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a new frontier for design

L'ÉCOLE DE DESIGN Nantes Atlantique

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Ethical Leadership: A New Frontier for Design

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ethical leadership
a new frontier for design
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ETHICAL LEADERSHIP OF ENGOS FROM A SYSTEMIC DESIGN PERSPECTIVE: A CASE STUDY OF THE YANGTZE RIVER IN CHINA AS A METAPHORICAL BOUNDARY FOR RIVER SUSTAINABLE DEVELOPMENT

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ABSTRACT | China's rapid economic growth has led to prominent environmental issues, including pollution, ecological imbalance, and biodiversity loss. Among them, the environmental impacts on the Yangtze River raise concerns. The Yangtze River, known as the 'Mother River of China', originates in the Qinghai-Tibet Plateau's hinterland and is the world's third-longest river. During significant historical evolution, especially in response to national policies and global environmental challenges, environmental non-governmental organisations (ENGOs) have transformed from peripheral players in environmental governance to influential participants and have adopted various strategies to collaborate with governments to formulate policies. Among the key ENGOs in China that have sprung up around the conservation of the Yangtze River, the Sichuan Green River Environmental Conservation Promotion Association (Green River), founded in 1995, is a prominent representative. The organisation's founder, Yang Xin, has a deep connection with the Yangtze River that began in 1986, when he was part of the first human expedition to raft the Yangtze. He has used his life to engage in dialogue with the Yangtze, which has existed for hundreds of millions of years (Li, 2006). Subsequently, after many in-depth investigations at the source of the Yangtze, he observed the fragility of the Yangtze River basin ecosystem and the severity of the pollution problem and established China's first non-governmental nature conservation station. Over the next 30 years, through his unique moral leadership, he rallied nearly 3,000 volunteers from cities across China to engage in environmental conservation actions at 15 conservation stations along the Yangtze River. The leadership principles of 'leading by example' and 'public participation' (S. Quick et al., 2022), which he advocated, have become critical forces in promoting

sustainable development in the Yangtze River Basin. This paper aims to explore the contribution of ethical leadership to transforming ENGOs from a multidisciplinary perspective, drawing on concepts from systemic design theory, ethical leadership, and metaphorical boundaries. The Yangtze River is a metaphorical boundary here, symbolising separation and connection. In a socio-cultural context, it delineates the boundaries of different experiences and provides new opportunities to cross boundaries and explore (Gara, 2022). This paper adopts a mixed-methods approach, combining systems thinking with design tools to conduct a multidimensional, multi-stakeholder analysis. Key data for the case study were obtained through semi-structured interviews and field research. The Yangtze River as a metaphorical boundary shows how to integrate the resources of the government, businesses, NGOs, and citizens to jointly address the complex challenges of Yangtze River ecological protection in the Chinese context, thus providing a new perspective on the development of ethical leadership for ENGOs and exploring the definition of a systemic design-led roadmap for desirable future trends in ecological conservation.

KEYWORDS | ETHICAL LEADERSHIP, ENGOS, GREEN RIVERS, SYSTEMIC DESIGN, YANGTZE RIVER, METAPHORS

1. Introduction

As Liu (2018) states, “Some studies have found that 90% of the global plastic waste entering the sea is concentrated in ten rivers, including China's Yangtze River.” The Yangtze is the longest river in China and the third longest in the world. Its source is in the Tanggula Mountains in Qinghai Province, where it collects the Chumar River system in the north, the Ulan Moron River system in the west and the Dangqu River system in the south. The Yangtze River is 6,397 kilometres long and has an annual runoff of 951.3 billion cubic metres (Guo et al., 2021). The Yangtze River and its tributaries run through 19 provinces (autonomous regions, municipalities directly under the central government) in China and finally converge in Shanghai into the Yellow and East China Sea. The total industrial and agricultural output value of the areas along the river accounts for about 40% of China's total economic output, and 40% of China's 1.4 billion people live in the Yangtze River basin.

