

## Witnessing the Limitations of Environmental Justice Issues in China, Especially In Rural Hubei: Promoting Environmental Education and Just Environmental Governance.

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**Abstract:** Environmental injustice refers to the disproportionate environmental hazards faced by marginalized communities, often resulting from inadequate environmental governance, limited legal protections, and insufficient public awareness. While global environmental justice movements have gained significant momentum, the issue remains underexplored in China. This research sheds light on the challenges marginalized communities in China face, specifically examining systemic flaws in the country's environmental justice framework. Through a qualitative approach, the study analyzes policy documents, case studies, academic literature, and interviews to identify key gaps. One of the major findings is the absence of an effective legal framework for public interest litigation, which prevents the public from holding polluters accountable. Additionally, the study reveals that the public's participation in environmental governance is restricted, limiting their ability to influence policies and decisions that directly affect their health and well-being. The lack of adequate environmental education further inhibits local communities from advocating for their rights and understanding the full scope of environmental hazards.

A case study in Zhongxiang's phosphorus chemical industry highlights the real-world implications of these deficiencies, where environmental degradation has disproportionately impacted local populations, with few legal avenues for redress. To address these issues, the study proposes strengthening legal protections, improving public participation mechanisms, and implementing comprehensive environmental education programs. These recommendations aim to foster more equitable environmental governance and empower marginalized communities to advocate for their rights, ultimately ensuring that environmental injustices are more effectively addressed in China.

**Keywords:** Environmental injustice, marginalized communities, environmental governance, legal protections, public participation, environmental education, China.

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## **Introduction**

Climate change has been an important social issue for centuries, characterized by inherent injustices. It transcends mere natural science considerations and includes complex social and political problems. Climate crisis and environmental problems are compounded with infrastructural breakdown and adaptation; intensifying migration and shifting patterns of settlement; and transformation of energy structure<sup>i</sup>.

Communities disproportionately experience environmental hazards, and the formulation and implementation of policies lead to unequal impacts on different groups of people. In regard to problems like this, the US Environmental Protection Agency defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies<sup>ii</sup>. Originating in Western worlds, the history of America shaped racial capitalism, and the racial problems created the special environmental injustices in America. On the other side of the Pacific Ocean, China faces unique environmental injustices under its geography, political system, and culture. There, with very little take-up in civil society discussions about environmental justices, issues regarding environmental injustices have limitations, and the concept of environmental justice has not yet become popular within environmental policy or civil society. Different from racial problems in environmental policies in the US, poverty and rural and urban differentiation are the main causes of the case in China<sup>iii</sup>.

The paper will explore the limitations related to environmental justice issues in China and examine the government's responses to these challenges. Subsequently, focusing on cases in rural Hubei would provide a clearer understanding of the specific situations faced by local communities. It will argue that the environmental justice issues in Hubei, supported by environmental education, a more rigorous legal framework and implementation, and public participation, would have more meaningful outcomes.

## **Environmental injustices in China**

Environmental justice is a multifaceted social issue that intersects with various subjects including politics, economics and geography. It is manifested in several ways, such as the disproportionate exposure to environmental hazards, limited accessibility to green spaces like urban parks and ecological attractions, and inequitable treatment of environmental and climate policies.<sup>iv</sup> The causes of environmental injustice are also complex. For example, urban-rural inequality is not only the cause of China's rapid urbanization, but also the Chinese household registration system, which requires citizens to be registered based on geographical locales and has "led to the social exclusion of migrant workers in the urban environmental policy-making process", thereby resulting an unequal distribution of environmental benefits among cities<sup>v</sup>. The study of environmental justice from interdisciplinary perspectives has become a trend in China so far, including philosophy, laws and policies, economics, history, and management.<sup>vi</sup> However, there are notable limitations

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and challenges regarding environmental justice issues in the legal, academic, social and political fields.

