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# Public protests against the Beijing–Shenyang high-speed railway in China



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## ABSTRACT

With the rapid expansion of the high-speed railway infrastructure in China, conflicts arise between the interests of local citizens living along the planned tracks and the national interests of governmental authorities and project developers. This paper addresses questions of why and how Chinese citizens mobilize for and participate in protests against high-speed railway projects and to what effect. To this end, a comprehensive study was conducted on the decision-making process, public opinions, and protest actions regarding the plans and site choices for the Beijing–Shenyang high-speed railway from 2008 to 2013, combining quantitative and qualitative methods. In general, local residents are supportive of high-speed railway project construction, but they contest the closed decision-making process and the poor design and siting choices for the track by governmental authorities and companies. After four years of resident protests through formal complaints, lobbying, protest demonstrations, organizing alternative opinion polls, and discussions with authorities, citizens were partially successful in changing the siting of the track, adding protective measures (e.g., tunnels and sound screens), and saving green belts. Two conclusions can be drawn from this case study. First, regardless of the growing legal requirements, public participation in major projects in China is far from a standard practice. Final citizen participation is often preceded by serious conflict. Second, with defined good governance boundaries, there is increasing room for public participation in environmental movements, which does influence final decisions.

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## Introduction

High-speed railways (HSRs), with an average speed above 200 km/h, were developed more than fifty years ago, first in Japan in the 1960s, then in France in the 1980s, and later in Spain, Germany, the UK, the US, China, and other countries. Ever since the birth of high-speed railway, public concerns and protests have emerged in almost all countries along the tracks of high-speed rail. These actions focused especially on the intrusion into local communities, engineering and financial risks, significant land-use changes with consequences for landscapes and biodiversity, top-down planning with limited or no possibilities for participation and co-decisions, and environmental and human health consequences of HSR operation (Schaap, 1996; De Carlo, 2006; Della Porta and Piazza, 2007; Marincioni and Appiotti, 2009; Fedi et al., 2012; Novy and Peters, 2013;

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Teo and Loosemore, 2014). These concerns and organized protests of local citizens and residents have caused significant delays and overspending, following lengthy procedures and additional infrastructure requirements (Lastrico, 2012). However, in many countries, policy-makers, infrastructure planners, and construction companies have learned how to cope, address, and partly prevent the concerns, protests, and distrust of local citizens and communities during the planning, implementation, and operation of high-speed railways (Cascetta and Pagliara, 2013; Kaufmann et al., 2008; Leheis, 2012; Rozema et al., 2015). Over the last decade, we have seen extensive efforts from authorities, including information provisions; public consultations; broader and more institutionalized involvement of citizens, communities, and NGOs; institutionalization of environmental dispute resolution; and the development and implementation of multiple alternative trajectories and costly plan adaptations (Della Porta and Andretta, 2002; De Carlo, 2006; Marincioni and Appiotti, 2009).

China started construction on HSR a decade ago, with large investments in and the rapid expansion of high-speed railway transport infrastructure for economic and regional development. The 12th Five-Year Plan (2011–2015) formulated a target of 40,000 km of fast-speed railway track by 2015. However, the July 2011 Wenzhou high-speed train incident shook public confidence in the HSR system. It resulted in the subsequent prosecution for corruption of top railway officials, a substantial revision of planned expenditures, and the temporary suspension of the construction of new rail building. In response to fraud and wasted funds, the State Council carried out an institutional reform on March 10, 2013. The reform dissolved the former Ministry of Railways (MOR) and its duties were taken up by the Ministry of Transport (MOT, developing plans and policy), the State Railways Administration (SRA, for technical standards and safety inspection), and the China Railway Corporation (CRC, for construction and management of services). Despite these medium-term difficulties, the long-term fundamentals of high-speed railway development in China appear unchanged. As of December 2013, China has the world's longest HSR network with 11,000 km of routes in service. By April 2014, the China Rail Sector raised the fixed asset investment budget for rail for 2014 to RMB 800 billion (129 billion US dollars) and increased the number of projects from 44 to 64.

More recently, in China, not unlike other countries, environmental and health consequences and impacts of HSR have begun to appear on public and policy agendas (Chen et al., 2007; Zhang, 2010). Environmental problems and HSR project non-compliance have caused government reactions. Between 2010 and 2012, the Ministry of Environmental Protection (MEP) suspended the construction and operation of 13 high-speed lines that failed to pass environmental impact assessments (EIA) (Yan and Wang, 2012). In August 2012, the National Development and Reform Commission (NDRC) promulgated the *Interim Measures on the Social Stability Risk Assessment of Major Fixed Assets Investment Projects*, where all projects were classified as having high, medium, or low risk levels, and only projects with low risk could receive approval by the NDRC. Increasingly, the Chinese government was also confronted with citizen protests on high-speed railway systems, such as in Shanghai (2008) and in Chengdu (2009) (He et al., 2015), with the media reporting on citizen protests (Li et al., 2012a, 2012b; Liu et al., 2010). China is only just starting to learn how to cope with environmental protests against infrastructural projects through experimenting with citizen consultation, participation, and wide-spread, two-way information provisions (Kostka and Mol, 2013; Lorentzen, 2013; Zhao, 2010).

Currently, public environmental activism is emerging in China regarding various environmental concerns. Citizen concerns and protests regarding the planning and siting of Chinese high-speed railways are rarely studied. This paper addresses questions of why and how Chinese citizens mobilize for and participate in protests against high-speed railway, and to what effect. To this end, a comprehensive study was conducted of the decision-making process, public opinions, and protest actions regarding the plans and siting choices for the Beijing–Shenyang high-speed railway (abbreviated as Jingshen HSR) from 2008 to 2013, combining quantitative and qualitative methods. This study contributes to our still limited understanding of the nature, scope, and form of environmental activism in contemporary China. The next section introduces Chinese environmental participation and protest against the background of international literature on this issue. Section 'Research methods' reports on the research methodology. Section 'The politics of the Jingshen high speed railway' examines the politics of decision-making and protests against the Jingshen HSR, followed by an analysis of the public motives for and participation in protesting. The final section presents the conclusions.

## Environmental participation and protests in China

Public participation, or stakeholder participation, is the process where stakeholders are involved and included in decision-making processes so that their concerns, needs, and values are taken into consideration in the result (Cascetta and Pagliara, 2013). Public participation is a two-way communication and interactive process where information and viewpoints are exchanged between stakeholders and formal decision-makers. The goal of participation is to achieve a transparent, balanced, and widely supported decision through greater input from stakeholders. In China, the often criticized Decide–Announce–Defend (DAD) approach to infrastructure policies and projects, which lacks participation, still prevails (Shan and Yai, 2011). However, room for hearing concerns, anxieties, and complaints and for individual and collective protests has expanded over the last decade, especially with respect to environmental issues (Wu, 2013; Johnson, 2013; He et al., 2014; Ren and Shou, 2013). The Chinese government is slowly starting to implement public participation as a governance principle and formulating laws and regulations accordingly (He et al., 2013; Zhang et al., 2013). According to the EIA Law 2003 (e.g., Article 5), the public can participate in environmental issues at three different stages of such infrastructure projects. Before decisions are made, the public (including experts, industrial representatives, and NGOs) should be given the opportunity to participate in EIAs through a questionnaire organized by the project developer, a public hearing (Article

11 of the EIA law), and by submitting their comments on the EIA during a publicly announced period. Second, when making environmental decisions, the public can participate formally via their representatives in the National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC) at various levels. Finally, when decisions have been made and environmental impacts are actually occurring, the public can voice their grievances by suing polluters in court. Less formalized forms of participation during all three stages are available by sending complaints to environmental authorities through old and new media (via letters, the Internet, or a personal visit) or through what Chinese officials call "mass incidents" (public demonstrations, protest meetings, occupations of land, etc.). More recently, citizen environmental participation rights found a sound legal basis in the 2014 Environmental Protection Law, with an entirely new chapter on information disclosure and participation of citizens in environmental governance (Zhang et al., 2015). The latest Measures for Public Participation in Environmental Protection (enacted on September 1, 2015) defined the principles and approaches of participation, rights obligations, and responsibilities of the main parties, and supporting measures. However, the detailed procedures for public involvement in environmental decision-making are still not fully defined and operationalized.