Against China's complex political, social, and cultural context, the government is more concerned with livelihood issues while promoting economic development. However, the Yangtze River Basin faces multiple environmental challenges, including plastic pollution, water pollution, ecological degradation, biodiversity loss, overexploitation, and climate change. These challenges urgently require a multi-party response. Since the 1980s, various civil entities have flourished in China as civil society organisations have gained increasing global influence (Kahn et al., 2024, p. 8). Types of NGOs in China include international NGOs (INGOs), government-led NGOs (GONGOs) and bottom-up NGOs (NGOs). The development of ENGOs in China began in the mid-1990s and has since grown rapidly. Unlike in other parts of the world, Chinese NGOs promote their agendas by avoiding confrontational approaches and encouraging cooperation with the government (Kahn et al., 2024, p. 6). As times have changed, China's NGOs have gradually transformed from being peripheral participants to influential partners. One outstanding representative is the Green River, a grassroots Chinese ENGOs established in the 1990s, promotes and organises activities to protect the natural ecological environment in the upper reaches of rivers, promotes the development of civil society efforts to protect the natural ecological environment in China, raises environmental awareness and environmental ethics in society as a whole, and strives to achieve sustainable socio-economic development in the basin (Green River, n.d.).

ENGOs now have substantial impacts on people and their environments, both on the ground through project implementation (Brockington, 2002; West, 2006; Beymer-Farris & Bassett, 2012; Steenbergen & Visser, 2016; Watanabe, 2019; Partelow, Winkler, & Thaler, 2020) and through influence on policy from the local to international levels(Allan & Hadden, 2017; Keck & Sikkink, 1998; Larsen & Brockington, 2018; Partelow, Winkler, & Thaler, 2020; Princen & Finger, 1994; Thaler, Viana, & Toni, 2019). Throughout ENGOs worldwide, a few organisations have relied on their national resources to implement differentiated environmental protection actions by establishing conservation stations. However, some INGOs have taken a different path. For example, Greenpeace has established branches worldwide to promote local environmental initiatives. At the same time, among the first scientific explorers to complete the entire journey of the world's major rivers, only a few have continued this feat as a lifelong career in ecological and environmental protection. Some explorers were killed during their expeditions, such as Naomi Uemura, who completed the Amazon River in 1970. According to the available data, Yang Xin has been working on ecological and environmental protection for a long time.

Rivers have always been seen as metaphors for physical and symbolic boundaries. As dynamic entities, they break the static concept of traditional territorial boundaries and provide a wealth of symbolic meaning for culture, society and the environment. In the conservation practices of ENGOs, the image of the Yangtze River as a metaphorical boundary inspires unique emotions among people living along the river toward river conservation. Historically, the Yangtze River region relied on cruise ships and passenger terminals to connect the region. In today's practice of joint ecological protection of the Yangtze River, the Chinese government has put forward a development strategy along the Yangtze River centred on the 'Yangtze River Conservation' (Zheng et al., 2020), and through the enactment of the Yangtze River Conservation Law (Xinhua News Agency, 2021), the Yangtze River is being protected from the cultural metaphor of the Yangtze River as China's 'Mother River', calling for the active participation of various institutions and citizens in the cities along the river.

Brown et al. (2005) define ethical leadership as the "demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (p.120). Ethical leadership is not only reflected in individual behaviour but also in the actions of the entire organisation. The systemic design approach provides structured support for ethical leadership by focusing on multi-stakeholder, multi-level collaboration in complex systems such as environmental conservation, especially in cross-regional ENGOs. This paper explores how to promote sustainable development practices in ENGOs in the Yangtze River Basin by combining systemic design theory, an ethical leadership framework and the concept of 'metaphorical boundaries.

2. Methodology

This research adopts a mixed-methods approach that integrates the perspectives of systemic design, ethical leadership, and metaphorical boundaries. It aims to explore how the ethical leadership of ENGOs plays a key role in ecological and environmental conservation in the Chinese context, and how strategies in the Yangtze River Basin can inform the future development of a design-led, systemic roadmap. The research combines quantitative and qualitative methods to analyse data on Green Rivers' achievements and development milestones in environmental conservation. Semi-structured interviews and field observations are used to analyse the experiences and strategies of ENGO leaders in ecological conservation practices.

