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EDITED BY

Amit Kumar,
Nanjing University of Information Science
and Technology, China

REVIEWED BY

Muddassar Sarfraz,
Zhejiang Shuren University, China
Irfan Ullah,
Nanjing University of Information Science
and Technology, China
Md. Mahmudul Alam,
Universiti Utara Malaysia, Malaysia

*CORRESPONDENCE

Shaojun Chen,
✉ shaojun_chen@126.com

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Role of non-governmental organizations in post-relocation support of reservoir migrations in China: a just transition perspective

Xueqing Hong^{1,2}, Shaojun Chen^{1,2*} and Jingcheng Sun¹

¹School of Public Administration, Hohai University, Nanjing, China, ²National Research Center for Resettlement, Hohai University, Nanjing, China

In recent decades, energy transition has been a major structural change worldwide to replace fossil fuels. Hydropower is a valuable renewable energy source which can mitigate the electricity demand of livelihoods and help to achieve the target of carbon neutrality goals. However, owing to the hydropower construction, involuntary resettles are suffering with land and socio-economic security. Non-governmental organizations (NGOs) play a vital role in promoting a just transition for reservoir migrants. The present study examines the work of local NGOs in a reservoir resettlement area in China through semi-structural interviews, and participant observations followed by qualitative analysis. Study explores how the NGOs organize reservoir migrants to participate in post-relocation support (PReS) projects. The study finds that the organized participation of reservoir migrants in PReS is the key process required to achieve a just transition. Moreover, NGOs ensure that all affected reservoir migrants have equal access to development opportunities through the three linked levels of co-construction, co-management, and co-sharing through the elite-driven establishment of benefit linkages and fair benefit distribution, and ultimately achieve a standard of living for migrants. Organized participation improves the equity and sustainability of benefits for reservoir migrants, but organizing reservoir migrants requires firm support from the local, regional and national governments, and the trust of migrants in local NGOs. Findings further stated that the PRes policy still has some blank spot, therefore, it is necessary to frame robust policy frameworks to restore the livelihoods of reservoir migrants.

KEYWORDS

non-governmental organizations, reservoir migrants, just transition, postrelocation support policy, participation

1 Introduction

In recent decades, climate change has attracted increasing attention worldwide. According to the latest report from the Intergovernmental Panel on Climate Change (IPCC), China will be one of the most vulnerable regions if appropriate mitigation strategies not being taken in advance (IPCC, 2022). In response to the Paris Agreement, China government proposed to attain a carbon dioxide (CO₂) peak by 2030, and achieve carbon neutrality by 2060 (Chen and Lin, 2021). As a renewable and clean energy source, hydropower plays an essential role in developing China's energy industry, and supporting the development of green energy and low-carbon transformation (Li et al., 2018). However, hydropower development often generates large-scale resettlement, thus impoundment of

hydropower plants (HPPs) in China has resulted in the relocation of more than 22 million reservoir migrants in 31 provinces and municipalities directly under the central government (Chang et al., 2010). After the founding of People's Republic of China (PRC, 1949), major hydropower construction (1,200 to more than 83,000) was carried out during the first 30 years, and 16.89 million reservoir migrants have been displaced and relocated accordingly (Shi et al., 2022). The subsequent resettlement and displacement caused by the construction of dam is a global challenge, resettlement entails risks to the livelihood security of reservoir migrants (Michael, 1997) and without proper rehabilitation and reconstruction, the resettlers are at high risk of impoverishment (Xu et al., 2022). Resettlement also has socio-economic impacts on communities, implying increased vulnerability to climate change and perhaps maladaptation (Barnett and Webber, 2009; Sarah and Tao, 2015). There is a risk that social justice issues will be overlooked in these resettled communities (Zhao et al., 2020).

After relocation, production and living conditions of reservoir resettlements are relatively poor in China. Thus, the Chinese government built a robust policy framework that requires post-relocation support (PReS) projects in resettlement areas and further played a vital role in restoring the livelihoods of reservoir migrants besides improving the infrastructure of the resettled communities (Zhou and Han, 2014; Zhao et al., 2019; Chen et al., 2021; Theodore et al., 2021; Xu et al., 2022). However, converting the PReS policy's narrative into a realistic form has unintended consequences. Grassroots governments allocate resources intending to maximize performance and the game between other implementation subjects, triggering the reality of policy implementation bias (Zheng and Xu, 2019; Zhou et al., 2023). On the other hand, the grassroots government tends to give PReS project resources to those villages with vital financial resources and better infrastructure, which further widens the development distance between projected and non-projected villages, as well as the differentiation of incomes and social roles within the reservoir migrant cohort (Cheng and Gu, 2016). However, the purpose of the PReS policy for reservoir migrants is to encourage the resettled communities to improve their production and living conditions by declaring projects. The decentralized participation of reservoir migrants and the gaming of multiple subjects have led to an imbalance in public participation, resulting in unequal development opportunities among migrants. Therefore, how to integrate the forces of the reservoir migrants to participate in the construction of PReS projects, and ensure the fairness and sustainability of migrants benefiting from PReS projects is a complex problem that needs to be addressed to prevent the risk of social inequity in the energy transition.

Theoretically, non-governmental organizations (NGOs) are a product of "market failure" and "government failure," primarily undertaking public functions outside the locus of government and business (Brüntrup-Seidemann, 2011); these "new" players representing "alternative" institutions to existing approaches to development (Burton, 1974; Hansmann, 1987; Mitlin et al., 2007). For example, in the area of resource allocation, NGOs can overcome the selective preferences of the market and also compensate for the inefficient use of resources resulting from the

overemphasis of governments on the macro level (Huang and Liu, 2015; Qin, 2016), playing an empowering and representative role in advancing what they see as the interests of the wider community (Sacouman, 2012). In terms of public participation, they are also able to mobilize public participation in the governance process in a sustained manner through emotional and capacity-building approaches (Wang et al., 2020), and public scrutiny and activism can help local governments reduce the regulatory burden while also achieving the desired results (Chu et al., 2022). Notably, PReS for reservoir migrants is both a process of resource transmission and reception, and a process of mobilizing the migrants to participate in the project, while facing the practical need to improve the efficiency of resource use and self-development awareness. External NGOs play an important role in mitigating social risks, guiding migrant social integration, and safeguarding migrant rights & interests (Xu and Zheng, 2011). However, it is difficult for NGOs to play the role of resource transfer agent due to an overemphasis on government dominance in the supply and management of PReS projects (Sun, 2019).

