



Research

Understanding stakeholder perceptions of environmental justice: a study of tourism in the Erhai Lake basin, Yunnan province, China

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ABSTRACT. Environmental justice is an important component of sustainable tourism, but stakeholder perspectives related to environmental justice may vary. Using Q-methodology, we investigated different stakeholder perceptions related to environmental justice within the context of tourism and ecological restoration. Specifically, in the Erhai Lake basin, China, we explore perspectives around an ecological restoration effort that included the government mandated closure of 1900 establishments (inns and restaurants) in response to environmental degradation. We identify and explore four environmental justice perspectives: the togetherness, protection, operator loss, and local loss perspectives. These four perspectives are contextualized within three dimensions of environmental justice (i.e., distribution, recognition, and participation). Our findings highlight differing views related to who is affected most by the inn closures (e.g., future generations, local residents, inn owners), and general consensus related to the outcomes of the process being more important than the process itself. Finally, we discuss potential reasons for these differing perspectives and recommend ways to improve environmental justice among different stakeholders. This research can facilitate sustainable development of tourism by highlighting the facets of ecological restoration policy implementation most important to stakeholders, including recognition of diverse stakeholder concerns and identities, clear and well supported rationale for policy design, and increased equity in the distribution of costs and benefits of policies.

Key Words: *ecological restoration; environmental justice; Erhai Lake, Q-methodology; tourism stakeholders*

INTRODUCTION

In 1982, the environmental justice movement gained recognition as the Warren County Protest highlighted unequal distribution of negative externalities resulting from economic activity (Mohai and Bryant 1992, Been 1994). There was a growing understanding that the disposal of commercial hazardous waste and toxic substances in the United States was disproportionately affecting low-income and minority communities. Although early research on environmental justice (EJ) often focused on the unfair distribution of environmental hazards, there is increasing recognition that EJ is multidimensional. Accordingly, more contemporary frameworks commonly focus on three dimensions: distribution, recognition, and procedural justice (Schlosberg 2004, Schreckenberg et al. 2016). Distribution justice focuses primarily on how costs and benefits are distributed among stakeholders (Schlosberg 2004, Schreckenberg et al. 2016). Procedural justice captures participation in decision-making, access to dispute resolution processes, transparent access to relevant information, and the need for clearly defined roles and responsibilities of actors (Schreckenberg et al. 2016). Recognition justice includes respect for human rights; acknowledgement and acceptance of diverse identities, interests, and values; and recognition of varying capacities and power to influence (Schreckenberg et al. 2016).

The sustainable development of tourism was not necessarily emphasized in the early discussions of EJ (Porter and Tarrant 2001, Floyd and Johnson 2002). However, the benefits (e.g., tourism-related jobs, economic impact, and intercultural exchange) and costs (e.g., overcrowding of facilities and services, potential ecological degradation from high use) of tourism

development are well documented and often unevenly distributed (Mayer 2014, Zaman et al. 2016, Rasoolimanesh et al. 2017, Anantamongkolkul et al. 2019). Further, issues related to recognition justice and procedural justice are also increasingly understood within the tourism context (Lee and Jamal 2008, Jamal and Stronza 2009, Rastegar 2020). Although scholarship applying an EJ framework within the tourism context has increased overall, there are gaps in understanding across important geographic and sociopolitical contexts. For instance, the Chinese government recently instituted measures to address environmental degradation, which have EJ implications, particularly in the context of tourism.

Although there are a few exceptions, research focused on EJ and tourism in China is limited, particularly as it relates to all three dimensions of the concept. This gap in the literature may be particularly important, as China's tourism industry has grown rapidly in recent years. Additionally, since 2012, the Chinese central government has focused efforts on an initiative called "ecological civilization," whereby environmental protection has increased, with stricter environmental laws and regulations, increased financial investment in environmental governance, and the promotion of markets for environmental protection (e.g., incentives to invest in more efficient vehicles and lower greenhouse gas emissions; MEEPRC 2020). Finally, research focused on all three dimensions of EJ in China may be particularly important given that governance in China (generally top-down without citizen participation) differs from governance structures in much of the West (in which non-state actors generally have more pathways to influence decision-making; Lo 2015, Guttman et al. 2018).

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We focus on addressing the gap in literature focused on tourism development and EJ in China. Specifically, in Erhai Lake basin (ELB), Yunnan Province, stakeholders have experienced rapid tourism development and, subsequently, an ecological restoration initiative that included the closing of lodging areas around the lake. Within this context, we apply the EJ framework to explore empirically the different stakeholder perspectives related to ecological restoration efforts in ELB, with the goal of understanding the complexities of EJ within the context of tourism and ecological restoration in China.

Environmental justice and tourism

Among the three dimensions of EJ (i.e., distribution, procedural, and recognition), tourism studies to date have mostly focused on the distribution dimension, which can include the distribution of costs and benefits to both current and future generations (intragenerational and intergenerational, respectively; De-Shalit 1992, Schlosberg 2007). One facet of the distribution dimension commonly explored is disadvantaged groups; studies often consider the disproportionate environmental costs of tourism realized by racial and ethnic minorities (e.g., Indigenous groups), low-income groups, and residents. The under-representation of ethnic minorities in national parks, forests, and wilderness is increasingly considered an EJ issue (Loukaitou-Sideris and Mukhija 2019). Byrne (2012) documented the social exclusion some minority groups faced in accessing and using Los Angeles' Santa Monica Mountains National Recreation Area; in part, they noted that the tourists to the park were mainly white. Flores et al. (2018) found that there was disproportionate use of Forest Service recreation opportunities between racial minorities and white visitors. Further, the establishment of (and conservation practices within) protected areas (e.g., Shuklaphanta Wildlife Reserve in Nepal, Limpopo National Park in Mozambique) has led to a series of social and geographical dislocations such as land expropriation, forced relocation, and economic losses caused by inadequate compensation (West et al. 2006, Lam and Paul 2014, Lunstrum 2016, Lunstrum and Ybarra 2018, Strong 2019). As an important public good, protected lands benefit all citizens, but the environmental costs are often realized by local residents; costs can be both economic and cultural (Snodgrass et al. 2016).

Another facet of distributive justice commonly explored is the tendency of more developed countries or regions to exploit less developed areas by tapping tourism potential at the expense of local populations (Brohman 1996). Higgins-Desbiolles et al. (2013) discussed how tourism damages places where local people live, work, and play in Hawaii. Cole (2012, 2017) explored the issue of tourism competing for water supplies with locals in Bali and Indonesia. Similar problems were found in studies in the African country of Kenya, where wildlife resources for attracting European tourists are prioritized over subsistence hunting by Indigenous people, the latter of which was banned and officially classified as poaching (Akama et al. 2011, Kieti et al. 2020).