While the political opportunities for citizen participation in environmental decision-making seems to be increasing, actual practices show that these participation options are often not fully permitted and are not implemented by (local) governmental authorities (Young et al., 2015). Public involvement in development planning has faced widespread suspicion because it tends to go against the long entrenched bureaucratic culture of China's authoritarian state. The benefit of and need for public participation in policy-making and project planning is often not fully recognized, especially by local officials (Xu and Ding, 2005). Limited forms of participation being implemented in many regions follow from the assumption that the public still lacks the knowledge and capacity to participate in policy formulation and decision-making. Such an assumption has led to government- and expert-dominated environmental decision-making processes. In the planning process, it is common practice of project managers to seek the opinions of a few experts rather than the opinions of the public (Zhao, 2005). Some experts have analyzed the barriers of effective public participation in China's environmental management, pointing to an economic-oriented development mode, the government-dominated socialist ideology, and the Chinese traditional culture. Public participation in transportation planning cannot yet be considered a consolidated, successful, and fully shared practice in any stage of the transportation planning process. Shan and Yai (2011) indicated that the factors determining public involvement in infrastructure planning include geographical distribution, economic development level, city size, and the national and/or local regulations, of which the first two are considered the most important.

In the transition toward a socialist market economy, decentralization of decision-making has given the local government greater freedom and incentives to meet social and public needs. By the same token, citizens are becoming more aware of and vocal on developments affecting their quality of life. The rise of a well-educated middle class, including people in private business, legal scholars, and social elites, has strengthened demands for public participation in governmental policy and decision-making processes. Increasing environmental infringements, increased environmental information disclosure and accessibility (also through the Internet), and growing legal provisions for participation have increased the opportunities for environmental activism and protests in China (Ren et al., 2015). The construction of infrastructure often leads to conflicts between local communities on the one hand and the project implementation organization and higher-level authorities on the other, resulting in protests and the cancelation or postponement of the project. Several cases of public opposition to infrastructure projects have been reported, such as projects involving nuclear power, large and small chemical plants, waste incinerators, land requisition, and wind power (Guo et al., 2015; He, 2006; He et al., 2013; Li et al., 2012b; Liu et al., 2010; Sun, 2015; Tang et al., 2008; Zhang et al., 2016). Previous studies argued that many factors could affect public resistance or acceptance of infrastructure projects. These factors included public attitudes toward environmental issues, perceived interests, direct economic benefits, public perception of the environmental, economic, and social risks, general knowledge about the issue and the project, environmental costs, and trust in the government and related corporations (He et al., 2013; Mu et al., 2015; Shi et al., 2015). One of the greatest obstacles to overcome these factors is the public's low level of public access to relevant information and decision-making (Mol et al., 2011; He et al., 2015; Hsu et al., 2012). Empirical evidence suggests that sufficient and reliable information and two-way communication (between the government and communities) would build citizen trust in governmental agencies, which could enhance public participation in and acceptance of programs and projects (Sun, 2015; Yang et al., 2014; Yuan et al., 2011).

## Research methods

### Theories and framework

Based on empirical studies from Western countries, a range of theories and concepts has been developed over the last fifty years to explain how and why individuals and communities engage in collective action or protests, such as crowd behavior theory (Le Bon, 1960), collective action theory and "free-riding" behavior (Marwell and Oliver, 1993), resource mobilization theory (e.g. Dalton et al., 2003), political process theory (e.g. Klandermans and Staggenborg, 2002), new social movement theory (Diani and Donati, 1999), political opportunity (structure) (Rootes, 1998), and social contagion theory (e.g. Scherer and Cho, 2003). Not all of these frameworks are equally useful and relevant for understanding participation in environmental protests in contemporary China. From the emerging literature on Chinese environmental protests, we learned that, compared to Western countries, in China, participation in environmental decision-making is organized differently, civil society

is mobilized and organized differently, and the rules and resources for protesting by individual and collective actions differs (Zhao, 2010; Li et al., 2012a, 2012b; Lorentzen, 2013; He et al., 2012; Johnson, 2013; Wu, 2013). In this context, several questions need discussion: how to engage the public in the early stage of the planning process; how to provide qualitative, solid, and well-documented input in the planning process; how to make the process dynamic and flexible and independent of any specific (predetermined) planning option; and how to harness the resources that non-governmental actors might bring in identifying environmental challenges and assisting government in improving environmental performance?

Hence, in our investigation of participation and protests surrounding HSR decision-making, we loosely apply concepts of resource mobilization, political opportunity structure, and efficacy on motivation, resources, and opportunities for (participation in) protests to empirically investigate why and with what resources Chinese citizens participate in protests against HSR decision-making, and estimate the efficacy of these public actions. First, we analyzed the decision-making process of the Jingshen HSR in detail to see how stakeholders communicate and interact with each other. Second, a public questionnaire survey and interviews with different actors were conducted to discover the factors determining public involvement in opposition to the siting and construction of this HSR project. Understanding the challenges in making such a change can provide a basis for strengthening measures designed to advance participation in addressing wicked environmental policy issues.

### Study area

According to the *Medium- and Long-Term Railway Network Plan 2005–2020* (approved in 2004 and revised in 2008), the government will build a grid of HSRs with four east–west lines and four north–south lines. The Jingshen HSR (see Fig. 1) was listed as one of the four north–south railway lines (Beijing–Harbin HSR). The Jingshen HSR line will relieve a significant bottleneck in China's public transportation network between China's Northeast region and Beijing. Construction was supposed to have started in 2010 but was delayed repeatedly until March 2014 because of protests by residents along the planned route, especially of those residents close to and in Beijing. Many Beijing citizens along the track resisted this HSR because of environmental and health impacts such as loss of green space, noise, electromagnetic radiation, and vibrations. The public protests have resulted in several safety reviews, line changes, and EIA report rejections by the MEP. The Jingshen HSR was selected as a case study.

This track passes through one municipality and two provinces (Beijing, Hebei, and Liaoning) and has a total length of 698 km. Travel time between Shenyang and Beijing will be reduced from 4 h to 2 h and 17 min, at a speed of 350 km/h. The one-way planned transmission capacity is 60 million persons per year. The total investment budget in track construction is 124.5 billion Yuan (approximately 20 billion US dollars), which comes from the CRC, local governments, and bank loans. The CRC, Beijing, Hebei, and Liaoning have set up a joint venture as the legal entity responsible for project construction management. The provincial and municipal governments along the line were responsible for land acquisition, relocation of people, and land clearance within their respective jurisdictions.

### Data collection and analysis

To study the public support for and protests against the Jingshen HSR, a mixed-method approach was employed, combining qualitative and quantitative research. We performed a media and literature search, performed ten semi-structured, in-depth interviews with different stakeholders, and conducted a survey among 450 residents selected randomly from different multistory buildings in eight Beijing communities along the Jingshen HSR line.

The questionnaire design was pre-tested in three rounds of face-to-face interviews with 10 experts and 15 local residents in September and October 2013. The final questionnaire was organized in three sections: (1) socio-demographic characteristics of the interviewees; (2) information access, public perception on and attitudes toward HSR environmental impacts and stakeholders' involvement; and (3) public participation and protest. The survey was conducted in November and December

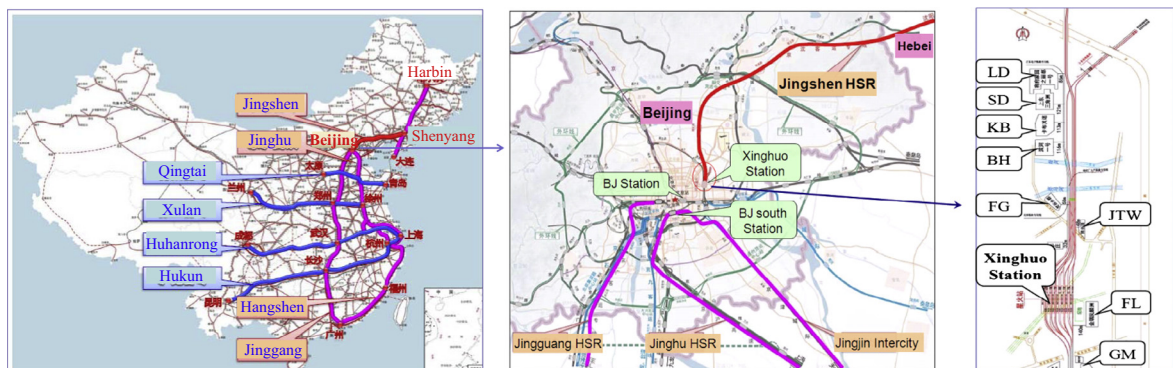


Fig. 1. The Beijing–Shenyang high-speed railway and surveyed communities in Beijing.