In general, optimizing the allocation and management of PReS resources is a critical way for reservoir migrants to attain a just transition, and NGOs play a crucial role in redistributing resources and mobilizing public participation. Literature reveals that there is a lack of micro research on the participation of NGOs in the management and supervision of projects in the research on PReS, which neglects the interaction between NGOs and the main stakeholders, such as reservoir migrants. Karki, (2021) stated that a local, provincial and national government along with NGOs and stakeholders need to work jointly for the effectiveness of livelihood, and sustainable integrative management of local societies, registered resettlers, and local environments (Karki, 2021). In studies about NGOs, researchers opt to study the functions and roles of organizations but rarely explore practical studies of NGOs working for equity and justice from the perspective of a just transition.

The primary contribution of this study is closely linked to the functions and roles of non-governmental organizations to reframe the robust policy frameworks for the betterment of reservoir migrants. This study answers the question of "why" and "how" China's reservoir migrants achieve a just transition by exploring the role of NGOs in a just transition. We theorized how the concept of participatory development can be practiced in organizing, which emphasizes the participation of collective members rather than only a small number of people and pays more attention to the participation of vulnerable groups. Moreover, this study fills the literature gap by examining the practice of NGOs spontaneously established in migrant resettlement areas in terms of just transition and provides a basis for relevant policies.

In this study, we examine the NGOs in reservoir migrant areas, i.e., "Y Association," to involve reservoir migrants in the supervision and management of the HPPs projects through the organized form: (i) to explore how to mobilize and integrate the forces of the reservoir migrants to participate in the projects; (ii) how NGOs can build the linkage of project resources among the stakeholders; and (iii) to find out the mechanisms of NGOs in China's reservoir migrant areas to promote a just transition of migrants.

2 Conceptual and theoretical framework of a just transition

2.1 The concept of a just transition

The concept of a just transition has been applied by activists, labor unions, and associated groups dating back to the early 1970s (Newell and Mulvaney, 2013), and the academic discussion on a just transition emerged in the 2000s (Morena et al., 2019). Mazzocchi argued that creating a “worker superfund” could protect workers who lost their jobs due to environmental externalities (Mazzochi, 1993). Although Mazzocchi did not directly propose a “just transition,” he questioned the legitimacy of environmental initiatives that put workers out of work and is, therefore credited with coining the term “just transition” (Eisenberg, 2019). As scholars and international institutions have taken increasing notice of just transitions, it has led to an expansion of both the field of practice and the conceptual outreach of just transitions, from just transitions in the context of environmental protection to issues of justice in energy transitions and future climate change (Schlosberg and Collins, 2014; Lee and Byrne, 2019), including issues around distributive justice, recognition justice, and procedural justice (Schlosberg, 2004), and also extends from an initial focus on labor rights protection to fairer treatment of the socially vulnerable (Wang and Kevin, 2021). However, relatively little attention has been paid to how a just transition contributes in practical terms to the sustainable development prospects of reservoir migrants. Sustainable-development-oriented policies do not necessarily produce just and equitable outcomes, and research on actual transitions can reveal the increasing complexity of institutional structures, political processes, and social relations in the pursuit of public, collective, or individual interests (Moss, 2009). However, if less attention is paid to the interests and voices of vulnerable groups in the transition process, this will often lead to social disaster (Shen et al., 2020). As scholars say, “a just transition is only possible if the overall goal is human wellbeing within a sustainable world” (Swilling et al., 2016).

In 1991, China’s developmental migration policy defined post-relocation support as assistance in living and production terms for migrants after relocation and resettlement so that migrants could recover and then exceed their original living standards. The “opinions on improving the post-relocation policy for large and medium-sized reservoir migrants” promulgated in 2006 established the goal of sustainable development of the PReS world for reservoir migrants, emphasizing that these reservoir migrants should also share the fruits of reform and development. The fundamental purpose of a just transition for reservoir migrants is to ensure a fair transition for all reservoir migrants, and further ensure that each affected migrant can enjoy equal development opportunities, and continuously narrow the social gap within the migrant group and the gaps between migrants and non-migrants in the locale.

2.2 Theoretical research framework on participatory development

The “participatory development” proposal is based on the reflection and criticism of traditional development theories and the new ideas & practices of participatory development. The

World Bank defines participation as “the ability of a project stakeholder group to influence and jointly control the development interventions, development decisions, and related resources that concern them” (World Bank, 1994), thus avoiding a perception of the primary stakeholder group as a mere passive recipient of aid. Participation can also be divided into three dimensions: i) who are the parties or people involved; ii) the degree, position, and/or purpose of the participants, and iii) the stage of participation (Wilcox, 1994). Although different institutions and researchers do not agree on a definition of “participation” and the scope of implementation, they all concur on the theory of participatory development, with empowerment as the core, respect for differences, equal consultation, and sharing the fruits of development through the proactive and extensive participation of members (Oakley and Marsden, 1984; Huang et al., 2017). The key objective of participatory development is to achieve justice, equity, and benefits for the target group in social development, in terms of both reducing inequalities and addressing the differences that exist among members of a society or community (Li, 2001).

Although the PReS policy for reservoir migrants has provided external support for the development of the resettled communities, the imbalance in the allocation of project resources among resettled communities has exacerbated the “Matthew effect” of the resettled community’s development. Meanwhile, the low participation of reservoir migrants has led to the problem of inefficient use of funds, and since participation is an expression of respect and recognition of the rights and interests of the relevant subjects (Doelle and Majekolagbe, 2023), the participatory management model is an effective means to address these emerging problems (Chen et al., 2011). However, the government is anxious about public participation in the face of the scattered and disorganized interests of individual migrants (Cai et al., 2012), resulting in the widespread formalization of reservoir migrant participation. Organizing the scattered interests of individual reservoir migrants and forming an effective interest expression mechanism is key to optimizing reservoir migrant participation in the post-support process (Zhong et al., 2018).

Based on aforesaid studies, this study constructs an analytical framework of the organized participation of reservoir migrants (Figure 1), specifically emphasizes the practices of NGOs in the PReS process, analyzes ways of constructing the organized participation of reservoir migrants, leads to the substantive participation of migrants in the integrated management and benefit sharing of PReS projects, and explores options to break the imbalance of project resource allocation and benefit sharing, thereby promote the just transition of reservoir migrants.

3 Materials and methods

Since the NGO, Association Y, is a specific case, this study used qualitative analysis to gain an interpretive understanding of the behavior and meaning construction of the research subjects through interaction with them. In the fieldwork process, this study mainly used semi-structured interviews and semi-participatory observation to obtain information.

