

# STUDY FOR COMMUNICATING WAY WITH LOCAL RESIDENTS TOWARDS WASTE DISPOSAL FACILITY IN JAPAN

Masazumi Kitsuka \* Kiyoshi Seo\*\* Masataka Hanashima\*\*\* Toru Furuichi\*\*\*\*

Investigation Working Group for Waste Handling Social Penetration

Research group for control, Research Committee for Closed System Disposal Facilities

Chateau Takanawa 401, 3-23-14 Takanawa, Minato-ku, Tokyo 108-0074

\*Chief, \*\* Vice-Chief, \*\*\*Chairman, \*\*\*\*Vice-Chairman

## ABSTRACT

The aim of this paper is to analyze the cause of objection from local residents, to seek concession point, to study communicating way and to summarize concrete method towards agreement. This summarized concrete method should be known to every interested party and those who have some relation to the job should apply those method. This will come to a deepening of mutual understanding, and smooth construction of waste disposal facility with activated risk communication.

Our working group is studying in 3 stages of progress concentrating real close system landfill site. At 1<sup>st</sup> stage we analyzed the real cause of objection from resident people. At 2<sup>nd</sup> stage examples of success and failure case both analyzed and pointed out each objection element. Up to this stage we concluded that critical lessons lie in water environment device against water seeping out conditions. Also lessons are learned that the most critical issue is the lack of communication between authority/enterprises and resident community.

Now we are on 3<sup>rd</sup> stage, studying characteristic control of closed system disposal site, and seeking supplemental media for communication.

As for communication, there are lot of means do exist;---

flier distribution, communication meeting with interested parties as field work proceeding at site, work explanation to local.

residents at site, local landfill conference, various meeting activities through conference committee, detailed explanation of present plan and holding lectures inviting prominent authorities, issue of local news leaflets, press release, setting homepages on internet rink, telephone calls among community and so on.

How to utilize and make the most of those media most effectively, that is the question! We are trying to make up guideline and guidebook for the aiming at effective utilization of those communication media and also to establish communication theory based on conjugation of the guidebook.

## 1. Study Object

The object of this study is to analyze the real causes of smooth construction project's progress and of no treading in into construction by severe objection from local residents. Also is to pursue main causes, to summarize and to compile those study fruits, in relation to the construction of waste disposal facility. We are always seeking at concession points to get approval of construction from local residents and have

been mind to develop mutual communication with those people. The concrete fruit of this study is to present means and media to develop communication between the authorities of construction sides and local residents of the facility of the point in the form of guidebook and let it to be utilized effectively by the persons in charge. By making most of our guidebook, those peoples in charge to construct waste disposal facilities will be contributed for developing close communication to deepen mutual understanding, and this will lead to smooth project initiating to construct waste disposal facilities . At least the possibility of smooth project initiating will be promoted, it seems.

## **2. Stage of Study**

We proceeded our study work to center the Closed System Landfill project examples in three stages. In 1<sup>st</sup> stage we studied to pursue main causes of their severe objection to the landfill facility. In 2<sup>nd</sup> stage we consolidated the real cause of successful construction example of Closed System Landfill facility of discarded material. In 3<sup>rd</sup> stage we made studies to edit guidebook to compensate lack of communication between the authorities of construction sides and local residents of the facility of the point. This guidebook will play the role of making means and media to develop communication between the authorities of construction sides and resident people, activating facility control and community's function surrounding the site in mind, -- this is the main feature of the waste disposal facility especially adopted our proposed Closed System concept.

## **3. Study (1<sup>st</sup> Stage)**

- 1) Examples of trouble -- opposing reasons from past studies

We concluded from past studies classifying that the causes of trouble lies mainly in structural features of

the facility and in matters of procedures to succeed to and be followed with facility construction in Japanese case examples, which are final disposal sites for general waste, house keeping waste and industrial waste. Fig.1 shows the structural features oriented effects to surrounding environment. This diagram shows that water related effects occupies about 70 % share including contamination of underground water, water source pollution, contamination of rivers and lakes and swamps, and see water pollution.

This comes from safety consideration of fill sites(settlement of waste storage structures, water tightness structure function) and seepage water treatment system for safe disposal to surrounding environment. The majority of citizen/resident people have a keen concern and interest to environmental issues(they are air pollution, water contamination, soil deterioration and so on) and especially water issues ate raised high attention among them, because it cultivates every sides of life, it seems. This water issues constitutes symbolic phenomena in line with dioxin issues among various environmental problems, which is understandable and reasonable enough.

