

The Stakeholder Analysis of Water Pollution Incidents^①

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Abstract: Examining the social mechanism of water pollution incidents with the stakeholder perspective, this paper analyzes attitudes and behaviors of all involved parties. The “rational” enterprise owners are short-sighted, only considering short-term gains. Ordinary people have to remain silent so as to survive when facing professional barriers and powerful organizations such as enterprises and government. Only “fools” and “Madmen” are still fighting. As the third party, technical experts lack true independence, while environmental protection agencies take advantages of their control over environment capacity as “scarce resources” to make money. It is thus argued that a proper analysis of all stakeholders’ attitudes and behaviors is fundamental for implementing environmental laws and policies and carrying out environmental education.

1 Introduction

By stakeholder we mean a party with an interest in an organization, e.g. employees, customers, suppliers or people of the local community. In 1960s, a Stanford University research team realized that an enterprise does not care only for its shareholders, but also for many surrounding interest groups that are crucial to the enterprise’s survival. They thus defined stakeholders as interest groups providing indispensable supports to an enterprise. Since 1990s, with international financial institutions increasing their investments in China, stakeholder theory has been applied in feasibility studies and project monitoring and evaluation in China. In a project, all associated interest parties are stakeholders. For instance, social assessments for projects financed by the World Bank and the Asian Development Bank in China typically require a stakeholder analysis as an important part of the analysis of potential social impacts of the projects. The sociological social assessments conducted by sociologists/anthropologists (Chen, 2003) often focus on the interests of more vulnerable and under-privileged groups, such as those affected by land acquisition, housing demolition, and relocation in dam projects. It could seem on the surface that interests of those marginalized and vulnerable groups do not directly concern project owners, or investors of projects, so that stakeholder analysis was often seen as a waste of time. However, stakeholder analysis is beneficial to both those affected persons and the project. Overlooking interests of stakeholders may lead to their poverty and other chronic social problems, which in turn could add to social

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and economic costs of the party who owns the project. Sanmenxia Dam Project can be a good example. Near the end of 1950s, due to inadequate compensation paid to dam project migrants and other historical reasons, some migrants had to live in poverty for a very long time. The government had to provide subsidies starting 1980s but there were still some basic issues unsolved after 30 years of subsidy program. The final costs, both social and economic, to the dam owner—the government—are obviously very high. Stakeholder analysis is therefore done to not only protect the interests of the more vulnerable groups, but also the long-term best interests of project owners and investors.

It is clear that stakeholder analysis is in fact a matter of perspective. This paper attempts to analyze the conflicts in water pollution incidents from this perspective. Through studying the water pollution incidents, I found that the stakeholders' needs, attitudes and actions contribute significantly to the occurrence of water pollution incidents as well as their prevention later. The continuous water pollution incidents in the border area between Jiangsu and Zhejiang Provinces in the last decade were mainly because of that industrial factories did not follow the requirements when dealing with generated pollutants, which affected downstream residents' living and economy. Among incidents, "Nongovernmental Mid-night Action" of 2001(Hu, 2001; Zhai, 2006) and "June 27 Incident" of 2005(Wu, 2005) are the most typical. In industrial water pollution incidents, the key stakeholders are the pollution makers (the factory owners) and the directly affected victims downstream. To a great extent, the relationship and the negotiation process between them determine the occurrence and the extent of pollutions. In a pollution conflict besides these two parties, there is the third party including independent technological experts, the Environment Protection Bureau (EPB) as the environmental governance agency, the local judicial system, and local governments. All of them have a great influence on preventing and refraining pollution incidents. This paper is based on a long-term study and a field work during July, 2005, as well as on documents of the two incidents mentioned above.

2 The Rational Owners

Enterprise owners (hereinafter referred to as owners) here refer to the group with close relation to corporation interests, including proprietors, major share holders, and high-level managers. Most owners involved in water pollution incidents here are often also high-level managers. They are the key stakeholders representing the enterprise's interests. Usually, an enterprise's actions are the results of interactions among the inner interest groups and interactions between the enterprise and the outside society. For the sake of convenience, it is assumed that economic actions of an enterprise are all decided by one owner's rational calculation. This owner is also assumed to be economically rational. That is, first, an owner seeks profits; second, an owner seeks to maximize profits.