The semi-structured interviewees were selected from among the leadership representatives of Green Rivers, an environmental NGO. A consistent interview framework was used across all participants, covering topics such as their motivations for participating in ecological activities, the role of the Yangtze River in China's environmental conservation efforts, and the organisation's management structure and leadership style.

First, the research centres on the symbolic 'mother river' Yangtze, a metaphorical boundary in the Green River environmental conservation case study. This metaphor not only reflects the unique position of the Yangtze River in ecological and environmental conservation but also inspires the possibility of exploring new environmental governance and leadership models in regions with similar geographical and cultural backgrounds. Ethics, as a "tool for guiding personal behaviour, attitudes and manners" (Sharma et al., 2019, p. 714), is critical in the practice of ENGOs. As Naeem and Syed (2024) point out, "Ethical leaders' traits not only influence behaviours and decisions within the organisation but also play an important role in shaping the broader organisational context leading to the creation of an environment where ethical practices thrive and evolve" (Naeem & Syed, 2024, p. 1168). Based on this, this study aims to analyse how ENGO leaders in the Chinese context can use their ethical leadership to call on large-scale communities and volunteers to protect the Yangtze River ecosystem, thereby providing lessons for similar environmental governance.

Since grassroots ENGOs in the Chinese context inevitably need to address highly complex system issues when tackling ecological and environmental challenges, including the impacts of material, information, ecological, and economic flows, as well as the complex relationships among numerous direct, indirect, and potential stakeholders, this study focuses on the following two aspects. First, a qualitative study was conducted through semi-structured interviews with multiple ENGO leaders involved in conserving the Yangtze River's ecological environment. The interviewees received personalised questions based on a unified question framework before the interview, covering the Yangtze River's role in ecological and environmental conservation, motivation for participation, leadership style, organisational management and decision-making mechanisms, and the main challenges faced. Each interview lasted about an hour. The interview texts were coded using content analysis to identify and organise recurring concepts and key insights (As shown in Table 1). Secondly, the quantitative study collected and analysed data on the Green River Project's results and development milestones to quantitatively evaluate the results achieved by ENGOs in promoting ecological conservation practices, providing data support and verification for the qualitative study.

In addition, systemic design, as an important theoretical approach in this study, originated from the Politecnico di Torino in Italy at the beginning of the 21st century. Its core concept is to promote the sustainable development of the environment, society and economy through interdisciplinary methods and systems thinking. In the case of the Green River, a systemic design complexity map is used to analyse how various stakeholders collaborate and participate in environmental protection projects.

In the Yangtze River ecological conservation practice, ethical leadership is demonstrated by leaders and environmental NGOs who actively advocate ecological responsibility and promote public participation in conservation actions. Meanwhile, the systemic design provides a holistic understanding of the system, clarifying the various stakeholders and helping coordinate the multiple forces of government, business, and civil society organisations to work together within the complex ecosystem of the Yangtze River basin. At the same time, the metaphorical boundary of the Yangtze River as the 'Mother River' breaks down administrative and geographical constraints at the emotional and cultural

levels, fostering a sense of identity and belonging across boundaries and providing an effective platform for collective action. According to Lakoff and Johnson's (1980) theory of metaphor, metaphorical boundaries not only cognitively simplify complex information but also emotionally facilitate the mobilisation of collective action, thereby providing ethical leaders with a powerful tool for systemic design in real-life scenarios.

Finally, the study explores an effective model for multi-sector collaboration in ecological conservation involving government, businesses, NGOs and the public by mapping out a 'green river development path and stakeholder map' led by systemic design, providing theoretical and practical references for the policy framework and practical path for plateau ecological conservation, and apply holistic analyses of systemic design to support ethical leadership in environmental governance.

Table 1. Table of list of semi-structured interviews.