Also in regard to the ecological hazards, there are another uneasiness for example problems from noise, vibration and air pollution due to facility construction including reclamation, foundation work, route construction(temporary and final) and facility construction. After commissioning of the facility, another nuisance like dust arising and waste particle scattering from waste transportation are expected.

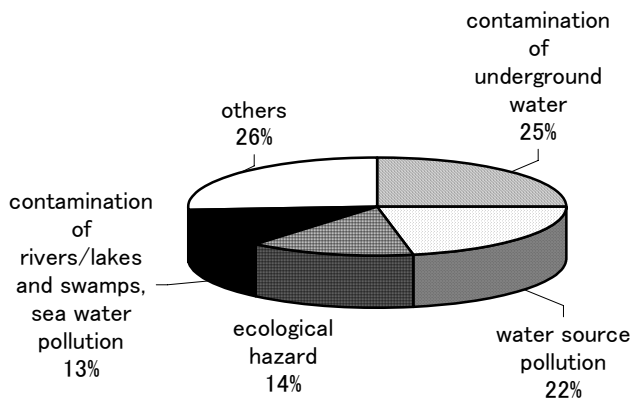


Fig 1 Structural Factor of Facility

As for matters of procedures relating for construction, Fig 2 is showing clearly the points. There are paper curtain and red tape in administration's office side and secret planning and enforced construction work totally neglecting residents' intentions. Also negative disclosure of information and its handling are the main reason for opposing movements. The lacking of communication will promote such an opposing movement increment. So it is concluded that --- for the reduction of those movement in local residents, it is recommended for administrative attitude to communicate well enough with citizens properly without having any secrets and without neglecting every movement in resident people side.

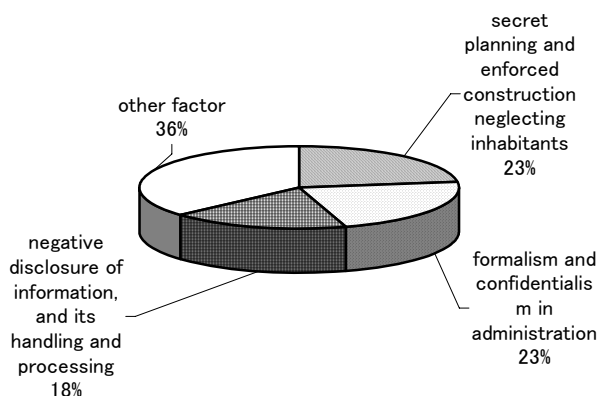


Fig 2 Matters of Procedure for Construction

#### 4. Study(2<sup>nd</sup> Stage)

##### 1) Adoption of CS(Closed System) and its characteristics

We investigated the reasons of adoption and its details of 7(seven) examples of waste disposal facilities in Japan. Also published documents, pamphlets and hearing records from concerned persons are arranged in order.

The outline of the CS adopting reasons are as follows:---

- ① A disposal site (hearing survey)
  - The main adopting reason is reached from waste particle standpoint, which will arise scattering problem to its surrounding region.
  - The site suffers high wind blowing situation from mountain range. Inhabitants strongly request counter measure against particle scattering and nasty smell from garbage and wastes. Initial plan is in line with open landfill. There exist aggressive inhabitants atmosphere to accept newly developed system without any resistance and moreover, head of local government authority have an intention to construct high level waste handling facility. This was also one of the reason of developing easy acceptance of CS landfill facility.
  - Cost was not a critical factor for type selection of the facility.
- ② B disposal site(hearing survey)
  - Main selection factor is holding no discharge policy because of the existence of local water intake for other city at down stream of the river.
  - At first the plan is proceeding along open landfill system. Prefectural authority recommended CS landfill at site in early stage from consideration that it situated in the region of locally heavy-snow region. So the plan was altered to CS landfill quite easily.
  - The expectation to cost reduction is another reason for adoption of CS landfill. It is estimated for CS landfill that initial cost plus running cost will undergo to Open System.

After landfill project completion and starting operation of the CS facility, many visitors came to see the site, making it one of sightseeing spot.

③ C disposal site

- Reduced seepage water, low cost, scattering prevention, smell shut up harmony with neighbouring circumference and so on, those are the main advantaged features of CS landfill facility.
- The business authority association made system selection in order to get cost reduction of seepage treating operation considering local rainy conditions.
- Early settlement effect was one of prominent features for selecting CS landfill facility.

④ D disposal site(hearing survey)

- Main selection reason was low cost.
- CS facility is rather compact than Open System facility. So development/reclamation cost may go underway. Required areas rather small because of no adjustment pond necessary. Maintenance fee will be cheaper in Closed type than in Open type. Local government authority in charge proposed CS landfill facility and there are no opposing ideas from resident contributed.