As to pollution discharge, it is simply a part of cost-benefit calculation, comparing the costs of discharge following the effluent standards to the benefits of illegal discharge. If the benefits of illegal discharge outgrow the costs, an owner will choose the illegal action.

The table below illustrates a simple comparison between legal and illegal pollution discharge. We can find that an enterprise is mainly concerned with the associated costs.

Table 1: A Economically Rational Calculation of the Costs and Benefits of Pollution Discharge

	discharge according to the standards	illegal discharge
cost	The cost of waste water treatment	The compensation of illegal discharge paid to the affected * the probability of being caught The fine from the local EPB The costs of bribing local officials of EPB
benefit	If waste water is recycled, there will be some save on water and electricity and so on	

A factory can calculate the cost of waste water treatment accurately and thus is certain about it; while the cost of illegal discharge is uncertain. Not only the probability of being caught is uncertain, also is the total amount of financial cost (including fines, reputation damage, etc.). Without adequate monitoring, the cost of illegal discharge is very flexible, which is the main reason why the owners like to “work it hard” here.

The amount of financial cost associated with the illegal discharge mainly is the compensation paid to the affected people, which was historically and is currently very small. For example, SZ Township and WJJ Township at the boundary of Jiangsu and Zhejiang Provinces were the two main parties of continuous pollution conflicts. In 1995, WJJ Town suffered great losses in the aquaculture industry due to serious water pollution from SZ. But SZ only paid two million Yuan in compensation to WJJ. One million was paid first, and the other million was delayed for a long time. Given SZ’s GDP of ten billion Yuan, the compensation of 2 million Yuan is close to nothing. Furthermore, with 50 factories in town and only one compensation in 10 years, the cost to each factory were only several thousands Yuan a year, only enough to pay for a business meal.

According to environmental protection laws, the local EPB would issue fines to

factories who engage in illegal pollution discharges. But the punishment is flexible. The amount of fine is negotiable, or there may be no fine at all. In addition, factories can also resort to “public relations” to manipulate punishment by increasing the “negotiation budget.” For example, a chemical plant with heavy pollution emission would first complain to the local government about how difficult it is to keep the plant running so that no one loses job and no threats to social stability surfaces; and then ask for a little regulation relaxation. Through “public relations,” the plant could know the environmental inspection schedule. During the inspection, production will stop temporarily, or the pollution treatment facility would operate temporarily to ensure that the inspection would pass. Furthermore, there would be all kinds of bribery and under-the-table negotiations. Of course, such a deal also has costs. First, there are direct costs, such as meal, gifts, money, and other costs. Second, there are indirect costs, such as unknown risks. For instance, if an official who has a special relation to a factory is arrested for accepting bribery one day, it could bring harm to the factory. The benefits to factories are obvious. First, the probability of getting caught by the local EPB is near zero. Second, they can reduce the cost for pollution treatment and the fine of their pollution discharge. Third, they can get the accurate information, thus reduce the cost of manpower, material resources and financial resources that would have been spent on dealing with the inspection. Fourth, they can arrange the production according to their own plans securely. In this way, the two sides (owners and government) have a “win-win” situation.

The analysis above is an ideal type of factory owners’ rational calculation aiming to maximize short-term profits. I call it a “simple rationality.” On average, Chinese enterprises tend to focus on short-term benefits in this transitional period. Here we have supporting evidence. The average life of the top 500 enterprises worldwide is 40-42 years. For all European and US enterprises, the average is 12.5 (Li, 2007). According to *Japanese Economic Industry*, the average life of Japanese enterprises is 30 years. In China, there is no accurate statistics on enterprise average life. However, using data from 5 large-scale national surveys of private enterprises in 1993, 1995, 1997, 2000, and 2002, the average life of Chinese private enterprises before 1993 was only 4 years, which by 2000 was improved to 7.02 year. In China, large corporations have an average life of 7-8 years, median and small companies have only 2.9 years. Since there are more than 90% of Chinese enterprises are small and median, then the average life of all Chinese enterprises is probably around 3.5 years.