Procedural justice is increasingly an important component of research in tourism and EJ (Schlosberg 2004, Huang et al. 2013, Frate et al. 2019, Dilay et al. 2020). Because the management of protected lands is often under federal jurisdiction, top-down decision-making is common; as a result, EJ concerns at the local level can be overlooked, leading to strained relations between local and state agencies, local residents, and tourists (Figueroa and

Waitt 2010). Accordingly, many scholars suggest the need for continued advocacy for community participation in tourism development processes and decision-making (Ferketic et al. 2010, Niedziałkowski et al. 2014, Bello et al. 2016, George and Reed 2017, Siakwah et al. 2020, Rastegar and Ruhanen 2022).

In addition to understanding elements of distribution and participation, some scholars have focused on recognition justice (Young 1990, Honneth 1992, Fraser 1995, 2000, 2008, Schlosberg 2007). The recognition dimension of EJ holds that various forms of insult, oppression, and devaluation, in both cultural and political contexts (and generally flowing from those with power), can have deleterious effects on individuals and collectives. Therefore, recognition justice is generally about power and respect and is interrelated with the dimension focused on participation (Martin 2013). In the process of environmental decision-making, some policymakers are accused of failing to respect the identity and cultural differences of ethnic minorities, causing them to be disadvantaged when it comes to accessing particular institutional rights and benefits (Huang et al. 2013, Martin et al. 2016, Schnegg and Kiaka 2018).

There is limited literature focused on EJ in China across all three dimensions. One recent exception is Wang et al.'s (2019) study, in which they used qualitative interviews to understand stakeholder perceptions related to all three dimensions of EJ within the context of protected area establishment and tourism development in China. Ma et al. (2019) provide another example of research related to EJ and tourism in China; however, their focus was primarily on the effects of nature reserves on income and poverty levels. They did not focus on procedural and recognition justice and, within the context of distribution justice, they focused mostly on financial benefits.

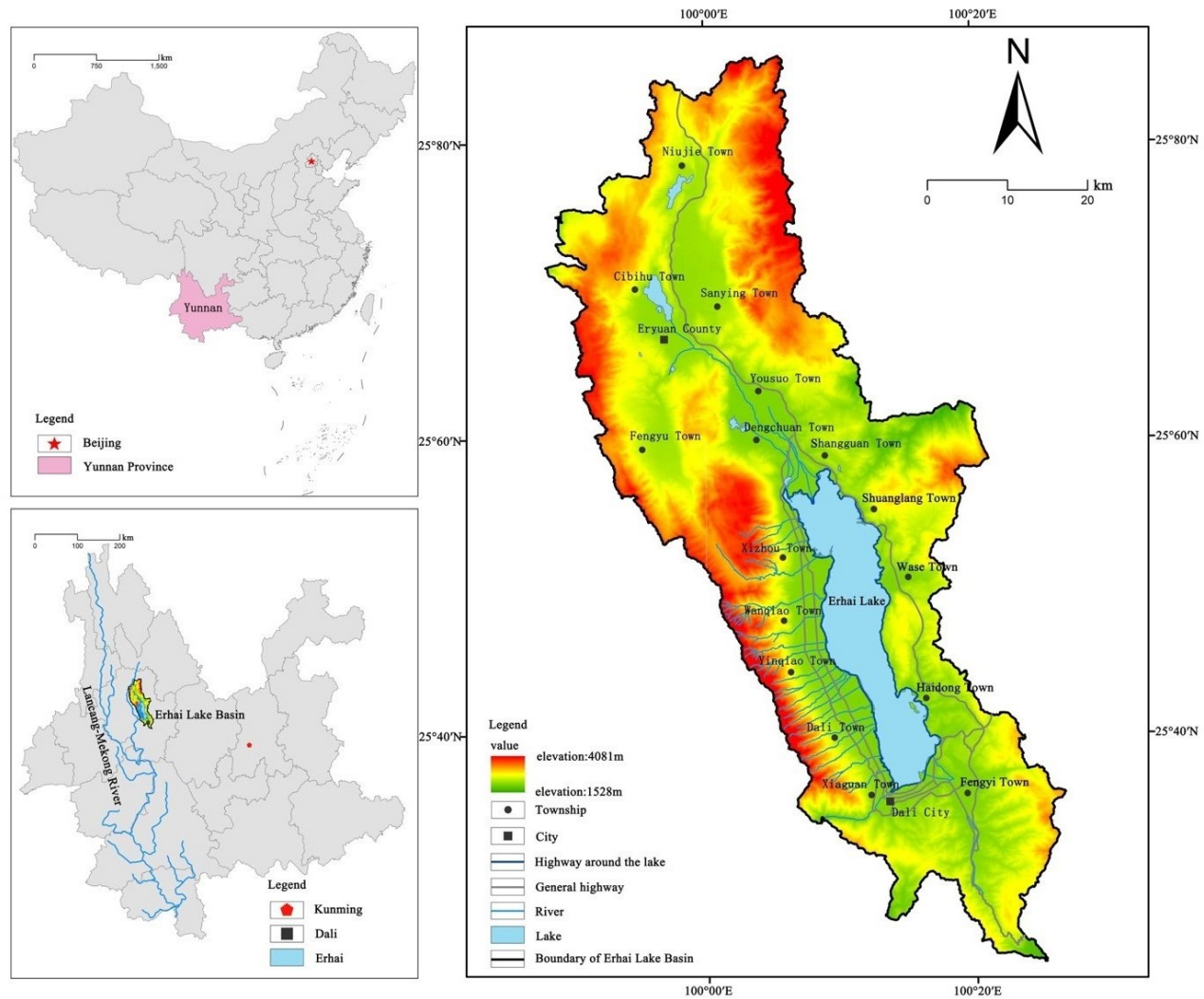
STUDY AREA BACKGROUND

Environmental change at Erhai Lake

Erhai Lake is located in Yunnan Province, southwestern China within the Lancang-Mekong River watershed (Fig. 1). It is the seventh largest freshwater lake in China, and the second largest plateau lake in Yunnan Province, with a surface area of 256.5 km² (Zhang et al. 2018). Erhai Lake is known as the "mother lake" of Dali City because it has played an important role in supporting the basic needs (e.g., drinking water) and economic development (e.g., irrigation for agriculture, tourism) of the residents in Dali City, which has a total population of 771,128 (Hu et al. 2018). Dali City is diverse, with 25 different ethnic groups recognized. The ELB has a strong legacy of agricultural production and is also an important tourism destination in China, with attractions such as the plateau landscape and the traditional cultures of different ethnic groups. It is also among the Chinese cities that opened up earliest to foreign tourists.