2013 via face-to-face interviews by 16 interviewers in eight communities of the Chaoyang District, Beijing (Fig. 1). A total of 430 valid questionnaires were returned (response rate of 95%). Table 1 shows the social and demographic information of the respondents. SPSS was used for statistical analysis of the survey data. Based on existing studies, we defined independent variables (gender, age, employment, education level, and income) and dependent variables. Our hypothesis was that the respondents' social-demographic characteristics such as gender, age, education level, and income affect attitudes toward HSR effects, as well as motives for and participation in protests. Descriptive statistics and correlation analysis were applied to analyze the perceptions of and attitudes towards the decision-making process of the HSR project, as well as the motives and actions regarding the protests.

The qualitative study included in-depth, semi-structured interviews with 10 stakeholders by the first author, including national and local officials, a company designer, and staff members from a resident committee, an environmental expert, a real estate broker, protesters, and non-protesters. After consent, each interview lasted 1–1.5 h and was recorded through field notes. Interview topics were developed in relation to the primary research questions, including HSR planning and siting, the EIA process and reports, information disclosure, communication between the government/companies and the public, and public participation in protests and decision-making. In addition, we analyzed documents relating to the Jingshen HSR plans and the relevant EIA reports.

## The politics of the Jingshen high speed railway

### Decision-making for the Jingshen HSR project

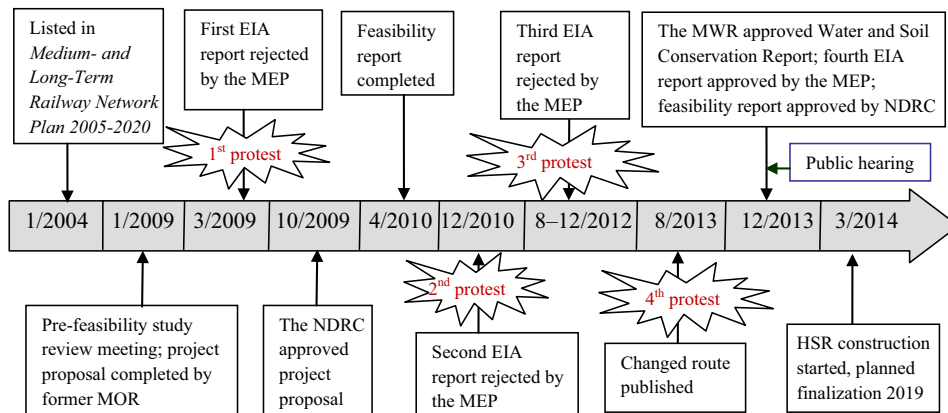
China's HSR program has a top-down decision-making process that is dominated by governmental agencies and the state-owned design institute, with rare involvement from the public. Several government agencies play a role in planning and approving HSR projects. The State Council is the leading organization for strategic policies and planning of HSR development. The powerful NDRC is responsible for drafting the national HSR development plans, while the former MOR (before March 2013), now the MOT (after March 10, 2013), plays a major role in implementing HSR plans and defining the appropriate HSR construction projects. The CRC carries out the construction and management of HSR services. The MEP and Ministry of Water Resources (MWR) are responsible for reviewing and approving EIA reports and the Water and Soil Conservation Scheme (WSCS), respectively. Local governments and their planning agencies must approve the siting and line schemes in their jurisdictions.

The Jingshen HSR project took approximately five years from planning to construction. According to the *Regulations on Capital Construction Project Procedures* of 1978, a large HSR project should include seven stages: preliminary feasibility study, feasibility study, investigation and design (initial design and detailed diagram), the preparatory work for construction, construction, completion and acceptance, and post-evaluation. As Fig. 2 shows, the Development and Planning Division of the (former) MOR issued a notice on the preparation of the Jingshen HSR in 2008 and conducted the pre-feasibility study review in January 2009.

The draft feasibility report, submitted to the NDRC in 2009, proposed three options for the Beijing section of the Jingshen HSR line (Fig. 3). The departure location was always set to be at the Beijing Railway Station. Option one and two went north and then turned east through Xinghuo, Miyun District to Xinglong along the Jingsheng highway and along the Jingmi highway, respectively. Option three went east through Tongzhou, Pinggu to Xinglong. The former MOR preferred either of the first two options, while the Beijing Municipal Commission of Urban Planning (BMCUP) preferred the third option. From an environmental and health perspective, all three options go through densely populated areas and drinking water protection areas with severe noise, vibration, and ecological impacts. After negotiations between the MOR and BMCUP, and after comparing the technical, economic, and environmental impacts, the BMCUP approved the first option in its *Opinions on the Pre-feasibility Study of the Beijing–Shenyang Passenger Railway* (No. 1809, 2009) and clarified the siting plan. The NDRC approved the proposal in March 2009. The 3rd Railway Survey & Design Institute (RSDI) was the responsible agency for the engineering design, EIA, and WSCS of the Jingshen HSR. Liaoning Co., Ltd. and Jingshen-Jingji Passenger Line Co., Ltd. were

**Table 1**  
Social and demographic background of the respondents ( $n = 430$ ).

| Item       | Sub-group                            | Percent | Item                             | Sub-group                 | Percent |
|------------|--------------------------------------|---------|----------------------------------|---------------------------|---------|
| Gender     | Male                                 | 51.2    | Education                        | Middle school and below   | 18.4    |
|            | Female                               | 48.8    |                                  | High school               | 16.3    |
| Age        | 18–34                                | 29.1    |                                  | College and University    | 53.1    |
|            | 35–59                                | 57.6    |                                  | Graduate school and above | 12.2    |
| Employment | 60 and more                          | 13.3    | Households with children         | Yes                       | 55.8.   |
|            | Government                           | 10.4    |                                  | No                        | 44.2    |
|            | Research institutes and universities | 22.7    | Monthly income per person (Yuan) | Up to 5000                | 25.4    |
|            | Enterprise & business                | 34.3    |                                  | 5001–10,000               | 35.2    |
|            | Agriculture                          | 12.7    |                                  | 10,001–20,000             | 21.2    |
|            | Retirement                           | 13.1    |                                  | 20,001–30,000             | 11.7    |
|            | Self-employed                        | 6.8     |                                  | More than 30,000          | 6.5     |



**Fig. 2.** The decision-making process and public protests regarding the Beijing–Shenyang HSR. Abbreviations: Environmental Impact Assessment, EIA; Ministry of Environmental Protection, MEP; Ministry of Railway, MOR; Ministry of Water Resources, MWR; National Development and Reform Commission, NDRC.



**Fig. 3.** Three proposed options of the Beijing–Shenyang high-speed railway.

established in 2009 and 2010 as the companies responsible for constructing the sections in Liaoning and Beijing–Hebei, respectively.

This proposed track would go through 34 neighborhoods consisting of over 100,000 citizens in Chaoyang District, Beijing. The distance between the track and residential buildings would be 20–100 m. Construction of the Jingshen HSR was proposed to start in 2010 and be completed in 2012. However, the feasibility studies, especially the EIA reports, were considered unacceptable by Beijing citizens and were rejected frequently by the MEP (see below). After more than four years of intense controversy, debates, and public protests, the construction plan was finalized and approved in December 2013. The total investment reached 124.5 billion Yuan (approximately 20 billion US dollars), much more than the initial budget in 2009 (70 billion Yuan, approximately 11 billion US dollars). Construction of the Jingshen HSR began in March 2014 and the line is planned to be in operation in 2019.