The “simple rationality” has lead to malicious pollution discharges, which in turn caused continuous water deterioration in local areas and serious non-rational, anti-rational consequences: there is no water to drink and fish to eat in the place once famous for its fish and rice; and “strange diseases” are prevailing in many villages. The limitations of the “simple rationality” mainly reflect in two aspects. First, owners made the calculation from their own perspective only and did not take into account the outside society. Second, owners only calculated the short-term

costs-benefits, but ignored the long-term complex circumstances. Such neglect not only affected the people outside greatly, but also led to an incalculable impact to their own development.

The analysis above assumed that owners are simply economically rational. In reality, owners are social members as well and they should take their social responsibility too. Market economy is a legal system; owners should go by the laws in their operations, which is the bottom line of their social responsibility. Meanwhile, owners should also not cross the moral bottom-line.

3 The Silent Majority

According to 2003 Chinese General Social Survey, there are as high as 76.75% of non-rural residents reporting of suffering environmental harm by their own or their relatives. Among them, only 38.29% had protested, while 61.71% chose to be silent (Fen, 2007). General rural residents also kept their silence in most circumstances. Although there have been some sporadic boycotts against enterprises, overall ordinary people at the bottom of society keep their silence helplessly when facing water pollution.

In theory, environmental protection involves the whole society, and only when all people participate, can environmental problems be solved. If there were equal and sustainable dialogue between the affected people and the factories, water quality would not have been deteriorating continuously. But in reality, the majority was force shut. First, making a living is the most important; they have to work for food and clothing. Second, ordinary people are clueless and helpless facing the professional technical barriers. Third, in the face of giant enterprises, ordinary people are also powerless. Fourth, the fragmented farmer population are very difficult to organize, for government is extremely reluctant to see NGOs; instead, when people encounter difficulties, such as the water pollution incidents, government is willing to “represent the people,” playing the patriarch while people are happy to wait for the government to solve problems too.

The Survival Rationality of Ordinary People

For most people, they must deal with food and clothing problems first. For adults, they need to take care of not only themselves, but also their parents and children, as well as their schooling. Life is not easy. Fishermen also find their own rational way to survive.

On July 14, 2005, I visited a couple of fishermen living with a grandson in Hehuadang Lake, WJJ Township. They used to live on fishing. Later, there was no more fish to catch in lakes and rivers, so they settled down to breed aquatics in ponds. However, ponds are linked with rivers and lakes. When lakes and rivers are

polluted, so are ponds. Their fish die often. Then through production experience they found that pearl shell has a strong ability to resist pollutants, so they later changed to culture pearl. Although a pearl shell has strong resistance to pollutants, it could still be poisoned by polluted water after a while. In addition to pearl shell, the old couple often caught so-called cat fish, such as *Hemiculter leucisculus*. These “cat fish” are not eatable to human, but only sold to crab culturists as food for crabs. Their own children did not continue the fisherman heritage, but went out to work for nearby factories. The livelihood’s evolution in the past two decades has been that pollution kept invading while human kept retreating. Fishermen thus had to adapt to water environment changes passively facing more and more water pollution. Now they are basically out of the water-related livelihoods. When these old people lose their working capability, the population living on water will disappear completely.