Erhai Lake is a National Nature Reserve and, as such, the water in the lake is required to meet quality standards that support drinking, fish breeding, and swimming. Tension between economic development and environmental degradation has occurred since the 1980s, and water quality testing has shown levels of nitrogen and phosphorous have increased overall (indicating degraded quality) between 1992 and 2016 (Wang 2016). Consistent with this water quality degradation was the occurrence of three large-scale algal blooms in Erhai Lake

Fig. 1. Maps showing the location of Erhai Lake basin in Yunnan province, China.



between 1996 and 2013, which further compromised the ecological function of the lake. The causes of water quality degradation can be somewhat challenging to parse in detail, as much of it appears to come from non-point source pollution. In 2014, a study suggested that 70% of the pollution load in Erhai Lake was from a combination of livestock and poultry farming, inadequate sewage treatment facilities (largely in rural areas), and broader agricultural non-point sources (Chinese Research Academy of Environmental Sciences 2016, Li et al. 2018). Starting in the 1980s, the local government has taken various actions to mitigate environmental impacts from human activities. For instance, farmers were prohibited from growing garlic (a high fertilizer crop), and instead encouraged to shift to low fertilizer crops. Another initiative focused on restoring wetlands, which consisted largely of connecting human-made ponds back to Erhai Lake and building fish ladders for connectivity of fish habitat. Another example was the banning of motorized fishing vessels (and associated infrastructure such as marinas), which were generally used primarily for subsistence and small-scale

commercial fishing. Motorized craft were viewed as degrading the aquatic environment through fuel and oil leakage. While the local government viewed these mitigation efforts as having some success, pollution issues in Erhai Lake persist, with rapid economic development and increasing population viewed as the main culprit (CRAES 2016).

Lodging development in Erhai Lake basin

Since 2010, lodging (inn) operations in ELB have increased dramatically, particularly along the lakeshore. This proliferation of inns was encouraged by the local government through the development of complementary infrastructure (e.g., transportation and visitor centers) and extensive media campaigns. These efforts resulted in the opening of > 1500 inns along the 120-km shoreline of Erhai Lake from 2010 to 2016 (Li et al. 2018). Most of the inns were operated by people who moved from other cities and provinces outside of ELB; these inn operators invested significantly by building new infrastructure or, alternatively, renting an existing private residence and repurposing it for

tourism accommodation. In addition to increasing tourism capacity, the inns themselves became a tourist attraction and cultural phenomenon.

Tourism in Dali has been booming since 2010, with visitation increasing almost 300% between 2010 and 2016. In 2016, there were nearly 15 million tourist visits, with an associated revenue of 24.671 billion CNY (3.565 billion USD; Wang 2016). The rapid increase in infrastructure and visitation stressed the domestic wastewater capacity, and the lack of sewage treatment facilities led to wastewater discharge into Erhai Lake. As of 2016, water quality levels were still below standard, and another severe algal bloom occurred in early 2017 (DEEYP 2017, 2018). The continued eutrophication of Erhai Lake motivated increasing environmental protection measures.

Tourism closures in Erhai Lake basin

In January 2015, President Xi Jinping issued a directive to prioritize ecological restoration of the ELB. In January 2017, the Yunnan Provincial Government proposed several decisive measures, including a policy that no additional inns or restaurants could be established in the core area of ELB. Additionally, existing inns and restaurants were to close temporarily to verify whether they were legally established and whether they had all the necessary licenses for operation (Yingqing and Xinying 2017). To obtain a license for operation, inn operators need, in part, to ensure that sewage facilities were existing and in working order. In total, 1900 establishments that were located along the lakeshore (or in close proximity to the lakeshore) were shuttered (1196 inns and 704 restaurants; Lujing 2018). At the time of the closures, many of the details regarding the full implementation plan (e.g., how long the closures would be in place) were not fully known, though some indications were provided by the local government in policy documents that laid out potential future actions. For instance, there was some initial indication from the local government that establishments would be demolished. Then, in 2019, the local government implemented such measures and demolished 1806 inns and houses that were within 30 m of the lakeshore. Although our study took place prior to the demolition of structures (and therefore only focuses on the closures of 1900 establishments), the various details surrounding the closure process (e.g., ambiguity from the local government about what community members could expect in the future) are important considerations within an EJ framework (and thus are part of our focus).

The closures of inns and restaurants in ELB resulted in immediate controversy. Views differed widely on the policy, as generally, there has been a long-existing tension between “public” and “private” interests in ELB (Guangming Online 2017). The state media supported the eco-rehabilitation work of the local government as an example of progress toward “ecological civilization”; this attention resulted in a high level of national awareness about the closures. In the unofficial media (i.e., those not completely controlled by the central government), some supported the policy, even if it was believed that the inns were not the main source of pollution in Erhai Lake. Others suggested that the government approach was problematic; issues noted included limited transparency related to the closures process, an imperfect compensation system for those most affected by the closures, and

a vacillation between local government policies related to the regulation and non-regulation of economic development (i.e., numerous shifts between limited and strict environmental policies).

As the local government implemented actions focused on the tourism industry to facilitate ecological restoration (and “ecological civilization”), the perspectives of affected stakeholders and members of the affected communities covered a broad range of issues that are well captured by the EJ framework. The issues discussed among stakeholders extended beyond the tourism industry and views of ecological restoration to the broader social-ecological system (e.g., the history of agriculture, the perceived fairness of the decision-making process). Fundamentally, we aimed to understand the diversity of perspectives about these closures, as well as the nuance within different perspectives.

METHODS

To explore fully the various stakeholders’ perceptions of the closures of inns and restaurants in ELB, we employed Q-methodology, which is an approach that applies qualitative and quantitative elements to understand the diverse range of opinions related to a topic of interest (Brown 1996). Specifically, the method elicits trade-offs by asking participants to sort items relative to one another. The methodology has been used extensively in various fields, especially within the context of controversial and complex environmental issues, aiming to understand and describe respondents’ values and beliefs (Raadgever et al. 2008, Hunter 2013, Phi et al. 2014, Cuppen et al. 2016, Piso et al. 2019). Different from social science approaches that implement random sampling, Q-methodology does not allow for generalizations about the representativeness of different opinions within a larger population. It does, however, give insights into the range of opinions that exist about a topic within a sample population, and how those opinions differ and converge (Bredin et al. 2015). Therefore, the approach was identified as appropriate for understanding differing stakeholder perceptions of the closures event through an EJ lens.

Q-methodology can be summarized with four main steps (Brown 1980, van Exel and de Graaf 2005):

1. Selection of 30–50 statements that represent the diverse range of opinions around the topic of interest (Q-set);
2. Selection of respondents that are likely to capture the varying perspectives around the topic of interest (P-set);
3. Sorting of the statements by the respondents under specified conditions (Q-sort), with follow-up discussions about their Q-sorts, and;
4. Data analysis and factor interpretation.