The legal framework for addressing environmental injustice in China presents difficulties for individuals and organizations seeking to protect their rights. When individuals seek to address environmental injustice issues through legal channels, they face restrictions in protecting their rights. In China, individual citizens are not permitted to initiate environmental public interest litigation, a crucial legal tool for addressing environmental crises. Instead, the procurator ate is the plaintiff in the vast majority of environmental public interest litigation cases. This legal framework limits the ability of the litigation process to adequately consider public opinion and effectively ensure the environmental rights of vulnerable groups<sup>vii</sup>. Moreover, the financial burden of litigation presents challenges for the non-governmental organization. A lawsuit on environmental issues can require high acceptance fees that the NGOs need to pay if the claim is rejected. The ambiguities within the existing legal framework complicate these lawsuits, such as the requirement to “restore” an environmental resource, which demands clearer baseline or target.<sup>viii</sup>

The evolving academic discussions of environmental justice in China have developed relatively recently and it exhibits a lack of clarity and cohesion. The environmental movements and research on environmental injustice among Chinese scholars and politicians differ significantly from environmental justice movement in the US, which is closely associated with racial discrimination and was studied by Robert Bullard<sup>1</sup> as early as 1979.<sup>ix</sup> The initial academic discussion of the concept of environmental justice in China was in the field of environmental ethics. Wang Taoyang posited that environmental ethics should be based on distributional environmental justice concerns, specifically regarding the allocation of environmental benefits and burdens across different communities. Following the 2000s, more articles expanded on the debates about environmental ethics, incorporating considerations of legal frameworks of environmental justices.<sup>iii</sup> The concept of environmental justice has expanded to encompass distributive justice, corrective justice, and social justice, which are influenced by governmental action. However, these concepts are not uniform, and the evaluation criterion remains ambiguous. Additionally, the academic research system is incomplete, highlighting the need to strengthen interdisciplinary cooperation and theoretical innovation.<sup>vi</sup>

Besides, protests for environmental justice in China are discouraged and impeded by the government. The environmental movement in the country can be characterized by environmental group incidents and environmental protests.<sup>x</sup> The *Public security organs handling mass security incidents* defines mass public incidents as "commit acts that violate

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<sup>1</sup> Served to support that locating solid waste landfills in a particular neighborhood was a form of discrimination, the *Bean v. Southwestern Waste Management Corporation*

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state laws, regulations and rules, disturb social order, endanger public security, and infringe upon citizens' personal safety and public and private property safety." This definition implies that the officials perceived environmental group incidents as social turmoil and strongly discouraged it. To date, there hasn't been a mass environmental protest movement in China. When people encounter environmental injustices and express worries about their health, they tend to tolerate their situation rather than escalating it into legal or collective action.<sup>iii</sup> Furthermore, there is limited research in China that explores the relationship between environmental injustice in environmental protests. Many scholars are skeptical about the prospects for environmental protest because many struggles encounter relatively pessimistic attitude.<sup>ix</sup>

Another essential aspect of understanding the development of environmental justice in China is the idea of ecological civilization. President Xi once said during the 19th Political Bureau of the CPC Central Committee that "ecological and environmental protection and economic development are dialectically unified and mutually reinforcing".<sup>xi</sup> The 20th National Congress of the CPC further emphasized the need to "promote green development and harmonious coexistence between man and nature" to construct a modern socialist country.<sup>xii</sup> Conceivably, the convergence of "eco-civilizational progress" and "green modernization" has emerged as an important issue of China's ecological environmental work and policies.<sup>xiii</sup> China's focus on eco-civilizational progress underscores its emphasis on economic rights than on civil rights. This is evidenced by the fact that even though the Chinese government has signed both the *International Covenant on Economic, Social, and Cultural Rights* and the *International Covenant on Civil and Political Rights*, and the latter has actually not been ratified by the National People's Congress.<sup>xiv</sup> Additionally, at the United Nations Human Rights Council, China decided to abstain from the resolution "the right to a clean, healthy, and sustainable environment as a human right that is important for the enjoyment of human rights". However, there are debates regarding China's attitude toward international human rights issues. Although China adopted a relatively conservative approach to the resolution, the government has made efforts to establish human rights and environmental rights protection on domestic environmental protection framework and practices, such as China's Human Rights Action Plan (2021–2025) released by China's State Council Information Office.<sup>xv</sup>

Under China's diverse geography and varying levels of economic development across its eastern, western and central regions, a more localized analysis is needed to propose more targeted and effective solutions to environmental injustice. Building on the discussion of limitations of environmental justice in China, the paper will then investigate the extent of environmental injustices faced by local communities in Hubei Province with a focus on regional policy-making process and its practice. Following this analysis, I will propose ways to resolve the limitations in environmental governance, aiming to promote environmental justice.