Without too much exaggeration, we can say that there have been only two civil environmental protection heroes in the Taihu Lake basin in the past two decades: the “Madman” Lihong Wu (Cheng , 2006) and the “Fool” Faqing Chen (Liu, 2005). They are two so-called “sick men.” According to the commonsensical rationality of ordinary people, Chen and Wu’s actions were beyond normal. First, they lost money. Chen paid for advertisements for environmental protection. Unless he is too rich or has some unspeakable purpose, why would he even bother? Even if he had not paid money directly, running around took time and energy, which were economic losses as well. Second, they face all kinds of other risks. Faqing Chen got beaten and his house burned down and Lihong Wu was once arrested. Furthermore, they become isolated. Lihong Wu has already been living in the cage of “insanity” posted by other people. So, being normal and rational people, who would do so like them?

The Professional Technical Barriers

The second reason for ordinary people’s silence is the sheer difficulties of facing professional and technical barriers. It is not that ordinary people do not know about pollution, but who will listen to them? People have been living along the river all year long, how could they not notice the problem when there is not even safe water to drink? When I visited the places with serious water pollution, residents complained (to me) ferociously. Speaking of water, the elderly all show thousands of mixed feelings. Although there are different psychological feelings and different education levels, but the problem is very clear as long as they have a bit of common sense. However, that the water pollution problem is clear does not mean that the problem of water pollution is recognized as a problem by powerful groups including the local government, and it certainly does not mean that it can be constructed into a real social problem. The problem being recognized by the public does not mean it can make into the political agenda; and if it is not in the agenda, it will not be resolved. One main reason of why not is the technical barrier.

John Hannigan argues that there are 6 essential factors for an environmental problem

to be successfully constructed. At least two factors are related to science and technology (Hannigan, 2006: 77-78). In short, science and technology play a crucial role in a successful construction of environmental problems. Science and technology in China is relatively underdeveloped, especially in rural areas. Local people have personally suffered from lack of scientific knowledge and therefore have near sacred feeling about science and technology. To them, scientists and technological experts are models of kindness and morality. In reality sadly, technology is often used as a tool to marginalize the general public.

The township leaders would point at the “colorful lake” and say, although the color of water seems not good, but it has been tested and found to be acceptable by standards. Ordinary people become speechless. After the “Midnight Action” of 1998, the official announced that Taihu Lake discharge is up to standards, while ordinary people are utterly confused: how come they still drink the same awful water if it is really up to standards now? Then, water quality became even worse. The only thing ordinary people can do is to admit their incompetence: after all scientific standardization, scientific planning, scientific investment, and scientific cleaning, the odor of the running water become increasingly heavier. People can only doubt that their own eyes, noses, and tongues are unable to keep up with the science and technology in the new millennium.

Technically environmental problems are very complicated, involves physics, chemistry, biology, and professional technical issues of polluting factories as well as the legality aspect. Even a person with a very good professional background would have difficulties figuring out a specific pollution incident, let alone ordinary folks.

Therefore outside the government realm, the truly effective are not some so-called scientific or legal actions but one that “stirs up the mud.” Mr. J (an interviewee) said there was no way to solve water pollution problems once they are over the province boarder. But local pollution problems were relatively easier to solve. What Mr. J meant was not that local factories in WJJ Township do not engage in illegal discharge, but that the fishermen can find relatively effective way to stop it. The fishermen would not resort to technologies or laws. Really following the legal process to get proof and then go to court does not make sense because, first that does not warrant a win; and second even there is a win, fish are already dead, fish ponds deserted, and local fishermen bankrupted already for many years, while the defendant would probably be bankrupted as well or moved. Therefore, fishermen do not want all that procedures but some very simple actions. “If you want to play the hard ball, I shall return the favor.” Here I report our recorded dialog (me and Mr. J):

Question: Why didn't the government/EPB do their monitoring job?

Answer: The discharge schedule is uncertain and thus not easy to inspect.
But fishermen know it. It is easy for them.

Question: Can they install monitoring equipments?

Answer: I think the main problem is not the technology. The best solution is to make trouble to the polluter whenever there is a discharge. No need to inspect. we [fishermen] are certain that you did it. Getting proof is a complex legal process, not to mention the [biased] government officials in the middle. It is very difficult to solve the problem through a formal way.

