Chapter 4
Interactive Participation Under a Fragmented Administration System: Watershed Governance in Zhejiang Province, China

Guohan Liu

Abstract This chapter focuses on several types of participatory mechanism currently observed in watershed management in Zhejiang Province. The watershed roundtable mechanism is a new mechanism with aims similar to that used for Taihu Lake Basin initiated by an expert team; however, there are now diverse types of roundtable meetings in the province. In particular, after the provincial water policy called the Five Water Collaborative Governance was issued, new forms of roundtable meetings have been launched. The Our Water Roundtable, which was organized by an environmental nongovernmental organization (NGO) in Hangzhou City, and the Tie Sha River roundtable, organized by an environmental voluntary group founded by the Environmental Protection Bureau and the Communist Youth League of Hangzhou City, focused on the river issues. This chapter discusses how to lead successful interactive participation, which means one interactive form emerged in this region, beyond the consultative authoritarianism in China, and reviews the processes and characteristics of these roundtables.

Keywords Interactive governance · Watershed governance · Environment participation · Fragmented administration system · Roundtable mechanism · Co-governance · Undemocratic regime · Zhejiang Province · China

1 Introduction

Water is an essential resource, not just for human survival but in a range of processes from agriculture to industries. Nevertheless, nearly all modern countries now face problems associated with water. These problems are rooted in the fact that water is a special common-pool resource (CPR). Cycling around the ecological

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K. Otsuka (ed.), *Interactive Approaches to Water Governance in Asia*,
https://doi.org/10.1007/978-981-13-2399-7_4

environment, water is easily controlled by modern technologies, even though it seems to flow freely. Water is also viewed as both a private good and a pure public or quasi-public good. Effective and efficient provision of adequate clean water that meets a variety of demands has therefore becoming an important challenge.

According to a report issued by the World Health Organization (WHO), 3.575 million people died from water-related causes in 2002, 99% in the developing world (World Health Organization 2008). Developing countries suffer readily from water pollution and water shortages, having less experienced governments able to deal with complex and comprehensive environmental problems. Since 1978, China has been experiencing long-term economic growth, creating severe water shortages and water pollution problems resulting from past growth policies that overemphasized growth of the GDP. The most critical environmental issues faced by China are the shortage of water in the north and water pollution in rivers, lakes, and seas throughout the country (Imura 2007). As populations increase, water quality becomes increasingly dependent on how those living within a watershed care for their river. The watershed environment of most rivers in China has deteriorated over the past few decades due to rapid industrialization and urbanization.

Water is a political issue (World Water Council 2016). The absence of effective public participation impedes governments from finding a suitable means of resolving water issues. The "China Environment Protection Law" explicitly endowed citizens, legal persons, and other organizations with the right to obtain environment information and participate in and supervise environmental protection measures.[1] However, these public participation rights are far from coming into effect at a national level, because of opaque participation procedures and weak support from local communities.

In early 2014, Zhejiang Province launched an important policy boosting governance of water, the "Five Water Collaborative Governance" (*Wu Shui Gong Zhi*).[2] Under this policy, systematic administrative power is intertwined with scattered civil power, forging new and tentative mechanisms for watershed governance. The "Five Water Collaborative Governance" is a mixture of diversified mechanisms. But, in a relatively short time, it can effectively ameliorate water quality. Moreover, some of these mechanisms have been advocated by the central government at the national level.

In a fragmented administration system, the watershed of any river is simultaneously supervised by a number of functionally diverse and geographically separated agencies, with no single bureaucracy accountable for watershed management. Under such a background, interactive participation can help resolve conflicts, allowing a consensus to be reached and facilitating collective action. In Zhejiang Province, interactive participation has been successfully implemented. The river director mechanism (*He Zhang Zhi*), for example, brought together leaders of local

[1] The "China Environment Protection Law" was issued on December 26, 1989 and revised on April 24, 2014.

[2] The slogan "Five Water Collaborative Governance" (*Wu Shui Gong Zhi*) refers to wastewater treatment, floodwater prevention, pond water drainage, water delivery supply, and water conservation.

governments and civic environment protection activists, while the Green Zhejiang, an active environmental protection civil society organization, held a series of successful "Our Water" watershed roundtables aimed at addressing the environment of 11 rivers within the province. Furthermore, the EPVSGL of Hangzhou City (*Hangzhou Zhi Yuan Fu Wu Zong Dui*), a government-related voluntary organization, implemented eight "Tie Sha River" watershed roundtables in the Tie Sha River watershed. Watershed roundtables allow residents to be educated about water quality as well as helping identify reasonable technological solutions, advocating environmental policies, and encouraging local governmental support. Watershed roundtable can be seen as an interactive governance form, the success of which depends on local knowledge and collaboration, especially under an undemocratic regime.

2 Watershed Pollution Problems Following Rapid Industrialization and Urbanization

In 2014, surface water resources in China amounted for 2626.39 billion cubic meters, with 1998.6 cubic meters of water available per capita.[3] Global per capita water resources were estimated at 6123 cubic meters in 2011, more than three times the amount per capita in China. Considering its large population, China is therefore lacking water resources. To make matters worse, the distribution of water resources across districts is far from even. For example, per capita water resources in Zhejiang Province were estimated at 2057.3 cubic meters in 2014, while in Shandong Province it is only 152.1 cubic meters.

Furthermore, a large area of surface water has been polluted by wastewater discharged from factories and urban populations. Of 972 section water quality monitoring points, the ratios of Grade I, Grade II, Grade III, Grade IV, and Grade V water are 2.8, 31.4, 30.3, 21.2, and 5.6%, respectively,[4] suggesting that nearly one-third of the surface water is poor quality. In terms of underground water, ratios of "Perfect," "Good,, "Not Too Bad," "Bad," and "Very Bad" water in 5118 underwater quality monitoring points across the country are 9.4, 25.0, 4.6, 42.5, and 18.8%, respectively.[5] Thus, more than half the underground water is considered "Bad" or "Very Bad."

[3] According to data in the *China Water Resources Bulletin 2014*, released by the Ministry of Water Resources of the People's Republic of China.

[4] Data cited from the *China Environment Bulletin of 2015* released by the Ministry of Environmental Protection of the People's Republic of China. Surface water quality standards in China are evaluated according to contents of 21 different materials, including COD, biological oxygen demand (BOD), ammonia, phosphorus, total nitrogen, petroleum, and phenols. Grade I represents highest-quality water and Grade V the worst quality. It is generally accepted that Grades I and II are high in quality, and Grades IV and V poor in quality. However, some surface water can even be evaluated as "fails to meet Grade V" or "inferior to Grade V."

[5] Data according to the *China Environment Bulletin of 2015* issued by the Ministry of Environmental Protection of the People's Republic of China.