#### *The development of public reactions*

The siting of the Jingshen HSR project encountered fierce public debate and objections in Beijing. After 2009, tens of thousands of residents along the track conducted four (massive) protests that delayed HSR construction for four years (Table 2). From March to May 2009, dozens of residents in Jinyu (JF), a neighborhood close to the Jingshen HSR, took part in the first protest. After the initial feasibility study, the first EIA report was drafted by the 3rd RSDI and the abstract was published through an unpopular EIA participation website at the beginning of 2009. In a one page summary, the general background of the project was introduced with only two sentences, while specific engineering schemes, environmental impacts, and

**Table 2**

Profiling the public protests against the Jingshen HSR in Beijing.

| Time                     | Actors & media   | Key controversies  | Public actions   | Government responses   | Outcomes  |
|--------------------------|--|--|--|--|---|
| March–May 2009           | <ul style="list-style-type: none"> <li>Residents in a new JF neighborhood</li> <li>The 3rd RSDI</li> <li>MEP</li> </ul>  | <ul style="list-style-type: none"> <li>The distance is very short between the neighborhood and the track</li> <li>The EIA report summary was insufficient</li> </ul>   | <ul style="list-style-type: none"> <li>Letters of complaint</li> </ul>   | <ul style="list-style-type: none"> <li>Open information was not available</li> </ul>   | <ul style="list-style-type: none"> <li>The MEP rejected the 1st EIA report</li> </ul>   |
| December 2010–March 2011 | <ul style="list-style-type: none"> <li>Approximately 400 residents in a JF neighborhood</li> <li>3rd RSDI</li> <li>MEP</li> <li>Nine media sources, such as the China Environmental News</li> </ul>  | <ul style="list-style-type: none"> <li>Xinghuo Station was only 100 meters away from JF and occupied its greenbelt</li> <li>The public was concerned with environmental impacts</li> </ul>   | <ul style="list-style-type: none"> <li>Joint public petition letters</li> <li>Public petition letter via the Internet</li> </ul>   | <ul style="list-style-type: none"> <li>Former MOR, Jing-Ji Special Preparatory Group (JSPG), 3rd RSDI and the related Beijing agencies optimized the line scheme</li> </ul>  | <ul style="list-style-type: none"> <li>The MEP rejected the 2nd EIA report</li> <li>Jingshen HSR project temporarily halted</li> </ul>  |
| June–December 2012       | <ul style="list-style-type: none"> <li>Over 100 thousand residents in 34 neighborhoods</li> <li>The 3rd RSDI</li> <li>National ministries such as MEP, the former MOR, and MWR</li> <li>JSPG</li> <li>Relevant governmental agencies in Beijing, such as BMCUP, BMCHUD, Beijing EPB, and the Chaoyang District Government (CDG)</li> <li>Various media: at least 27 newspapers, 53 websites, QQ groups, the telephone, blogs, and Internet forums</li> </ul> | <ul style="list-style-type: none"> <li>The proposed track was close to neighborhoods. Environmental impacts would affect public health</li> <li>High public support rate (94.8%) that the 3rd EIA report was not reliable</li> <li>Distance between the route and residential building is not shown correctly</li> <li>Incorrect procedures for the EIA publicly announced were adopted</li> </ul> | <ul style="list-style-type: none"> <li>Letters of complaint</li> <li>E-mails</li> <li>Phone calls</li> <li>Web forums</li> <li>QQ groups</li> <li>Micro blogs</li> <li>Plea to the BMCUP</li> <li>Signatures for a re-survey of the EIA</li> <li>Organized a voluntary Gaotie Weiquan Union</li> <li>Demonstration (more than 1000 residents)</li> </ul> | <ul style="list-style-type: none"> <li>The BMCHUD and CDG organized three coordination meetings</li> <li>Former MOR and five Beijing agencies jointly discussed and confirmed the HSR siting plan</li> <li>The MWR approved WSCS</li> <li>The 3rd RSDI optimized the line</li> <li>The BMCUP and Beijing EPB replied officially to the public complaints</li> <li>The JSPG organized two meetings with representatives</li> <li>The MEP published the first full EIA report available to public</li> <li>The BMCUP communicated with some representatives</li> <li>The staff of the former MOR met with five resident representatives</li> </ul> | <ul style="list-style-type: none"> <li>Residents were not satisfied with the responses of the governmental agencies and negotiation results</li> <li>The MEP rejected the 3rd EIA report</li> </ul>             |
| August–December 2013     | <ul style="list-style-type: none"> <li>Over 10 thousand residents in 6 communities</li> <li>3rd RSDI</li> <li>MEP, NDRC, CRC</li> <li>JSPG</li> <li>BMCUP, Beijing EPB, CDG, and township governments</li> <li>Various media: 12 newspapers, 60 websites, QQ groups, and Internet forums</li> </ul>  | <ul style="list-style-type: none"> <li>Residents are not satisfied with the optimized Jingshen HSR line</li> <li>The revised HSR still caused environmental and health effects on nearby residents</li> <li>Residents appealed for a complete revision of the Jingshen rail line</li> </ul>  | <ul style="list-style-type: none"> <li>Petition letter to the MEP</li> <li>Four face-to-face meetings</li> <li>Submitted 1035 comments to BMCUP</li> </ul>   | <ul style="list-style-type: none"> <li>The CRC, BMCUP, and 3rd RSDI announced the optimized program</li> <li>Jing-Jin-Ji Company, 3rd RSDI, Beijing EPB, BMCUP, and the CDG organized four meetings</li> <li>The 3rd RSDI published the 3rd EIA report</li> <li>The BMCUP publicized the optimization scheme, invited public comment, and responded to public suggestions</li> <li>The MEP held a hearing on the new EIA report</li> </ul>   | <ul style="list-style-type: none"> <li>The MEP approved the 4th EIA report</li> <li>NDRC and CRC approved the feasibility study report</li> <li>Construction began on the Jingshen HSR in March 2014</li> </ul> |



preventive measures were not mentioned at all. At that time, few people knew of this project and obtained information on the first EIA report summary. The JF neighborhood is one of the dozens of communities near the proposed Jingshen HSR. Some residents of JF found that the proposed HSR was very close to their homes and would occupy part of the green space. They worried about the reduction of public space in the neighborhood and the short distance between their homes and Xinhua Station. Other residents were concerned over being uninformed about the EIA and project decisions. The residents sent five written complaints to several governmental agencies including the MEP. Finally, the MEP rejected the EIA report for reasons of superficial and incomplete environmental impact assessment information, failure to disseminate information, and lack of public participation.

From December 2010 to March 2011, approximately 400 residents in the JF neighborhood participated in a second protest against the HSR. In the second EIA report summary made public to the residents, information was available on the introduction of the project (place, time, railway stations, investment amount, and options), key environmental impacts, environmental protection measures, and preliminary evaluation findings. Because of the low rate of HSR support in Beijing, the former MOR, the Jing-Ji Special Preparatory Group (JSPG), the 3rd RSDI, and the related Beijing agencies optimized the line scheme and designed a number of environmental protection measures, such as 3 km of sound-proof shields, reduced train speeds of 80 km/h in Beijing, relocation of Xinghuo Station outside the greenbelt of JF, and building an 8.7 km tunnel to prevent land use impacts in Huanggang village. However, the JF residents worried about the impacts of noise, vibration, radiation, and the loss of green space in the neighborhood. Additional concerns were related to the safety of above-ground and underground facility construction, land pollution, air pollution, and waste. Along the entire line in the two provinces, about 6% of the residents opposed the Jingshen HSR and in Beijing even 24%, according to the second EIA report. Opponents submitted petition letters to the 3rd RSDI, the NPC, the State Council, the CPPCC, the NDRC, the MEP, the Ministry of Health (MOH), the Beijing Municipal Government (BMG), and the BMCUP on December 17, 2010. Netizens posted the petition letter to the 3rd RSDI on the Internet (on the forum of the People's Website, <http://www.people.com.cn/>). The MEP also rejected the second EIA report, as it found the report incomplete and the complaints of JF residents justified. On July 23, 2011, two high-speed trains collided in Wenzhou, Zhejiang province. It was the first fatal crash involving HSRs in China (at least 40 people died and 192 were injured). The accident had a profound impact on the development of HSRs in China (Fan et al., 2015). The train crash sparked public anger over the safety of high-speed trains in China. Public confidence in HSRs eroded, leading to lower number of passengers. In response to the accident and public concern, a comprehensive railway safety review was conducted, operation speeds of major HSR lines were reduced, the top official in the MOR was fired, and construction of several high-speed rail lines was temporarily halted. The Jingshen HSR project was also shelved temporarily after the "7/23" Wenzhou train incident.