The Enterprise Giants

Ordinary people do not have equal power as enterprises do. What does an ordinary family have? Three or four persons and four or five hoes a family. How about an enterprise? They have armed guards and professionals with high-tech equipments. To an ordinary people, a million yuan is of course astronomical, but it may not even be enough for an enterprise to get dinners. Money allows enterprises to do what they want. How many social relations an ordinary person can have? An enterprise owner's social network is much broader, and can be reproduced by money. How long can an ordinary person persist on actions? In one night one may plan to wait for the illegal discharge from the factory, but the factory would wait just that night. Even if you can catch one waste water discharge, there would still be a second, third, and so on. If going to court, enterprises all have their fulltime professionals to take care of legal issues. The enterprises can wait for years and have the patience to see who win at last.

Therefore, in the so-called "Nongovernmental Midnight Action" and "June 27 Incident," the real rivals to the polluting factories are not ordinary people. Before my field study, the media reported that the people of WJJ Township held a vigorous "Nongovernmental Midnight Action" by blocking the river with dams. What I found however, that the chief actors of this incident were neither farmers nor ordinary fishermen. In fact, ordinary people were only bystanders, as the ferryman said. In WJJ Township, the real actors were the owners of aquatic farms and the shadow of local government; in SZ Township, the chief actors were the local government and polluting factories. On July 14, 2005, our research team found the place where the 2001 "Nongovernmental Midnight Action" blocking river dam happened. Under the background of rapid industrialization, ferry lasting for millennium was still preserved uncoordinatedly. The ferry woman, who lived on the waterfront all year around, was a witness of the "Nongovernmental Midnight Action." We asked if local people blocked the rivers. She answered:

Ordinary people, haha.... Fishermen (referring to the contractor aquaculture operators, relatively large-scale) lost all their fish. Peasants have nothing to do with it. Fish all died, so they went to the local government. It has nothing to do with peasants. Well, they did engrossed many rice fields of peasants. See there? The entire section of rice fields got flattened. What a bad luck to

those peasants.

The actors of the “Nongovernmental Midnight Action” are neither farmers nor ordinary fishermen, but actually are business owners, mainly those big contractors from Shaoxing City. They were business men, factory owners before, and later, when the pearl market was good, came to WJJ to contract waters for breeding pearl mussels. In the “June 27 Incident,” the affected farmers actively cooperate with the government, patiently waiting for a solution to the incident.

The Government’s Over-intervention and People’s Dependence on the Government

Worldwide, general public is the main force of environmental protection. Environment is everyone’s cause, and its problems can not be solved by one or two persons abiding the norms. The key is on everyone’s voluntary action in daily life. When some enterprises or interest groups ignore the public’s interests and pollute the water, not only the directly affected people need to act, but also nongovernmental organizations. Fragmented people are unable to face pollutions from organized enterprises, so they should organize too. Much like the labor vs. capitalist conflicts, without the labor union, workers have no power to negotiate with their employers. Without environmental organizations, how could ordinary people negotiate with the powerful but polluting enterprises? However, government in general does not appreciate such truly non-governmental organizations, or simply ban them.

In China, the NGOs for environmental protection are lagging far behind the situation. There are many legal barriers to establish such organizations. For one, legitimate organizations need to be registered through the Civil Affairs Department. However, most existing legitimate organizations are really semi-governmental. To register a truly non-governmental environmental organization is very difficult. The civil administration staffs may be sympathy to such a situation, but they can only act according to the rule. The government only believes their own organizations; it seems to believe that all NGOs are against the government. In reality a NGO may protest one of the government’s decision, or a certain official, but is certainly not anti-government. In fact, to a large extent, NGOs have the same goals as the government does.

In such a water pollution conflict, the government often plays dual roles: on the one hand it tried vigorously to stop people “making trouble;” on the other hand, it plays the role of the “Great Guardian” of people’s interests, or the role a “patriarch” in a traditional Chinese extended family. The “Great Guardian” and “patriarch” roles are both extremely popular in Chinese folk culture. Such a duality can also be seen elsewhere, such as reservoir resettlement issues mentioned in previous text. In the planning stage of the construction of a dam, the owner (the owner of early

construction projects was the government itself) did not give adequate compensation to the immigrants, and used governmental force to crash the resistance of immigrants. Later, some of the early reservoir resettlement issues were acknowledged by the government problems; then the government began to support and take on the indefinite responsibility.