Name	Time involved (years)	Role	Affiliation
Yang Xin	32	Explorer, photographer, environmentalist	Founder/President of Green Rivers, Director of the Yangtze River Estuary Green Development Promotion Centre
Han Mei	24	Director physician at Golmud People's Hospital, classmate of environmental conservation defender Jiesang Suonandajie	Former Director of the Yangtze River Source Eco-Environmental Conservation Centre
Gejiaer Tudan Damba	14	Pastoralist of the Yangtze source	Director of the Yangtze River Source Eco-Environmental Conservation Centre, Yangtze River No. 1 Theme Postmaster
Shi Shile	5	British international accountant, account manager of the project finance department and credit department of the Shanghai branch of Société Générale, general manager of the internal control audit and risk management department of Huabao Xingye Fund Management Co., Ltd., general manager of Vanda Private Equity (Shanghai), partner of Shanghai Xinren Culture, Beijing Entrepreneur Environmental Conservation Foundation	Secretary general of the Yangtze River Estuary Green Development Promotion Centre
Zhong Peijian	3	China Changdian 606, 908 Captain (Yangtze River Route)	The postmaster of Changjiang 11 Theme Post Office

3. Results

After cross-analyzing quantitative and qualitative data, analyzing interview results, and using deductive methods combined with visualization tools to draw the Green River development milestones, full map of the Yangtze River basin and a map of the Green River conservation station and Green River development path and stakeholder map, and through comparative analysis of charts and graphs ten key ten comparisons between China's Green River, the results of 30 years of Green River conservation are displayed to evaluate the effectiveness of Green River in ecological and environmental conservation practices.

3.1. Results of the interviews

- Motivation to participate in eco-related activities

All interviewees described their initial motivation for getting involved in the Green River environmental conservation effort, and each shared unique and fascinating experiences. A recurring theme was the memory of specific historical events: four interviewees mentioned the 1986 Yangtze River rafting expedition that caused a national sensation, and three mentioned the tragic death of Jiesang Suonandajie, deputy secretary of the Zhiduo County Committee in Yushu, Qinghai Province, in January 1994, when 18 Tibetan antelope poachers shot him in the uninhabited area of Kekexili at minus 40 degrees Celsius. In addition, three interviewees recounted their experiences witnessing environmental changes at the source of the Yangtze River, and three said that Yang Xin's influence prompted them to participate in the Green Rivers project.

For example, interviewee Yang is an explorer, photographer and staunch environmentalist. Not only did he complete a rafting expedition down the entire Yangtze River in 1986, but he also made five expeditions to the source of the Yangtze, where he documented, through his camera, the profound impact of climate change and glacial retreat on the ecology and the lives of local people. Interviewee Han recalled:

> “After my classmate died, I began to feel strongly about the severity of environmental conservation issues in the highlands, and a sense of responsibility welled up inside me. It was not until Yang established the Suonandajie Nature conservation station that I started to pay attention to ecological environmental conservation.”

Another interviewee, Ge recounted:

> “In 1986, when I was in primary school, the school organised a celebration for the heroes of the Yangtze River rafting team, with all the teachers and students beating drums and gongs. It was not until 2011, when Green River set up a conservation station in Tangula Town, where I was born and grew up, and needed to recruit local managers, that I had the opportunity to get involved directly.”

In addition, interviewee Shi described the experience of conducting due diligence to identify an unqualified investment donation target and confirm Green River as the donation target while serving as the organisation's head.

- The role played by the Yangtze River in China's ecological and environmental conservation work

All five interviewees mentioned the close connection between their upbringing and the Yangtze River. Two came from the Source of the Yangtze, one from the Upper Yangtze and two from the Lower Yangtze. Han, who grew up at the Source of the Yangtze, recalled:

> "I noticed that the snow-capped mountains and the river changed significantly yearly during my upbringing. If the snow-capped mountains melt, it will seriously impact human health and the survival of all life, including wildlife and plants. The most direct consequences will be water shortages and the spread of various infectious diseases."