Table 4.1 Water quality of the main rivers in Zhejiang Province

River	Proportion of Grade I, II, and III water
Qiantang Jiang River	74.5%
Cao'e Jiang River	80.0%
Yong Jiang River	50.0%
Jiaojiang River	72.7%
Qujiang River	100%
Feiyun Jiang River	100%
Shao Xi River	100%
Aojiang River	NA, proportion of Grade II water is 25%
Great Canal	0%
Plain river network	16.7%

Source: Zhejiang Province Environment Protection Bureau (2015), *Bulletin of the Environmental Situation of Zhejiang Province, 2014*

Situated in southeast China, Zhejiang Province belongs to the subtropical monsoon climate zone. Average annual rainfall reaches 1600 mm, and the total annual amount of available water resources is 95.5 billion cubic meters. Zhejiang Province is mountainous, 70% of the 101.8 thousand km^2 territory represented by mountains or hills, 23.25% by plains or basins, and 6.5 by rivers or lakes. The surface water system of Zhejiang Province is composed of eight main river systems (Qiantang Jiang River, Cao'e Jiang River, Yong Jiang River, Jiaojiang River, Qujiang River, Feiyun Jiang River, Shao Xi River, Aojiang River), the Great Canal, and the plain river network. Overall, the water quality of the eight main river systems is relatively better than that of the Great Canal and the plain river network (Table 4.1).

Zhejiang Province is one of the most industrialized areas in China, characterized by a large number of active private enterprises. Most of these enterprises are medium- to small-scale, scattered in villages, towns, and suburbs. They include chemical, electroplating, printing and dyeing, tanning, papermaking, and pharmaceutical sectors. Due to a lack of adequate knowledge and financial support for sewage treatment technologies, some of these enterprises discharge industrial wastewater directly into rivers.

The last 10 years have seen the rapid urbanization of Zhejiang Province. In 2014, the urbanization rate reached 64.87% compared to 54.00% in 2004. As a result, in many cities, the increase in urban population spread has outpaced the growth of domestic sewage treatment facilities. In 2013, the per capita consumption expenditure of rural households in Zhejiang Province reached 11760.2RMB Yuan (about 1795.8 $US), ranking it just below Shanghai and Beijing cities. Consumption patterns of the rural residents are very similar to those of urban populations; however, in many towns and villages, the sewage and garbage disposal systems remain under construction. Without these public facilities, rivers are therefore treated as disposal plants. In addition, pesticides, chemical fertilizers, stockbreeding, and merchant shipping are also major causes of water quality deterioration. Because the source of pollution is so varied, no unitary measure has been effectively implemented to resolve the problem.

3 Fragmented Administration of Water Resources

Since water issues concern such a variety of stakeholders, new concepts and techniques are indispensable for effective water governance. The Integrated water resources management (IWRM) (Teisman and Geert 2013), adaptive governance, and interactive governance have all been advocated in the domain of water resources protection (Mark Lubell and Edelenbos 2013; Claudia Pahl-Wostl 2015). All of these concepts and techniques emphasize the role of substantive public participation in rational decision-making. Thus, citizens are seen as an important resource in watershed management (Morton and Brown 2011: p. 6).

However, in China, public participation remains restricted and controlled under the authoritative regime, with regulatory and administrative functions concerning water governance scattered throughout the administrative system. As shown in Table 4.2, at least ten institutions are responsible for different fragments of water governance. For example, within the jurisdiction of a city government, the Environment Protection Bureau is responsible for water quality as well as supervising industrial wastewater discharge. As a result, the Environment Protection Bureau

Table 4.2 Administrative departments of water governance in Zhejiang Province

Departmental category	Department	Main functions
Functional	Environment Protection Bureau	Be responsible for water quality; supervise wastewater discharge from enterprises
	Water Resources Bureau (Shuili Ju)	Be responsible for construction of water utility facilities
	Agriculture, Forestry and Fishery Bureau	Be responsible for irrigation water, use of pesticides and chemical fertilizers, forest protection, and fishery resources protection
Law-enforcing	Urban Management Bureau (Chengguan Ju)	Investigate and treat illegal behaviors that pollute rivers, ponds, lakes, and other water bodies
Coordinative	Five Water Collaborative Governance (*Wu Shui Gong Zhi*) Office	Coordinate, carry forward, and supervise the various government bureaus, enterprises, social organizations, and communities concerning water governance
	Special Committees on Watershed Governance	Comprehensive institution responsible for special rivers, lakes, and dams
Auxiliary	Sanitation Bureau (Huanwei Ju)	Treat diseases caused by polluted water
	Housing and Construction Bureau	Be responsible for planning and constructing sewage conduit networks
	Transportation Bureau	Supervise transportation on rivers, lakes, and other water bodies
	Landscaping Bureau (Yuanlin Lvhua Ju)	Plant and maintain trees, flowers, and grass around rivers, and construct relevant landscaping facilities

Source: Compiled by the author

is equipped with special instruments, knowledge, and a water monitoring system. In contrast, the Water Resources Bureau (Shuili Ju) is charged with planning and constructing water utility facilities, while the Agriculture, Forestry and Fishery Bureau is in charge of irrigation facilities, use of pesticides and chemical fertilizers, forest protection, and fishery resources protection. These three bureaus form the functional departments directly involved in protecting and ameliorating water quality.

The Urban Management Bureau (Chengguan Ju) is charged with investigating and treating illegal behaviors resulting in pollution of rivers, lakes, and ponds. It is a law-enforcing department, aimed at detection and law enforcement; however, they are lacking in proper knowledge about water resources.

The Five Water Collaborative Governance (*Wu Shui Gong Zhi*) office is in charge of coordinating, carrying forward, and supervising the various government bureaus, enterprises, social organizations, and communities concerning water governance. The Special Committees on Watershed Governance form a comprehensive institution responsible for special rivers, lakes, and dams, in coordination with the Five Water Collaborative Governance department; however, neither has expert knowledge or compulsive power.

The Sanitation Bureau (*Huanwei Ju*) is responsible for treating deceases caused by polluted water, while the Housing and Construction Bureau is in charge of planning and constructing sewage conduit networks. The Transportation Bureau is charged with supervising transportation on rivers, lakes, and other water bodies, while the Landscaping Bureau (*Yuanlin Ju*) undertakes the planting of trees, flowers, and grass around rivers, maintaining and constructing relevant landscaping facilities. In terms of water governance, these two bureaus form auxiliary departments, involved, to a large extent, in affairs affecting water quality.