To develop the Q-set, 42 semi-structured interviews were conducted with a broad range of stakeholders between April and May 2017 to explore opinions about the closures. Additionally, various documents related to the closures (e.g., newspaper articles, web pages, and social media sites) were also reviewed. We developed a list of 45 statements, categorized along the three dimensions of EJ, that captured the broad range of opinions surrounding the closures; the Q-set is presented with the results.

Table 1. Number of respondents in and description of each stakeholder category.

Stakeholder category	General category description	Number of participants	Specific examples
Residents	Residents affected by closures (e.g., employees of closed inns, renters of homes to inn operators, vendors of agricultural products)	18	Restaurant server, tour guide, security guard, landowner renting land, shop owner dependent on tourism
Operators	People operating inns that were closed (or not closed)	32	26 operators of closed establishments, 6 operators of establishments that remained open
Tourists	People dependent on inns	9	No further description
Pressure groups	Interested parties who can influence government and communities (e.g., media, experts)	2	Researcher, employee of a non-governmental organization

To capture individuals with a diverse range of viewpoints, respondents are selected purposefully (Watts and Stenner 2012, Jacobsen and Linnell 2016). We categorized stakeholders into five groups: local government, residents, operators, tourists, and pressure groups. Although local government officials were asked to participate, all invitations to participate were declined for political reasons. Therefore, all respondents (i.e., the P-set) were categorized within the other four stakeholder categories. Between October 2017 and January 2018, 61 people participated in our study (Table 1).

All respondents were given a deck of cards (each card contained one statement from the Q-set in Table 2) to be placed onto the Q-board (Fig. 2), which conformed to a quasi-normal distribution, ranging from -5 (most disagree) to +5 (most agree). Procedurally, respondents were instructed by the researchers to sort all statements based on their own opinion with regard to ecological restoration around Erhai Lake. After the Q-sort exercise, respondents were asked to discuss their Q-sorts and provide additional reasoning for their sorting. The interviewer took notes during the discussions but did not record interviews, as many participants would have been uncomfortable doing so.

Data analysis involved factor analysis, factor rotation (varimax), and articulation and interpretation of results using “factor arrays” (Brown 1980, Watts and Stenner 2012). The factor arrays represent a typified viewpoint (Fig. 3). We used PQmethod 2.35 software to analyze the Q-sort data and selected our final factor solution based on both statistical (e.g., eigenvalues > 1; Donner 2001, Jacobsen and Linnell 2016) and practical considerations (our understanding of the data and study area). A factor score for each statement, which is the normalized weighted average score (Z-score) of respondents that load significantly onto a factor (van Exel and de Graaf 2005), is calculated and used to develop factor arrays. Full details of data analysis in Q-methodology are available in Brown (1980) and Watts and Stenner (2012).

RESULTS

Analysis of 61 Q-sorts yielded a four-factor solution explaining 45% of the total variance. The final factor solution included 40 “pure” loading Q-sorts, or Q-sorts that load significantly onto only one factor. In other words, 40 individuals roughly align with one of the four typified perspectives. Another 15 Q-sorts were “confounding,” or Q-sorts that loaded significantly onto more than one factor. That is, 15 individuals roughly align with more than one typified perspective. The remaining six Q-sorts were “null,” i.e., they did not load significantly onto any factor; null Q-

sorts represent more idiosyncratic viewpoints (Raadgever et al. 2008, Armatas et al. 2017), or perspectives that are not captured by the four typified perspectives.

Summary narratives of the four perspectives are provided below; the narratives are derived from the level of salience assigned to the EJ statements by each perspective. The views with regard to each statement, by each perspective, are reflected in Table 2. Additionally, the level of salience is shown in the factor arrays (Fig. 3); the numbers populating the factor arrays correspond with the numbers of each statement in Table 2. The 45 statements sorted by participants comprise 15 statements focused on distributive justice (costs and benefits), 15 statements focused on procedural justice (issues such as access to information, perceived injustices related to the process), and 15 statements focused on recognition justice (issues related to identities, values, priorities, and rights). Although each statement was placed within an EJ dimension for interpretive purposes, it is worth stressing two points. First, some statements may not be mutually exclusive. For instance, the statement that, “We are under a lot of strain and have suffered a lot during the closures,” (statement 1) is primarily about material costs and benefits, but it is certainly possible that such a statement also addresses the discomfort caused by a perception that the process related to the closures was unfair. Second, the placement of particular statements within particular EJ dimensions may be debatable and dependent on interpretation. In such cases, we provide additional explanation in the notes to Table 2.

The togetherness perspective

Respondents who held this perspective generally hold a wait-and-see attitude toward the policy of closing inns to protect Erhai Lake; they believe that the policy may not necessarily protect Erhai Lake. For stakeholders adhering to the togetherness perspective, they recognized the necessity and urgency of protecting Erhai Lake, particularly for realizing the national call for ecological civilization. However, they also fully recognized the major losses to tourists and local tourism and inns, as well as the contribution and importance of the inns for long-term development and the local economy. At the same time, they did not cast blame on any single entity, as they did not consider farming or government negligence to be a major driver of the pollution. They viewed the motivations of inn operators positively (i.e., not purely profit driven), and they did not draw a distinction between the local and non-local inn operators with regard to environmental awareness and actions.

Table 2. Q-set of environmental justice statements, with associated level of agreement according to four typified perspectives.

