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環境正義與台灣的事業廢棄物與灰沙掩埋場選址爭議

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中文摘要

本研究探討新竹縣客家山城—橫山鄉事業廢棄物與灰渣掩埋場設置爭議所涉及之環境正義。為處理不斷增加的垃圾焚化灰渣，環保署在 2001 年提出以 B00 方式來興建設置事業廢棄物與灰渣掩埋場。當地居民一直到該開發案通過環境影響評估且地方政府與民間業者簽署合約後才得知。地方自救會於是成立對抗此一爭議案。本研究採取文件分析與深度訪談的研究方法，並輔以焦點團體與非正式的對談。個案研究呈現客家居民如何認知灰渣掩埋場設施的潛在風險、在地的理性以及捍衛家園的公民行動。本文凸顯居民爭取對在地知識的尊重與肯定、更多民主參與在決策過程中，以及政府官員、民間開發業者、自救會等利害關係團體對於環境正義所持的不同觀點與立場。研究最後提供環境正義與風險論述一些新的啟發。

關鍵詞：環境正義、危險廢棄物管理、風險管理、參與民主、在地知識

Abstract

This research examines environmental justice in the context of siting disputes over industry waste and incinerators ash in a Hakka town (a unique ethnic group of the Han Chinese) in Hsinchu County, Taiwan. Considering that incinerator ash continues to pile up at incinerator sites across Taiwan, the Environmental Protection Agency introduced the BOO (Build-Operate-Own) program in 2001. Most of the local residents did not know anything about the development project until it had passed the official environmental impact assessment (EIA) process and the local government signed the contract with a private company in September 2003. In response to this, a self-help association has been set up to fight against the plan. The research is based on documentary analysis and in-depth interviews, supplemented by focus groups, participant observation and numerous informal conversations. The analysis presents how local residents perceive the potential risks of the hazardous waste facility, local reasoning and citizen activism in safeguarding their homeland. It also highlights citizens' demand for recognition of the local contextual knowledge of ordinary citizens, greater participation in decision-making, and how environmental justice has been given a specific meaning. It concludes with implications for environmental justice discourses and risk management.

Keywords: environmental justice, hazardous waste management, risk management, participatory democracy, local knowledge

Introduction

On 19 August 2004, hundreds of residents from Hengsan, a Hakka town of Hsinchu in Taiwan, protested against the project of siting the facility that contains industry waste and incinerator ash in their hometown. Among the Hakka activists were several spirit-mediums, who performed their rituals and appealed so that the Yimin, the spirits of Hakka warriors who sacrificed their lives during the wars against the local bandits in the days of the Qing Dynasty will guard over the town. This paper will use the disputes about hazardous waste facility siting to explore the meaning of environmental justice in a specific local context. It will pose and answer questions such as: What are the local residents fighting for? How do members of local community perceive the potential risks and understand the conceptions of environmental justice? What relevance might this case have for environmental justice in Taiwan?

Environmental justice is a term that covers a wide range of issues and has many meanings to environmental groups, activists, and academics. The environmental justice movement emerged in the American context as a combination of environmental activism and civil rights advocacy, which links environment, race, class, gender, and social justice concerns in an explicit framework (Taylor, 2000). Environmental justice has been developed into an area of academic research, and is also starting to be addressed by researchers in many countries around the world, such as Australia (Arcioni and Mitchell, 2005), Britain (Middleton, 2003), and Taiwan (Chi, 2001; Fan, 2006). Ishiyama (2003) argued that the environmental justice literature is dominated by analytical frameworks of environmental racism and the distributive dimension of justice. Claims for justice made by environmental justice activists are about more than the just distribution of environmental goods and burdens. However, only a small number of environmental justice studies go beyond the distributive realm to encompass issues of recognition, cultural differences, and democratic political processes (e.g. Schlosberg, 1999, 2003, 2004; Zerner, 2000). Hence, it is important to broaden the depth of current understandings of environmental justice issues and their complexity by exploring how they are regarded differently in a local context.