For another example, the government did not support the blocking river action in the “Nongovernmental Mid-night Action” in 2001, because it was an organized action. Why did the culturists in WJJ Township organize themselves? The reason was very simple and sufficient: they must protect their right to survival, and to defend their property from illegal violations. They have reported the issue numerous times to the local government and agencies in charge, which had negotiated many times with SZ Township government with no settlements. To protect themselves, they then had to build dams to block the river, which drew attention from the central government. The central government finally came to mediate, forming the “*Coordinated Views about the Water pollution and Water Affair Confliction between SZ, Jiangsu Province and JX, Zhejiang Province.*” It requested JX to remove the dams and SZ to truly regulate waste water according to the standards. JX did not agree to remove the dams immediately, as it did not trust SZ to actually regulate discharge. In fact, JX was right. After the incident, the pollution decreased for only a short period, but soon it resumed and even became worse and worse continuously. Apparently, Jiangsu Province did not carry out the requests of the “*Coordinated Views.*”^②

JX obviously learned a lesson from the dam incident. After the “June 27 Incident,” it started organizing governmental actions. No farmer or business went to the H Company or SZ local government to “make trouble.” Nobody went to throw dead fish or dead ducks. The affected farmers and businesses registered their loss at their government, which then represented them to negotiate with the corresponding government of H Company. Without a NGO, the local government must step in to do some humanitarian work, such as supplying drinking water in XC Township and compensating affected businesses in WJJ Township.

On the other hand due to Government’s unfavorable attitudes towards nongovernmental self-organizations, local people become deeply dependent on governments. In XC Township, the interviewee Mr. P told us things that sounded very strange at that time: after the pollution incident of June 27, culturists with dead fish and ducks complained about H Company to XC Township Government. Some even brought their dead fish and ducks to the township building, requesting government’s intervention. Government’s over-intervention thus created people’s dependence on government.

② “The June 26 Incident” can be seen as the results of how polluting factories interpret environmental policies and the past environmental problems. It was also a response to the mediating stand of the central government.

Question: Why did the farmers bring the dead fish and ducks here [in front of the township building]?

Answer: Farmers certainly would first seek help from the government. The government should take the responsibility.

Question: Did they think of taking dead fish to the polluting factories?

Answer: It's difficult for them to get across the province boarder line. They knew it won't work. What they could do was seeking help from their local government. A culturist called me and said that his fish died at large quantity. The blanquillo had grown to more than 0.5 kilogram. He asked his wife to take a truck of dead fish to the government. But what's the use? I told him that would be unreasonable. I told him that he could report the accident to the government and we'd help him calculate his loss. Take some photos and we then accurately report to the upper level government. He said that was reasonable, and so later didn't come with dead fish. It was the government that helped him to count his loss.

Question: Were they used to seek help from the local government?

Answer: Yes.

Question: At that time, did all sorts of people seek help from you?

Answer: Yes, many. They first came to the government. There are two fishery villages, where villagers live on natural fishery. They say that they have lost the traditional means of livelihood and have to depend on the aid of the government! Now all the rivers are polluted. What can they do?

Another example of government's over-intervention is that after the "Nongovernmental Mid-night Action" of 2001, the affected fishermen did not get the compensation from the polluters, but from the local government. After the incident, fishermen began to sue the pollution-causing factories upstream with the assistance of the local government. They planed to sue in two batches. First, JS farmers sued the dye factories. The case was in proceeding and they won the lawsuit. But then there was the trouble of following up the lawsuit, the farmers could not obtain the compensation. When the WJJ Township planed the second batch of lawsuit, the situation had changed. Eventually they had to give it up. Later through the intermediation of JX City, the culturists withdraw the lawsuit, and WJJ Township Government provided subsidy to the affected people. Local government gave priority to social stability, although with much reluctance. The subsidy comforted the affected farmers both materially and spiritually. But obviously it was not how it ought to be done. Effectively tax money from local taxpayers was used to compensate the loss caused by external pollutions. Besides, it also increased the local farmers' psychological dependence on the government.