Environmental justice statement	Typified perspective			
	Together-ness	Protection	Operator loss	Local loss
Distributive justice statements (1–15)				
1. We are under a lot of strain and have suffered a lot during the closures.	-1	-3	+4	0
2. The closures have caused major losses to Dali City, tourism-related industries in particular.	+5	-2	+5	+5
3. The closures are not conducive to Erhai Lake basin's long-term development.	+3	-5	-1	-4
4. Inn operators suffered major losses because they invested a lot of money in building and opening inns.	+5	0	+4	+1
5. Local residents suffered major losses during the closures.	+2	-3	+3	+4
6. For tourists, the closures are a small loss (more of an inconvenience), as the primary effect is that they cannot see Erhai Lake for a while.	-5	+1	-3	+2
7. The closures actually make us bear the government's responsibility for environmental protection.	0	+3	+3	0
8. The inns that are allowed to reopen in the future should be required to implement strict environment protection measures (for example, pollution prevention measures related to water quality).	-1	+2	-4	-3
9. The closures are temporary; therefore, the operators' losses can be recovered upon inns reopening.	+2	+3	-3	0
10. Compared with inns that have been in business for a long time (and realized more profit), the newly opened inns are affected more.	+1	+1	-1	+1
11. The closures will improve environmental conditions for the benefit of current generations.	0	+5	-2	+4
12. The closures will improve environmental conditions for the benefit of future generations.	0	+4	-2	+4
13. Inns, hotels, cruises, and water bottling facilities outside the core areas of the lake should also be closed.	+1	-4	+1	+1
14. The costs of closing inns can be absorbed by a smaller subset of people for the benefit of the majority.	-2	+2	-2	-2
15. The closures are actually a political tactic of the local government to eliminate small inns and replace them with larger more profitable inns; one motive for this is to increase tax revenue.	0	-2	0	-1
Procedural justice statements (16–30)				
16. We have good access to information and relevant documents on the policy.	-4	-1	-5	-4
17. It is relatively easy for us to obtain the follow-up plan of the policy (e.g., closure period, demolition or not, demolition scope).	-2	-5	-5	-2
18. The government did not have adequate hearings before the policy was released.	+1	-2	+2	-1
19. The local government held a press conference on the policy, but only a few media were invited to attend, and public participation was insufficient.	-1	-1	0	-1
20. We were excluded from the decision-making process related to the closures.	+1	-1	+2	0
21. We have no voice on issues related to the closures.	-2	0	+1	-2
22. Inns were not closed by operators voluntarily but were ordered to get their doors sealed, with a slogan "closed voluntarily to protect Erhai Lake."	-1	+4	+2	+2
23. The local government organized a meeting about the closures, but just reading a prepared statement without allowing for any discussion was inadequate.	-1	-1	0	-2
24. During the closures, the local government should provide economic compensation to operators whose inns have complied with all business licenses (e.g., hygiene license, fire safety certificate). [†]	+4	+3	+3	+3
25. The main reasoning for the closures was that they would improve environmental conditions, but this connection seems doubtful and was not clearly demonstrated.	-4	-4	-2	-3
26. If the inns are required to close permanently, then the operators should not have been required to install sewage treatment. [‡]	+2	-3	+4	-5
27. The news media have done more to convey the government's determination to restore the lake than to explore the real causes of the water quality deterioration.	0	+2	+3	+1
28. The news media did not focus much on the effects to the public stemming from the closures.	0	0	+2	+2
29. We should respond to our country's call to construct ecological civilization.	+4	+5	0	+3
30. The closures, while a drastic measure, are in accordance with the central government's order.	-2	+2	0	0
Recognition justice statements (31–45)				
31. Inns are among Dali's landmark tourist attractions, which partly represent an attractive lifestyle that draws different types of people from various places in China (often urban centers).	+2	+4	+1	+2
32. The inn industry is a developing tourism industry without established regulations and planning standards, so problems are inevitable.	+3	-1	0	0
33. Inn operation at Erhai Lake constitutes a lifestyle, with cultural, sentimental, and spiritual connections being very important.	+3	0	0	-4
34. Only a few operators run the inns for personal reasons; most run for profit.	-3	0	-2	+5
35. The development of inns was integral to the growth of the local economy.	+4	+3	+2	+2
36. Inns are not the main cause of Erhai Lake's pollution.	+1	0	+1	-1
37. The main cause of Erhai Lake's pollution is years of negligence of duties by the local government.	-3	+2	+5	-1
38. The main source of pollution in Erhai Lake is farming.	-5	-4	-1	-2
39. The environmental awareness of non-local inn operators is higher than that of local inn operators. [§]	-4	+1	-1	-5
40. Non-local inn operators promote environmental protection with their words, but not their actions.	-3	-3	-3	+1
41. The locals have lived here for generations and they cherish Erhai Lake more.	+2	+1	-1	+3
42. Non-local inn operators made money and then left, leaving a polluted lake to the local people.	-3	-2	-4	+3
43. The local government treats local and non-local inns equally.	0	0	-3	0
44. Inn operators were less impacted by the closure due to their economic status and ability to absorb the loss.	+3	-2	-4	-3
45. Inn operators came to Dali to invest under the encouragement and guidance of the local government and, as such, were recognized and given preferential treatment by the government.	-2	+1	+1	-3

[†] While this statement is substantively about mitigating a cost, it pertains to a perception about appropriate roles (the government providing compensation, in this case) and is thus included in the procedural justice dimension.

[‡] While the substance of this statement is about a cost, it reflects a concern among participants about the unfair implementation and evolution of the closures process.

[§] This statement captures an opinion that non-local inn operators are more environmentally aware, which is about recognizing a differing identity from local inn operators.

^{||} While this statement is about a cost, it is mainly about the ability of a particular group to absorb the costs; it is about recognizing differing adaptive capacities.

Fig. 2. Q-sort table.

Most Disagreement					Most Agreement					
-5	-4	-3	-2	-1	0	1	2	3	4	5

While adherents to this perspective felt the process lacked transparency and did not provide adequate access to relevant information, they were more ambivalent about the idea that the government was politically motivated or actively trying to exclude people from the process. This perspective signals a need for togetherness, or that various stakeholder should and can do their part. For instance, those aligning with this perspective agreed that inn operators could absorb some economic loss, felt that the government should provide adequate compensation, agreed with the collective goal of ecological civilization, and were neutral about the idea that the government or people outside the government were fully responsible for environmental protection.

The protection perspective

Respondents who held this perspective tend to have a positive attitude toward the policy that closes inns with the goal of protecting Erhai Lake. This perspective holds a positive view of the Chinese effort toward ecological civilization, including the policy of closing inns around Erhai Lake. The stakeholders adhering to the protection perspective expressed some agreement that those inns that are allowed to reopen in the future should be required to put strict environmental protection measures in place, and further, that the closures will improve environmental conditions for the benefit of future generations. This perspective disagreed with the statement that the closures are not conducive to the long-term development of ELB. These sentiments reflect support for protecting the ecology of Erhai Lake. To achieve the goal of improving water quality, they claimed that the interests of some people could be sacrificed. And, as the water quality deteriorates, this group accepted the drastic measures of the local government, which were in accordance with the central government. However, they were dissatisfied with the implementation of the policy, as well as the unequal burden that the private citizens were bearing relative to the local government. They believed that the local government’s previous inaction was one of the main reasons for the pollution of Erhai Lake.

Those who hold the protection perspective did view inn operators as partly responsible for the deterioration of water quality, but they also acknowledged that inn operators played a key role in the development of Dali’s tourism. Additionally, they did not consider agricultural non-point source pollution as the primary driver of water quality issues.