This paper aims to seek a greater understanding of environmental justice implications of hazardous waste in Taiwan. The research is based on documentary analysis and in-depth interviews, supplemented by focus group discussions conducted among the residents of Hengsan town in January 2006. The interviews were conducted among local residents of different generations, local government officers, environmental regulators, professionals, and others. One focus group was composed of local activists. After sketching the context of siting disputes over industry waste and incinerator ash in Hengsan town, it was followed with a discussion on how local

residents perceive the potential risks of the facility and citizen action. Then a discussion on local politics and ordinary citizens' demand for the recognition of local contextual knowledge is presented. Next, this paper provides the stakeholders' perspectives on environmental justice and the citizens' demand for more participation in the decision-making. The paper concludes with implications for environmental justice discourses and risk management.

Background of the study

Hsinchu County lies in the northeast of Taiwan. The southeast area of the county is a mountainous area featuring Jienshin and Wufeng, and parts of Kuansi, Hengshan, Chutung, and Ermei. It is composed of 13 towns. Hengsan town occupies 71,926 square kilometers, has 11 villages, and a population of around 15,000. Most residents are Hakka, while there are small numbers of indigenous people.¹ The ancestors of Hakka emigrated from Guangdong province, which contribute to about 15% of the population in Taiwan. In the 18th and 19th century, there were numerous armed conflicts between the Hakka and Holo people for economic and political reasons. As the latecomer in places initially occupied by the locals, Hakkas usually had to struggle and survive on the less desirable lands. Hakka people are well-known for their perseverance even in the most adverse environments, and are also known to be very adamant in defending their cultural heritage and in keeping their traditions.

The population is dominated by the older generation as most of the young people tend to seek greater material rewards available in the big city. Hengsan is rich in limestone and lumber. The plants of Asia Cement Corporation and Taiwan Cement Corporation had played an important role in local development. During the martial law period (1949~1987), residents near the plants suffered mostly in silence from dust and air pollution. Considering the job opportunities offered by the corporations and their employees' livelihood, local residents did not oppose the operation of the plants. When martial law ended in 1987 and Taiwan transformed into a democratic form of government, the local residents started to air their complaints against the air pollution brought about by the corporations. Those who live near the plants complained that the roofs of their houses, crops, and plants were all covered by the dust from the cement plants. To remedy this, both corporations installed pollution-control equipment to minimize air pollution.

Hengshan has rich agricultural resources and was famous for its Hengshan pears, but nowadays, tangerines are the major products of the county. The Neiwan railway line is the lifeline of the local economy and is the major form of transportation in

¹ It is generally agreed that there are mainly four major ethnic groups in Taiwan: Indigenous Peoples (2%), Mainlanders (13%), Hakkas (15%), and Holo (70%).

Hengshang. Limestone, transported via the railway line, has brought prosperity to the village. A tourism farm has become a new industry of the county in the recent years. The local residents have exerted efforts in Hakka culture preservation and promotion, and hope that the operation of firefly culture by the communities can help strengthen its tourism resources and bring new opportunities to the district.

Considering that incinerator ash continues to pile up at incinerator sites across Taiwan, the ministry-level Environmental Protection Administration has introduced the BOO (Build-Operate-Own) program in 2001. This plan encourages local government and the private sector to cooperate in matters of hazardous waste disposal while the Environmental Protection Administration will provide grants to the private company that is successful in bidding for the development of waste disposal facility. Hsinchu County Government perceives the BOO scheme as a way to deal with the ashes from incinerator sites in the county and invite bids without consulting local residents.

Local reasoning and citizen action

Hengsang has never been known in the past for its environmental activism. Most of the local residents did not know anything about the development project until it had passed the official environmental impact assessment (EIA) process in April 2003. The proposed site, which is about 25,000 hectares, is located at the land across the Yakan and Fusin villages. What concerns the residents the most is the potential negative impacts of hazardous waste facilities on their hometown. In response to this, a self-help association has been set up to fight the plan. The project of siting the hazardous waste facilities in their hometown made many peace-loving and ingenious residents become protesters.