In addition to the fragmentation of administrative power among various departments, water governance is geographically divided into administrative divisions. As a result, the water at geographical borders is prone to pollution. Furthermore, local governments prefer to use unilateral governance forms to deal with water issues since the law claims that all water resources belong to the nation.[6]

4 The River Director Mechanism

4.1 Acceptance of the River Director Mechanism (He Zhang Zhi)

The river director mechanism is an effective method aimed at overcoming the fragmented administration of water governance. The river director mechanism originated in Wuxi City, Jiangsu Province, where from May to June, 2007, a large area

[6] The *Water Law of the People's Republic of China* (revised at the August 2002) claims that all of the water resources belong to the nation and the State Council performs the proprietary rights of all the water resources.

of blue-green algae appeared on Taihu Lake, disrupting the water supply to Wuxi City. In August 2007, the government of Wuxi City implemented the *Section Water Quality Control Objectives and Assessment Methods for the Rivers (lakes, reservoirs, marshes) of Wuxi City (trial version)*, which commanded that the main leaders of local governments and the CPC (Communist Party of China) act as river directors of the 64 rivers in Wuxi City. Since these leaders are able to integrate diverse administrative departments, river directors are deemed responsible for resolving water pollution problems across boundaries.

From 2008, the government of Jiangsu Province further implemented a plan whereby cities and counties within the Taihu Lake watershed are required to partake in the river director mechanism. Some cities and counties transformed the river director mechanism into the "dual river director mechanism *(Shuang Chong He Zhang Zhi*)," nominating two river directors per river, one from the provincial government and the other from the city government. Others went on to adopt a "fourfold river director mechanism (*Si Chong He Zhang Zhi*)," with four river directors per river, representing the city government, county government, town government, and village closest to the river, respectively.

The river director mechanism was the conventional response of the traditional administrative system when faced the challenge of water governance. The traditional administrative system can be seen as a "pressure system (*Ya Li Xing Ti Zhi*)," a typical characteristic of which is the ability to transform certain issues into "political tasks," emphasizing their importance among government leaders (Xuedong 2012). However, the river directors all represent officials of local governments or the CPC, regardless of whether the mechanism is single, dual, or fourfold.

4.2 The River Director Mechanism in Zhejiang Province

The river director mechanism in Zhejiang Province mimicked the methods implemented in Wuxi City. Nevertheless, official river directors are unable to obtain comprehensive real-time information unless residents in the river watersheds are involved. In Zhejiang Province, the river director mechanism started in Haining City, with 30 main government leaders appointed as directors of the 30 main rivers in June 2012. In 2013, Hangzhou City then initiated the river director mechanism, adopting four main initiatives. First, the administrative grids were corrected. All rivers within the city are categorized as provincial level, city level, district level, and street/town level or sections. For example, a river that flows through two or more cities is categorized as a provincial-level river, while a river that flows through two or more districts is categorized as a city-level river, and so on (Fig. 4.1). Bulletin boards describing the implementation of river directors were erected near each river. As shown in Fig. 4.2, the bulletin boards emphasized that all residents were free to contact the river directors at any time.

The second initiative was to confirm the roles of civic river directors. Civic river directors (*Min Jian He Zhang*) were selected from residents living near the rivers,

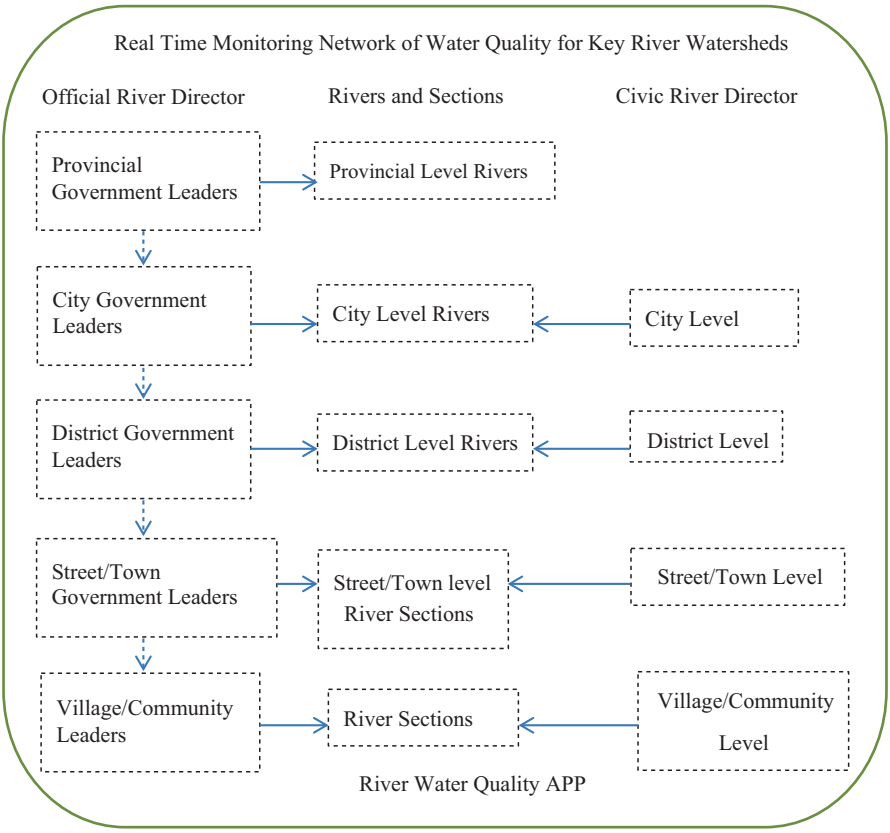

Fig. 4.1 An overview of the river director mechanism in Hangzhou City, Zhejiang Province (Source: Compiled by the author)

environment protection activists, volunteers, and retirees. In April 2014, more than 160 local residents applied for the role of civic river director. Following the interview process, 56 applicants were hired by the city government and charged with supervising 47 rivers within the city as city-level civic river directors. Since then, some district governments (*Qu Zheng Fu*) and street governments (*Jie Dao Ban Shi Chu*) went on to hire additional civic river directors using the same procedures. In the case of special rivers, the civic river director is in constant feedback with the corresponding official river directors.

As a third initiative, further participants were added. For example, the government of Jianggan District forged a "5 + 2" mechanism whereby participants included district-level river directors, street-level river directors, community-level river directors, civic river directors, river policeman, river observers (*He Dao Guan Cha Yuan*), and river cleaners. In addition, some street governments and communities set up grassroots organizations devoted to patrolling and protecting their rivers.

Fig. 4.2 Bulletin board providing information on the river directors (Source: Photo taken by the author (date: 2017, 10th, January))

As a final initiative, IT technologies were improved. New communication technologies can lower participation costs, attracting more residents to participate in water governance. The River Water Quality app is a kind of mobile phone software through which residents can determine the water quality of any river within the city. The River Water Quality app is mainly used by official river directors, civic river directors, water quality observers, river protection volunteers, and ordinary citizens involved in caring for the water quality of rivers. Users can upload photos and directly connect with official river directors using this app.

5 The Watershed Roundtable Mechanism

5.1 Initiation of the Watershed Roundtable Mechanism in China

A watershed roundtable is a group of people with a vested interest in local water quality. Stakeholders, or delegates, express their opinions through the watershed roundtable. Participants then aim to reach an agreement on collective behaviors, although agreement is not compulsory. The watershed roundtable is a potentially

effective mechanism aimed at overcoming the fragmentation of authorities concerned with water resources. However, none of the stakeholders have sufficient motivation or the capacity to launch a roundtable, and thus, they are yet to become an exogenous governance form under the current undemocratic regime.