The operator loss perspective

Respondents who held this perspective tend to consider inn operators as the primary losers in the inn closure policy. Specifically, this perspective holds that the closures significantly damaged Dali’s tourism industry, with agreement that inn operators suffered both economically and personally, and that the local government should provide economic compensation for the closures. They do not agree that the losses incurred could be recovered once establishments were allowed to reopen, that inn operators caused the pollution in Erhai Lake, or that operators had enough economic resilience to absorb the losses.

From the operator loss perspective, the real cause of the lake pollution is the local government’s years of negligence of duties. During the early stages of tourism development, those aligning with this perspective noted that the government focused on developing the local economy and encouraged non-local investors to open inns; the protection of the lake was not a focus. Those aligning with this perspective felt that the local government lacked transparency during the closures event implementation and also felt that local and non-local inn operators were not treated equally. Three examples of this perceived unequal treatment, as discussed with stakeholders following Q-sorts, are as follows: locals are thought to be punished less for violations, locals are able to acquire the needed operating permits more easily, and local inn operators accounted for only 10% of on-site inspections. Lastly, there was some disagreement about whether the closures policy would resolve the pollution problem.

The local loss perspective

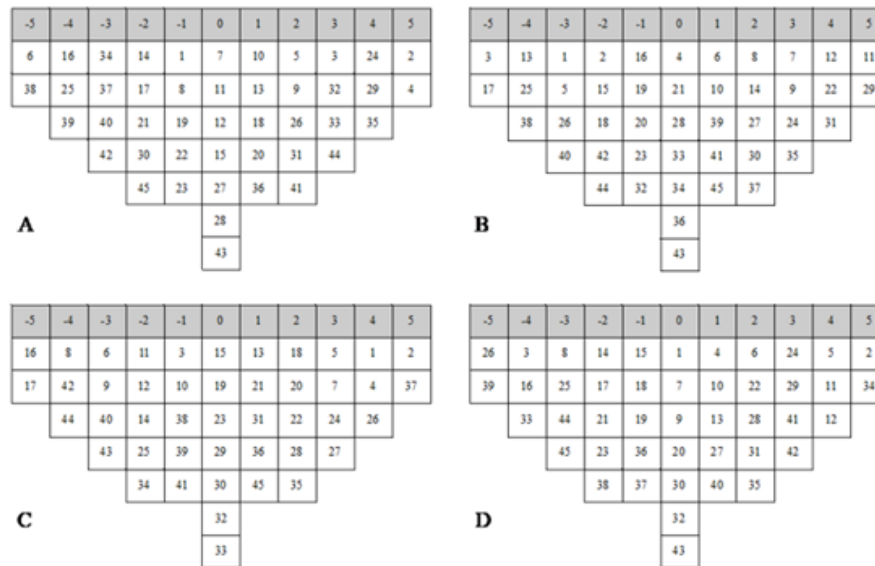
Respondents who held this perspective feel that the local government and local people were those who suffered most under the policy. This perspective expressed a relatively negative view toward non-local inn operators, primarily based on the notion that these operators profited off Erhai Lake, contributed to its pollution, and then left the area. To some extent, they acknowledged the significant role of the inn sector in local economic development, but they thought that operators run their inns around the lake for profit, not for the cultural and spiritual connection to the lake. There was also disagreement that non-local inn operators were more environmentally responsible than local operators. The stakeholders aligning with this perspective focused more on the overall losses to the tourism industry and local residents. They did not agree that agricultural non-point source pollution was the main pollution source for Erhai Lake, believing that the locals had lived here for generations and that they cherished the lake more than the non-locals did.

This group firmly supported the policy and believed that inn closures were conducive to the improvement of water quality in Erhai Lake, as well as the long-term development of the area. They expected that the policy could help to improve environmental conditions for future generations. While those aligning with this perspective generally supported the closures, they also agreed that the process lacked transparency and that it was hard to obtain pertinent information related to the closures event.

DISCUSSION

By contextualizing our findings within all three dimensions of EJ (Table 3), we highlight potential opportunities to facilitate sustainable tourism management and planning.

Fig. 3. Factor arrays illustrating the relative agreement of opinions related to the closure event. (A) Togetherness perspective. (B) Protection perspective. (C) Operator loss perspective. (D) Local loss perspective.



Notes:

- A. Aligning participants (13 total) include five restaurant or inn operators of closed establishments, one inn operator of an open establishment, a researcher, three tourists, and three residents.
- B. Aligning participants (12 total) include four restaurant or inn operators of closed establishments, one inn operator of an open establishment, four tourists, and three residents.
- C. Aligning participants (21 total) include 15 restaurant or inn operators of closed establishments, two inn operators of an open establishments, one tourist, and a local resident.
- D. Aligning participants (27 total) include nine restaurant or inn operators of closed establishments, four inn operators of an open establishments, 13 residents, and one tourist.

Aligning recognition of stakeholders with policy implementation
 Among the stakeholder perspectives, there are differences and similarities regarding the recognition justice dimension; aligning the different perspectives with on-the-ground policies may support enhanced EJ overall. Those who adhered to the togetherness perspective tended to focus on the recognition dimension, with ten statements placed at the poles of the distribution related to the different roles that stakeholders play within the context of the closures event and the development and ecological restoration of ELB (Table 3). This result is consistent with the idea seemingly held by the togetherness perspective that a diverse range of stakeholders should be considered within the context of the closures event. Somewhat differently, the respondents adhering to the local loss, protection, and operator loss perspectives were relatively narrow in their focus on recognition justice. For instance, the local loss perspective (mostly local people from Yunnan Province), in general, shaped a negative image of inn owners (e.g., profiteers) while casting themselves in a positive image (e.g., more environmentally conscious). This finding reinforces the idea that identity has an effect on the perception of EJ, which is consistent with the research of Jacobsen and Linnell (2016). Furthermore, it aligns with the concept of “ecological legitimacy,” often discussed in political ecology,

whereby a group is seen to have something inherent in their culture or identity that gives them the commitment, knowledge, and skills needed to manage the land sustainably (Pulido 1996, Neumann 2005).

There are several cultural, legal, and economic institutions within China that result in disparate levels of stakeholder recognition and legitimacy. For instance, in China, operating under the purview of some official organization is critical to stakeholder recognition. That is, if an interest group is organized, then it must be official; similarly, if an interest group exists outside the official channels, then it is unorganized (Zhou 2022). This view may have influenced stakeholder perspectives related to inn operators, as local governments are unlikely to allow inn operators to form social organizations of common interest, which is perhaps due to two driving forces. First, in the early stages of tourism development around ELB, the local government incentivized inn operators to start and to build businesses for the purposes of economic development; at that time, inn operators were recognized stakeholders in the ELB community, at least by the local government. However, as the central government, and consequentially, provincial government stressed ecological restoration of the area, the recognition of inn operators degraded.