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## **The environmental governance in Hubei and the environmental injustices faced by rural Hubei**

Located in central China, Hubei, as its name's meaning in Chinese, is in the north of Dongting Lake. Thousands of lakes dot the landscape of the Jiangnan Plain, the main plain in Hubei, and Yangtze River flows through it, creating a network of waterways. With a humid subtropical climate, there's significant rainfall during summer months, and summer is quite hot. Major natural disasters occurred in Hubei are the catastrophic flood in 1998, the snow disaster in southern China in 2008, the severe convection weather and the capsizing of the Eastern Star tourist ship in 2015, and the landslide and mud-rock flow in Enshi in 2020<sup>xv</sup>. In rural Hubei, agriculture remains the primary livelihood, and farmers still rely on traditional farming methods, such as hand planting and harvesting. Also, during COVID-19, the rural villages were sealed, and due to the lack of hospitals and inconvenient transportation in rural areas, it was quite difficult for ill villagers to be treated than people in more developed towns, leading the case to be more serious and even death. Consequently, some common environmental injustices faced by those people include industrial impact and lack of safety infrastructure, floods or droughts, a relatively isolated location and limited representation in decision-making processes.

Located in the center of Hubei Province, Zhongxiang possesses significant phosphate rock deposits. The reserves of phosphate rock are 500 million tons, which are predominantly distributed across three townships: Huji, Shuanghe and the phosphate mine along the Han River. Corporate registration data from Aiqicha indicates the presence of 65 registered phosphorus chemical enterprises in the region. Due to the large demand for labor in the phosphorus chemical industry, in 2024, more than 3500 people in Zhongxiang achieved "doorstep employment"--employed at local companies.

The concentration of phosphorus chemical industry has generated substantial environmental impacts, affecting local ecosystems, atmospheric quality, and water resources, with consequent implications for agricultural productivity and public health.<sup>xvi</sup> A 2018 investigation by Hubei Daily revealed significant deficiencies in waste management infrastructure: only 1 of 45 phosphorus chemical enterprises are connected to the sewage treatment plant, and instead, they directly discharge the wastewater into the natural waterways, making all the fish die in villagers' ponds.<sup>xvii</sup> While the local government has put forward plans for sustainable development, emphasizing transformational development to ameliorate resource depletion, implementation challenges persist.

Moreover, China Central Television's report once detailed the adverse effects of sulfur dioxide emissions from Dasheng Chemical Company on local agricultural activities, such as the farmer Wei Kaizui's livestock mortality and Yu Dinghai's aspen trees' degradation. Initial compensation agreements were established between the facility operator and affected parties, valued at 1 million yuan and 350,000 yuan respectively. However, after a year, the factory reported to the police station for being extorted and blackmailed,

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eventually leading Wei Kaizu and Yu Dinghai to be captive for 11 months, with the case ultimately dismissed after six years.<sup>xviii</sup> The incident does not only illustrate the environmental injustice faced by farmers in small towns, as their livelihoods were directly harmed by those chemical emissions, but also reflects the structural limitations within environmental regulations and the local justice system, particularly regarding the protection of vulnerable populations.

An examination of environmental governance in Hubei necessitates first establishing the broader context of China's environmental governance framework. The constitutional structure positions the National People's Congress as the supreme legislative authority and organ of power. Within this centralized system, local governments operate under the direct authority of the central government and the Communist Party of China, particularly in environmental policy implementation: the central government retains strong leadership in promoting environmental governance, and local governments at all levels are responsible for achieving environmental governance targets<sup>xix</sup>. However, the central-local relation is dynamic and complicated, displaying a mixture of authoritarian and liberal features<sup>xx</sup>, which prompted the central government to implement reforms and enhanced oversight mechanisms to address issues such as jurisdictional overlap and departmental standard inconsistencies.<sup>xxi</sup>

Noticeably, while designated as a priority, public participation during environmental governance has some shortcomings, including the vaguely specified public participation procedures, China's hierarchical culture, and the public's apparent lack of capacity to engage with technical issues at the heart of decisions. The primary function of public participation in China is to serve more as post-facto legitimization of predetermined policies rather than the efforts in policy formulation.<sup>xxii</sup> Contemporary research on public participation in Chinese environmental governance remains limited, and policies rarely design perspectives on how "China can rise to the challenge of engaging and leading public participation in environmental regulations"<sup>xxiii</sup>. This limitation is evident in Hubei's 14th Five-Year Plan for ecological environmental protection (2021). While emphasizing green development, pollution control and climate change adaptation, it allocates minimal attention to the public participation framework. The plan's treatment of "various social subjects" lacks specific delineation of stakeholder rights and responsibilities, and implementation protocols, potentially compromising effective public engagement. Moreover, Zhong Xiang's environmental monitoring program emphasizes quantitative metrics including soil quality, air quality and water quality.<sup>xxiv</sup> The pollution reports from Hubei only show the average pollution level in separate cities or areas without comparative analysis or specific consideration of demographically vulnerable populations.