Between July 15 and 25, 2012, the 3rd RSDI conducted a public survey in 34 residential communities of Chaoyang District, Beijing. The results showed that 94.8% of the 2782 interviewed residents supported the Jingshen HSR construction. The invitation for public comments on the third EIA report was published in the daily Beijing Evening News and the Beijing News on August 15, 2012. The MEP (2012) publicly released the full third EIA report of the Jingshen HSR on November 16, 2012. The third EIA report provided details on the project overview, line engineering selection and optimization measures, environmental impacts and projected preventive measures, and public participation and support. Beijing residents criticized the high rate of public support of the EIA because pollsters only surveyed on the installation of sound-proof shields. Over ten thousand residents discussed the Jingshen HSR environmental impacts through Internet forums, QQ groups (QQ, similar to Facebook in Western countries, is an instant messaging software service developed by a Chinese company), and micro-blogs, and then asked for revisions. A rerouting suggestion was developed during brainstorming discussions. From August 2012, opponents filed complaints to the national and Beijing governmental agencies (the NDRC, the MEP, the former MOR, the JSPG, the Beijing Municipal Government (BMG), and four related agencies) in the form of letters, E-mails, and phone calls. Activists in five neighborhoods organized the collection of signatures for a petition to redo the EIA and collected public opinions on the Jingshen HSR. In 14 neighborhoods, residents organized a new, voluntary action organization, the Gaotie Weiquan Union (a group protecting and defending citizen rights not to be affected by the high-speed railway). More than 50 resident representatives of the Union held a meeting to call for residents' opinions and organized opposing actions such as Internet appeals, letters of complaint, and a demonstration. On November 29, dozens of residents went to the BMCUP and waved banners with their requests. Over 1000 largely middle-class protesters (mostly young people) from sixteen neighborhoods along the planned track held a peaceful demonstration on December 9, 2012. They opposed the siting plan of the Jingshen HSR and the fraudulent EIA public survey and asked for the relocation of the Jingshen rail line outside their neighborhoods and to move the station outside the 5th ring road to a less populated area. The national and Beijing governmental agencies held many meetings and communicated often with representatives of the residents. However, an agreement was not reached and the residents did not consider the communication process and results to be satisfactory. For example, MOR staff addressed residents in a friendly manner, but they avoided discussing core controversies such as revision of the Jingshen HSR siting and preventive measures for the environmental impacts. Overall, compared to the second round of protests, the action repertoire of the protesters broadened. Residents began collecting "real" opinions of citizens, complaining to governmental agencies, disseminating information to neighboring communities, mobilizing citizens, and finally organizing a collective demonstration on December 9, 2012. The third EIA report was rejected by the MEP in January 2013 because of the growing and constant complaints and protests of more and more residents in communities along the Jingshen HSR.

After the third rejection of the EIA report, the responsible governmental agencies and the 3rd RSDI attempted to further intensify communications with the residents. On July 30, 2013, a proposed public meeting with a residential committee was

temporarily delayed. On August 9, the 3rd RSDI published the fourth EIA report and a revised Jingshen HSR siting plan. The section between the Beijing Railway Station and the Xinghuo Station was cancelled. Xinghuo Station became a new starting point and six new environmental protection measures were proposed. This significantly reduced the number of affected Beijing residents living along the train track. Still, over 10 thousand residents in six neighborhoods live along the train track north of Xinghuo Station. These residents remained concerned about environmental and health effects. They claimed that the aim of the revision was only to get EIA approval and less about reducing impacts. These residents appealed and proposed the following three additional changes to the Jingshen rail line: (1) locating the starting station outside the fifth ring road; (2) relocating the HSR line outside densely populated areas (with a minimum distance of 200 m from houses); and (3) if the first suggestion proved impossible, the construction of an underground track between Xinghuo Station and the fifth ring road. More than 300 opponents sent a petition letter to the MEP on August 5, 2013. Government representatives attended four face-to-face meetings in different communities, where residents submitted 1035 suggestions/adaptations to the Jingshen HSR plan publicized by the BMCUP. However, the BMCUP refused to revise further the Jingshen HSR plan. After a public hearing, the MEP finally approved the fourth EIA report of the Jingshen HSR on December 4, 2013, and construction of the Jingshen HSR started in March 2014. In the approved EIA report, Xinghuo Station was defined as the starting point of the Jingshen HSR and the option one (see Fig. 3) was adopted. The track between the Beijing Railway Station and Xinghuo Station was cancelled in order to avoid impacts on more than 100,000 people living close to the line.

#### Public engagement and stakeholders' communications in the protests

According to the available data, the first two protests were not very well known to the general public and were not reported by the relevant media (Fig. 4). Only residents of one directly affected neighborhood took part in the protests. The MEP, the 3rd RSDI, the MOR, and the JSPG had limited communication through letters and face-to-face meetings with the residents.

The third protest was the most influential in terms of the number of neighborhoods involved in the protest (34), participants directly involved in the protest (about 2000), the number of governmental agencies and companies directly engaged in meetings with the residents (17), and the number of newspapers and websites that reported on the Jingshen HSR and related public protests (83). Governmental organizations and opposing citizens held eight face-to-face meetings, resulting in a better understanding of mutual opinions. The public used a demonstration to show their disagreement with the inertness of governments and companies.

During the fourth and final protest, the number of participating neighborhoods and protesters, and reporting of the protests in newspapers and on websites decreased. The number of discussions, meetings, and communications between governmental agencies/companies and the public were also reduced.

#### Participants, attitudes, and motives regarding the Jingshen HSR protests

How could decision-making on the Jingshen HSR become so difficult, resulting in such a long delay and so much protest? One of the main factors was the diverging concerns of the primary actors. This was most notable in the form of the authorities in charge of the HSR planning and siting ignoring the concerns of Beijing citizens living along the track. Social acceptance is a major institutional risk in large infrastructure projects. The level of social acceptance of infrastructure projects depends on how the benefits to and impacts on stakeholder groups are influenced by the project design from a long-term perspective (Miller and Lessard, 2001; Yuan et al., 2011). Decision-makers need not only balance the development rights and interests at the national and local level, but they should also consider public opinion and interests such as private

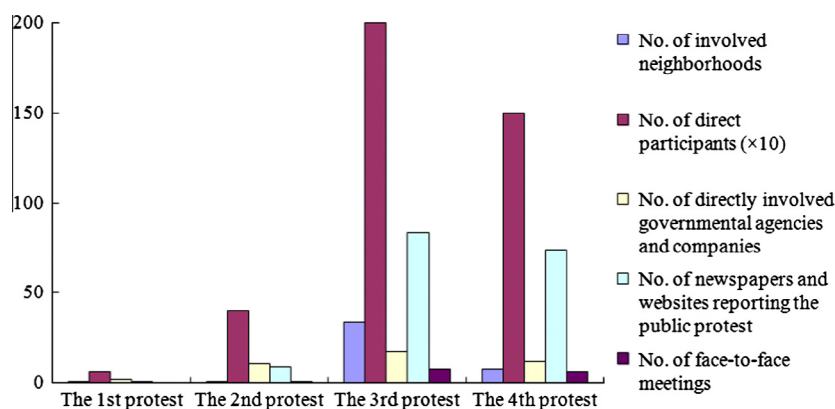


Fig. 4. Resident involvement and communications in public protests against the Jingshen HSR.

economic benefits (e.g., house prices and land occupation compensation), equity issues, and the environmental and health impacts of proposed projects (Mu et al., 2015; Shan and Yai, 2011).

