conference.

mutually between local and national government, among local governments, or local government and residents. This study would verify the effect of social factor such as social responsibility or public goods and trust in professionals in addition to administrative, economic, and techno-environmental factor. There are many previous researches on the environmental conflict from case studies, but few from survey data or positive analyses. The approach to analyze data collected by survey can lead us to investigate factors affecting whether to accept a landfill location or not in neighborhood. To achieve this goal, I will review preceding researches and classify factors theoretically, next to trying to test these factors to which applying statistical methods.

Theoretical arguments

The environmental matters which of contents and objects are various cannot be evaluated by only one standard. After investigation for the studies on the conflict of a trash landfill, researchers mainly pointed out administrative factor, economic factor and techno-environmental factor (Kim, 1995; Kang, 1998; Kim, 1999; Jun, 2000; Kim, 2002; Kang & Kim, 2003, Armour, 1991). But the social factor of environmental conflict (for example, social responsibility for a trash landfill, the degree of practice related policies or third party's (professionals) role of decision-making and judgment) also came to be known that it affected accepting a landfill location (Choi, 2002; Kwon, 1997; Sa, 1997).

Administrative perspectives

In first, a factor which triggers off or deepens environmental conflict is the lack of institutional system or distrust for the administration. When it come to occur between the interested parties, the government have no capacity to regulate efficiently the conflict in many cases, so this will deteriorate a situation more and suspect the government to be neutral or fair (Kim, 1999: 33).

Local residents are afraid of this facility vaguely because they cannot contact concrete information. Therefore, it is necessary to open the results of environmental impact assessment, and ask them to understand a trash landfill facility for accomplishing successfully (Kim, 1995; Kasperson, 1986).

Many reasons in environmental conflict are owing to the absence of decision making process as well as contents of policy. The legitimacy of decision making for policy is how to guarantee not only substantive rationality but also procedural rationality (Simon, 1976). If the political system is more authoritarian the decision making become more downward in a closed bureaucracy, so it deepens and amplifies a conflict between related interest groups.

The traditional model of decision making environmental facilities, as like DAD (Decide-Announce-Defend) proposed by Ducsick (1978) excluded the participation of local residents. The features of this model are selection by minor decision makers, compulsory execution according to their determination (Kim, 2002), and the exclusion of participation in decision making induced local residents to distrust and resist for the government (Kim, 1995; Kim, 1999; Jun, 2000).

Economic perspectives

The location of the facility which the residents hate fails unless they would be compensated for loss of their assets or comfortable expenses, it is namely impossible to be located without an economic compensation. Economic factor therefore is very important to decide to accept a trash landfill location. In comparison with past the recognition of economic compensation is diffused. But it is difficult to achieve an agreement for the difference between the administration and local residents. However, the tendency of opposing the location at first originated by a psychological expectation about compensation may be occurred because the principles or rules of appropriate compensation are not prepared to accommodate facilities and the methods of the government confrontation are different according to cases (Kim et al., 1996).

In the other hand, the conflict related with a convenience pursuit is that for accommodating the location of the land use or facility where the convenience is higher than the expense within an area, and this conflict assumes a competitive form between areas to call for environmental facilities. This dispute for detention is named by PIMFY(Please in My Front Yard), which of cause is the difference of convenience apportionment (Kim, 1995; Kwon, 1997; Kim, 1999).

Techno-environmental perspectives

Trash facilities can cause bad smell, a dust, street noise and traffic jam etc. and leaching of polluted water contaminate subterranean water. Various different types of bad gas also may be induced by decay of wastes. The fear of environmental disaster could lead easily to local residents to resist the location in their town (Kim et al., 1996). Consequently, the opposition of inhabitants for a hatred facility like trash landfill is related mainly with environmental deterioration in a life space. This thought of protection for their dwelling environment is tend to be connected with the consciousness of environment right. The uncertainty as cause of environmental conflict is mainly proposed by the existence of environmental contamination prevention techniques and the validity of such techniques. This uncertainty increased distrust and hostility of the conflict people concerned, so it led them to mobilize a large crowd and make a problem illegally, like as unlawful occupation, a sit-down strike in public facilities (Lee, 1998; Hwang, 1998).