Another resident of Ge, which is located on the banks of the Ulan Moron, said: "The source of the Yangtze is not only where I grew up, but it also nurtured me. I have a deep affection for my mother river, and I can observe the changes in the Yangtze and its source grasslands and ecosystems." Yang, who comes from the Upper Yangtze, said with emotion: "With the Yangtze as your backdrop, you have to be strong; in the process of exploring and protecting the Yangtze, there have been many victims." Captain Zhong, who has been navigating the Yangtze said: "I have worked on the Yangtze for 40 years, and the Yangtze has accompanied me for half a century." In addition, interviewee Shi, starting from the point that "the Yangtze carries a rich historical and cultural heritage," explained the important role of the Yangtze in multiple dimensions such as geography, economy, culture and the environment.

- Management structure and leadership style

In terms of management structure and leadership style, all four interviewees emphasised Yang's unique personal charm, leading by example, perseverance and a strong sense of social responsibility. These qualities are key factors that attract other managers to continue to participate in the Green River Project. Green River has two centres, the Yangtze River Source Eco-Environmental Conservation Centre and the Yangtze River Estuary Green Development Promotion Centre. There are 15 conservation stations across most of China, as shown in Figure 2. Han, Ge, Shi and Zhong mentioned in the interviews:

> "Yang has been a committed leader in ecological and environmental protection for 30 years, particularly at the high-altitude Source of the Yangtze River. With his firm belief in environmental protection, charisma, credibility and heroic spirit, he has inspired volunteers, pastoralists, businesses, NGOs and governments from all over China to work together for the environment. He is rigorous and pragmatic, ensuring projects get off the ground, promoting cost-effective operations for NGOs, and demonstrating an entrepreneurial spirit to enhance sustainability. His moral leadership influences his team and inspires more people to devote themselves to environmental protection and promote the organisation's development through collaboration and a shared vision."

The key to Green River's success in ecological conservation in China and in rallying nearly 3,000 volunteers to carry it out lies in the organisation's credibility, product-driven approach, and transparent and fair project implementation. It is precisely through practical actions in exchange for public recognition that Green River has always adhered to the principles of fairness and transparency in project implementation and has used the power of example to rally people from all walks of life to work together towards a common goal.

3.2. Results of the analysis of complex mapping tools in systemic design

As shown in Figure 1, the distance between the protected stations along the Green River exceeds 6,397 kilometres. The operation of these stations requires cross-regional and cross-departmental collaboration. The similarity among these stations is that they are all located near rivers, reflecting the Green River's holistic strategy for protecting the river basin ecosystem. When recalling their most difficult decisions, each interviewee mentioned how these choices have further strengthened their commitment to environmental sustainability. For example, when faced with development difficulties, Yang Xin still firmly refused to accept donations from tobacco and fur companies that ran counter to environmental conservation concepts.