The apathy of stakeholders to participate in a roundtable results from the laws and regulations concerned with water resource management. There are currently three laws concerning the use and protection of water in China: the Water Law of the People's Republic of China (2002 Revision) (the "Water Law"), the Water Pollution Prevention and Control Law of the People's Republic of China (2008 Revision) (the "Water Pollution Law"), and the Environmental Protection Law of the People's Republic of China (2014 Revision) (the "Environmental Protection Law"). None of these laws explicitly confirm the environmental rights of residents. Nevertheless, the Environmental Protection Law does suggest that citizens, legal persons, and other organizations have the right to obtain information, participate in, and supervise environmental protection activities. Moreover, specifically regarding the problem of water, the Water Law stipulates that all water sources are owned by the state, water resources including both surface water and underground water. Thus, according to this law, the water in all rivers is the property of the state. To those devoted to improving the water quality of rivers, it is ironic that they sacrifice their funding and time to protecting an entity that, on paper, does not even belong to them. As a result, many people are unwilling to uncover those who have violated the laws or regulations concerning environment protection.

In 2006, the World Bank initiated a cooperation project with Jiangsu's provincial government in China. This project was entitled, "A Working Outline of the Institution of Environmental Information Round-table Dialogue." Through the support for this project, six community roundtable meetings aimed at water quality improvement in the Taihu Lake Basin were held from 2008 to 2012 (see Chap. 5). Some were even successful; however, the challenge of how to secure the "legitimacy of organizing" community roundtable meetings in the context of the current governance system in China remains (see Chap. 5).

5.2 The Roundtable Mechanism in Zhejiang Province

The watershed roundtable mechanism in Zhejiang Province can be traced back to 2009 in Jiaxing City. A series of policies aimed at strengthening the regulation and public participation in environment protection were launched, one of which was the implementation of roundtable meetings. Roundtable meetings were held by relevant departments of the local government before major programs agreed to approve the procedure. Participants included residents, local government departments, journalists, and local employers. The main topics included environment pollution issues,

reducing pollutant emission, environment education, and so on (Wei 2015). These roundtable meetings in Jiaxing City were held irregularly by the local government, as a part of government-operated environment policies.

Since implementation by the central government of institutional reform in 2013, certain agencies, nonprofit organizations (NPOs), and nongovernmental organizations (NGOs) began to favor the launch of multi-stakeholder roundtables. For example, in 2010, Hangzhou City TV station initiated a program entitled as "We Roundtable (*Wo Men Yuan Zhuo Hui*)," aimed at encouraging government officers, employers, environmental experts, residents, and journalists to discuss issues of public concern. This program is broadcast weekly every Saturday and Sunday, often addressing environmental and river water pollution problems. However, "We Roundtable" remains a TV program focused on the discussion of problems. The participants are not direct stakeholders of the problems discussed; therefore, no specific resolution or plan is reached.

In early 2014, Zhejiang Province launched an important policy boosting governance of water resources. This policy was termed the "Five Water Collaborative Governance" (*Wu Shui Gong Zhi*) and refers to wastewater treatment, flood water prevention, pond water drainage, water delivery supply, and water conservation. It advocates public participation, encouraging all governments at the city and town level to set up a "Five Water Collaborative Governance Office" (*Wu Shui Gong Zhi Ban Gong Shi*).

Political slogans such as "Beautiful Zhejiang" and "Ecological Construction" used under the Five Water Collaborative Governance were promoted, warranting political correctness of environmental protection through government policies and public opinion. Under these conditions, watershed roundtables were endogenously undertaken by some agencies and organizations. From February to November 2014, the Green Zhejiang, an environment protection civil society organization, organized 11 "Our Water Co-governance" watershed roundtables, each related to the water pollution problems of a specific river within Zhejiang Province. These watershed roundtables were broadcast by Zhejiang Province TV station, increasing public awareness in the short term. However, the Green Zhejiang ended the "Our Water Co-governance" watershed roundtable program in early 2015.

From November 2015, a voluntary organization named the "Environment Protection Voluntary Service General League of Hangzhou City" initiated a series of watershed roundtables concerned with drinking water source protection of Tie Sha River. These watershed roundtables were held at the community level, participants consisting largely of residents of communities near the river. The "Tie Sha River" watershed roundtable was independent of official departments. Although, with time, the operation patterns changed and matured, the "Our Water Co-governance" watershed roundtables and "Tie Sha River" watershed roundtables remain classic examples of public participation in environmental protection in Zhejiang Province (Table 4.3).

Table 4.3 Main watershed roundtables in Zhejiang Province

Name of the roundtable	Period	Main organizers	Main participants	Characteristics
Environment Governance Roundtable of Jiaxing City	From 2009, irregularly	Local government, Environment Protection Association	Local government departments, NGOs, experts	Local government convokes all stakeholders of watershed governance through the roundtable
"We Roundtable" of Hangzhou City	From 2011, weekly	Local government, TV station	Local government departments, experts, residents	TV broadcast
"Our Water Co-governance" roundtable	From 2014 until 2015, monthly	Environmental NGO, TV station	Local government departments, delegates of enterprises, residents, experts	Operated by an environment protection civil organization aimed at resolving specific problems of a specific river
"Tie Sha River" roundtable	From 2015, once every 2 months	Environment Protection Voluntary NPO	Local government departments, resident delegates, community leaders, volunteers	Operated by an environment protection voluntary organization and held in communities surrounding the river

Source: Compiled by the author

5.3 The "Our Water Co-governance" Roundtable

5.3.1 The Development and Role of Environmental NGOs

The Green Zhejiang was the first 5A class environmental protection NGO developed in Zhejiang Province.[7] It can be traced back to one of the One Hundred Excellent Volunteer Service Groups rated in June 2000, registered in April 2002 as a chapter of the Green Environmental Protection Society under the Young Volunteers Association of Zhejiang Province. The inability to register as an independent legal entity is a major obstacle of many NGOs in China. The Green Zhejiang was not considered a legal entity for almost 10 years, although core members insisted on conducting environmental protection activities. Finally, in January 2010, the Green Zhejiang successfully registered its first official organization, "Hangzhou City Ecological Culture Society," which was subject to direct administration by the Hangzhou City Environmental Protection Bureau and permitted to organize activi-

[7] According to the current regulations on social organizations, the Social Organizations Registration Agency owns the right to evaluate the performance of social organizations. Based on the evaluation results, social organizations are classified as 1A, 2A, 3A, 4A, or 5A. The 3A classification can be seen as "good" and 5A is considered "perfect."

ties within the city. In 2013, the Hangzhou City Ecological Culture Society, the Hangzhou Low Carbon Science and Technology Museum, the Zhejiang Sunshine Law Firm, as well as the Ruan Junhua, Qi Zhijian, and Xin Hao, among others, jointly established the Zhejiang Green Technology and Culture Promotion Association (Green Zhejiang).