⑤ E disposal site(hearing survey)

- No water discharge policy is the main selecting reason. At first stage open type landfill was planned, but finally CS type was selected from consideration of fishery party in downstream basin opposing water discharge from the facility. Some consultant proposed idea of CS landfill facility. Existing land facility of the town is maintained badly and marine pollution problem occurred by soil washout from disposal site. So local distrust emotion aroused and be highly prevailing. That is why rather high cost expenditure had no influence on the reason for selecting CS landfill facility.

⑥ F disposal site

- The site is close to famous river of scenic beauty. Local

community people are demanding for no outlet water to down stream as for construction permit/approval condition.

- Also CS landfill develops the water discharge reduction effect and this constitutes regionally preferable conditions for rainy region it belongs to.

⑦ G disposal site

- No water discharge policy is a strict concession item with local authority. More than ten times of severe conference and discussion were held between local authority and local residents .
- Final decision to adopt CS landfill facility was made from local authority side. Cost reduction effect constituted one of the selection reasons.

Table 3 shows characteristic features of CS landfill facility and the relation to key factor to be selected.

Table 3 Characteristic features of CS landfill facility

Characteristic features			Name of Waste disposal facility						
Main	Sub	Advantages	A	B	C	D	E	F	G
Agreement	Local environment	low restriction for site selection							
		harmony with circumference							
	Inhabitant demand/request	No discharge water to downstream		○			○	○	○
		Utilization possibilities for community activities							
	Reconciliation	Creation of harmonized landscape with locality							
		No deterioration for surroundings							
		Multi-purpose utilization for acceptance of local demands							
	Structural safety	Low deterioration to impermeable liner at slope							
		Low topographical restrict, Safe from landslide disaster							
	Reduction of environmental risk	Air pollution risk		○		○			
		Ground water pollution risk							
		Water pollution risk							
		Dissolution of contaminated water discharge risk		○			○	○	○
		Emission of bad smell from reclaimed waste							
		Noise emission from machines during construction							
		Dirty images Failing risk of landscape							
	Local conditions	Rainy region	Low risk against accident from rainfall			○			○
Heavy-snow region		Low risk against snowfall and thaw							
Cost	Reduction factor	Low cost ,Low total cost		○		○			

**5. Study (3<sup>rd</sup> Stage)**

At first stage of this study we analyzed troubles and disputes examples classifying into 2(two) categories:

namely structural factors of the facility and matters of procedures to get construction approval for constructing final disposition sites for waste, house waste and industrial waste. Those analysis shows that by consideration and

introduction of, for example, control system for local water condition, that is the case of many CS facilities, troubles and its influence against to the construction of facility will be made smaller, which also shown in 2<sup>nd</sup> stage of this study. However, even if such a structural factor is overcome, lack of communication in the matter of procedures will be make large element of troubles and have negative effects to facility construction. To solve such a communication problem in the course of procedures to get construction approval from local community, main concern shall be paid to the development of mutual understanding and having common recognition of the problem. First of all, we must have necessary media and means to establish and secure communication routes. Information quality and also quality of it must be secured, its timing and communication tool and field must be maintained. Special communication skill is definitely having necessity. There are a lot of media and means do exist; --- notice board, public relation journals and community magazines, public information, circular of the information between community members, pamphlets, internet internet rink and gathering information by questionnaire. Moreover, utilization of mass communication media like radio broadcasting, TV and newspaper, communication meeting to explain to local residents, facility tour, gathering for interactive communication conference, local conference inviting prominent authorities and peripheral residents and so on ---

Those are another candidates and must make the most of. In reality, however, it must be admitted that every efforts is taken to promote local communication, nevertheless, the lack of communication situation could not be overcome irrespective of these large number of communication means and media input.

## 6. Conclusion

We are perpetually in a state of communication gap irrespective of having many means throwing in for it. One of the cause of it must be the lack of truly understandable concrete guidebook, so we came to our conclusion. Clear consensus building would be got by publishing such a guidebook if not committing fundamental error, and planned project would be promoted on schedule. That is why we are now editing guidebook for the sake of getting agreement between local authority and local resident people in order to make up safe and reliable landfill facility. We, as a working group for waste handling social penetration, are continuing the activities to complete guidebook draft and to contribute to assist/promote to construct socially needed community facilities.

Lastly we quote some parts from our "Guidebook" draft now in under preparation stage for publishing.