The distance from a hatred facility is certainly considered as one of affecting factor to accept it. Local residents near the hatred facility are inclined to opposite the location on account of the asymmetry of expense and convenience (O'Hare et al., 1983), this objection against the location is strong mostly where it is nearer than distant.

Social perspectives

Environmental conflict is deeply related with social justice. It could be transferred from an area problem to the problem of social stratification, which next to could be changed into the problem between one generation and the other (Kwon, 1997). Consequently if it is necessary to sacrifice their selfishness for the public good of an area like a trash landfill, the recognition of social norm and responsibility might be affect whether to accept a landfill location or not.

The mediation or coordination of third party, which is to make an end conflicts by intervening of third party and deriving an agreement, is an important factor in environmental conflict (Gladwin, 1987). So the agreement and compromise is the prerequisite to solve a question. Because it complements the weak point of judicial solution and it secures the quickness and the fairness of

settlement a problem, it will be put to practical use of a conflict resolution (Branham, 1993; Sa, 1997; Schellenberg, 1982). Trust in professionals consequently is above all important. Though professionals frequently regard themselves as being scientific and could judge policies honestly, their opinion may predicate a risk which influenced by social, political, or private interests (Kim, 2005; Mauer, 1991). The effect of the regulation and the arbitration by professional of each field is therefore different according to features of environmental conflict, so it is necessary to approach a problem prudently when a situation is very acute (Slovic et al., 1980; Kim, 1995). The intervention of the specialist can be successful in factual conflicts related with a scientific technique, but it can be failed in conflicts related with value or interests.

Methods

Sampling data

The raw data for this study came from a survey of 1,000 adults ages 25 and older conducted between October 23 and November 28, 2006. The area of metropolis were excluded which had already located big trash facilities, so the data were collected at local level such as Gyeonggi-do, Gangwon-do, Chungcheong-do, Jeolla-do, Gyeongsang-do by the method of face to face interview. In order to examine the difference of resident's perception, the questionnaires divided into two types were given to them in a supposed dwelling within 3km or 6km.

Variables

In first, independent variables were measured by scaling from 'strongly disagree'(1 point) to 'strongly agree'(7 point), and eleven factor including the opening to the public about its hazard were estimated by each arithmetic mean. Dependent variable was the question that if landfill location were decided within 3km (or 6km) of my domicile at present, whether you do agree the decision or not. This was measured by scaling from 'strongly disagree' (1 point) to 'strongly agree' (4 point). Control variables were used by demographic indicator including sex, age, income and size of area.

Results

Trust in professionals and their judgment

Table 1, which provides descriptive statistics for trust in professionals and their judgment, shows that the agreement percentage of need for discussion professional members is highest at 69.0 percent, next to possibility as an important basis on mediating at 56.8 percent, need for obeying professionals' judgment at 50.1 percent, trust in professionals' judgment at 41.6 percent, and approval for professionals' judgment at 41.5 percent.

Table 1. The degree of agreement with trust in professionals and their judgment (N=1,000)

Details of related questions		disagree	medial	agree	total
Professionals	Fairness and objectivity of professionals	24.1%	41.8%	34.1%	100.0%
	Scientific approach of professionals	22.4%	38.9%	38.7%	100.0%
	Impartiality of professionals	31.6%	38.1%	30.3%	100.0%
	Need for discussion professional members	6.9%	24.1%	69.0%	100.0%
Professionals' judgment	Trust in professionals' judgment	18.8%	39.6%	41.6%	100.0%
	Approval for professionals' judgment	20.8%	37.7%	41.5%	100.0%
	Need for obeying professionals' judgment	15.8%	34.1%	50.1%	100.0%
	Possibility as an important basis on mediating	10.6%	32.6%	56.8%	100.0%

In contrast, fairness and objectivity of professionals and scientific approach of professionals are relatively low at 34.1 percent, 38.7 percent respectively. The agreement percentage of impartiality of professionals is lowest at 30.3 percent. The four measures for professionals' judgment are relatively higher than the measures for professionals except for need for discussion professional members.

This tendency indicates that trust in professionals and their judgment could be an important method in environmental conflict though the measures of impartiality and fairness are relatively lower than others.