4 The Third Party in Pollution Conflicts

As the result of modern labor division, some forces become the independent third party that sets up a balancing mechanism to institutionally ensure impartiality to a certain degree. We can classify all other forces besides the two directly conflicting forces of an incident as the third party. If this third party functions independently and effectively, it can reduce pollution incidents, properly solve pollution problems that already exist, and also reduce the possibility of recurrence of similar incidents in the future.

The Independence of Technical Experts in Question

Technical experts belong to the third party, and their independent activities would form yet another effective prevention of water pollution. Unfortunately, Technical experts fail to be independent. They either obey the arrangement of factory owners, or take orders from local governments. Thus, as a result, the supposedly independent technology becomes a slave of businessmen or politicians.

On its website, The State Environmental Protection Administration (SEPA) announced the “Environment Office Memo [2005] 558” This memo pointed out that NJ University who was in charge of the Environmental Impact Assessment (EIA) prior to “June 27 Incident” had failed its duty. SEPA thus suspended NJ University’s authorization of EIA for 12 months and requested an institutional reorganization. In this memo, SEPA noted that the EIA report’s description of the hydrological situation was not true. The memo further pointed out that due to lack of in-depth analysis and failure to identify the root of pollution and provide effective preventive measures and emergence reaction plans according to the type and characteristic of water pollution accidents, the resulted EIA report had fatal defects in its risk evaluation. In a word, NJ University neither clarified the investigation objects, nor gave appropriate measures to deal with the situation.

There are two possible reasons for the failed EIA. One is inadequate technical expertise and professional capability. After all, even a lay person with some common sense would understand that this is a highly complicated investigation of environmental risks. However, EIA of a factory is relatively simple. Thus, how could an EIA institute with such a high academic reputation and rich working experience not even figure out some simple hydrological conditions? The second possibility is the lack of responsibility, or offer EIA for sale: the enterprise pays money, and the EIA institute takes advantage of its reputation in the field and compiles an EIA report to help that enterprise get its official approval.

The incident of EIA report of NJ University is not an isolated case. According to the investigation of Mr. Ou Zhengtao, the clean Huaihe River is another technological “miracle” created by experts. Some political leaders said the water of Huaihe River should be clear before 2000. In fact it was impossible, which all experts knew clearly themselves. However, since political leaders demanded it, what should they do? They altered the technical standards, and then the goal of cleaning Huaihe River can be achieved now. If altering the technical standards still cannot make the water quality reach the standards, experts have some even better measure. That is to use advanced techniques of “data processing”—altering the original data.

Reporter: You emphasized a peculiarity in your book. At that time, the plan was that the water should be clear before 2000. Just at the eve of this deadline, some agencies altered the main water quality index, the COD standard, from 25 mg per liter to 40 mg per liter. Are such “technical means” common throughout the process?

Ou Zhengtao: Since some leaders required the water be “clear,” some had to work hard on the COD, the main factors affecting the water quality. It was then decided that the COD of Fifth Water Category be elevated from 25 mg per liter to 40 mg per liter, almost doubled. So in 2000 SEPA leaders announced that the water is “almost” clear. But if we can arbitrarily alter the data, why do we even need to treat the pollution? (Zhou, 2005)

Obviously, technical experts strive to satisfy political leaders, for whether the water quality is up to the standards has a lot to do with the leaders’ face, their performance and their career. On the other hand, those who live on their technical expertise are very clear that resources are in the hands of the officials. Technical experts need to feed themselves. As one scholar said, scientists in the field of science are different from ordinary people; out of that field, they are no different. If technical experts are the same as ordinary people with the same lust of money, it is then necessary to have an external monitoring mechanism to regulate their behaviors. In addition to the invisible hand of market, government’s supervision is a necessity.