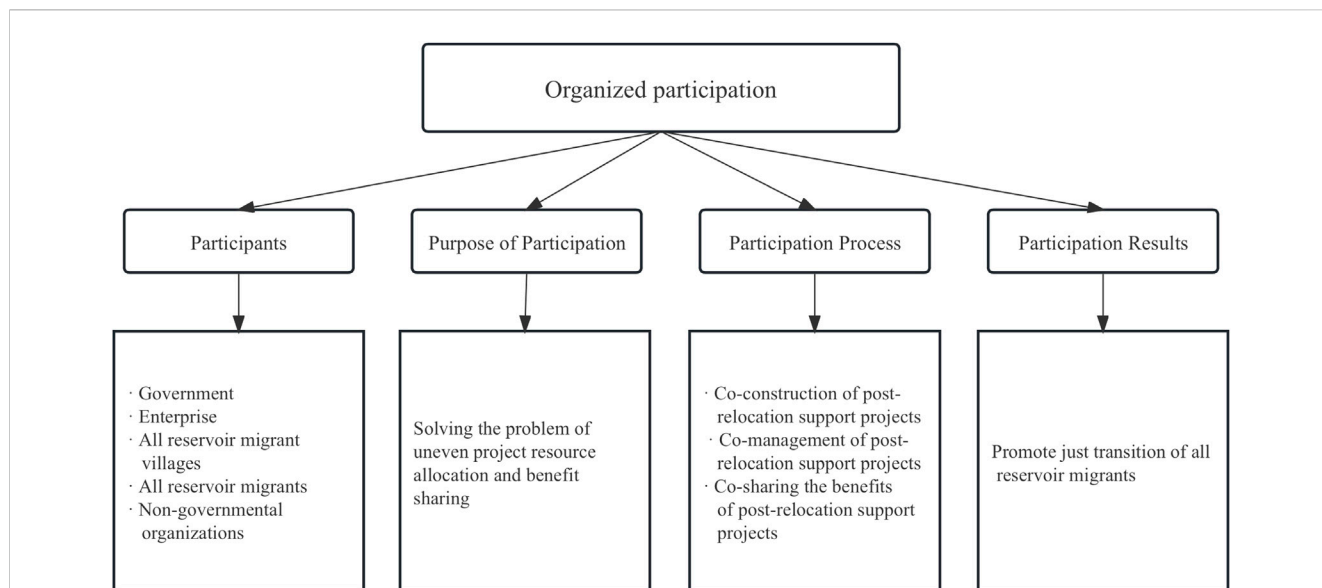


FIGURE 1
Analytical framework for organized participation.

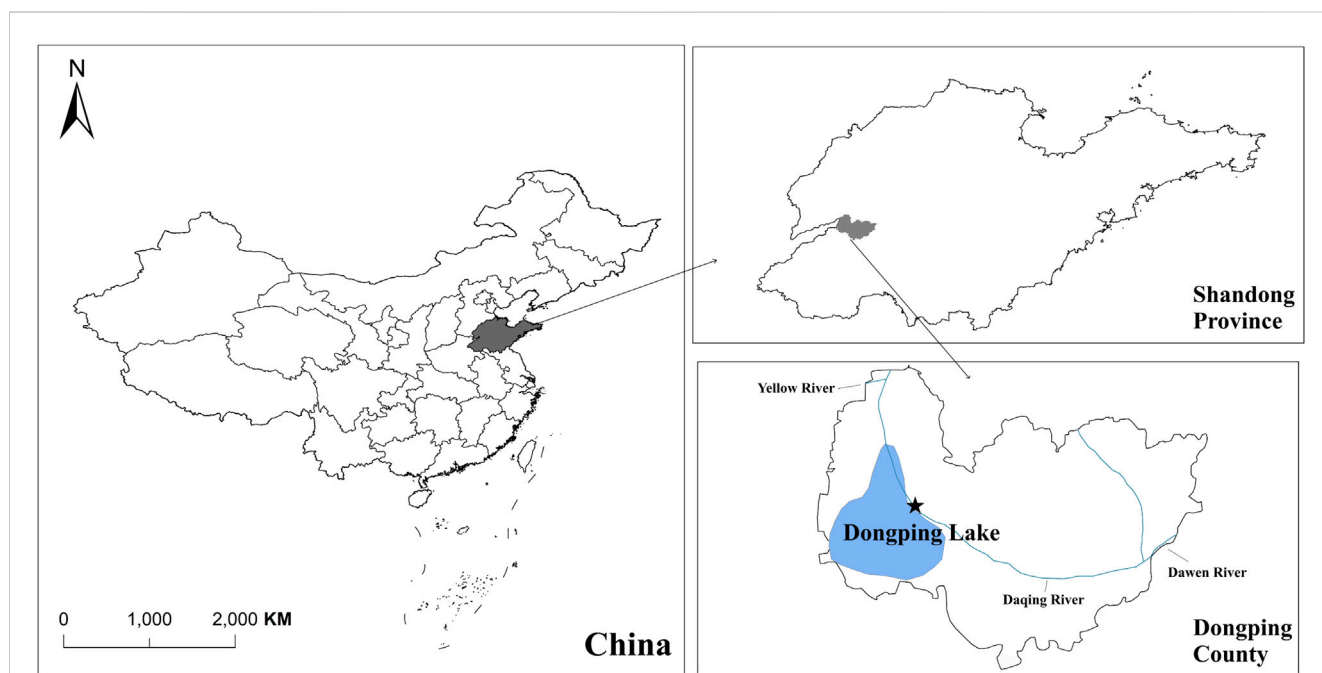


FIGURE 2
Study map of Dongping County, Shandong Province, China.

3.1 Study areas

Dongping Lake Reservoir, built in 1958, is located in Dongping County, southwestern Shandong Province of China, with a total area of 627 km², a total reservoir capacity of 4 billion cubic meters, and a perennial storage capacity of 500 million cubic meters, making it the only important flood storage area in the Yellow River basin. Dongping County (Figure 2) is located in the hilly terrain, and the Yellow River,

the Grand Canal, and the Dawen River converge in its territory. It has a total population of 800,000, of which 245,000 are reported to be reservoir migrants, accounting for one-third of the county's population.

In this paper, Dongping County is being selected as the survey point to know the impact assessment of the PReS policy. The reason for this is that Dongping County is the second largest migrant county in China, and the implementation and effects of its PReS projects are representative.

Firstly, since 2006, Dongping County, following policy provisions of the opinions on improving the late support policy for large and medium-sized reservoir migrants, has given reservoir migrants a direct subsidy of 600 CNY (1 USD ~7 CNY) per person per year and has implemented PReS projects in farmland and water conservancy, transportation and roads, and industrialization. Although the infrastructure in the resettlement area has been improved, and the production and lives of reservoir migrants have been improved to a large extent, there is still a particular gap compared with the nearby non-reservoir migrants. Secondly, due to the unique geographical location affected by the flood storage area factors thus cannot be used to build large industrial projects. Industrial projects show the characteristics of being scattered, which is not conducive to the value-added preservation of assets. Additionally, the current policy of PReS for reservoir migrants will expire in 2026, and the ability of local reservoir migrants to increase their income on a sustainable basis is still relatively low. Thirdly, by the end of 2019, under the promotion of local, and provincial government departments, a local-industry-based local non-profit NGO, the “Y Association” (hereafter referred to as the Association), which is voluntarily formed by individuals and units was established, mainly responsible for managing and supervising operating asset income type projects developed by using PReS funds.