In-depth interviews with governmental representatives at the national and local level showed that they were preoccupied with the success of Jingshen HSR construction, both for the country's economic benefits and for their personal careers. Of these agencies, only the MEP showed a broader interest in the environmental and health side effects of the HSR. Design and construction companies and their managers primarily focused on costs, budget, technological feasibility, engineering schedules, as well as changing state policies. Investors—both national and local—were interested in opportunities to invest and economic profits. Infrastructure projects have been a favored target of many investors because of high rates of return on these investments in China. Very few of them actually focused on the local side effects for citizens living along the planned HSR track. Hence, initially, little effort was put toward increasing involvement of local citizens in the decision-making process.

#### Public attitudes towards Jingshen HSR impacts and decision-making

The history of environmental conflict shows that public support for projects with potential environmental change is determined not only by the perceived effects, but also by the decision-making process and by communication strategies (Buijs, 2009; Lewicki and Gray, 2003). Residents in the communities affected by the HSR track were not uniform in their attitudes towards the construction of the Jingshen HSR. Our survey results are shown in Fig. 5. Almost 63% of the Beijing respondents valued the regional economic benefits of the Jingshen HSR construction. About 25% of the respondents believed that the planning and siting process for the Jingshen HSR was based on a sound scientific investigation and feasibility study. However, the vast majority (90%) believed that the HSR would also cause human health impacts from radiation. Only 20%, 15%, and 9% of the residents considered the explanation and responses of the experts, the government, and enterprises to be timely, adequate, and suitable, respectively. Additionally, most citizens (80%) did not think that their ideas and suggestions on the Jingshen HSR line were taken seriously or were accepted and/or implemented by governmental agencies and enterprises. A minority of respondents accepted the process, results, and the MEP's final decision on the EIA report (11%).

In our study, approximately 70% of respondents in the eight surveyed Beijing communities had major problems with construction of the Jingshen HSR being near their homes and only 16% supported the construction, which was less than those living along the Beijing–Shanghai HSR (38% support) (He et al., 2015). The Spearman correlation analysis showed that the attitudes towards the HSR were more positive among older ( $p < 0.05$ ), highly educated ( $p < 0.05$ ), low income ( $p < 0.05$ ), and childless residents ( $p < 0.05$ ), as well as those living at far distance from high-speed lines ( $p < 0.01$ ). Over 82% of the respondents thought that it was safe to live at least half a kilometer from the HSR line; the most preferable safe distance was over 2 km (47%). Gender and employment had no influence on attitudes towards the HSR. Citizens in Beijing along the planned track had a clear idea of who would profit most from the new HSR line. The construction and operation companies would benefit greatly from the HSR (30%) followed by local governments (28%), the central government (14%), and business people (12%), while local residents (6%) and future generations (5%) were not believed to be groups that would benefit significantly.

Beijing residents were also critical regarding the information provisioning, communication, and decision-making process on the Jingshen HSR. Specific knowledge on the Jingshen HSR was limited for the general public and was not provided by the authorities. Most respondents obtained knowledge regarding this project over the past two years because of public protest activities. Nearly 40% and 35% of the respondents heard of the Jingshen HSR for the first time in 2012 and 2013, respectively,

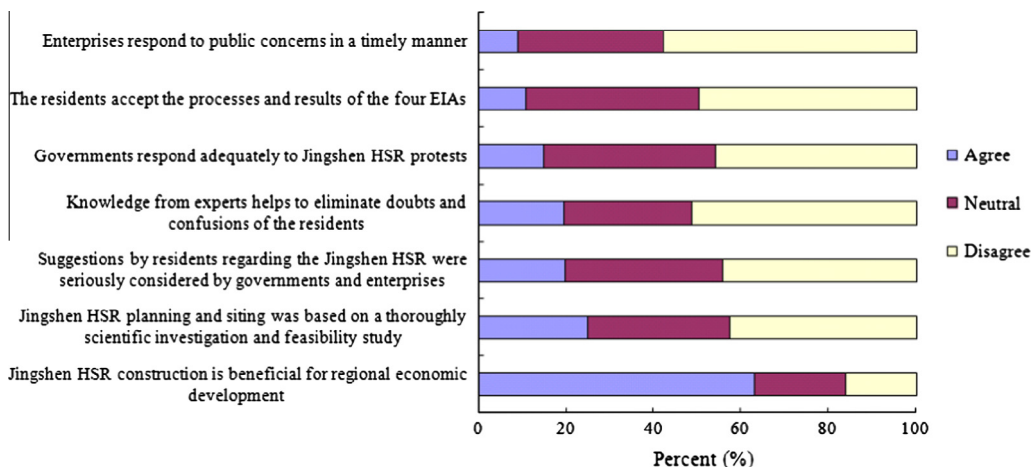


Fig. 5. Public attitudes toward stakeholders involved in the siting choices for the Jingshen HSR ( $n = 430$ ).

while only 13% knew information about the construction of the Jingshen HSR in 2011. For information on the environmental and social impacts of the HSR, the public relied significantly on relatives and friends (37%), the Internet (21%), television programs (18%), and newspapers (15%). Only a few respondents received information from governmental agencies (6%), or companies, research institutes and universities, and NGOs (<2.0%).

Based on our survey, nearly 71% of the respondents considered decision-making on the Jingshen HSR to be “closed,” while only 12% of the respondents perceived it to be “fully/partly transparent.” Only about 2% and 0.7% of the respondents considered communication between the government and the public, and between railway companies and the public, respectively, to be sufficient. Almost half of the respondents experienced no communication from these parties regarding HSR construction. Approximately 40% of the respondents knew of the Jingshen HSR EIA and 14% of the respondents participated in it. Only 26% of the respondents had heard of the public notice for any of the EIA reports.

#### Participants and motives regarding the protests

Over two thirds (68%) of the respondents heard about the self-organized resident demonstration and agreed with and supported the protests against the Jinshen HSR (Fig. 6). Although right-to-know and participation are becoming general governance principles in China, there is a gap between these principles and practice. Our survey found that more than 85% of the respondents would like to express their opinion to the government, and 81% identified protest as a helpful approach to defend their interests. While most respondents thought protesters behaved rationally and legally (72%), they also recognized that the protestors took a great risk (68%) (e.g., potential dangers when demonstrators decide to escalate their protests beyond what is legally permitted) and paid considerable costs (55%) such as time spent to mobilize residents and to communicate with governmental agencies and companies and money spent for booklets, leaflets, banners, etc.

Nearly 25% (108) of the respondents participated in the protests and only a minority (nine people) played a role of organizer or leader. The Pearson correlation analysis indicated that respondents with a higher education level ( $r = 0.105$ ,  $p < 0.05$ ), lower income level ( $r = -0.197$ ,  $p < 0.01$ ), and young to middle-aged citizens ( $r = -0.121$ ,  $p < 0.05$ ) were significantly more likely to participate in protest activities. Gender and profession of the respondents had no significant correlation with their participation in protest actions. Many protest activities of residents were enabled by the integration of the Internet into everyday life, which substantially increased project visibility, information accessibility, and communication among residents and with governmental agencies. The protesters used new media such as Internet forums, QQ chats and e-mail, micro-blogs, and micro-messages as the primary media for communicating their opinions and comments, followed by the formal written complaints to governments and industrial sectors, letters to conventional media (television, radio, and newspapers), and private discussions with friends and family members. New media were also perceived as more influential than conventional media in the public protests. Of the new media, over half of the protesters preferred micro-messages, micro blogs, and QQ groups (Fig. 7).