Determinants in accepting the landfill location

In table 2, I report the results of the logistic regression analysis using factor of accepting the landfill location. The model presents the effects of administrative, economic, techno-environmental, and social factor with control variables. Opening to the public of administrative factor is positive

and significant (B=0.205). Knowing a hazard to health and expecting an inconvenience for life of techno-environmental factor are negatively associated and they are significant in each at B=-0.410, B=-0.256. Approval for need a landfill location (B=0.424) and trust in professionals (B=0.245) of social factor are also positive and significant. Gender, or dummy variable (female=1), and only significant in control variables.

In other words, the having a higher level of opening the results of environmental assessment to the public, approval for need a landfill location and trust in professionals and their judgment increase the probability of accepting a landfill location. The higher, however, coefficients of knowing a hazard to health and expecting inconvenience for life are, the lower the probability of acceptance. If a respondent is male, he will be more agreeable to locating a landfill than a female within his town.

Table 2. Logistic Reg: Determinants in accepting the landfill location (N=1,000)

Name of factor	Name of variables	B	Wald	Exp(B)
	Constant	-3.222*	17.410	0.040
Control variables	Gender	-0.647***	17.207	0.524
	Age	0.081	1.086	1.085
	Income	-0.107	3.073	0.898
	Education	0.079	1.149	1.082
	Area size	0.143	0.611	1.154
Administrative factor	Opening to the public	0.205*	4.139	1.227
	Decision making process	0.019	0.027	1.020
	Participation of the resident	0.240	3.550	1.271
Economic factor	Reasonable compensation	0.017	0.014	1.017
	Effect of compensation	0.123	1.500	1.131
Techno-environmental factor	Trust in construction & operating	0.130	1.674	1.139
	Knowing a hazard to health	-0.410***	14.573	0.664
	Expecting an inconvenience for life	-0.256**	10.175	0.774
Social factor	Approval for need a landfill	0.424***	27.185	1.528
	Practicing related policies	-0.035	0.166	0.966
	Trust in professionals	0.245*	6.183	1.277
Model summary	chi-square	234.693***		
	-2 Log likelihood	1057.706***		
	Cox & Snell R Square	0.209		
	Nagelkerke R Square	0.288		
	N	1,000		

* p<0.05 ** p<0.01 *** p<0.001

In afterwards, the cases (N=500) who are assumed with the resident within 3km were analyzed to control the distance from the landfill location. Table 3 provides the results of logistic regression about whether to accept or not. Decision making process (B=0.245), approval for need a landfill location (B=0.637), effect for compensation (B=0.283) and trust in professionals (B=0.289) are positive and significant, supporting administrative, economic and social factor could affect the acceptance of a landfill location. Knowing a hazard to health (B=-0.443) and expecting an inconvenience for life (B=-.250) are significant statistically, but negatively.

Table 3. Logistic Reg: Respondents within 3km from the landfill location (N=500)

	Variables	B	Wald	Sig.	Exp(B)
Variables in the equation	Gender	-0.837	14.236	0.000	0.433
	Decision making process	0.245	4.231	0.040	1.277
	Approval for need a landfill	0.637	33.053	0.000	1.891
	Effect for compensation	0.283	4.917	0.027	1.326
	Knowing a hazard to health	-0.443	9.314	0.002	0.642
	Expecting an inconvenience for life	-0.250	4.556	0.033	0.779
	Trust in professionals	0.289	4.511	0.034	1.336
	Constant	-2.978	11.907	0.001	0.051
Variables not in the equation	age		0.553	0.457	
	income		0.531	0.466	
	education		0.567	0.452	
	Area size		0.419	0.517	
	Opening to the public		0.906	0.341	
	Practicing related policies		0.052	0.820	
	Participation of the resident		1.986	0.159	
	Reasonable compensation		1.101	0.294	
	Trust in construction & operating		0.274	0.601	
Model summary	Chi-square	135.331	(df=7)	0.000	
	-2 Log likelihood	505.705			
	Cox & Snell R Square	0.237			
	Nagelkerke R Square	0.328			
	N	500			

☞ Method = backward stepwise (wald)

The results is similar to that of Table 2 in variables of approval for landfill location, trust in professionals, knowing a hazard to health and expecting an inconvenience for life, but is different

in variables of decision making process and effect for compensation. The coefficient of trust in professionals is not smaller influence than others at 0.289. Gender of control variables is negatively significant, that is the probability of men is higher than that of women.