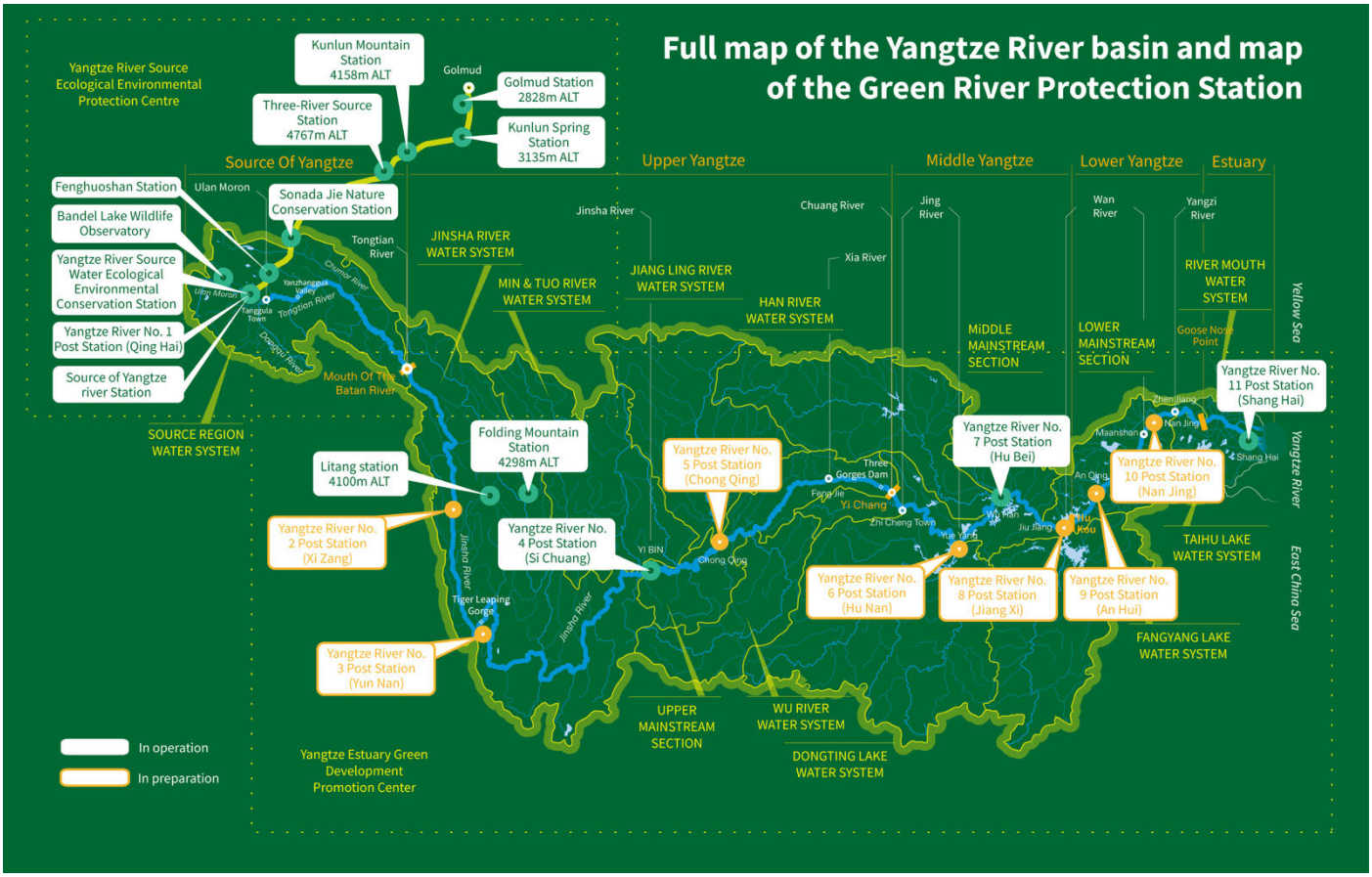

Figure 1. Full map of the Yangtze River basin and map of the Green River Conservation Station.

Figures 2 and 3 show that most conservation stations are in the Source region of the Yangtze. Their ecological conservation work mainly focuses on climate change and glacier retreat in the Source of the Yangtze, biodiversity and wildlife conservation, and packaging waste on the Qinghai-Tibet Plateau. From a systemic design perspective, ecological conservation does not focus on a single stakeholder but also requires a holistic understanding of all living things in the ecological conservation system and all material, energy, information, ecological, and economic flows that exist in direct, indirect and potential relationships with them, to achieve a comprehensive understanding and optimisation of the complex plateau ecological environment system. This comprehensive perspective ensures the project's long-term sustainability across environmental, social, and economic domains. Green Rivers follows a volunteer operation model of 'local government leadership, civil society mobilisation and participation, and social enterprise

supplement'. As shown in Figure 3, ecological and environmental conservation is not an isolated action but constitutes a complex ecological network in which every animal, every wetland, and participant plays an indispensable role. This approach transcends the limitations of traditional solutions and offers a new perspective and practical path for ENGOs to tackle complex ecosystem issues.



Figure 2. Green River development milestones.