Environmental Protection Bureau’s Plan of “Prosperity”

There are plenty of institutional setups and laws and policies, more than enough to guard against water pollution. In reality, laws and policies of environmental protection are not enforced as if they were nonexistent. EPB becomes totally blind toward water pollution. In some extreme cases, one would even find “cats and mice share the same pot of rice soup,” and “environmental capacity” becomes an important resource to make money.

Environmental capacity is indeed an important resource. Take water field as an

example. The environmental capacity of a given water field has a certain limit. Too much external material beyond the environmental capacity limit getting into the system leads to pollution. In the traditional agriculture, each localized section of rice fields is a relatively closed eco-system with human activities being one of the links of the ecological chain. Materials discarded or thrown into water are far less than the capacity of water, so there is no environmental problem. However, unregulated modern industrial waste can easily exceed the capacity of the water environment. EPB manages the water environmental capacity. However, environmental capacity is a public recourse that does not belong to EPBs, they are only authorized to manage it. It is thus a problem when some EPBs try to trade the environmental capacity for some income owned by individual agencies.

The law does grant EPB the right to earn legal incomes. EPB can charge local polluting factories fines, which EPB can keep. The reporters of Xinhua News Agency once visited some provinces of Yellow River Basin and they found that at places with a lot of polluting factories, local EPB officials need not to worry about their lives; while in other areas where polluting factories were mostly closed local EPB officials cannot even get their salary. Such is so-called the peculiar “the more pollution the richer the EPB” phenomenon. With the “pollution charges” income, EPBs became “good working places” in economic sense, and many people rushed to join in. For instance, Shanxian County of Henan Province has a population of only 340,000, but there were more than 120 employees in the local EPB. EPB does not need so many employees, and many of them simply tried to get their hands on “pollution charges.” The reporter finally summarized such peculiarity as “Cats and mice share the same pot of rice soup.”

If polluting factories were “mice,” then law enforcement officials of environmental protection ought to be “cats”; but the situation now is that “cats and mice are sharing the same pot of rice soup,” or even that “mice” are feeding “cats.”(Deng, 2005)

EPB has its own cost-benefit calculation. EPB's costs mainly are salary and monitoring expenditure, which is less elastic. In contrast, its income is much more elastic. First, shutting down the polluting factories according to the law would mean that EPB smashes its own rice bowls and destroys its own future. Moreover, EPB officials sometimes have to obey the demands of local leaders, who do not want to decrease local tax revenue. Thus, closing up polluting factories is practically very difficult. Second, if all polluting factories discharge their waste water according to the standards, there would be no fine paid to EPB. In order to reduce production costs, factories are reluctant to construct pollution treatment facilities. Even after they have already constructed facilities, they do not run them regularly. To some extent, some EPBs do not want those facilities to actually function either, because they wish to get fines.

Most activities mentioned above are legal, with some trading under the table. In order to reduce expenses, some factories make secret deals with EPB officials or technicians. Generally speaking, today in China, serious pollutions always mean serious corruptions.

In short, the relationship pattern of various parties in water pollution incidents has direct effects on their occurrence, development, and outcome. To solve water pollution, we need to combine pollution prevention with waste water treatment, and prevention measures should be the main act. The key goal of prevention measures is to prevent certain out-of-order behaviors of some stakeholder groups, such as illegal discharge. Laws and policies function through regulating people's behaviors. Similarly, improving water environment requires regulating people's behaviors and coordinating the relationships among all stakeholders involved in water pollution incidents. Education affects people's behaviors through affecting their attitudes and values. However for laws, policies and education to be fully effective, there is one pre-condition that must be met. That is we need to have a clear knowledge of all stakeholders' behaviors and attitudes, as well as their relationships in water pollution incidents. The stakeholder analysis provides exactly such cognition.

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