In the beginning, residents did not know exactly what incinerator ash meant and what impacts the facilities will have on their community. Several residents heard the news that people in a small town of Taipei County strongly protested against the project of siting hazardous waste in their town and claimed that it contains 'toxic' ash. They realized that incinerator ash may contain dioxin which is dangerous to human health. Local residents worry that the facilities will cause air and water pollution, specifically rancid smells, noise, dust, and so on. The vertical distance from the facility site to the nearest household is only 15 meters. They are concerned that typhoons, landslides, and earthquakes might damage the facilities and could cause a leak and affect underwater. This will result in the water becoming undrinkable. The proposed site is near the source of the Fongsan River. Local activists worry that it will have negative impacts on the residents' downriver once such an incident happens and the facilities will pollute the river. For those who make a living out of farming, it will

be an ecological disaster once the accident happens and the land becomes polluted. They also expressed their concern about its impact on future generations. As one resident said, 'I don't want my grandson to say that it is because my grandfather did not make efforts to prevent the environment from becoming polluted.' Moreover, some residents expressed their concerns about the impacts on the price of land and property, the negative impacts on the tourist industry, and on their businesses. One resident said, 'Several friends and I have planned to run a Bed and Breakfast, but I worry that no tourists will dare to live in our village if hazardous waste facilities were here.' They do not think the hazardous waste facilities will bring them any significant benefits, though both the government and the private contractor claim that the project will bring the local residents job opportunities and huge amounts of compensation.

Local activists cited several environmental pollution episodes in the past as examples to express their doubt about the development of the project. The Shengli Incident in July 2000 is one of the most notorious cases. As one of Taiwan's largest waste handlers, the Shengli Chemical Company was caught in the practice of dumping, which severely polluted the Kaoping River and left the people of Kaohsiung Area without water for two days. This discovery shocked many constituents throughout Taiwan, more so because Shengli was ISO 14,001 certified. The Environmental Protection Administration immediately revoked Shengli's license. The failure in waste monitoring has affected public confidence towards the government. Local activists express their anxiousness that toxic waste from the Hsinchu Science-based Industry Park might be shipped along with industry waste and incinerator ash to the site in their hometown. There were mentions of other incidents which involved polluted fish farms that led to cancer. One local activist said: 'We do not want to be the next (victims).' Another echoed, 'Take the newly built chemical factory in the neighborhood for example; it seems to burn plastics and we can smell it everyday. We report this to the authority everyday, but it is in vain. When the officials come, the factory stops burning. I do not think the government could do the monitoring well.' Their distrust in the authority is significant:

In the beginning, they [the company] tell us the details of how they will deal with the ash and the standard procedures. But I guess that they will not really follow these steps once their operation starts. It must be very difficult to separate the toxic ash and non-toxic ash. I am sure that they will do it recklessly.

The Self-help Association was set up on 6 June 2003 and the members are mainly composed of villagers from two villages where the proposed facility is planned to be located. Local activists sent leaflets and appealed to local residents and those who live

in the nearby villages to join the meetings and activities organized by the Self-help Association. The leaflet states: “No toxic ash facilities on watershed, pure hometown only,” “The EIA review is illegal,” and “Guarding our homeland, everyone with one heart.” Around 200 residents participated in the public meeting and most of the participants voted against the scheme of siting hazardous waste in their hometown. A few environmental activists from other towns (e.g. members of the Hsinchu Foundation) came to express their support and to provide assistance. There were also some activists from other towns who came to participate in the public meeting to learn experiences.