Previous studies showed that among the primary reasons for the public to oppose infrastructure projects in China were economic issues such as low level of compensation for land occupation and displaced people (Mu et al., 2015). During the

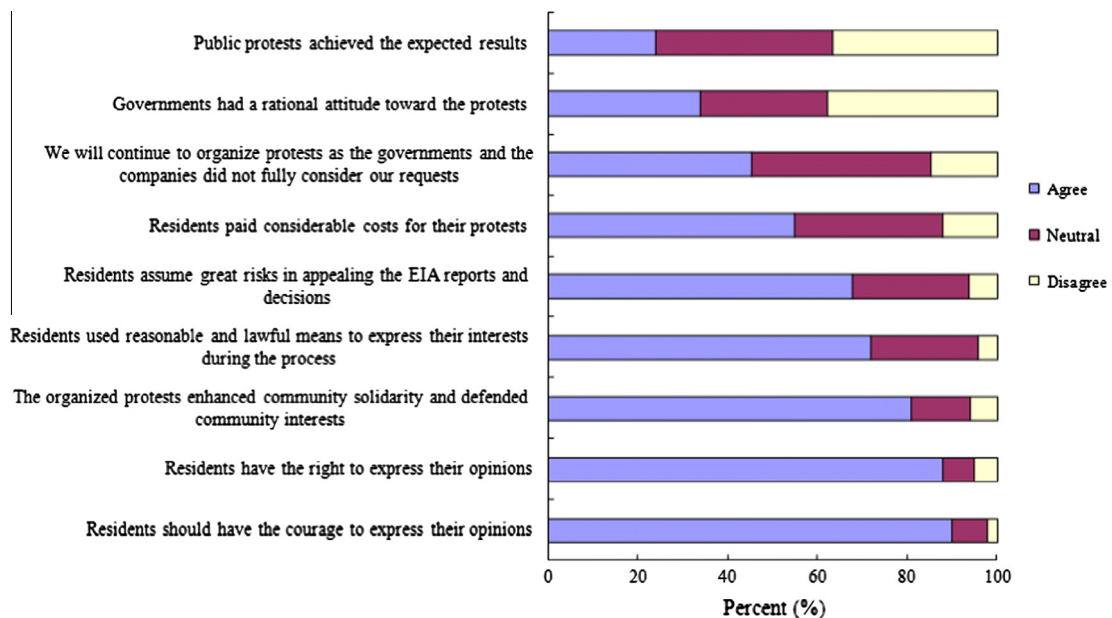


Fig. 6. Public opinion on self-organized protests regarding routing of the Jingshen HSR ( $n = 430$ ).

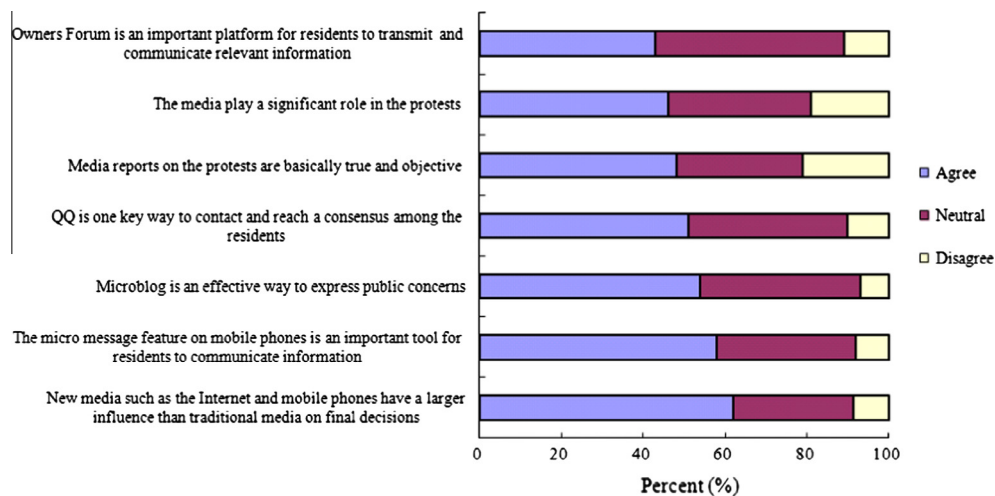


Fig. 7. Public opinions on the role of new media in the Jingshen HSR protests ( $n = 108$ ).

Table 3

The reasons for public participation in protests against the Jingshen HSR.

| Reasons for protests  | Mean | Standard deviation |
|---|------|--------------------|
| • My family and I will be affected by the proposed Jingshen HSR (in our living environment, health, and home values)              | 4.32 | 0.71               |
| • My relatives and neighbors will be affected by the proposed Jingshen HSR (in their living environment, health, and home values) | 3.04 | 0.97               |
| • I participated because it is my responsibility as a citizen   | 4.14 | 1.34               |
| • The proposed Jingshen HSR is unfair in its effects for different residents  | 4.19 | 1.27               |
| • The decision-making process of the Jingshen HSR is not transparent to the public, which infringes upon my right-to-know         | 3.95 | 1.02               |
| • The EIA process of the Jingshen HSR did not comply with the national EIA law and regulations                                    | 2.89 | 1.56               |
| • The design company did not disclose to the public the real environmental and health impacts of the Jingshen HSR                 | 4.08 | 1.17               |
| • I do not trust the information on the Jingshen HSR provided by governmental agencies and companies                              | 4.17 | 1.48               |
| • I only follow other people in participating in the protest  | 2.85 | 1.16               |

Note: Valid  $N = 108$ ; All variables on a scale ranging from 1 = not at all to 5 = very much.

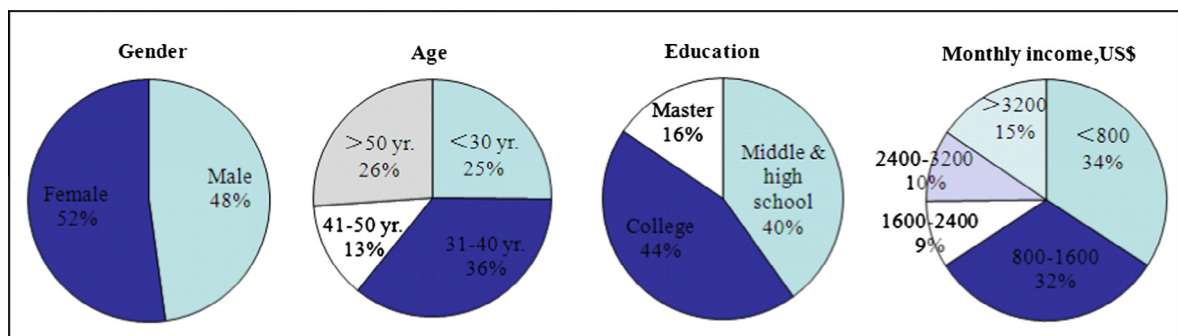


Fig. 8. The gender, age, education level and income of non-participants in the Jingshen HSR protests ( $n = 322$ ).

last decade, environmental impact has become another main controversial issue for public acceptance/opposition of infrastructure projects (Chen and Hua, 2015; Guo et al., 2015; He et al., 2013, 2014, 2015; Shi et al., 2015). We investigated the reasons for protesting through a questionnaire, where all items were measured on a Likert-type scale, ranging from 1 (not at all) to 5 (very much) (Table 3). The most agreed upon reasons to participate in protests were “My family and I will be affected by the proposed Jingshen HSR, such as the living environment, health, and home values,” “The proposed Jingshen HSR is unfair in its effects for different residents,” and “I do not trust in the information on the Jingshen HSR provided by governmental agencies and companies.” This indicated that private interests were important in this public action, typical



**Table 4**The reasons for public non-involvement in opposition to the Jingshen HSR ( $n = 322$ ).

| Reasons for non-involvement in the protests                             | Percent (%) |
|---|-------------|
| • Public protests are useless to influence governmental decision-making | 31          |
| • Rational and legal means are more effective in solving problems       | 18          |
| • I was not affected by the new HSR                                     | 15          |
| • I do not mind sacrificing personal interests for regional development | 14          |
| • I am not willing to confront the government because it is powerful    | 9           |
| • I had no time to attend   | 7           |
| • I supported the governmental decision                                 | 4           |

for the NIMBY phenomena. The least mentioned reasons for protesting were “I only follow other people in participating in the protest,” “The EIA process of the Jingshen HSR did not comply with the national EIA law and regulations,” and “My relatives and neighbors will be affected by the proposed Jingshen HSR including their living environment, health, and home values.”

More than 75% respondents did not join the opposition against the Jingshen HSR. As Fig. 8 showed, females and males were 52% and 48% of the non-participants. The non-participants with middle & high school, college, and Master degrees were 40%, 44% and 16%, respectively. Respondents older than 30 years accounted for 75% of the non-participants, and the monthly income per household of the majority of non-participants (66%) was less than 1600 US dollars (10,000 RMB).