Members are the main supportive sources of an NGO. Although the approximate number of formal members of the Green Zhejiang is only about 400, most of them are enthusiastic activists from various professions and trades. Some are senior civil servants, entrepreneurs, experts, TV celebrities, and academics. In addition, three large-scale alliances also support the Green Zhejiang. The first is the Green Zhejiang Green Footprint Alliance, an organization of enterprises aimed at achieving "low-carbon self-discipline, low-carbon mutual benefits, and low-carbon propaganda." This alliance has attracted a large number of local enterprises with a strong sense of social responsibility and committed to environmental protection. The second is the Green Zhejiang College Students Alliance, which provides an open communication platform for college students to participate in environmental protection, attracting student societies from over 70 universities and colleges. The third is the project team of the Green Zhejiang Roots and Sprouts (Roots and Sprouts), an institution dedicated to the promotion of environmental protection in elementary and middle schools in Zhejiang Province. Roots and Sprouts is an international environmental project aimed at inspiring children of all ages to participate in projects targeting the environment, animals, and communities.

Cooperation with governmental agencies, enterprises, and mass media further adds to the capacity of an NGO. By undertaking governmental outsourcing projects, the Green Zhejiang seeks to build a benign relationship with governmental agencies. Enterprises engaged in environmental protection are willing to cooperate with the Green Zhejiang, and due to strong public concern over environmental problems, mass media is also expected to cooperate with the Green Zhejiang. Through extensive cooperation with such agents, the Green Zhejiang gained the "power" to organize watershed roundtables and promote conflict resolution in a highly complex context.

5.3.2 Organization of a "Our Water" Watershed Roundtable

"Our Water" watershed roundtables have been carried out in 11 river watersheds scattered throughout Zhejiang Province: Beitang River (Hangzhou City), Shan Xia Jin River (Wenling City), Lu San Xiao Xi River (Dongyang City), Long He River (Rui'an City), Fang Men Jiang River (Fenghua City), Xiao Kun Jiang River (Shengzhou City), Shuang Xi River (Anji County), Qi Xi River (Kaihua County), Da Xi River (Lishui City), Guang Chen Tang River (Pinghu City), and Qian Men Fan River (Zhoushan City). The first watershed roundtable pertained to the seriously polluted Beitang River in the downtown area of Hangzhou City in February 2014. It was originally organized as a publicity event, aimed at educating residents on how to dispose of their domestic garbage. Xiacheng District leaders,

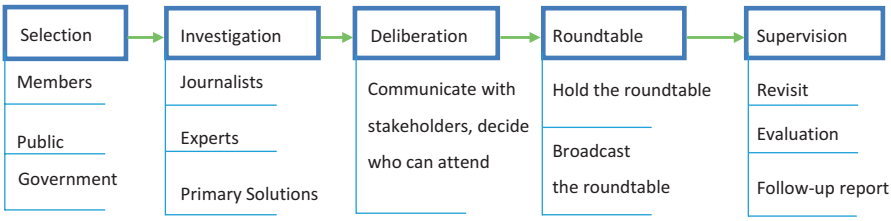

Fig. 4.3 Organization of an "Our Water" roundtable (Source: Compiled by the author)

environmental protection officials, residents living near the river, Zhejiang TV station representatives, and environmental protection volunteers all convened. Unexpectedly, delegates from the Environmental Protection Bureau, the City Construction Bureau, and the Garbage Disposal Company also agreed to take action. As a result, the Green Zhejiang and Zhejiang TV station decided to hold a series of watershed roundtables, following the Bei Tang River model. The organization of a watershed roundtable can be divided into five stages: selection, investigation, deliberation, roundtable, and supervision (Fig. 4.3).

Step 1: Selection
In the first step, the Green Zhejiang selects the river around which the watershed roundtable will be convoked. As an environmental NGO, the Green Zhejiang owns an environmental quality supervision network, consisting mainly of members and volunteers. In addition, residents and the government can provide information on the water quality of rivers in the scope of Zhejiang Province. Since the watershed roundtables are recorded as well as broadcast, the attitude of the local government often becomes the most important standard by which a river will be selected or not.

Step 2: Investigation
In the second step, an investigation group is sent out into the field to determine the actual situation and possible causes of pollution. The investigation group includes environmental volunteers, journalists, experts, and staff from the Green Zhejiang. After investigation, the group can formulate a primary plan of action.

Step 3: Deliberation
In the third step, Green Zhejiang staff deliberate with various stakeholders or their delegates. Since each situation is so specific, there is no homogeneous method by which to ascertain stakeholders. During this process, stakeholders can express their opinions and their preferred solutions.

Step 4: Roundtable
In the fourth step, a roundtable is held near the river. Most attendants have never had the chance to meet so many stakeholders face-to-face. Some are fully aware of the situation and understanding of the opinions of other stakeholders. Most discussions are peaceful; however, many attendants adjust their original standpoints. Nevertheless, most roundtables lead to feasible policies or plans.

Step 5: Supervision
In the fifth step, the effects of the policies and plans are supervised in several ways. Environmental volunteers revisit the rivers periodically and are invited to evaluate the water quality. Furthermore, journalists are allowed to conduct a follow-up report. On January 28, 2015, a large-scale evaluation conference was held in Xiacheng District of Hangzhou City. The attendants included leaders of Zhejiang Province government, leaders of the People's Congress, leaders of the People's Political Consultative Conference, entrepreneurs, voluntary environmental observers, beneficiaries, and local government officials. At this conference, the 11 roundtables were reviewed and the effects evaluated.

5.3.3 Participation and Effects of Watershed Roundtables

To be successful, attendants of a roundtable should feel free to express their true opinions and have a decisive influence. Government officials, journalists, experts, and lawyers were permanent participant of all roundtables. Other participants were invited according to the specific problems of the river. Table 4.4 lists the rivers, sites, dates, main causes, and main participants of the 11 roundtables mentioned above. Here we raise two roundtables as cases.

Long He River Watershed Roundtable
Long He River is located in the Hai'an Community of Tang Xia Town, Rui'an City. In the past decade, Long He River has become seriously polluted by wastewater from small manufacturers and domestic garbage. As a result, the water is discolored and odorous. On May 25, 2014, a watershed roundtable was held by the Green Zhejiang in Tangxia Town. The community leader of the CPC suggested that wastewater from small factories, ineffective governmental regulation, and nearby mine exploitation were the three main reasons for the rivers' degradation. However, the environmental experts pointed out that wastewater from pickling, electroplating, and mold manufacturers was the main cause. The director of the Environmental Bureau of Rui'an City explained that there were 199 pickling factories in the area, only 23 of which passed environmental approval. Delegates of these pickling factories asserted that most were small-scale, consisting of workers who were unable to operate the wastewater disposal equipment, which was also outdated. After the discussion, stakeholders reached a primary agreement whereby the local government formulated a plan to create a centralized wastewater plant. Meanwhile, the enterprises agreed to donate funds to support the Environment Protection Association of Tangxia Town, helping the local government supervise and support factories by updating their wastewater disposal technologies.