In order to maintain social order and public security, it is regulated that people have to apply for a permit before holding a demonstration. The Self-help Association’s application for protest was made to the authorities in 2004. However, the leader of the association withdrew the application out of the pressure from local officials, which made members of the association depressed. Local activists came up with an idea of holding a religious activity instead to express their dissatisfactions and to object to the development of hazardous waste facilities in their hometown. On 19 August 2004, hundreds of local residents protested against the development of the project in front of the government hall. Among the Hakka activists were spirit-mediums who performed their rituals and appealed so that the Yimin, the spirits of Hakka warriors who sacrificed their lives during the wars against the local bandits in the days of the Qing Dynasty will guard over the town during the protest. It symbolizes the local community’s determination to fight against the siting scheme. Moreover, the self-help Association organized a petition and a campaign of objection letters to express their sentiments. Letters of objection were written to the head of the county. Also, they appealed to the Environmental Protection Administration, and asked the Ministry of Interior to reject the plan submitted by the Hsinchu County Government because of the defects in the EIA process.

Local politics and the demand for recognition

The site selection process, which was dominated by the local government, was not transparent, and it rendered privileged access only for technocrats without consulting the public. In July 2003, the local government recognized the Weimon Corporation as ‘top priority applicant’ among those who made a bid for the development of the project. In September, the local government signed a contract with Weimon Corporation. Local activists expressed their impression that the government may have conspired with the private company. A few of them pointed out that Weimon Corporation might have already known the opportunity to make profits even before the local government announced the bids about the project. The company purchased

the land, now the proposed site, several years ago. The original land owner did not know that the buyer was a big corporation and what its purpose was in buying the land. Local activists theorized that the former head of Fusin village may have taken a bribe and acted as a broker. These suspicions of local activists are significant:

I heard that the head of the village might have received bribes. Recently, people say that several representatives of the town received bribes too. I really do not know whether it is true or not. The head of the village and the representatives are officials, so they might need to support the government's plan. If they received bribes, they would not strongly oppose the plan. I guess some of them might have pretended to oppose the plan.

The director of the local environmental agency was imprisoned for a few months for another scandal involving taking bribes during the process of issuing another development license. Although there is no clear evidence to find out if local officials were involved in the bribery, it is said that the head of Fusin village had taken a bribe. In September 2004, it is reported that the head of Fusin village was killed by three abductors who threatened to kill him unless he gave them money. The murderers have been arrested and they thought that the head of Fusin village might have earned a huge amount of money from the bribes. There were villagers who did not oppose the project nor joined the protest. The local activists speculated that some villagers may have been told that the project would bring the villagers benefits or that they were suppressed to take action because the head of the village was dominating the village affairs. Local activists also mentioned that some elderly residents do not understand how serious the problem is and tend to be afraid of getting into trouble. These show the politics of the siting disputes. As one puts it: 'I think the scheme involves political intervention. Political interests were given a greater weight over the interests of the town.'

The demand for recognition of differences and identities are crucial components of the environmental justice movement. Taylor (2000) recognized the need to 'respect the cultures of all people, honoring cultural diversity, and appreciating a variety of belief systems that relate to the natural world' (p. 542). Schlosberg (2003: 89-92) argued that misrecognition is experienced at both the individual and community level. For environmental justice activists, disrespect on the personal level is an everyday experience in terms of the demeaning body language. On the other hand, it involves a matter of cultural survival when activists see their identities and communities are devalued and recognition is denied. The siting disputes made people reflective of their situation and involve the problem of recognition:

- F1 Why choose Hengsan town?
- M1 Is it because it has a small population? Or is it because it is easy to get a site here?
- F2 It is because we are considered worthless. And we do not have someone who is powerful.