Table 3. The distribution of strongly perceived justice issues among the three categories of justice. The standard that values higher than +2 or lower than -2 have been classified as “strongly accepted/rejected” (i.e., more salient, less neutral) comes from Jacobsen and Linnell (2016).

Typified perspective	Factor value	Justice category		
		Distribution	Participation	Recognition
Togetherness perspective	± 5	3	0	1
	± 4	0	4	2
	± 3	1	0	7
Total		4	4	10
Protection perspective	± 5	2	2	0
	± 4	2	2	2
	± 3	4	2	2
Total		8	6	4
Operator loss perspective	± 5	1	2	1
	± 4	3	1	2
	± 3	4	2	2
Total		8	5	5
Local loss perspective	± 5	1	1	2
	± 4	4	1	1
	± 3	1	3	4
Total		6	5	7
Grand total		26	20	26

The second driving force for this shift in stakeholder recognition is likely Chinese political systems and design, which prior to 2020, did not generally recognize inn operators in the decision-making process related to the closures. Often, inn operators were running their businesses as renters, and historically, only property owners could officially weigh in on decisions in contexts such as the closures. Furthermore, as renters, much of the government compensation was not available to non-local inn operators, which highlights a distribution inequity.

While perspectives varied in focus on the recognition dimension, there was consensus related to the disagreement around the idea that agricultural non-point source pollution was the primary driver of the degradation in the lake’s water quality. Interestingly, this opinion held across the different viewpoints, but it conflicts with the stance of the local government (CRAES 2016), as well as a scientific study finding that agricultural by products such as fertilizers, pesticides, and livestock manure were the main reason for the Erhai Lake pollution (Lu et al. 2017). The disconnect between participants’ beliefs regarding the potential of agricultural pollution and the stance of the government and science may result for two reasons. First, there is the belief that farming has been ongoing in ELB for many generations and, as such, the relatively new pollution issues are not completely due to farming; as one participant stated, “Farmers have lived here for generations, so they should not be to blame for the pollution they have caused.” This comment underscores a belief that many local people, who have been in the Erhai Lake area for generations, have a right to be there, even if their farming operations did cause some level of pollution. Second, because of the influence of Chinese traditional farming culture, members of the public may not be aware of the damage to the ecological environment caused by agricultural production.

Without recognizing the full suite of stakeholders, achieving the goal of EJ across all three dimensions is challenging, in large part because it impedes a nuanced discussion of how tourism, important practices such as agriculture, and ecological restoration influence a diverse range of people. For instance, the general lack of recognition of inn operators potentially obscures their relationship to both economic development and culture in the area. With regard to culture, the ELB area has been shown to draw “lifestyle” migrants who partly comprise entrepreneurs looking to escape the fast-paced living of urban areas with the interest of starting businesses that are motivated by quality-of-life and culture, as opposed to economic goals (Xu and Wu 2016, Sun and Xu 2017). Notably, our results reflect only limited recognition of inn operators who would be defined as “lifestyle entrepreneurs” (Sun and Xu 2017), as represented by the general ambivalence toward the idea that inns are symbolic of an attractive lifestyle (statement 31 in Table 2) and, relatedly, that inn operators are motivated by a cultural, sentimental, or spiritual connection (statement 33 in Table 2). Without recognizing these lifestyle entrepreneurs and the impact of agriculture on the ELB ecosystem, inn operators may be conceptualized in a way that creates a potentially harmful stigma. Indeed, we found that a dominant discourse was the idea that inn operators were primary polluters of Erhai Lake and only interested in profits.

Given these potential issues related to EJ, there may be value in a general diversification of those who are recognized as legitimate stakeholders. In this case, whether the government advocates for the development of inns or environmental protection, it is worth acknowledging the environmental rights and social roles of inn operators, particularly those who are not local or are renting. Formalizing this recognition through legal channels may enhance the sense of justice and inclusion. There is some evidence that such legal recognition is taking place, as some recent legal changes have been made in a way that provides land renters and managers with additional participatory power. For instance, in 2020, China implemented a new law that allows for more formal separation of ownership, renting, and management of properties. This new law aligns with desires heard during discussions with participants, when several inn operators stressed the desire to establish more formal management contracts as a means to protect their interests formally.

Generally, increased recognition of different stakeholders and their perspectives was highlighted as a potential benefit during follow-up interviews with participants. One example that spanned different stakeholder groups was the process of demarcating different zones (with different policy implications). One year after the closures had taken effect, the local government held a hearing on the demarcation of three “lines” (i.e., borderline of the lake district, the lakeshore, and the core area). In July 2018, this demarcation process included 12 representatives from local government, without any representation from inn operators, non-governmental community members, or tourists. Without increased recognition of diverse stakeholders and their roles, there is a potential for future social-ecological feedbacks to occur such as increased stigma toward non-local residents, a lack of motivation to implement potentially beneficial agricultural strategies to mitigate pollution, and a lack of desire by non-local investors and inn operators to integrate fully into the local community.

Reconciling the tension between hierarchical governance and participation

Compared with the distribution and recognition dimensions, fewer statements within the participation justice dimension were ranked toward the poles of the factor arrays (Table 3). This result suggests that respondents found the participation dimension of EJ to be relatively less salient, and the placement of the following statement toward the middle of all factor arrays (i.e., more neutral) reinforces this suggestion: “We were excluded from the decision-making process related to the closures.” However, it is also worth noting that there was consensus across the four perspectives that the process generally lacked transparency, and access to information was inadequate (i.e., statements 16 and 17 tended to be on the left side of all the factor arrays). The agreement about the lack of information was also supported during the follow-up interviews, when respondents aligning with all four viewpoints stated that it was difficult to obtain policy documents and the follow-up plan, which included details such as when the closures might stop and whether inns would be demolished. Nevertheless, in general, respondents focused less on participation in hearings and decision-making and more on how the progression of the closures event would affect their vital interests. That is, the respondents focused on the outcomes of the process, rather than the process itself (e.g., hearings, decisions); this finding highlights the stronger focus on the distribution dimension.

The lack of focus on the participation justice dimension potentially highlights the top-down governance structures in China, where citizen participation is mostly absent (Guttman et al. 2018). This approach to governance is different from decision-making processes in the West, which are increasingly concerned with participatory processes because the process is considered influential to the acceptance of the distributive outcome (Smith and McDonough 2001, King and Murphy 2009, Knudsen et al. 2015, George and Reed 2017). That is, thorough and transparent participatory procedures may mitigate negative reactions to outcomes, even in cases in which one feels as though they did not benefit (Brockner and Wiesenfeld 1996). A comprehensive EJ approach is often thought to require an inclusive process (and a fundamental and moral recognition of the different stakeholders), the ability to have all voices in that process heard, a final decision-making process that is logical and unbiased, and a respectful, neutral, and trustworthy arena.