General in China, there are three main types of NGOs: i) grassroots NGOs, ii) government-organized NGOs (GONGOs), and iii) international NGOs (INGOs) (Yu, 2016). Among them, grassroots NGOs are said to represent civil society, with few or no ties to the state, characterized by a small and weak capacity with a lack of political and financial resources (Shieh, 2017). GONGOs are sponsored by the government work close ties with the state apparatus, and are large organizations with professional staff and bureaucratic structures (Wu, 2003). Transnational NGOs have established INGOs to carry out projects in China and have sufficient financial resources. The Y Association is a grassroots NGO representing reservoir migrants in Dongping County, with a sizable organizational size but a relatively weak capacity. To ensure the security of the operation of assets of the PReS projects, some association members are government personnel responsible for the PReS of reservoir migrants. The participation of grassroots NGOs, of which reservoir migrants are prominent members, in PReS projects is a practical innovation of the local government to promote joint development.

3.2 Methodologies adopted

A qualitative research approach has been adopted in this study given the qualitative nature of the research aim, which is to investigate how the NGOs mobilize and integrate the forces of the reservoir migrants to participate in PReS projects and explore the logic of the occurrence of this dynamic process. In contrast to quantitative analysis methods, qualitative research can focus on the context of the research, and thus is better able to explore the reasons behind the phenomenon and to understand the meaning of the researched person's interpretation of their actions (Yin, 2013). The qualitative methods helped to understand the “why” and “how” (Stake, 2000) of NGOs promoting a just transition for reservoir migrants. Association is the first NGO in China's reservoir migrant resettlement areas to organize

migrants to participate in PReS projects, which is a rare and interesting phenomenon; (ii) Y Association ensures that all affected reservoir migrants have equal access to development opportunities by organizing them, which is of practical significance to PReS for reservoir migrants. Equal access to development opportunities is of practical significance for the post-support of reservoir migrants; (iii) Y Association promotes the just transition of reservoir migrants through the PReS project, which can promote the integration of the theory of just transition and participatory development.

In this study, a field survey was conducted in two campaigns (2022) in the Dongping County of China were conducted. For material collection, this study used the semi-structured interview and semi-participatory observation methods. Before entering the field, we contacted the Dongping County Reservoir Migrant Service Centre to explain our research intentions, obtain permission, and determine their attitudes towards establishing the association. After that, the center helped us contact the Y Association's secretary general. First campaign (January–February 2022), semi-structured interviews with 15 members of the Y Association, including the association's president, the secretary general, the government personnel in charge of reservoir migrants, and representatives of reservoir migrant villages were conducted. Most interviews lasted between 0.5–1.5 h and took place in private offices. The interviews focused on topics such as the background of the association's establishment, the scope of its business, its views on the benefits of the PReS projects, and the current status of the income of reservoir migrants, and interview guides adapted during fieldwork to pursue emerging them.

Through this first campaign, we found that the main reason for establishing the association was the inefficient operation of the PReS projects and the difficulties of development in migrant villages that lacked resources. Second campaign (June–July 2022), to gain a deeper understanding of the association's effectiveness in the PReS project, semi-structured interviews were conducted with four project operators, mainly focusing on topics of the project's operation and the association's role. Similarly, interviews were also conducted with the village chiefs of each of the four reservoir migrant villages (including two villages with-and-without PReS projects), tailored to each participant's role. To better understand the current situation of reservoir migrants' lives, 16 reservoir migrants (male = 7, female = 9) were randomly selected for semi-structured interviews in these four migrant villages, and carefully observed the decorations and furnishings in the homes of the reservoir migrants. Participant observation was conducted in project factories and village public spaces, and the information gathered validated and complemented the formal interviews. To follow up on the functioning of the association, in January 2023, semi-structured interviews were conducted with the core members of the association via telephone interviews, including the president and secretary general of the association in the first campaign and the four village chiefs in the second campaign. Additionally, secondary sources, such as newspapers, website materials, and policy documents were further used to verify the statements. The salient features of the interview conducted for this study have been summarized in Table 1.

All interviews were conducted in Chinese and took place in a space familiar to the interviewees, thereby reducing the interviewees' tension in communication. Interviews were audio-recorded with the consent of the interviewees, transcribed verbatim, and then analyzed in two rounds of coding using NVivo12 software. All interviewees' information was used for scientific records that were kept confidential to the public and

TABLE 1 Methods, time, interviewer identities, and interviewees.

Methods	Time	Researcher's identities	Interviewees
Semi-structured interview	Jan, February 2022	Researcher	Semi-structured interviews with 15 members of the Association, including the President of the Association, the Secretary General, the staff in charge of reservoir migrants, and representatives of the reservoir migrant villages
Semi-participatory observation and Semi-structured interviews	June, July 2022	Researcher	Semi-structured interviews with 4 project operators; semi-structured interviews with 4 village chiefs of the reservoir migrant villages; and semi-structured interviews with 16 randomly selected reservoir migrants
Semi-structured interview	Jan 2023	Researcher	Follow-up interviews with the President of the Association, the Secretary General and the mayors of 4 migrant villages
Document review	Jan 2023	Researcher	newspapers and website
			materials, and policy documents

organized anonymously to avoid identification. This study was approved by the School of Public Administration of Hohai University and the National Research Center for Resettlement of Hohai University. Moreover, rigor was supported through triangulation (within interviews, between interviews, observation, and document review, and between research participants) and audio recording and observation diary.

4 Results and discussion

After analyzing and coding the interview materials followed by observation notes, several themes on the organized participation of reservoir migrants in PReS projects were identified, and then classified into three themes, namely, “co-construction,” “co-management,” and “co-sharing.” Among these themes, co-construction is the initial starting point for organizing reservoir migrants in PReS projects; co-management is seen as the path to facilitate the link between all migrants and PReS projects and to build a project community; and co-sharing is the result of common construction & supervision and acts as an important guarantee to promote outcomes for all reservoir migrants.

4.1 Co-construction: Elite driven with the NGO acting as a platform

Analysis of the interview data shows that co-construction can be understood in two ways: firstly, the elite return to their hometowns to lease late support projects; secondly, the demonstration role of elite entrepreneurship to promote the return of more reservoir migrants' subjectivity.