Analysis of Chinese legal frameworks reveals a predominant focus on economic development and environmental sustainability, with limited explicit consideration of environmental justice principles; Hubei's 14th Five-Year Plan, for instance, puts insufficient attention on disadvantaged groups when proposing strategies of climate adaptation and

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disaster warning. Nevertheless, environmental justice considerations are partially embedded within the principle of "adapting to local conditions" (因地制宜, yīng dì zhì yí) that permeates Chinese environmental policy. This approach refers to the act of modifying practices or policies to align with the specific environmental, cultural, economic, and social characteristics of a region. It could recognize the disparities between regions, and plays an essential role for responding to the contextual factors that contribute to environmental inequality. For example, rural and urban disparities in pollution exposure necessitate tailored strategies to mitigate the impacts of environmental hazards on vulnerable populations like low-income groups and ethnic minorities.<sup>iii</sup> The strategy is reflected in Chinese environmental governance, as the deputy secretary of the Party Group of the Standing Committee of the Hubei Provincial People's Congress, Wang Yan claimed that "Based on characteristic resources, we should accelerate the development and expansion of rural characteristic industries, benefiting rural population."<sup>xxv</sup>

### **Towards Better EJ education for participatory transformation**

A more comprehensive governance and legal framework is necessary to eliminate environmental injustice. First, the idea of justice should be incorporated into the objectives and policies of environmental governance. A core aspect of environmental governance is recognizing and addressing these inequalities to foster inclusive systems that empower all stakeholders<sup>xxvi</sup>. The integration of environmental justice into environmental or climate goals has a reciprocal effect; this approach could stimulate further public participation and facilitate the implementation of the policies.<sup>xxvii</sup> Second, there's a need to enhance environmental justice measurement. The measurement work of the environmental monitoring bureau should prioritize communities with the greatest environmental hazard exposure<sup>xxviii</sup>. In this case, the measurement framework can better inform policy decisions and interventions aimed at addressing environmental injustices.

Public participation is crucial for promoting environmental justice, since environmental justice is based on the principle that in a democracy, when everyone participates meaningfully in a process whose procedures and substance they understand, no group should be affected unequally by a decision, according to the U.S. Department of Energy. Public engagement could serve to enhance both the quality and legitimacy of environmental decisions, and can temper some confrontational politics.<sup>xxiii</sup> While the mechanism design for public participation in China is explicitly encouraged, significant development of operational programs remains necessary<sup>xxiv</sup>.

The implementation of effective public participation requires several structural modifications. Firstly, a more robust system framework is needed to ensure the efficacy of public participation in environmental governance, as the public is a vulnerable group compared to the polluting entries, which is evidenced in the conflicts between the public and chemical plants in Zhongxiang. Without adequate institutional mechanisms for rights

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enforcement, the public would not be attracted to participate in meaningful environmental governance<sup>xxiv</sup>. Public participation should be instituted in regulations and laws with clear decision-making processes and delineation of responsibilities. Secondly, enhancement of incentive structures within the central-local governmental framework is warranted. In the Chinese central-local relationship, the central government should strengthen the oversight of local environmental governance implementation and establish accountability mechanisms for governmental departments under public grievances. Local governments can also give some rewards for people who report unjust pollution, and in particular, rural villages where digital infrastructure limitations necessitate alternative reporting mechanisms through village administrative committees. reporting mechanisms through village administrative committees. Third, administrative transparency regarding environmental policy formulation requires enhancement to mitigate potential inequities. The early disclosure can also foster a sense of ownership and involvement in the decision-making process. Implementation of diverse information dissemination strategies is essential. In rural areas, offline forums in addition to the online platform would ensure comprehensive public engagement.

In addition to the policy-making process, the involvement of community members is also important during the research phase. Researchers should meet with disadvantaged people to collectively identify the environmental injustice issues of highest concern for the community, increasing the efficacy and the long-term success for environmental justice research<sup>xxix</sup>. Overall, strengthening the system framework, creating appropriate incentives, and improving information disclosure are crucial to enabling meaningful public participation that can advance environmental justice in rural China.