Within the context of the closures, participation justice was perceived as less important, and there may be societal factors driving this perception. For instance, it has been suggested that there may be insufficient awareness of opportunities to participate in the decision-making process, thereby rendering the opportunity to participate less attractive (Li and Si 2017). In other words, there may be less of an incentive to stress the importance of participation if there are no opportunities to participate—there is a sort of resignation to the status quo. The state-run media highlighted some public desire to participate in the ELB planning process (on 21 July 2018), with a China Central Television news program noting that the people want transparency in “the planning, procedures, and methods” of environmental policy. However, our research highlights a lack of priority by stakeholders in this respect. This attitude may be largely influenced by the strong Chinese “results-oriented” way of thinking. Since 1978, the

pursuit of results, or the ends of some policies, have been the focus of the entire Chinese society eager both to develop its economy and to compete with a more advanced international community.

Additionally, the institutional and legal systems of China generally do not provide stakeholders with the possibility to participate in environmental protection with the goal of EJ (Lo 2015, Guttman et al. 2018). In the last decade, China has implemented the top-down, state led approach known as ecological civilization, and in the context of the closures, stakeholders had few opportunities to participate in making environmental protection decisions. The four perspectives from our study highlight a lack of participation in the governance process, as does the aforementioned example on demarcating policy implementation zones.

Finally, it is perhaps notable that, overall, 77% of participants in our study did not achieve a bachelor’s degree, which may have hindered their ability to participate in the process. According to Nussbaum (2011), having a capability to participate is contingent on both one’s personal capacity and the political, social, and economic circumstances. The process around the closures technically provided opportunities for stakeholder participation (e.g., through a “hearing right” and a “decision right”); however, many of the respondents did not pursue these opportunities. It is likely beneficial for local governments to give stakeholders the opportunity to participate, even if some do not take advantage of the opportunity (Sen 2009).

Although a lack of diverse participation can facilitate active planning and management that achieves a particular goal (e.g., ecological civilization) in a timely manner, the lack of participation may impede the realization of all three dimensions of EJ. Therefore, there may be value, through all levels of Chinese government, to assign greater importance to participation opportunities within the context of environmental management issues. Without increased participation, it is possible that a perception of vacillating government policies may decrease the responsiveness of local populations around the ELB toward government programs and initiatives.

Considering distribution and the sustainability conundrum

While definitions and debate around the concept of sustainability abound, the concept is fundamentally about the aim of meeting current economic, social, and environmental needs without impeding the needs of future generations. The tension inherent in sustainable approaches to tourism are reflected in our study, particularly within the protection and operator loss perspectives, which are more focused on distribution justice (Table 3). Although both perspectives focused on the uneven distribution of environmental benefits and costs, the specific views related to this distribution were different. The protection perspective felt that the near-term losses of the closures event could be recovered in the future, that the closures were beneficial to ecosystem restoration in ELB, and that future generations would reap the benefit of an ecologically restored area. In other words, the protection perspective prioritized intergenerational justice. In contrast, the operator loss perspective focused more on current generations by prioritizing statements that emphasized losses of the current inn operators, and slightly disagreeing that future generations would see environmental benefits from the closures.

The near-term focus of the operator loss perspective is perhaps unsurprising, particularly given the system of leasing land in this area of China. Under “China’s Homestead Land Use Right,” land is leased for 20-year periods. Much of the land being leased by inn owners is within this leasing system, and the land is returned to the local people when the lease ends. Because the length of the inn closures was unclear, inn operators were faced with a situation where their fixed leasing time was shorted by an undetermined amount of time. When considering the fixed costs of inn operators (e.g., high initial investment, long payback period), the closures event represented significant hardship for inn owners. However, there was some indication that inn owners would be more accepting of the closures event if they received assurance that their leases would be extended.

In pursuit of sustainable tourism, there may be opportunities to accommodate the various perspectives explored herein. For instance, extending the leases of inn operators to assuage concerns about the economic opportunities lost due to closures, incentivizing investments in infrastructure (e.g., water filtration systems) through strategies such as subsidies to inn operators, and incorporating agricultural practices aimed at mitigating runoff pollution (e.g., buffer zones) constitute opportunities to address the sustainability conundrum. Although such strategies may be beneficial, it is important to consider social and ecological feedbacks that may occur. For instance, without similar environmental protection measures (e.g., updated sewage systems) across the entire region and nation, the closures around Erhai Lake may lead to tourists being displaced elsewhere, with associated environmental impacts being dispersed regionally and nationally. Further, within the ELB, the closures could trigger a shift in economic development around ELB toward non-tourist oriented industries.

CONCLUSION

Using Q-methodology, we focused on diverse stakeholder perspectives related to the environmental justice implications of closures of inns and restaurants within the ELB in the Yunnan Province of China. Four different perspectives (togetherness, protection, local loss, and operator loss) were explored, discussed, and contextualized within three dimensions of environmental justice (distribution, procedural, and recognition). Across the four perspectives, we found a primary concern with distributive justice, which may be due to the general approach to environmental governance in China, which does not emphasize public participation in decision-making. Within individual perspectives, we found that the protection perspective focused on intergenerational justice, whereas the operator loss perspective focused on the near term. Although an overview of the different stakeholder perspectives highlights their diversity, it is important to be cautious in interpreting such findings given the purposeful sampling approach; we cannot draw broad conclusions about how such stakeholder perspectives are distributed across the population.

Within the context of EJ in China, current research focuses mostly on the distribution dimension in local regions or discusses the residents’ awareness of environmental injustice. However, there is a lack of literature focusing on the procedural and recognition dimensions in the context of China. We aimed to address this research gap while providing knowledge to support sustainable tourism in China. Even though procedural justice was a relatively

less salient dimension to respondents, there were concerns about access to information and overall transparency. By increasing focus on transparency, future environmental restoration projects may see increased engagement by local stakeholders. Increased recognition of diverse stakeholders can also support policy design that, at the very least, is considerate of diverse distributive needs and desires. We explicitly focused on all three dimensions of EJ, though further research on stakeholders’ perceptions of EJ is needed.

Acknowledgments:

We acknowledge the support of the National Science Foundation of China (grant 41761111, 41361107), Yunnan University, and the Aldo Leopold Wilderness Research Institute, Forest Service, United States Department of Agriculture. The findings and conclusions in this publication are those of the author(s) and should not be construed to represent any official USDA or U.S. Government determination or policy.

Data Availability:

The data that support the findings of this study are openly available in Open Science Framework at <https://osf.io/l48g6yl>.

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