4.1.1 Elites return to their hometowns to activate post-relocation support projects

Developing PReS projects to promote the just transition of reservoir migrants should not put migrants in a passive position of support. However, project implementation should consider the “facilitation” effect played by local elites in the village between industrial projects and the villagers (Chen and Li, 2008) to improve the extent of migrant participation in industrial projects. To solidify the assets of the PReS project, the government promoted

preferential policies for entrepreneurship and showcased changes in infrastructure and industrial parks across the town and conducted hometown meetings to attract those village elites working offside (Li, 2016) to encourage them to return home to start their businesses. Therefore, in integrating industrial project resources, human resources, and the labor force in the resettlement area, the association pays more attention to the role of elites in driving project development.

“How can we make the late support project assets not depreciate at the same time that industry can also be high-quality development, is a real-time problem and needs to be considered. The late support subsidy policy is about to expire, and how to make these assets beneficial is the key for the sustainable development of migrants. Then, we envisage bringing the whole county together by setting up an association and then attract the elites working outside to come back to lease and operate the project which can further provide employment opportunities to the surrounding reservoir migrants.” (Interview record: 20220112; County migration Staff)

Among them, Ms. Z is the most prominent and capable person who has returned to her hometown to start her own business under the guidance of government and association support. She leased the garment inspection project from the L-town government. She combined her working experience and the market sales channels she had previously mastered to identify business and development opportunities. Subsequently, developed the garment inspection project into a garment industry project that integrates production, inspection, packaging, and export. Additionally, Ms. Z's father used to be the village head of the reservoir migrant's village. She and her father are acquaintances of other reservoir migrants in the village, and the apparel company has the trust and support of the reservoir migrants. Eventually, the original garment inspection project successfully met the employment needs of more than 600 people in the surrounding area, allowing reservoir migrants to increase their *per capita* income by about 2,500 CNY annually.

“After the town built a lot of industrial parks, my father encouraged me to go back to hometown to develop fruitfully so that we could contract our industrial park rather than foreign companies do the heart and consider the folks. But industry

pressure was tremendous. Come back, I all want to do it well; do bad and run with shame; do not do well cannot run as others can so use all the resources and try to do this project well.” (Interview record: 20220603Z)

In this process, the association mainly connects the project resources supported externally with the intrinsic needs of the development of capable people. Besides, it prompts the elites to actively seek market development opportunities externally in the process of developing industrial projects and addressing the dilemma of having insufficient human capital for the development of PReS projects. Unlike its external market players operating industrial projects, local elites operating industrial projects can both avoid the imbalance of interests caused by the profit-seeking nature of capital and thereby enhance reservoir migrants' confidence in local entrepreneurship and employment.

4.1.2 The model role of elites stimulates reservoir migrants' sense of self-development

The positive impact of the success of elite entrepreneurship on employee attitudes and employment behavior of the reservoir migrants' population is a source of strength for the association to mobilize other reservoir migrants and engender, a vital force for the organization's development. The demonstration effect of Ms. Z's operation of industrial projects, the promotion of preferential policies on entrepreneurship to reservoir migrants in China, and the display of the park infrastructure have inspired elites working outside, reservoir migrants with entrepreneurial ideas, and local entrepreneurs to join the association. Moreover, for some reservoir migrants whose villages are affected by externalities and cannot apply for industrial projects, or those who have entrepreneurial ideas but unavailability of sufficient funds, the association also help them to apply for government funding thereby increasing their motivation to work independently.

“Our village's location is relatively remote, there is no agricultural land, therefore, cannot increase the crop productivity and attract small and/or large enterprises due to various constraints. When the members' congress was held, we expressed the actual situation of the village and hoped that a project would land us here so that the people in the village could have jobs.” (Interview record: 20220607H)

Notably, there are 17 PReS project operators among association members. Developing industries duly involved in lake products, clothing, mushrooms, and roses; integrating natural resources, project resources, and human resources around the reservoir area, and jointly promoting economic growth in the resettlement zone. At the same time, to allow the reservoir migrants to access fuller employment, the association and project operator provides the idle labor force in the resettlement area with skills training (e.g., garment tailoring and quality inspection). After that, applying for relevant positions to a certain extent, cultivates the self-development abilities of the reservoir migrants in the resettlement area.

“We are reservoir migrants, and our homes are nearby, but I have old people and children to take care of, and it is inconvenient for us to go out to work. But now I check the threads of clothes here, and I can pick up my children every day from school after the finish of

work, besides can generate sufficient income for family livelihoods.” (Interview record: 20220607L)

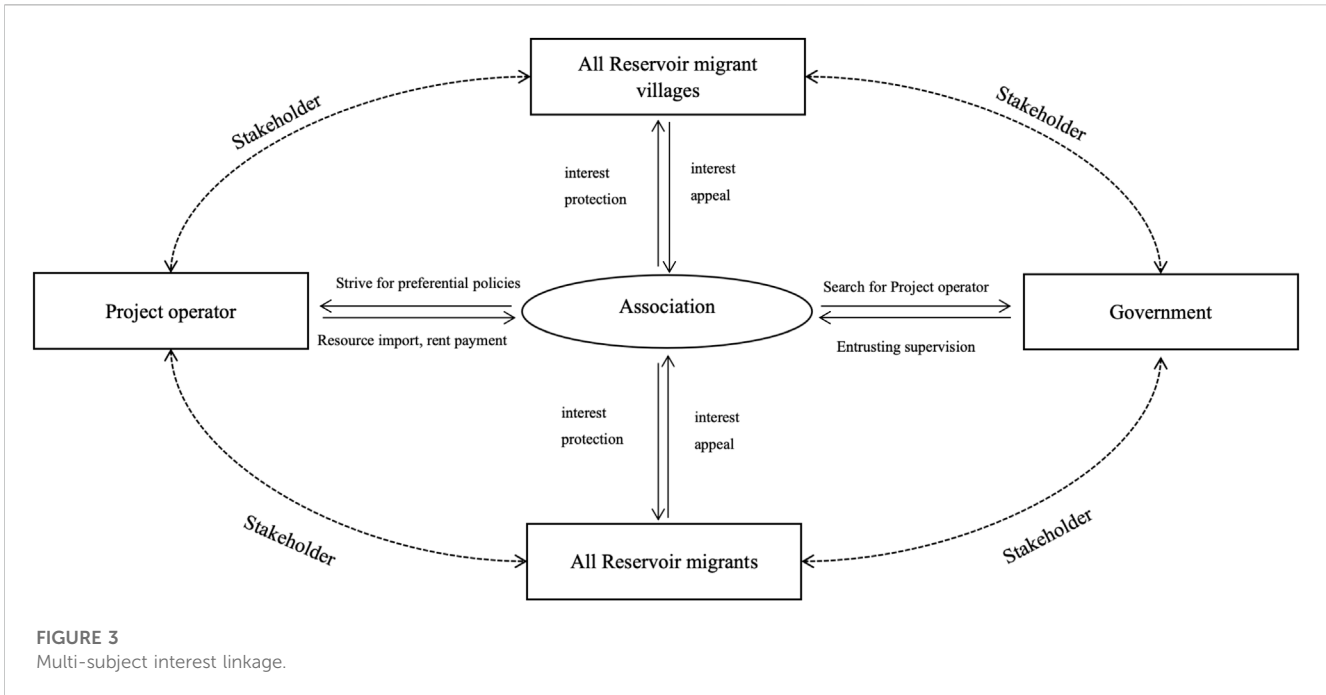
In case of inefficient use of project resources, the model of allowing village elite entrepreneurship through the association as a platform to drive reservoir migrants to participate in the industrial project which will solve the dual objectives of project development and migrant employment, besides increasing the socio-economic benefits to the reservoir migrants for achieving a just transition. As more elites and local entrepreneurs join the association in the resettlement area, there will be an improvement in the lifestyles of the returning elites. These association will further avoid the misconceptions of “waiting for something” and “tang ping,” and helps to achieve the sustainable development goals (SDGs) for the reservoir migrants.