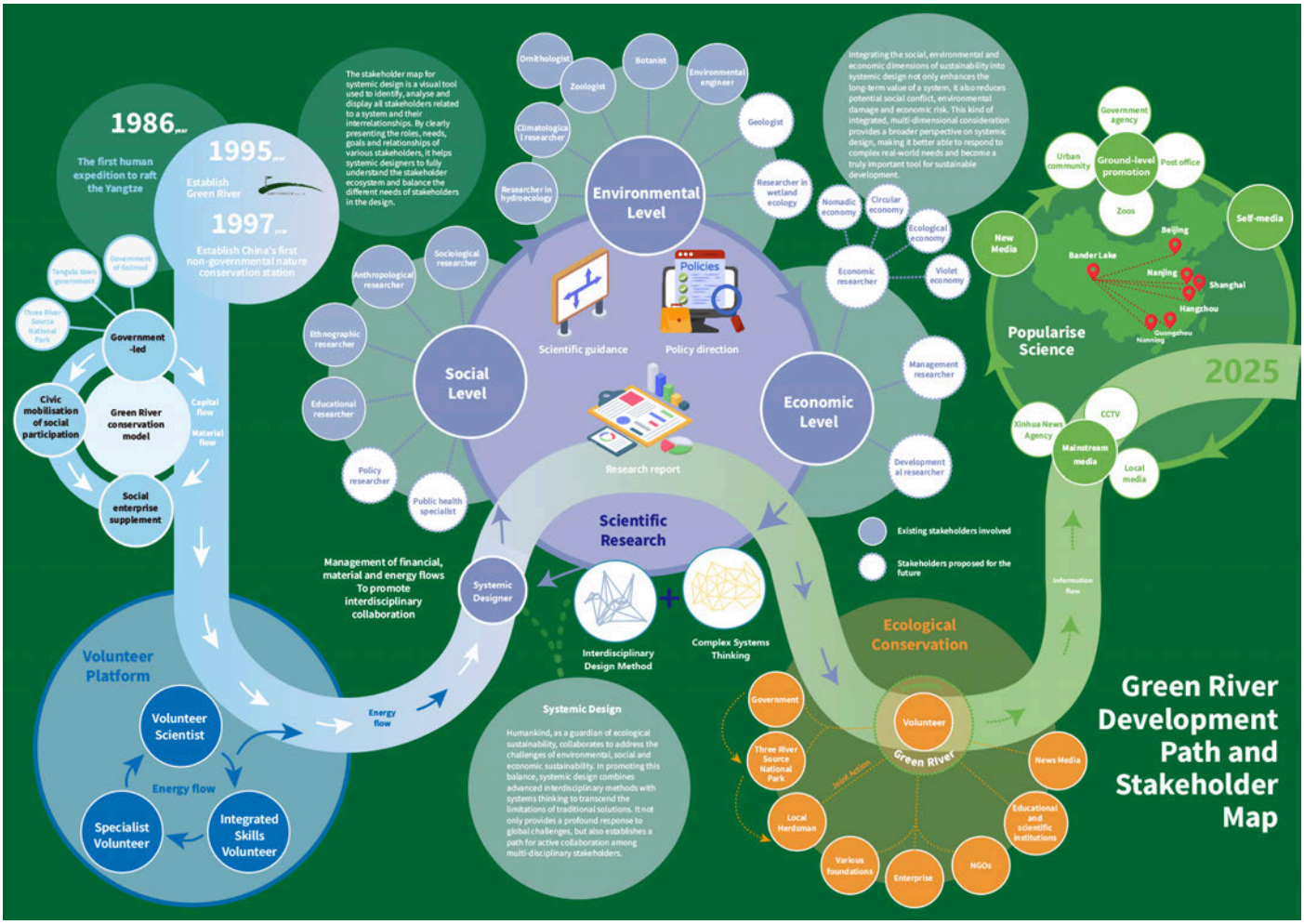

Figure 3. Green River Development Path and Stakeholder Map.

Table 2. Results of 30 years of Green River conservation.

