



On the management of social risks of hydraulic infrastructure projects in China: A case study

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Abstract

With social risk management attracting more attention in China, the Communist Party of China (CPC) Central Committee and the State Council released the “Guidance (trial) on Establishing a Sound Social Risk Assessment Mechanism”. It is mandated that all infrastructure projects must pass social risk assessment prior to the project implementation. However, social risk management is in its infancy and has not formed a unified paradigm in China. In this paper, with an aim to explore how to manage social risks of infrastructure projects, particularly during the process of urbanization, a case study was undertaken on the identification of social risks based on an in-depth investigation of a hydraulic project. Related stakeholders were recognized in the first instance, followed by the assessment of social risks based on observations, expert meetings, interviews and discussion forums. Response plans were developed to prevent, mitigate and cope with the potential consequences of social risk events that may occur before or during the implementation process. The findings of this paper may provide a reference to the social risk management of future infrastructures.

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1. Introduction

Nowadays, there is a growing attention on social risks and associated management from both academics and practitioners (Branscomb, 2006; Jiang and Klein, 1999; Kwak and Stoddard, 2004). As a result, the risk management of projects is gradually addressed (Holzmann and Jørgensen, 2001). The risk society is a product of modern civilization, and is featured with globalization and equalization, which needs to be carefully dealt with (Beck, 1992). Till now, the study on the social risk of projects, particularly on the key infrastructures, spreads rapidly with diversified understanding in different countries and regions which addresses not only the macro political, social, and cultural issues but also micro project issues.

Since the 911 event in 2001, the United States of America has begun to place emphasis on critical infrastructures and key resources. The US National Infrastructure Protection Plan (NIPP) was established to “build a safer, more secure and more resilient America by preventing, deterring, neutralizing or mitigating the effects of deliberate efforts by terrorists to destroy, incapacitate, or exploit elements of Nation’s Critical Infrastructure and Key Resources (CIKR) and to strengthen national preparedness, timely response and rapid recovery of CIKR in the event of an attack, natural disaster or other emergency” (Chertoff, 2009). Similarly, the United Kingdom and Canada attach great importance to risk management and the protection of infrastructure projects (CPNI, 2010; Public Safety Canada, 2010).

The last decades witnessed a large quantity of infrastructure projects invested and commissioned by governments in China. The extent and complexity of these infrastructure projects are astounding. The development of these infrastructures has

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significant social impacts “both because of the high level of efficiency they attain and the level of damage that a massive failure of those infrastructures might cause” (Branscomb, 2006). Without successful management, the construction of infrastructures often leads to the conflicts between local community and the project implementation organization, and subsequently leads to the cancelation or postponement of the projects. Even worse, community petitions and incidents originated by serious conflicts will affect social stability seriously (Xinhua Net, 2013). These include the cancelation of a chemical plant in Ningbo city, and a water pipeline project for a paper corporation in Nantong city as a result of large scale of public protest showing concerns on environmental issues associated with these projects (Ningbo government, 2012; Xinhua Net, 2012). This highlighted the critical role of social risk management on the implementation of infrastructure projects.

In order to mitigate and control the social risk of infrastructure projects during the urbanization process, some local governments in China start to require the social risk assessment of major infrastructure projects during the feasibility study stage such as Guiyang, Guizhou Province (Chen, 2009), Huangshan, Anhui Province (Huangshan Construction Committee, 2010), and Shanxi Province (Zhang et al., 2010). In 2012, the CPC Central Committee and State Council released the “Guidance (trial) on Establishing a Sound Social Risk Assessment Mechanism” (CPC Central Committee, 2012). This is an important milestone for the central government of China to place emphasis on social stability with an attempt to prevent social risk. It is mandated that no key infrastructure projects can proceed without passing the social risk assessment. The main purpose of social risk management is to achieve a harmonious society. The concept of social risk in Chinese context means the risks in any fields that may influence the whole society which may cause social turbulence and social unrest (Tong and Zhang, 2007); or may seriously affect society and people’s productivity and quality of life (Murray and Grubestic, 2012).

To identify the social risks and deal with them correspondingly, a management system needs to be established. The function of such a social risk management system is to identify and subsequently mitigate, reduce and control those social risks which may occur before or during the process of project construction by means of robust risk response strategies and plans. In this paper, the authors attempt to examine how to establish a social risk management system of infrastructure projects via the case study of a hydraulic project during the process of urban renovation and renewal in the city of Ningbo, Zhejiang Province of China, and how to manage those risks in a proper manner.

2. Literature review

Holzmann and Jørgensen (2001) defined social risk management as “... public interventions to (i) assist individuals, households, and communities better manage risk, and (ii) provide support to the critically poor” (p. 530). They consequently suggested that three main strategies to manage social risks, i.e. prevention, mitigation and coping strategies depend on

when the strategy is introduced from the occurrence of the social risk event. In essence, social risk management places focus on the social outcome or social objective of business activities. In project management context, social risk is closely linked to stakeholder management with not only the traditional player such as contractors and employees but also the public and the community (Aaltonen, 2011; Aaltonen et al., 2008; de Bakker et al., 2011). Such risk management exercise also features corporate social responsibility in order to deal with environmental and social impacts of business activities (Kytle and Ruggie, 2005; Zhao et al., 2012). Indeed, Kasperson et al. (1988) pointed out that risks could be socially amplified from direct to indirect consequences due to behavioral responses spread to other stakeholder groups. Benefits of managing social risks properly include: reducing vulnerability, enhancing smooth consumption, improving equity, smoothing household welfare, and reducing poverty (Holzmann and Jørgensen, 2001).

In the construction sector, the social risk was classified by Bing et al. (2005) as a type of macro level risks with factors such as “lack of tradition of private provision of public services” and “level of public opposition to project”. It is well recognized that social risk is one of the most common risks that exist in infrastructure projects that correlates to other risks such as physical risks and subcontractor related risks which should not be overlooked (de Lemos et al., 2004; Ghosh and Jintanapanakont, 2004; Gilmour et al., 2010). Miller and Lessard (2001) pointed out that social acceptance was one of major institutional risks in large infrastructure projects. The level of social acceptance of infrastructure projects depends on how the social stakeholder groups’ benefits and impacts are influenced by the projects from a long term perspective (Yuan et al., 2011). According to Zavadskas et al. (2010), social risks are normally overlooked by project stakeholders however with significant impacts on project outcomes. Bredillet (2008) suggests that social risk assessment and mapping forms a critical component of project management governance. There are both external and internal risks associated with infrastructure projects. The internal risks usually include labor demands, financial problems, quality and safety issues, which can be controlled through successful project management. The external risks, however, such as unexpected changes of policy, and nature disasters, are hard to be controlled (Lee et al., 2009; Lyons and Skitmore, 2004). Social risk, highly related to social stability, is also one of these external risks. The indicators of social stability include public health, emergency services, information and telecommunications, transportation (people and product), banking and finance, etc. (US Office of homeland security, 2002). Following this stream the social risk included terrorism, catastrophic natural disasters and catastrophic accidents as well as other hazards (US Office of homeland security, 2007).

However, since the management of social risk of major infrastructure projects hasn’t form a unified standard in China, the understandings are diversified (Chen, 2010; Jiangxi Development and Reform Committee, 2011). For infrastructures in China, Liu et al. (2005) classified the social risks into four types, i.e., value risk, organization risk, information risk and environmental risk. While the Jiangxi Development and Reform Committee (2011)

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