4.2 Co-management: Benefits with NGO as a link

Environment and occupation of public resources are the two important issues in the regional and/or national scientific fraternity of immediate interest to reservoir migrants. These issues coupled with the potential for opportunistic behavior in project operations are not conducive to a just transition for reservoir migrants. However, the co-construction process can lead to employment opportunities for some migrants by local capable people. Therefore, it is more important to let all migrants also participate healthily in the supervision and integrated management of projects to ensure that they have a fair chance to meaningfully participate. In contrast to government agencies, NGOs play a crucial role and provide relevant stakeholders with the opportunity to participate in the entire process, giving people the opportunity to contribute and recognizing the effectiveness of such efforts (Hasan et al., 2018). In this instance, the association establishes a benefit linkage with multiple subjects. Subsequently, it establishes a benefit linkage between the PReS project and all reservoir migrant villages and reservoir migrants, forming a multi-subject common management project.

4.2.1 Establishing the benefit linkage of multiple subjects

Due to the long-term decentralized development of PReS project resources, resulting in a weakening of the degree of benefit connection between migrant villages, reservoir migrants, and project assets, coupled with the limited role of a single entity such as the government or the market in the development of PReS projects. It is challenging to achieve information sharing and resource complementarity. Therefore, the association tries to establish multiple subject-benefit linkages among the government, reservoir migrants, migrant villages, and project operators to fulfil its coordinating function as an intermediary and meet each body's real needs and interests (Figure 3). On the one hand, the government acts as the main body supplying resources for the PReS projects and prefers to use support funds for building fixed assets and reducing investment risk. Further entrusts the completed project assets to the association for supervision to ensure that the annual returns of project assets can meet the assessment requirements. Thereon expect the association to link to reliable project operators with development potential. The project operator aims for profitability and productive operations, thereby expecting the association to guarantee a stable



policy environment and good production conditions from the local, provincial, and national governments.

To meet competitive requirements and clients’ needs, NGOs need to combine different supply chain activities and advanced technologies (Aboramadan, 2018). Such needs and resources are not exclusively the capacity enhancement needs of the clients but are the most immediate needs of value-added projects and project operators with real development potential. Thus, NGO representing the benefit of all reservoir migrants, the association needs to consider both the safety of project assets and the sustainable development of the project besides meeting the demands of the government, enterprises, migrant villages and reservoir migrants.

The association places the prospect of industrial development before the commissioning of a project. The association works jointly with the government to assess the prospect of industrial development and the operator’s operational capacity to improve the matching of project supply with the needs of migrant villages. At the same time, as a complement to government forces, it plays a coordinating role in reducing transaction costs for both operators and migrant villages. Supervises the actions of operators, and reduces opportunistic behavior during project operations to meet the expectations of migrant villages and migrants from the association. For example, in the project “Water-Intake Mountain,” the county government used special funds to introduce water channels into the barren mountain. Before relocation, fund was allocated to improve agricultural irrigation and soil quality, and further to realize the reservoir migrants’ project into reservoir migrants’ assets. Thereafter transfer the project construction to the association entrusted with its management. The key objective of this project was to obtain land transfer rent and wages as labor for reservoir migrants in the post-relocation project.

“Before the project lease, our association and governments came together to examine the development of this enterprise. In the

process of project operation, we examined the business operation, understood the production situation of the enterprise, and practical difficulties encountered. It further provides expert advice which includes information or contact of the market, and so on. The most important thing was to let the enterprise live and grow systematically. The project’s business situation was good and everyone got a stable income.” (Interview record: 20220112, Association Secretary General).

Project sustainability requires a capital market, human resource support, and the “social foundation” of local human relationships, social interactions, and values (Fu, 2020). Therefore, it is easier to obtain government support and migrants’ trust by using local endogenous NGOs as the linkage, which can strengthen the linkage of interests among migrants, migrant villages, and enterprises, promoting the compelling connection between small farmers and large markets, and also provide a social foundation for the future development of industrial projects.

4.2.2 Establishing a community of benefit for the separation of project rights

Generally, the benefit linkage of multiple subjects helps to enhance the enthusiasm of each subject to participate in the project because project is a collective business asset of reservoir migrants formed by using the late support funds of reservoir migrants. The rights and obligations of each subject need to be further clarified to ensure that the collective benefits of reservoir migrants are not lost and to strengthen the benefit linkage between the migrants and the project. As a result, the association has established a community of interest in which project rights are divided. First, the ownership of project assets belongs to all reservoir migrant villages in the reservoir area, and the income belongs to them thereby changing the actual situation where the ownership of project assets belonged to a particular migrant village and/or

township. However, avoiding an imbalance of interests and conflicts in the management of a single township or village collective expands the scope of ownership of project assets and income rights. This allows reservoir migrant villages and reservoir migrants to participate healthily in PreS project management and supervision, and accrue benefits. Second, the right to operate the project assets is vested in the operator, but the right to supervise is vested in the association. The uncertainty of the operation of the business leads to changes in interests that may cause the unsustainability of the project. Therefore, the operator is required to sign a tripartite lease contract with the village collective and the association to clarify the responsibilities of each party in the operation of the project and to avoid any potential market risk problems.

For example, Village N entrusts the management of the outdoor leisure furniture project to the association, which enters into a lease contract with Company S and Village N's village committee. In the contract, the rights and obligations of each party are clearly defined, and the association provides the project assets that are accepted and qualified by the S company to guarantee the regular use of equipment and facilities. Moreover, it obtains a fixed income of 6% of the project audit quota and lease fees during the leasing period. The S company is mainly responsible for the regular operation of the project and generating socio-economic benefits, and bears the operating taxes, management fees, and other costs incurred during the operational period. However, N village is only responsible for the pre-project security work and obtains the lease fee.