Local activism reflects the demand for recognition of local knowledge. Current discussions on environmental controversies tend to affirm the ‘public ignorance’ or ‘public irrationality’ model, which assumes that greater scientific understanding among the lay public will bring greater public acceptance and support (Irwin, 1995). The diversity of understanding and lay knowledge within a local community are under-presented. Researchers have argued that various forms of citizen expertise that challenge scientific institutions are essential in addressing matters of environmental threat and sustainability (Irwin, 1995; Wynne, 1996). In Taiwan, regulation and risk management are dominated by technocracy. Although the Environmental Impact Assessment Law had been approved in 1994 to regulate any development projects and to standardize the criteria, the lay public does not have much opportunity to participate in the process. The law was revised to include that the developmental organization hold a public meeting and consult the public before submitting the EIA report to local environmental agency. It also imposes that the development organization must hold a public meeting when its development project has passed the EIA process, and then the environmental agency needs to declare the project. But local environmental activists criticized the system and said that they were not aware of the project until the project has passed the EIA process.

Likewise, the EIA report commissioned by the private development company faced criticism. The ecological survey was carried out by one scholar in mid-December 2002 and mid-January 2003. According to the EIA report, there was no fish in the river along the proposed site and no rare or endangered specie there. Although there are various kinds of birds, mammals, amphibians, insects near the proposed site, the expert who did the EIA report claimed that the project will not bring any significant negative impact on the fauna.

On the other hand, local activists claim that there are many defective or untrue data in the EIA report, which makes them doubtful of the motive of its writers. They argued that there are rich creatures and plants in the nearby areas, but those were not mentioned in the EIA report. For them, the report was biased because the data were collected only during the winter and dry seasons, which are when the animals hibernate. They are also concerned that the rainy season (spring and summer) and typhoons might bring heavy rain and landslides which may cause a leak and affect

underwater, soil, and land. They believe that the facility would bring water and air pollution, which leads to dislocation. But this has not been considered a problem in the EIA report. Local activists worry about seepage of buried waste into the nearby waterworks, but the possible impacts on the waterworks have not been mentioned in the EIA report. The value of local knowledge and experiences has not been recognized. As one activist said, 'The government tends to think that the experts are always right and what they [the experts] say is the truth. Ecological survey should be done over a long period of time. The report was done hastily, which failed to consider the welfare of the local creatures and plants. It is written that there is a bamboo forest there, but I never find bamboo in the town. It [The report] has a lot of mistakes. He [the scholar who had done the EIA] put the boot on the wrong leg.' The other echoed, 'Departmental egoism is significant in the Environmental Agency and officials trust their own survey and experts rather than the information that the people offered.'

The Environmental Impact Assessment Review Committee is comprised of the local government officials and experts. The number of representations of the public has been replaced by experts. The lay public has been excluded from the process. The Committee only inspected the data and description in the report rather than going to the proposed hazardous waste facilities site to evaluate the essential potential impact. Local activists argued that the role of Environmental Impact Assessment Review Committee was like a rubber stamp rather than a critical inspector.

The stakeholders' perspectives of environmental justice

The regulators, developers, and local activists look at the siting disputes in different ways, which manifest different ideas of environmental justice. The officials of the Environmental Protection Administration provided criticisms of NIMBYism in siting hazardous facility. For a few government officials, local activists in Hengsan are just like other protestors who protest against landfill, chemical factory, nuclear power plants, and so on. No one wants it to be in their backyard. The local activism in the Hakka community has been seen as nothing special. The regulators tend to hold the utilitarian view and that it will bring the greatest good if the siting policy can be implemented effectively. For the regulators, the local residents did not quite understand that the siting facility is necessary for incinerators and industry waste management. They mentioned that it is the local government which decides to have a site and sign the contact with the private company to deal with the wastes. Owing to the increasing level of environmental awareness, the promotion of development schemes does not go smoothly as it used to. The regulators tend to think that compensation, negotiation, and authority in enforcement would be the solution to facility siting disputes.

Also, the local officials tend to see those activists who protest against the waste facility as irrational. Though the activists vehemently oppose the likelihood of waste pollution, the local officials think that they tend to exaggerate the potential negative impacts in order to encourage more residents to join them. The officials emphasize that the siting process follows the relevant regulations and that the precautionary measures to be undertaken are flawless, i.e., the monitoring mechanism will work. For the local government, local activists always have things to complain about, such as discarded soil from construction work, factories, fuel gas line, etc.