Guang Chen Tang River Watershed Roundtable
Guang Chen Tang River flows from Pinghu City to Shanghai City, a length of 16 km. It is severely polluted, having been largely used for shipping, and classified as inferior class V. In recent years, a water hyacinth bloom occurs in spring and summer. Water hyacinth is an aquatic plant with a terrible reproductive capacity.

Table 4.4 Participants and effects of 11 "Our Water" roundtables

No	River	Site	Date	Main causes	Participants
1.	Bei Tang River	Xiacheng District, Hangzhou City	2014/2/21	1.No intercepting sewer	1. Leaders of local governments
				2. Domestic garbage	2. Residents
				3. Wastewater from enterprises	3. Experts
					4. Leaders of the Green Zhejiang
					5. Local TV representatives
					6. Volunteers
2.	Shan Xia Jin River	Wenling City, Taizhou City	2014/3/19	1. Domestic garbage	1. Environment Protection Agency
				2. Industrial wastewater	2. Lawyer
					3. Sewage treatment company
					4. Village chief
3.	Lu San Xiao Xi River	Dongyang City, Jinhua City	2014/4/16	1. Stone processing industry	1. Deputy Mayor
					2. Sewage treatment company
					3. Residents
					4. Manufacturers
					5. Volunteers
4.	Long He River	Tangxia Town, Rui'an City, Wenzhou City	2014/5/27	1. Wastewater from pickling, electroplating, and mold manufacturers	1. Environment Protection Association of Tangxia Town
				2. Domestic garbage	2. Manufacturers
					3. Villagers
					4. Sociologists
5.	Fang Men Jiang River	Fangmen Village, Fenghua City	2014/6/27	1.Swine industry	1. Farmers raising pigs
					2. Villagers
6.	Xiao Kun Jiang River	Shengzhou City, Shaoxing City	2014/7/11	1. Domestic garbage	1.Villagers
				2. Farm product market	2.Peddlers
				3. Fertilizer, agricultural chemicals	3. River cleaners
					4. Sociologist
7.	Shuang Xi River	Anji County, Hangzhou City	2014/7/30	1. Sand and gravel processing manufacturers	1. Farmers of Shuangyi Village
				2. Between two administration jurisdictions of two towns	2. Farmers of Shizhu Village
					3. Owners of sand and gravel processing factories

(continued)

Table 4.4 (continued)

No	River	Site	Date	Main causes	Participants
8.	Qi Xi River	Shuangxi Park, Kaihua County, Quzhou City	2014/9/3	1. Sewage treatment equipment not operated properly	1. Leader of the propaganda department of Kaihua County, CPC
					2. Residents
					3. Alibaba Charity Foundation
					4. Constructor
9.	Da Xi River	Dagangtou Town, Lishui City	2014/11/11	1. Domestic wastewater and garbage	1. River cleaning staff
				2. Coloring matter used by tourists	2. Farmers in the area
					3. Sketching tourists
10.	Guang Chen Tang River	TV station studio, Pinghu City	2014/11/25	1. Excessive growth of water hyacinth	1. Residents
					2. Shipping operators
					3. Channel cleaning companies
					4. River cleaners
11.	Qian Men Fan River	Zhoushan City	2014/11/26	1. Drinking water sources polluted by farm domestic wastewater	1. Residents
					2. Zhoushan Water Affairs Group Co., Ltd
					3. Environmental Protection Companies

Source: Compiled by the author based on field surveys

Water congested with water hyacinths not only kills most aquatic organisms but also damages ship propellers. On November 25, 2014, a watershed roundtable on Guang Chen Tang River was therefore held in Pinghu City to discuss the best way to deal with the water hyacinths. Delegates from the Environment Bureau of Pinghu City claimed that the water was polluted and its nitrogen and phosphorus contents too high. Delegates of the Five Water Collaborative Office further suggested that the fundamental reason for the water hyacinth blooms was rooted in the economic structure of Pinghu City, the pig breeding industry being the main source of income for local residents. Wastewater and feces from pig breeding are directly discharged into the river. Thorough resolution of the water hyacinth problem therefore seemed problematic. As a result, some attendants advised the local government to employ more efficient cleaning companies, while others suggested that the local government formulate a comprehensive plan aimed at improving the water quality of Guang Chen Tang River.

5.4 "Tie Sha River" Roundtable

5.4.1 A Government-Related Voluntary Organization

The Environment Protection Voluntary Service General League (EPVSGL) of Hangzhou City was founded in June 2004 by the Environment Protection Bureau and the Communist Youth League of Hangzhou City. The mission of the EPVSGL is to promote environment protection, defend the legal rights of common persons, and cultivate environment protection consciousness throughout the entire society. In January 2017, the EPVSGL of Hangzhou City consisted of more than 12,000 environmental volunteers, most of whom are divided into 11 branches according to the district/county of their residency. One branch specifically involves participating high school students.

The EPVSGL of Hangzhou City is supported by the Environment Protection Bureau and the Communist Youth League of Hangzhou City, its main office located in the Environment Protection Bureau building in Hangzhou City. A large number of activities are held by the EPVSGL such as environmental promotion at the community level, waste material recycling, environment protection seminars, and so on. The directors of the EPVSGL consist of part-time volunteers; thus, overall the EPVSGL of Hangzhou City can be viewed as a local government-related voluntary organization.

5.4.2 Organization of the "Tie Sha River" Watershed Roundtable

Tie Sha River is located in the Central Zone of Hangzhou City and can be traced back to 861 AD, the Tang Dynasty. It is 6257 m long and varies in width from 25 to 70 m. Since 1931, Tie Sha River became the only drinking water resource in Hangzhou City since the construction of the Qing Tai Men Water Plant. However, with the spread of urbanization, populations near Tie Sha River are increasing rapidly, and as a result, domestic sewage and wastewater from restaurants, laundry, swimming, and fishing have become significant sources of pollution in Tie Sha River. To protect water quality, police monitoring and construction of a protecting fence have been suggested. However, these measures are inefficient and costly and unlikely to prevent the behaviors affecting water quality. One fundamental way to protect Tie Sha River is to enhance environmental protection consciousness among residents near the river. To do so, the directors of the EPVSGL of Hangzhou City initiated a series of watershed roundtables in November 2015 (Fig. 4.4).