To this time, the cases (N=500) who are assumed with the resident within 6km were analyzed with the same. According to Table 4, opening the results of environmental assessment to the public (B=0.317), approval for need a landfill location (B=0.260), participation of the resident (B=0.355) and trust in professionals (B=0.299) are positive and significant, supporting administrative and social factor except for economic factor could affect the acceptance of a landfill location.

Table 4. Logistic Reg: Respondents within 6km from the landfill location (N=500)

	Variables	B	Wald	Sig.	Exp(B)
Variables in the equation	Gender	-0.486	5.273	0.022	0.615
	Age	0.219	4.332	0.037	1.245
	Income	-0.146	3.055	0.080	0.864
	Opening to the public	0.317	9.931	0.002	1.373
	Approval for need a landfill	0.260	6.417	0.011	1.297
	Participation of the resident	0.355	7.352	0.007	1.426
	Knowing a hazard to health	-0.295	4.948	0.026	0.744
	Expecting an inconvenience for life	-0.297	7.523	0.006	0.743
	Trust in professionals	0.299	7.059	0.008	1.348
	Constant	-2.869	9.727	0.002	0.057
Variables not in the equation	Education		0.585	0.444	
	Area size		0.361	0.548	
	Decision making process		0.339	0.560	
	Practicing related policies		0.123	0.725	
	Reasonable compensation		0.020	0.887	
	Effect for compensation		0.150	0.698	
	Trust in construction & operating		1.180	0.277	
Model summary	Chi-square	107.818	(df=9)	0.000	
	-2 Log likelihood	543.264			
	Cox & Snell R Square	0.194			
	Nagelkerke R Square	0.266			
	N	500			

Knowing a hazard to health (B=-0.295) and expecting an inconvenience for life (B=-297) are also negative and significant, supporting techno-environmental factor could affect whether to accept or

not. Gender, age and income of control variables are significant, or men are higher, the old are higher, the poor is higher in accepting a landfill location.

Table 4 presents interestingly the difference between the results in 3km cases and in 6km cases. Both in 3km and in 6km cases, approval for landfill location and trust in professionals of social factor, and knowing a hazard to health and expecting an inconvenience for life of techno-environmental factor are common variables. But decision making process of administrative factor and effect for compensation of economic factor in 3km cases, opening the results of environmental assessment to the public of administrative and participation of the resident of administrative factor in 6km cases are different in statistic significance.

These results show that if a candidate area is nearer to the landfill location, local residents of the town would consider transparency of process or effect of compensation as more important factor, on the other side, if a candidate area is more distant they would regard opening information to the public or resident participation as relatively more important factor. So we can understand the occurrence possibility of difference in recognition of the residents according to distance from the landfill location. Also we could find the role of professionals in environmental conflict on the ground of the surveyed data like this.

Conclusion

This paper examined the impact of a trash landfill location-administrative, economic, techno-environmental and social factor with quantitative approach. In contrast, most existing researches sought the causes of environmental conflict with qualitative approach including case study, I would try to confirm the factors affecting whether accepting a landfill location or not, suggesting respondents for assumed distance from the landfill location. I included social factor, for example trust in professionals, approval for need a landfill location and practicing related policies, as well as factors which previous studies had found.

Findings showed that the above mentioned factors turned out to be influential in people's acceptance of landfill location. The probability of acceptance varied, however, by the distance to a

landfill; the closer to the landfill, people were more strongly affected by trust in site screening processes and public officials and reasonable compensation for affected individuals and the community. By contrast, the longer to the landfill, people were more strongly affected by transparent disclosure of potential hazard of the landfill and people's participation in the decision-making process. In both cases, people's trust in the third-party professionals who can mediate and arbitrate neutrally and people's willingness to accept the professionals' decisions turned out to be significant factors. These results suggest that the mediation and arbitration by professionals can be a rational and efficient solution to Korea's social conflicts.

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