The development company seems to think that they are qualified to address the common waste problem and the development scheme will be beneficial to the local community. Weimon Industrial Co., Ltd., established in 1987, is a company that manufactures and markets concrete piping materials. It is also engaged in the contracting service of major civil infrastructure projects, such as water supply pipelines, sewerage systems, and land developments. Since 1996, it has worked with global experts to research and develop the natural ecological environment, and has produced a series of biodegradable environment protective materials. The Weimon corporation handed out leaflets about the project and tried to communicate with local residents. First, it provided positive information about the company. For example, it claims that it has the ISO 9001 certificate and is recognized as an outstanding company. It also points out that the company has done a lot for the local community and county by paying huge amounts of tax, providing job opportunities, and funding activities held in the community. Second, the Weimon corporation explains that only treated ash and industry waste will be stored in the site rather than toxic waste or trash. It guarantees that they will hire qualified employees, assures the construction and operation meet the safety standard, and that the facility will NOT cause any negative impacts on drinking water and the living environment. Also, they emphasize that the county government and local people can supervise and monitor waste management according to the environmental regulations. The environmental monitoring system regulates the underwater, air quality, soil, noise, road service, and so on. A waste management and supervision committee composed of the head of the county, the heads of the town and villages, town representatives, and people from the academe, will be set up and will be responsible for the use of the compensation on local community.

Weimon's communication with the local residents about the risk of the project has been treated with skepticism by the activists. They expressed their doubt whether or not the Weimon corporation has the capability to deal with hazardous waste since it has no experience in doing that. As to the content of the contract, local activists do not believe that Weimon can guarantee anything. As one asks: 'Is it possible to have no

negative impacts on water? If an accident happens, who will handle it? What if the company will go bankrupt one day? How will the facility be managed? Who will be responsible for that?' Although the supervision rules have been set up, local activists do not trust that the government will enforce the regulations strictly and effectively. Recent accidents previously mentioned in other places deepen their worries.

In the leaflets, the Weimon corporation called for the local residents' cooperation and made the following statements: 'It needs local residents' understanding and rational cooperation to accomplish local development and build a beautiful hometown.' 'We will not allow those who made groundless accusation about the project to disseminate information spitefully, which has caused local unrest. What is needed is to avoid the intervention of political forces and someone's manipulation. We will obey relevant regulations and procedures, deal with waste properly, protect the health and safety of employees and residents, and do our best to be a good neighbor. Also, we will contribute to local development and prosperity.' The statements seem to imply that those who protest against the siting project are irrational and those politicians who express their opposition to the project are trying to manipulate public opinion. Local activists responded to the statement by saying, 'who is manipulating who?' The corporation's allegation of those who strongly oppose the project have led to the tension between the industry and local activists.

Those residents who oppose against siting waste facilities on their home tend to be stigmatized as promoting self-interest and irrational in Taiwan. Norton (1995) argued for a biogeographical approach to human values that puts emphasis on a sense of place and on a bottom-up model for the formation of environmental values. He recognized the important role of the ecological context in giving meaning to local adaptations and in forming the perceptual viewpoint and values of any particular culture, and argued that 'an environmental ethic for the protection of nature's diversity must respect local variance' (pp. 140-1). Instead of regarding the NIMBY (not in my back yard) syndrome as irrational or selfish local opposition to pollution, Norton maintained that local values are present in the NIMBY syndrome and suggested that environmental ethicists can seek ways to inform NIMBYism and integrate it into regional concerns (p. 142).