“We signed an agreement with the association and the village collective for the smooth running of our business. The project assets, after the association's acceptance, lease to our hands have quality assurance, ancillary facilities, and roads in a normal usable state. Moreover, problems can be solved by communicating with the association instead of directly with the village collective or villagers.”(Interview record: 20220603D).

With the separation of rights, the community can effectively regulate the stakeholder's rights and obligations, and establish a link between the project assets and interests of all the migrant villages & reservoir migrants. This linkage can enhance the stability of their interests and the sustainable development of project. In the model of PreS projects with NGOs, the most important thing is to guarantee that all reservoir migrant villages and migrants participate in proper supervision and benefit rights, which is critical in promoting the just transition of reservoir migrants.

4.3 Co-sharing: Benefit distribution with NGO as a carrier

In promoting the just transition of the reservoir migrants, the development results of the PreS projects should be shared by all reservoir migrants to ensure that each migrant enjoys the project's benefits efficiently. Based on the community benefit of project rights sharing, the association distributes project proceeds in order to reduce income disparity and avoid a concentration of wealth in a small elite group that would widen the socio-economic gap among the migrants.

This distribution has the following two characteristics; First, to prioritize equity, it insists on narrowing the gap in the collaborative economic development of migrant villages, dynamically helping low-income groups, and preventing the village and income gap from widening. This is an essential manifestation of the social benefits of the PreS project, which guarantees that the less competitive reservoir migrant villages and reservoir migrants with a lower income directly benefit from the value-added income generated by the project. On the one hand, to narrow the gap in the collaborative economic development of the reservoir migrant villages, the association should adopt the distribution method of starting from landless reservoir migrant villages, then moving on to overall relocated villages, and finally, achieving full coverage of the scattered resettlement and the production resettlement villages, regarding the overall distribution of funds and the elimination of weak villages in each township in the reservoir area. For example, in 2019, the association received a total of 2.178 million in prepaid rent, screened out 25 weak landless migrant villages and 41 overall relocated villages that meet the indicators for eliminating weak village situations, and these 66 migrant villages each received 30,000 CNY in revenue for collective production, thus guaranteeing the weak migrant villages, that lack project resources and development conditions can also share in the fruits of the development. On the other hand, the association dynamically provides essential livelihood protection to low-income groups, such as households that are unstable because of poverty, marginal households prone to poverty, and households in sudden and severe hardship, to prevent the risk of migrants returning to poverty quickly. The township migration office shall first nominate reservoir migrants with temporary difficulties in the basics of life due to special reasons such as illness. Subsequently, the association shall provide emergency funds to the reservoir migrants who have difficulties in life and assist in solving the practical difficulties faced in production and life by holding a general meeting of members to review the situation jointly.

“Our village does not have land, and the collective income is very little. After joining, the association, in the past 2 years provided 30,000 CNY a year to develop the village, there are difficulties in the lives of migrants that can also be reported to the association, some time ago, there was a college student who suddenly had acute nephritis, and after verification, the association gave him 50,000 CNY. For him, he can get this money very quickly.” (Interview record: 20220604HB)

Second, considering efficiency, the surplus proceeds shall be equally discounted for all reservoir migrants to increase their recognition and support for the association. This is an essential manifestation of the economic benefits of the PreS project, and the number of dividends enjoyed by reservoir migrants will increase as the volume of the association's supervised projects increases, promoting the transformation of resources into assets, rents into shares, and reservoir migrants into shareholders. For example, in 2020, the Association will equalize 1.5 million CNY of proceeds to be distributed directly to 150,634 reservoir migrants in the whole relocation village in the county, and each person will receive 10 CNY of dividend proceeds.

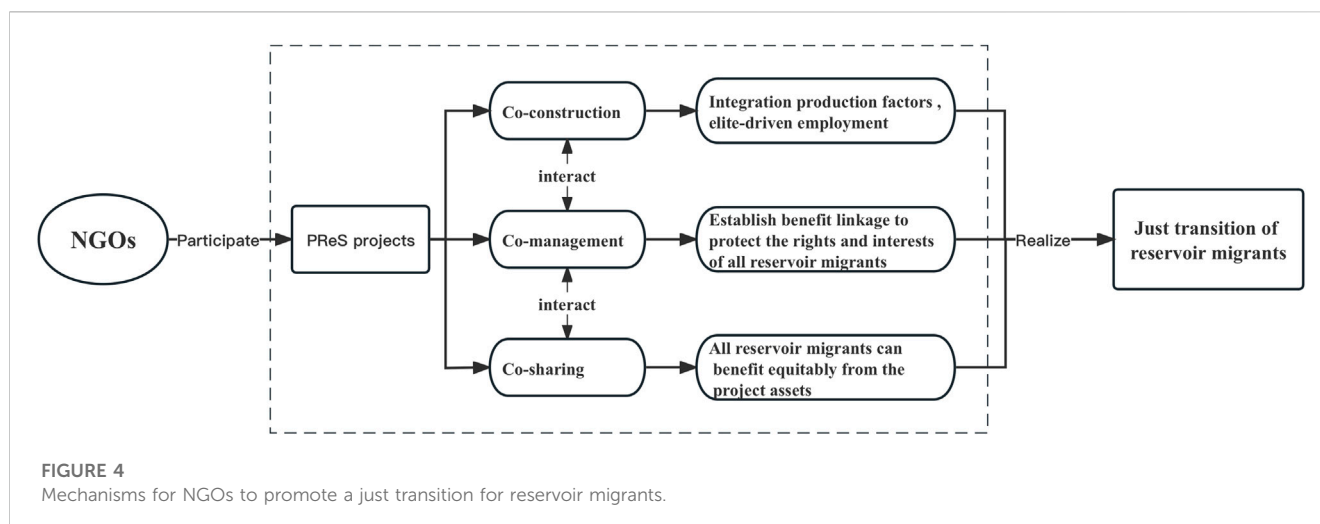


FIGURE 4
Mechanisms for NGOs to promote a just transition for reservoir migrants.