Respondents who did not take part in the protests had several reasons, among which the first three were: “Public protests are useless to influence governmental decision-making,” “Rational and legal means are more effective in solving problems than illegal actions,” “I was not affected by the Jingshen HSR.” A minority of respondents supported the governmental decision (4%) (see Table 4).

For those non-participants in the protests, 84% would agree with HSR construction if the government and companies took adequate measures to reduce its impacts. These measures included the environmental prevention and control facilities on the ground (26%), a green isolation belt between the track and their homes (15%), a partial underground line (14%), economic compensation for residents along the HSR line (13%), relocation of citizens to a distance of at least 200 m from the railway (9%), and the building of welfare facilities (7%). The opponents' positions and attitudes could change if the governments and enterprises took effective measures.

In summary, there was a gap between the public attitudes and actions in this case. Approximately 70% of the respondents in Beijing had negative attitudes of constructing the Jingshen HSR nearby their homes. The attitudes towards the Jingshen HSR were more positive among older, highly educated, low income, and childless residents, as well as those living far distances from high-speed lines. In practice, only 25% of the respondents participated in the protests against the construction of the Jingshen HSR. The participants were those with a higher education level, lower income level, and young to middle-aged citizens. It seems a little contradictory that the supporters of the HSR project with higher education level and lower income level still took part in the opposing action. One explanation was that they did not oppose the project itself. They could accept it if some measures were taken.

## Conclusion

The question as to why and how people engage in protests has engaged Western social scientists for at least four decades, but has only recently started to interest Chinese governmental decision-makers following disputes and protests that accompanied the rapid expansion of industries and infrastructure (including transport projects) in China. China has often been labeled a typical “authoritarian” or “paternalistic” state, where policies and goals were made largely by the central government while actual implementation depended on local authorities (Zhu et al., 2015). Lack of local incentives for adequate implementation, deficient central supervision, and absence of citizen participation and engagement have been blamed for poor implementation and enforcement of these policies and goals (Zhang et al., 2016). Many megaprojects (e.g., the Three Gorges Dam project) have been built in China without much consideration for the concerns of local residents, resulting in increasing public opposition against large projects. Over the last decade, transportation agencies in China—similar to those in other countries—have started to employ preventive and compensation measures, such as avoidance of sensitive areas through alternative routes, costly tunnels and bridges, innovative engineering measures, sound screens, and incorporating track design in the landscape. However, these measures were not implemented as easily and smoothly as one might hope or expect. It is not only that many challenges remain in addressing cumulative health and environmental impacts of major infrastructure projects, but environmental and health improvements of such projects, more than incidentally, occur after major public controversies and conflicts. The Chinese government has to improve the quality of public consultation and participation to avoid such confrontations. The planning and siting of the Jingshen HSR is illustrative in this sense.

Around the world, decision-making regarding complex and wicked environmental problems has shifted from hierarchy to policy networks, acknowledging the interests, knowledge, and input from different stakeholders by including a wide variety of organizations and actors (Weber and Khademian, 2008). Following this global trend, the central Chinese government has started to experiment with and facilitate public participation in environmental decision-making by mandatory environmen-

tal information disclosure and public participation, among other factors, in each EIA (Mol, 2009; Zhang et al., 2010, 2016). Obviously, there was a difference between the ideas and strategies of central level (environmental) policy-makers, and the implementation in concrete local infrastructure projects. This study showed how hierarchical decision-making caused continuous public protests against, and the subsequent delay and adaptation of a major infrastructure project. Closed decision-making and non-compliance with EIA procedures became the primary target of public protests, in addition to concerns regarding real estate depreciation and safety issues (Fan et al., 2015). While the Jingshen HSR project does promote regional economic development and provides convenient transportation for many people, its initial planning did not involve the communities that had to bear significant side effects. Through their protests, Beijing residents have managed to secure significant concessions, a tendency that could be witnessed in other Chinese infrastructure cases. In recent years, officials in Beijing, Shanghai, Guangzhou, and other cities have (partially) given into public pressure, street demonstrations, silent “strolls” and online campaigns on controversial environmental issues. In various cases, government planners had to adapt, relocate, or even abandon plans to build transportation infrastructure, chemical plants, and waste incinerators when residents expressed concerns over environmental and health hazards (Liu et al., 2010; Li et al., 2012a; Johnson, 2013; He et al., 2014). Residents have become aware that there is currently a window of opportunity for protests to change such projects and plans. The rather gentle handling of these potentially explosive mass actions contrasts starkly with the harsh crack-down on other, non-environmental controversies in China.

The overall lack of institutionalized channels for the public to participate and voice their concerns in environmental governance and policy-making and implementation often leads to exacerbation of the grievance, including large-scale street movements. Local protests of Beijing citizens against the Jingshen HSR lasted four and a half years and grew from the private complaints of a small group of residents in one community to a large-scale public demonstration, media campaigning and protesting, and the involvement of many communities. With that, and in line with other recent literature on Chinese environmental protests, the action repertoire of Chinese environmental activists is diversifying and reflecting, to some extent, that of Western countries, although in the Jingshen HSR case it remained solidly within what was legally and politically permitted. Although there was no evidence that the MEP actively supported the protests and the MEP did finally approve the (fourth) EIA as a result of the protests of a group of residents, the MEP and protesting residents were temporary allies in their goals to improve the environmental and health performance of the HSR, against other national ministries, agencies, companies, and local authorities. From this perspective, public opposition could be interpreted as a disciplinary mechanism that conditions society to think and act in particular ways. This is especially true for national developments that have adverse local impacts. Local place-based action campaigns may only survive and have an impact when critical translocal links are forged (see also Rozema et al., 2015).

This HSR protest case also illustrated that modern information and communication technologies (the Internet and cell phones) have become an increasingly important part of the arsenal of Chinese protesters and governments. Some environmental protests occur almost entirely in the realm of online activism and engagement, taking the form of citizens signing online petitions and issuing online statements in support of alternatives. The surge of cyber-vigilantes also reflects a public that is better informed and more active in seeking redress for their grievances. At the same time, new information technology has increased the power of national and local authorities, creating space for policy innovations and opening up the political opportunity structure. The government can (and to some extent does) play a more active role in Internet discussions, as well as in Internet censorship. New media both increases the scope of the mobilizers and the mobilized (thereby creating new social capital) and provides the government with a new means of social influence and control (thereby limiting the political impact of growing social capital).

In order to avoid dilemmas as in the Jingshen HSR case, some strategies and measures need to be considered. Firstly, stakeholders should be involved in the early stage of the planning process of a HSR project, even under the condition of dominant top-down decision-making process in China. In general, most local residents proved supportive of the Jingshen HSR project construction, but they contested the closed decision-making process and the poor design and siting choices for the track by governmental authorities and companies. Therefore, the central and local governments and companies should communicate with the public, directly or indirectly, as an essential element of modern risk governance. It needs a great deal of time and energy to solve the problem if a passive response strategy is taken just, as in the case of the Jingshen HSR. Secondly, the overall quality of environmental information disclosure on HSR (siting options, the EIA reports, and the negative environmental impacts of the project) by governmental agencies or companies needs improvement in terms of adequacy, reliability, credibility, timeliness, and usefulness. The poor quality of the EIA reports of the Jingshen HSR was blamed repeatedly by the public and became a catalyst of public action. Providing reliable, solid, and well-documented information to the public would facilitate the planning process and the sharing of ideas and requirements from the different stakeholders. Thirdly, the role of the new media should be considered in communication efforts among different actors. Modern information and communication technologies have been employed frequently by the public in the Jingshen HSR protest case. It also illustrated that the Internet and cell phones have become an increasingly important part of the arsenal of Chinese protesters and governments. Harnessing the resources that non-governmental actors might bring in identifying environmental challenges would assist governmental authorities in improving environmental decision-making and performance of large-scale infrastructure projects, such as the Jingshen HSR project. All in all, the effectiveness of public participation partially depends on the organizational, technical, and political willingness and capacity of the state to respond to public demands.

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