Organization of the "Tie Sha River" roundtable consisted of five steps. First was to select a community or a street (*Jie Dao*) near Tie Sha River to act as the main partner. Selection was dependent on the connections between the main directors of the EPVSGL and street (*Jie Dao*) level government or community leaders. The second step was to discuss the theme of the roundtable with the selected partners. Since different streets/communities face different problems associated with pollution of

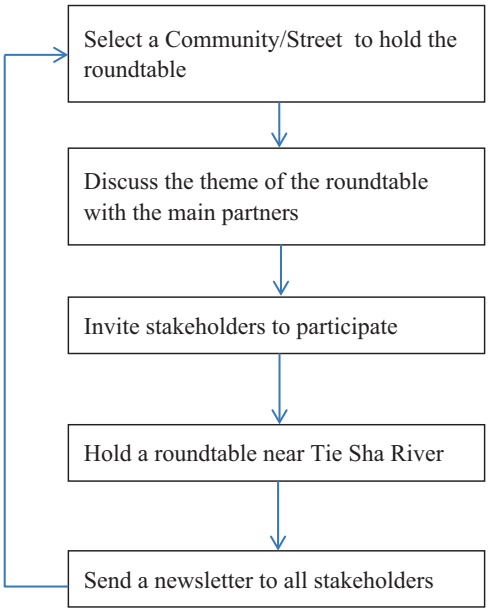

Fig. 4.4 Organization of the "Tie Sha River" roundtable (Source: Compiled by the author)

Tie Sha River, themes were selected accordingly, ranging from water quality, monitoring patrol, laundry management, sewage disposal, and so on. The third step was to invite stakeholders. Some stakeholders take part in only one roundtable, while others are committed to attending all meetings. The forth step was to hold the roundtable, each of which is presided over by one of the directors of the EPVSGL, giving each participant a chance to express an opinion. Most of the time, the directors of local governments are in charge of introducing policies concerning water governance, with volunteers communicating their field experience and findings. In the fifth step, the EPVSGL compiles a newsletter summarizing the roundtable (Fig. 4.5).

5.4.3 Participants and Effects of the "Tie Sha River" Watershed Roundtable

The participants in the "Tie Sha River" roundtables included almost all stakeholders involved in watershed governance of the river. As shown in Table 4.5, participants varied as the scheme changed, with residents near the river, local government officials, and directors of the EPVSGL of Hangzhou City in constant attendance. Moreover, directors of communities near the river, leaders of the voluntary river patrol league (*Zhi Yuan Xun He Dui*), the civic voluntary water quality monitoring center of Hangzhou City (*Hangzhou Shi Min Jian Zhi Yuan Shui Zhi Jian Ce Zhong Xin*), and members of civic observation team (*Min Qing Guan Cha Tuan*) participated frequently. Other stakeholders, such as journalists and water governance experts, took part when relevant.

Fig. 4.5 The eighth Tie Sha river watershed roundtable (Source: Photo taken by the author (date: 2017, 18th, January))

The "Tie Sha River" watershed roundtable is a micro-social movement that takes place at the most fundamental level of the society. It is open to everyone concerned about environment issues related to Tie Sha River. "Tie Sha River" watershed roundtable aims to improve the water quality of the river in a non-confrontational and rather indirect manner. At the first "Tie Sha River" watershed roundtable in Xin Kai Yuan Community, a question pertaining to which bureau was responsible for the water quality of Tie Sha River was raised. This query was subsequently published in the *Hangzhou Daily* newspaper and aroused significant attention surrounding the fragmented administrative system. At the eighth "Tie Sha River" watershed roundtable, the query changed to "who is the river director of Tie Sha River?" Tie Sha River flows through Xiacheng, Shangcheng, and Jianggan districts. Each district- and street-level government in the area has an appointed official river director and civic river directors within their jurisdictions. However, there is no overall river director for Tie Sha River.

"Tie Sha River" watershed roundtable succeeded in raising awareness of the importance of environment protection among residents near the river. As a result, more and more voluntary river patrol leagues were organized at the community level. Students in Dao Mao Xiang primary school also became involved, learning how to monitor the water quality of the river. Moreover, approximately 1 year after the first "Tie Sha River" roundtable, the number of people swimming, fishing, or doing laundry in the river decreased remarkably.

Table 4.5 Primary information on the "Tie Sha River" roundtables

No	Community/street	Date	Main participants
1.	Xin Kai Yuan Community	2015/11/25	1. Leaders of water utilities
			2. Street-level government leaders
			3. Community leaders
			4. Leaders of the EPVSGL of Hangzhou City
			5. Residents
			6. Volunteers
2.	Chao Ming Street	2016/1/27	1. Leaders of water utilities
			2. Street-level government leaders
			3. Community leaders
			4. Readers of the *Hangzhou Daily* newspaper
			5. Leaders of the EPVSGL of Hangzhou City
			6. Residents
			7. Volunteers
3.	Xiao Ying Street	2016/3/30	1. Directors of local government bureaus
			2. Civic river directors
			3. Readers of the *Hangzhou Daily* newspaper
			4. Members of the People's Congress
			5. Members of the People's Consultative Conference
			6. Residents
4.	Jin Lan Chi Community	2016/5/25	1. Directors of local government bureaus
			2.Civic river directors
			3. Engineers of the River Research Institute
			4. Members of the People's Congress
			5. Members of the People's Consultative Conference
			6. Residents
5.	Chao Ming Street	2016/7/27	1. Directors of local government bureaus
			2. Civic river directors
			3. Official river director
			4. Members of the People's Congress
			5. Members of the People's Consultative Conference
			6. Residents
6.	Shang Yang Shi Jie Community	2016/10/12	1. Director of the Water Governance Office of Hangzhou City
			2. Leaders of the Zi Yang Street Government
			3. Community workers
			4. Water rescue team of Hangzhou City
			5. Civic Voluntary Water Quality Monitoring Center of Hangzhou City
			6. Members of the Civic Situations Observer Team
			7. Residents

(continued)

Table 4.5 (continued)

No	Community/street	Date	Main participants
7.	Shang Yang Shi Jie Community	2016/11/16	1. Director of the Water Governance Office of Hangzhou City
			2. Leaders of the Zi Yang Street Government
			3. Community workers
			4. Community Water Protection Team
			5. Members of the City Management Bureau
			6. Residents
8.	Cai He Street	2017/1/18	1. Director the Water Governance Office of Hangzhou City
			2. Director of the Water Quality Monitoring Center of Hangzhou City
			3. Civic river directors
			4. Leaders of the Voluntary River Patrol League
			5. Neighborhood Communist Youth League
			6. Students and teachers of Dao Mao Xiang School
			7. Residents

Source: Compiled by the author based on field surveys

The "Tie Sha River" watershed roundtables were also able to pressurize officials of local governments. During a watershed roundtable, all participants are deemed equal. Local government officials are expected to be open to enquiries from residents and volunteers, a good starting point in resolving the problems related to pollution of Tie Sha River. Positive experiences and methods employed in certain communities are also introduced during roundtables, allowing the leaders of other communities to implement similar strategies.

6 Interactive Participation in Watershed Governance

6.1 Public Participation Under an Undemocratic Regime

Public participation under an undemocratic regime is deemed problematic, since citizens and organizations are not thought to have sufficient power to challenge the government officials who make the final decisions. Appeals system can provide limited political participation for the layperson (Yongsheng 2004). However, the effectiveness of the appeals system depends on the willingness of higher-level authorities to place pressure on abusive or irresponsible local agents, and a term "managed participation" was coined to refer to the participation without liberty or rights (Yongsheng 2004).