“The use of state support funds to form assets produces the benefits of all reservoir migrants and cannot be distributed unevenly. This part of the value-added income to benefit migrants, the first few years to each migrant 10 CNY per year, as our association is now supervising the volume of the project, it is still considered small, and the income is still small. When the income is more likely to share everyone 80 CNY, which is possible.” (Interview record: 20220112 Association Secretary General)

A fair and reasonable distribution method is to promote the just transition of the reservoir migrants to ensure that the PReS projects are bigger and stronger while sharing the value-added benefits of project development. The market-led first distribution made the elite rich first. The government-led second distribution promoted social equity for migrants through public services. However, it is difficult for low-income reservoir migrants to achieve a just transition, as the third distribution needs to be improved to promote the shared prosperity of rural low-income groups (Zhang, 2022). The third income distribution by NGOs, sharing the value-added income of project assets among all reservoir migrant villages and migrants, has not only narrowed the development gap among migrant villages but also narrowed the income gap between the migrant people and the neighbouring farmers and, most importantly, broadened the income increase channels for low-income migrant groups, which has an irreplaceable role in promoting the just transition of reservoir migrants.

Based on the results of the study, the Association has increased the participation of reservoir migrants in the construction and management of PReS projects through elite-driven mechanism. These interlinked benefits distribution approaches form a realization mechanism that promotes the just transition of reservoir migrants, which is a co-construction mechanism, a co-management mechanism, and a co-sharing mechanism. These three mechanisms do not exist in isolation in promoting a just transition for reservoir migrants but rather in a symbiotic relationship that complements each other (Figure 4). Firstly, the co-construction mechanism using the association as a platform integrates production factors such as project resources, human resources, and technical resources within the village area and assists migrants with entrepreneurial ideas. This enhances the initiative of

reservoir migrants to participate. Reservoir migrants are the beneficiaries of a just transition and part of the leading force in the construction of PReS projects. The realization of a just transition requires that the passive participation of migrants can be transformed into active participation. Secondly, the co-management mechanism builds the benefit linkage of multiple subjects, and the profit community of the project ensures the stability of reservoir migrant’s participation in project supervision and management. By clarifying the rights and obligations of the direct interests related to the project, potential conflicts arising from the lack of openness and transparency in project development are reduced, providing a supportive path for promoting a just transition. Finally, the co-sharing mechanism implemented by the Association quantifies the benefits equally to each migrant so that, all migrants can benefit equitably from the project assets, especially low-income migrants. This mechanism results in guaranteeing the sustainability of the participation of reservoir migrants in sharing benefits. While ensuring fairness in the distribution of project benefits, it also helps low-income migrants by narrowing the income gap providing a systematic guarantee of a just transition for all reservoir migrants. It can be seen that, in the various stages of the development of PReS projects, the association’s co-construction mechanism provides for the migrant initiative. The co-management mechanism provides the path support and, the co-sharing mechanism provides the system guarantee, and all these three mechanisms work together to promote the just transition of the reservoir migrants.

Based on qualitative work in the Y association, this paper draws on the participatory development theory to examine the impact of the NGOs on the just transition of reservoir migrants from three dimensions: i) construction, ii) management, and iii) benefit distribution of PReS projects. The results show that participation in PReS projects is the critical basis for the sustainable development of reservoir migrants, and organized participation is an effective way to promote the just transition of reservoir migrants. Survey results of this study are in accordance with recent findings (Xu et al., 2022; Solomon, 2023), which indicates that the PReS policy has contributed to the improvement of reservoir migrants’ livelihoods in all aspects but faces sustainable challenges, therefore exciting policies need be reframed which could address individual vulnerabilities and promote community economic through cooperation. NGOs organize the previously

atomized reservoir migrants through co-construction, co-management, and co-sharing and use the organizational mode to improve the participation of reservoir migrants in the PReS projects, especially the participation of women migrants. Migrant women lack the authority to make decisions or express their opinions, and they will lose their development resources and benefits (Shen et al., 2023). Implementing participatory communication based on collective learning can help mitigate risks and promote adopting policies that support sustainable development (Giulio et al., 2013).

Survey results further indicate that NGOs improve the effectiveness of reservoir migrants' participation through collective action, leading to the cooperative behavior of reservoir migrants, which indirectly and/or directly helps safeguard the interests of reservoir migrant groups. The evidence shows that a just transition for reservoir migrants is facilitated when migrants are able to access development opportunities directly from the project. The ability to participate in employment and earn an adequate income (Tang et al., 2010) is an important way to address the issue of migrants' livelihoods (Zhao and Luo, 2017). NGOs representing reservoir migrants can ensure that their members can participate in PReS projects, promote access to development opportunities for all migrants, and guarantee equality for all migrants in the distribution of project value-added benefits through reasonable benefit distribution methods to obtain stable living resources (Sen, 2014; Huang et al., 2022).

This study has several limitations. Firstly, the case selected is provincial-specific and is only one way of promoting a just transition for reservoir migrants through NGOs in a particular region of China but could be implemented to nation or worldwide. Secondly, this study used a single methodology and a small sample size. Generally, the relationship between the just transition of reservoir migrants and NGOs participation is a complex process so advanced methodologies adoption with large sample size could give better results and findings. Third, other dimensions of participation could be used to organize reservoir migrants in addition to the three-dimensional (3D) geometries.

5 Conclusion and policy implications

In this study, two keys research question has been addressed; firstly, how NGOs organize reservoir migrants to participate in PReS projects jointly, and secondly how the results contribute to a just transition for reservoir migrants. Procedural injustices result come in to picture when stakeholders, in particular vulnerable groups such as low-income households, are excluded from the decision-making process of PReS projects. In this case study, the NGOs interpreted the just transition of the reservoir migrants from their actions as a public benefit in sustainable development, a principle of sustainability and relative equity. Notably, NGOs unify individualized and decentralized expressions of interest to form a channel for expressing the common interests of reservoir migrants. Although this was a specific study representing NGOs, our findings provide insights into achieving a just transition for reservoir migrants from a participation perspective. Findings of this study provide a practical reference for the construction of PReS projects in China and offer lessons on cross-departmental cooperation and collaborative governance in solving global resettlement issues regarding sustainable livelihood for the relocated.

The study suggested ways forwards to promote a just transition for reservoir migrants in other regions of China and worldwide as follows.

- (1) Strengthen the reshaping of the subject position of reservoir migrants and reduce dependence on external resources, which is conducive to improve the endogenous development motivation of reservoir migrants to avoid social risks.
- (2) Discover and pay attention to the subjectivity of reservoir migrant groups to further enhance and develop the subjectivity of reservoir migrants.
- (3) To create a favorable work environment for reservoir migrants, therefore government should consider both NGO participation and migrants' employment preferences, as well as reinforce policy incentives.
- (4) Fostering cooperative combinations in resettlement areas to promote common prosperity among reservoir migrant groups.
- (5) To regulates NGOs' behaviors within the scope of the law, should also be seriously and carefully explored, instead of vaguely mixing them up or exercising the Chinese government's functions with NGOs.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

XH: Conceptualization, Investigation, Software, Writing–original draft. SC: Funding acquisition, Methodology, Writing–review and editing. JS: Conceptualization, Software, Writing–original draft.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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