On the other hand, education serves as a significant tool for empowerment, enabling individuals to understand, engage and address environmental inequities effectively. Socioeconomic and educational constraints often limit vulnerable populations' comprehension of environmental impacts, which diminish their capacity for effective advocacy and policy engagement. In the context of Zhongxiang's chemical plants, locals have realized that the factories are "directly [emitting] brown wastewater into the river" and "acidic black smoke is rising from the factory". However, they often do not report this situation to the government or do anything further to protect their environmental rights, and their "care" isn't enough, as they say, "I don't know where this river flows to" and "I don't know whether people get sick because of the smoke either". This situation underscores the need for enhanced environmental awareness and active engagement among the community.

First, educators need to integrate environmental science into the official curriculum of the Chinese education system, even if it's only for one semester. Currently, environmental science is absent from public primary schools, junior high schools and high schools. A foundational understanding of the ecosystem, human impacts on the environment, and principles of environmental management or sustainability can foster greater concern for local surroundings, which helps detect acts that damage the environment. Second, by incorporating



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environmental justice principles into the education programs, schools can “promote responsible environmental behavior and nurture a sense of environmental stewardship”<sup>xxx</sup>. Specifically, the students should learn to identify the environmental injustices, and educators should include the concept of public participation and other mechanisms that individuals can advocate for their rights. Environmental education should extend beyond technical and knowledge dimension; it should encompass environmental awareness, attitude, values and ethics, ultimately making justice a way of life.<sup>xxxi</sup>

As a country with a late start in the study of environmental justice, environmental cooperation initiatives could help China address environmental justice challenges through knowledge exchange, policy innovation and capacity building, exemplified by the California-China Climate Institute. On the other hand, one problem that needs long-term efforts is that the methodologies used for measuring environmental injustice in China are inadequate and not standardized,<sup>iii</sup> which can result in misleading conclusions that do not inform effective policy decisions. Future development of quantitative models for environmental justice assessment is necessary, incorporating statistical analysis of economic and environmental exposure correlations and multifactorial weighted analysis for injustice coefficient determination, which could clearly reveal the problem to the local government and even help the policy-making process.

### **Conclusion**

In China, while interdisciplinary studies on environmental justice have emerged, there are significant challenges in legal, academic and social contexts. The laws restrict individuals and organizations from initiating public interest litigation, and show a discouragement of environmental protests. The academic discussions of environmental justice are still relatively nascent, and plans and policies promoted by the Chinese government emphasize economic growth over civil rights. In Hubei Province, where rural people are vulnerable to environmental hazards like industrial pollution and flood, the recent 14th Five-Year plan highlights economic development over environmental justice and often overlooks the needs of vulnerable populations, lacking specific and effective measures to support them. Specifically, in Zhongxiang, the phosphorus chemical industry severely impacts local ecosystems, agriculture, and livelihoods; farmers who sought compensation for damages faced obstacles, illustrating the limitations of local justice systems and environmental regulations.

To address environmental injustice in rural Hubei effectively, a comprehensive governance and legal framework is essential, and the paper proposed a few ways. Firstly, environmental governance and policies should incorporate the principle of environmental justice; improving the measurement of environmental injustice is also critical. Second, public participation should be strengthened through a more robust framework that clearly defines decision-making processes and responsibilities, fully considering the limitations in rural areas, such as the slow flow of information. Third, education plays a pivotal role in

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empowering local villagers, so not only the schools should integrate environmental science into curricula, but also educators need to nurture a sense of stewardship to foster students' commitment to promote environmental justice. Though those proposals are made based on situations in rural Hubei, it is still applicable in other places with similar situations. To promote justice, the core value is to encourage people to engage in environmental governance through more comprehensive legal structures or incentive methods.

To address environmental inequality, all forces in society must come together. In the near future, as the United Nations claims that just societies realize human rights, the Chinese government needs to prioritize the welfare and rights of its citizens to build a civil and just society. As the most important power to fight against environmental injustice, people should actively learn and care about their surroundings since “the only time most people think about injustice is when it happens to them”, once said by Charles Bukowski. Both qualitative research and more in-depth research are needed, such as conducting interviews with affected residents, to understand their lived experiences and perspectives better, and to have environmental justice be taken seriously by the rulers, finally more responsibly addressing it.

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