[One Example from "Guidebook"]

How to proceed to hold communication meeting or local conference inviting prominent authorities and peripheral residents, and critical points to be cared for.

To establish local communication between resident and authority, it is required to keep fundamental attitude of authority's (business enterprise) side. The technical skill like holding communication conference and workshop is rather supplemental ones. For the planning of landfill facility, the definite future vision for constitution of society based on save-energy , reuse/recycle policy must be established.

And moreover "public" and "private" sectors shall communicate each other and shall have definitive clear attitude to reflect the policy of serving public interests promotion.

## 1. Fundamental Attitude

The most important attitude for establishing communication between local community is this-- All information which has any relation to planning and construction of the landfill facility must be actively opened to the public except special privacy items. Communication with local community is not limited to hearing and listening from all the people concerned and discussion but also all the accurate information shall be opened to public. And also how to arrange and treat those community's opinions and willingness from peripheral resident people and proper responding to community movement, are the key factor for mutual understanding. Detailed process should be taken to get community decision.

## 2. Conference with peripheral resident people

### 2-1 Organization and its member

Firstly, composition of the participants should be estimated and checked for suitability and properness. When inviting public application to the committee member of the conference, its methodology and procedures must be clearly shown and every care must be taken into consideration for fair distribution based on age, sex and living district must be kept strictly to avoid impartiality.

### 2-2 Attentive notes for community conference

Work schedule shall be open before conference. It is preferable to take plenty time allowance and frequency over discussions. Resident people committee member are generally unfamiliar with the procedures of conference and quite stranger, so the chance to attend free school should be given and the chance to collect relating intelligence also. They should learn rules of participation into discussion, the role of conference and so on. At conference agenda

to be discussed and its relation to administrative policy shall be clearly shown to committee member. The role of committee member itself should be reached also.

### 2-3 Establishment of flexible system

On the process of decision making to the plan, how those opinion/comments and proposal/suggestions aroused at the conference to be handled shall be made clear and all the prominent features, they must be communicate each committee member precisely. Cares and consideration should be taken for the conference itself not to turn it out into simple explanation meeting of the administrative policy.

## 3. The method and chance for resident peoples participation

3-1 Delegate system Management system operation seeking resident participation does not mean actually to ask direct joining from every resident. To make a decision of prominent feature for enacting of the policy, the general rule tells opening of conference which is organized and managed by committee member is reliable way. In this way contents of the conference shall be made open to public. To support the conference decision which was made up from delegate system, hearing survey and collecting poll will have some necessity to collect and summing-up direct local opinions and concerns. In addition at the stage of detailed construction planning, collecting opinions from local meeting in more locally held and/or work shop in friendly atmosphere, will be effective and of use. Key point lie in full communication anyway.

### 3-2 Securing the participation chance for residents

Many people work generally from 9:00 to 17:00 on working days. In consideration of these working people and students, the date and time schedule of the conference should be arranged properly. It is also necessary to avoid public holidays and vacation seasons to settle the schedule. The period of conference time should be preferably within 2 Hours generally. (Work shop activities will be 3 Hours in standard)

### 3-3 Utilization of consultants and NPO power

As one part of resident participation it is useful to utilize/adopt private consultants and/or NPO(Non Profit Organization) power which are established large in number.

### 3-4 Examples of town development project taking in resident opinions

Mitaka city at the stage of fundamental plan making, they reflected citizen's opinions through the organization of "Mitaka Citizen Plan 21" As a new attempted example Fujisawa city made up "Fujisawa Citizen Electronic Conference Room" aiming at local community formation on network basis. .Another examples are listed on reference table.

### **Investigation Working Group for Waste Handling Social Penetration**

#### **---WG: Study for Development to Closed System Landfill Facility of Discarded Materials**

Masazumi Kitsuka; Environmental Technologic Consultant Co.,Ltd

Kiyoshi Seo; Shimizu Corporation

Satoru Abe; Environment Construction Engineering Corporation

Hiroshi Omote; Chuden Engineering Consultants Co.,Ltd

Ichiro Kuroshima; Sumitomo Mitsui Construction Co.,Ltd

Kunitsugu Munemura; Wesco.,Ltd

Masaki Hayashi; CTI Engineering Co.,Ltd

Masahiko Hoshino; Japan Environmental Engineering Consultant Inc.

### ## Reference, quoted literatures

- 1) Tool box for designing resident participation case Part 2

Setagaya City Design Center

- 2) Feature Articles regarding Resident Participation in Decentralization Era

(Survey Material 96)

Tokyo Metropolitan Assembly Assembly Office Bureau