Local activists felt excluded from the decision-making process of waste facility siting. The decision-making process was not transparent, which makes residents doubtful that the government could be trying to conceal the negative impacts from local community. As one said, 'The government seems to be afraid of making it [the project] known to the public. It means that they will not do it well otherwise they should inform the public.' Their opposition to the siting of hazardous waste is motivated by a range of environmental concerns and values and reflects residents'

concern for genuine negative impacts on the community that were ignored by the experts and decision-makers:

- M1 They did not think much about whether or not the place is suitable for the siting. They want to throw waste disposal to the countryside because there is only a small number of people living in the countryside and therefore only a few will protest. I do not believe in the EIA. It is the development organization which commits someone to do the report. I do not trust them.
- M2 The institution of the project was done loosely. No communication was made with the local residents. What they did was just to let the project pass the EIA process. The company and the government are saying that it is not toxic and it will not disturb our living, but they should let us know what will actually happen if the siting facilities are established here.
- M3 Take the nearby chemical factory for example. How can we trust the government's monitoring? The private company will minimize their costs. How can people trust that the monitoring mechanisms will work?

Instead of saying 'taking it somewhere else,' local activists have tried to promote an acceptable procedure and cooperative search for a broader range of more suitable sites. For many local activists, the government and the developer seem to have a symbiotic relationship. They suggest that EIA should be done by an independent institution, such as the Industrial Technology Research Institute, a non-profit organization. For local activists, the local voice should be heard and that it should be the residents who make the decisions. They emphasized that it is better to consider the particularity of one place when the government plans to do something and looks at environmental impact from the local residents' perspective.

The environmental justice movement shows that the grassroots groups confronting contamination in their communities perceive themselves as unjustly exposed to environmental risks, and their experiences are transmitted to those in similar circumstances by an emerging network of national or international organizations. The First National People of Color Environmental Leadership Summit held in Washington, D. C. in 1991 was the prime event of the environmental justice movement, consisting of diverse groups with many issues who aim to devise a plan to transform the society (Hofrichter, 1993: 237). Local activists have the assistance from other activists who face a similar waste facility siting problem in Sindian, Taipei County. The Sindian anti-facility Siting Alliance provides information on the siting facility and shares their experiences of how to make an appeal, hold meetings, and run campaign. Local activists found that the regulators have required more tough safety standard in Sindian

development scheme and felt that the government did not pay much attention to the safety of their hometown. They are demanding for improved precautions of the waste disposal facilities. Local activists tend to feel that they benefit a lot from being involved in the campaign and local activities. They are not just concerned about the affairs in their village or town, but are willing to be engaged in wider concerns. As one said, 'We are very happy to share our experiences and assist others who face similar environmental problems.'

Conclusion

This case study manifests the demands for democratic participation and recognition of local contextualized knowledge of ordinary citizens. Local activists felt excluded in the decision-making process of siting waste facilities and regarded it as black box like waste dealing system that involves self-interests. Instead of the recognition of the local rationality and citizen interpretation of risks from the perspective of sociocultural experiences, government officials gave more value to the EIA report written by the experts. Local activists expressed their distrust in the government for the improper records of waste management. The government claims that incinerator ashes are non-toxic and that the siting facility will have no negative impacts on the environment and local community. The government officials tend to see local opposition as irrational and did not think that communication with local activists will work. Instead, it is crucial for local activists to be informed of risks and engaged in credible communication.

Hunold and Young (1998) applied Young's (1983, 1990) theoretical framework to argue that democratic decision making and participation in political process are crucial issues of justice in cases of siting hazardous industrial facilities. They suggested that justice requires a participatory communicative democratic process for hazardous waste siting. First, it is *prima facie* unjust to impose environmental hazards on citizens who did not participate in the decision-making process. Second, a democratic communication process in facility siting is likely to yield the most just outcomes when structured according to specific norms of discussion and inclusion of all the heterogenous positions. For them, a democratic process and public participation reflect the respect of interests and autonomy of those affected (p. 87). Instead of simply saying put waste in other places, local activists should challenge the existing hazardous waste policy imposed by centralized authority and demand for more participation in the decision-making processes and in independent monitoring. More communication and dialogues are necessary to deal with siting conflicts and in addressing the problem of misrecognition.