Duration(years)	Project content	Results
2002 -2024	Recycling of waste on the plateau	1.65 million waste items (Green River, n.d.)
2005 -2010	Yangtze River Source Glacier Change Monitoring Project	Released 'Yangtze River Glacier Retreats 4,000 Metres in 40 Years' at the side event of the 2010 Climate Conference and became an observer organisation at the World Climate Conference (Xinhua News Agency, 2010; Yang, 2025, p92),
2012 -2024	Tourists participate in the 'Take a bag of trash away' project	About 60 000 people (Green River, n.d.; *Yang, 2025*)
2012 -2024	Anser indicus conservation project at the Bander Lake Wildlife Observatory	The maximum number of Anser indicus observed in a single day has increased from 1,172 in 2012 to 7,742 in 2023, showing a 6.6-fold growth trend (Lu., 2025, p. 102;)
2012 -2024	Biodiversity population survey of Lake Bande	Using a combination of volunteer and herder patrols, as well as methods such as drone surveys and camera monitoring, a total of 68 species of wild birds and animals were discovered in the 4.66 square kilometre Lake Bende wetland, including 47 species of wild birds and 21 species of wild animals (Chen, 2021). There are also 9 species of special plateau plants and 2 species of plateau fish populations (Xiong et al., 2022)
03/2024 -01/2025	Research action on tidal garbage along the coastline of two 50-metre sample areas in the Yangtze Estuary, Shanghai	The total weight of the waste is 591.5 kg, and the total weight of the plastic is 194.9 kg. This project involved 14 activities, with a total of more than 360 participants and 35 government units, enterprises, and organisations (Green River, n.d.)

4. Discussion and Conclusion

Green River's conservation stations operate with a combination of permanent staff and monthly volunteers. Recruiting high-quality management, fundraising, and project implementation talent is challenging in a low-cost operating model. However, Green River's nearly 30-year-old volunteer platform has created a situation where diverse resources complement each other: 'Some provide resources, some provide funding, and some provide technology or knowledge to work together to solve problems.' Much information shows that Yang Xin has won almost all the major environmental awards over the past 30 years and has had a decisive influence on the environmental movement in China. He has also 'used his network and adopted various strategies to initiate environmental campaigns' (Kahn et al., 2024, p. 7). "Green Rivers has used its charismatic founder and aligned itself with broader environmental values and messages in Chinese society to inspire broad and committed support for its goals" (Kahn et al., 2024, p. 5). "Despite regulatory and financial challenges, Green Rivers has been able to leverage its limited resources to significantly contribute to protecting the environment and rich biodiversity of the Yangtze River Basin" (Kahn et al., 2024, p. 2).

Green Rivers has built a sustainable ecological protection model in the Yangtze River Basin through cross-regional collaboration, systemic design methods, and ethical leadership. It has achieved remarkable results in plateau waste recycling, biodiversity monitoring, environmental education and public participation, providing innovative practices and important references for developing ENGOs in China and the ecological governance of the Yangtze River Basin.

The path of protecting the Green River fully reflects the unique geographical environment of the Qinghai-Tibet Plateau, as well as the innovative, sustainable and replicable nature of the conservation work carried out by scientists and local herders. This model provides a forward-looking management framework for ecological conservation in other areas of the Sanjiangyuan region and serves as an inclusive optimisation model by constructing a system that meets the basic needs of multiple species. This model can expand the scale of biodiversity resources and public welfare pools, promote broader social participation and commitment, and promote common development among all parties with a 'win-win-win' logic. The transparency of the method has led to open dialogue, a model of participatory governance that has become a successful case that can be replicated and promoted in ecological conservation. The collaborative cooperation model involving the government, NGOs, social enterprises, and the public has enhanced the efficiency and depth of ecological conservation and provided valuable experience for future ecological conservation practices in China and around the world.

One thing to note in terms of research transferability is that the Chinese government conducts a certain degree of regulation and review procedures for EGNOs' registration, approval of activities, fundraising, and international cooperation, which requires EGNOs to pay attention to changes in government policies to adjust their strategies and operational models to ensure compliance. This institutional context may limit the direct transferability of the research findings across different political and governance environments. The portability of future research also requires attention to local government policy orientations to clarify further the model's applicability in other countries or regions.

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