Some researchers are much more optimistic about public participation in China, and they consider the current public participation form as "consultative authoritarianism (CA)" that describes the new relationship between the government and civil societies in contemporary China (Teets 2014). They find that local officials have sought to balance the observed benefits of civil society groups under the potential threat of social mobilization, encouraging the formation of autonomous groups while developing a system of positive and negative incentives to guide group activities in desired directions (Teets 2014).

However, the river director mechanism and watershed roundtable in Zhejiang Province show that participation is more than that predicted by Yongsheng (2004) and Teets (2014). At least in the context of watershed governance, the Green Zhejiang and the EPVSGL of Hangzhou City are, to a large extent, free to implement roundtables. Moreover, civic river directors actively participate in water quality monitoring, and therefore, local government officials have no choice but to respond, although civic river directors remain volunteers hired by local governments. The Green Zhejiang and the EPVSGL of Hangzhou City are also free to publicly criticize local government departments despite being closely linked, both personally and officially. Thus, interactive participation between civilians and the bureaucratic system appears to work in a special way.

6.2 Characteristics of Interactive Participation

Clean river water is a public good used by all stakeholders living near the river. Rivers often become polluted because of the social dilemmas of stakeholders, each wishing to take action but failing to do so because of opposition. Interactive participation is one possible method of overcoming such dilemmas. During interactive participation, all participants are, to a certain extent, free to express their opinions and give advice. There is no oppressive power placed on the participants. Journalists, experts, residents, volunteers, and environment activists are all free players, thereby offering balance to the systematic power of local governments.

Successful interactive participation can also meet the substantive needs of all stakeholders, acting as an effective tool to offset the shortcomings of a fragmented administrative system. Accordingly, this gives many officials of local government bureaus the incentive to improve performance though interactive participation. Furthermore, interactive participation can help deal with operational problems without conflict. Most stakeholders including the officials of local governments can adjust their behavior or policies at the operational level.

Nevertheless, the results of interactive participation remain uncertain. No tough constraints are placed on the behaviors of stakeholders, and thus, interactive participation remains an informal political process. The results depend on whether the

stakeholders can actively reach an agreement. However, this doesn't suggest a powerless system; in fact, by changing residents' behaviors, soft power may be more effective than hard power.

6.3 Factors Leading to Successful Interactive Participation

The river director mechanism and watershed roundtables illustrate successful interactive participation in specific situations. The following four factors are important in creating an interactive participation mechanism.

Factor 1: A Powerful Civil Society Organization
A civil society organization has no influence over local residents or local governments unless it has power. The Green Zhejiang has become the most influential environmental NGO in Zhejiang Province, while the EPVSGL of Hangzhou City has managed to enlist a large number of environmental volunteers. A powerful civil society organization has enough social legality to question government policies or the behaviors of certain enterprises.

Factor 2: Favorable Public Opinion
In recent years, environmental protection has become a consensus among the public. Most local residents, business owners, and government officials affirm the necessity to improve water quality, even though some of their benefits will be impaired. Interactive participation therefore means certain stakeholders having to change their behaviors. Without favorable public opinion, such stakeholders will not feel obligated to do so.

Factor 3: Partners in Mass Media
Mass media can amplify trivial problems into public issues. Throughout all of the "Our Water" roundtables, the TV station of Zhejiang Province remained a partner. By doing so, not only does it provide the studio with a program, but it also shows social responsibility. The TV station of Zhejiang Province is a public TV station, seen as a part of the government of Zhejiang Province. By broadcasting the statements made at roundtables, they can be somehow transformed into promises to the public. In the "Tie Sha River" roundtables, *Hangzhou Daily* newspaper was also an important partner, supporting their activities.

Factor 4: Needs of the Local Community
The most important factor is whether the watershed roundtable meets the needs of the local community. At the end of each watershed roundtable, local governments promise to implement a series of policies and plans. However, the attitudes of the local government also decide whether a watershed roundtable can be held within its jurisdiction. When a watershed roundtable is held, it suggests that the local government is willing to accept this new form of public participation.

7 Conclusions and Discussions

Due to rapid industrialization and urbanization, many rivers in Zhejiang Province have become highly polluted. Domestic garbage, wastewater from small manufactories, feces from pig breeding, and farm chemicals are the main sources. Watershed roundtable meetings can help encourage stakeholders to implement policies aimed at improving water quality. It is widely believed that multi-stakeholder roundtables will fail to become endogenous under the undemocratic regime; however, the "Our Water" watershed roundtables held by the Green Zhejiang and the "Tie Sha River" watershed roundtables held by the EPVSGL of Hangzhou City suggest otherwise that an environmental civil society organization can facilitate the resolution of complex environmental problems by bringing stakeholders together.

The implementation of the "Our Water" watershed roundtables and "Tie Sha River" watershed roundtables cannot be understood in isolation from supportive policies such as "Five Water Collaborative Governance" and the river director mechanism. These two series of roundtables show the emergence of a new form of participation other than "managed participation" and "consultative authoritarianism." These case studies also suggest that interactive participation between civilian and bureaucratic power can occur more frequently and be more effective than assumed until now. Originated as a product of "pressure system," river director mechanism represents a systematic up-to-bottom power. However, more and more local governments adopted measures encouraging coordination between official directors and civilian directors, volunteers, and residents. Watershed roundtables launched by environmental protection NGOs reflect the power of growing civil society. However, these environmental protection NGOs have to seek coordination and mutual understanding with the concerning local governments if they intend to promote the resolution of water pollution problems successfully. For this reason, interactive participation will be consequential resolution for diverse complex environmental problems faced by China, although most of the interactive participation will be implemented with some local characteristics of China.

Support from the TV station of Zhejiang Province was also essential in the success of the "Our Water" watershed roundtables, even though mass media prefers to report new and extraordinary events. When the enthusiasm of mass media fades, civil society organizations do not have sufficient resources to hold roundtables. In fact, the Green Zhejiang has not been able to hold a watershed roundtable since March 2015 and has no plans to do so without the cooperation of the local TV station. Similarly, all of the "Our Water" watershed roundtables were one-off events. Thus, although there are supervisory measures following a roundtable, no permanent institution exists.

Nevertheless, the "Tie Sha River" watershed roundtables were relatively independent and seemed to work in a sustainable manner, helping ameliorate the water quality of Tie Sha River. However, most of the discussion in these watershed roundtables focused on exchanging experiences between participants. Policy problems

were not discussed nor were any notable consensus aimed at changing the current situation reached. Thus, if the stakeholders of a watershed roundtable were to be organized into a permanent committee, one with a long-term action plan, they could go on to become a much more powerful interactive governance form, contributing to environmental protection.

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