Local activism has forced the government to suspend the scheme and engage in the

policy of reusing incinerator ash. It also has brought local transformation. Local citizens used to be more "reactive than proactive" in their response to public affairs and environmental risks. Local activists mentioned that many residents are devoted in farming and focus on their own business. The Hakka do not like conflicts and will not take action until the situation becomes really serious. The siting disputes made the local residents active in guarding their hometown and encouraged them to provide criticism of the top-down decision-making process. It has made the local resident reflective of their situation, cultures, and the kind of the town that they want to have. Local activists have transformed the Self-help Association into a formal environmental non-governmental organization named Environment and Culture Sustainability Promotion Association. It holds several seminars and activities on local environmental history and culture, and engages in environmental education and conservation. Members of local activists are engaged with long-term broader concerns and express their willingness to cooperate with other communities which are in need of help. It shows the sign of hope in the emergence of coalitions of grassroots organizations in order to confront environmental injustices.

The development of institutional procedures for a dialogue among different perspectives and stakeholders is crucial to the formation of hazardous waste policy and siting decisions. A bottom-up approach in setting hazardous waste policy would empower cultural groups to have a meaningful role in the decision-making process. Instead of centralization and preemption of debate by the government and experts, the public should have a voice in hazardous waste management. Lay public's engagement in the decision-making process and dialogue with experts could increase mutual understanding and lead to a pragmatic solution. With the consideration of the values held by the stakeholders, policy makers would have to prevent one particular meaning of environmental justice being used in the institutional context to the exclusion of other perspectives. Engaging in real dialogue could avoid the authoritative interpretations of environmental justice dominating over decision-making processes.

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計畫成果自評

本研究依據原計畫所欲探討的問題與目的進行，已達到預期完成之工作項目與成果，以下進一步說明：

本研究提供一個 contextualized 個案，呈現新竹縣橫山鄉客家村落對於事業廢棄物與灰渣掩埋場設置所涉及環境與健康風險的認知以及可能對後代子孫造成負面影響的特殊觀點，並凸顯政府官員、民間開發業者、居民、自救會成員等利害關係團體對於環境正義所持的不同觀點與立場。在地居民與自救會表達缺乏民主程序與對在地知識尊重與肯定的問題，凸顯 procedural and participatory dimension of environmental justice 與 recognition of difference 之間的關連性，並可能帶來 unjust distribution of environmental bads. 本計畫內容與既有環境正義理論有相呼應之處並對環境正義經驗研究有所貢獻。

在地居民與自救會對於目前環境影響評估制度提出相當多的批判，同時凸顯民眾對政府缺乏信任的問題。居民所擁有的 place-based knowledge 值得被傾聽與尊重，建立對話機制與 trustworthy institutional culture 實為必要，這部分的討論提供了 policy implications for 廢棄物與風險管理，可作為日後處理類似選址爭議參考。

本計畫研究成果已發表在以下的國際與國內研討會，目前已針對環境正義議題與政策過程的爭議內容修改並投稿國際期刊，此外持續將風險議題延伸討論並投稿學術期刊：

Fan, Mei-Fang, (2006), The Politics of Siting Hazardous Waste Facilities: the Hakka Community Struggles for Environmental Justice in Taiwan, paper presented at The Fourth Meeting of East Asian Regional Conferences in Alternative Geography (EARCAG), Taipei, 24-30 June. (NSC 94-2420-H-032-004)

Fan, Mei-Fang, (2006), Environmental Justice and Hazardous Waste Controversy in Taiwan, paper presented at 5th Global Conference on Environmental Justice and Global Citizenship, Oxford, UK. 3-6 July. (To be published in an ISBN eBook. Oxford: Inter-Disciplinary Press) (NSC 94-2420-H-032-004)

Fan, Mei-Fang, (2006), Environmental Risk, Governance and Justice. 已接受發表在台灣公共衛生學會，台灣大學，9月30日~10月1日，以及台灣社會學年會 (panel: 科學知識與風險治理)，東海大學，11月25-26日 (NSC 94-2420-H-032-004)