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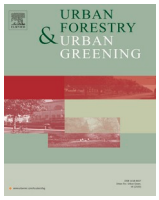

Original article

More parks, more justice? Unpacking distributional and recognitional justice in Shanghai's urban greening policies

Yuan Lu *, Sun Sheng Han, Judy Bush

Faculty of Architecture, Building and Planning, The University of Melbourne, Parkville, Victoria 3010, Australia

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ABSTRACT

Urban greening is increasingly promoted in global cities, but justice concerns in green planning are largely framed through Western experiences, with limited attention to non-Western planning contexts. This study examined justice-related issues in Shanghai's greening policies by applying a "4A" approach that analyses four key dimensions of urban park provision: adequacy, availability, accessibility, and attractiveness. Based on policy documents and 38 interviews with planning stakeholders, the findings reveal limited integration of justice despite significant progress in greening. Park planning prioritises quantitative targets and spatial parity, with little attention paid to social diversity and the specific needs of vulnerable groups. Local contextual factors, such as multilevel governance divergence, development stages, regulatory constraints, and growth-driven narratives, collectively influence justice integration in green planning. This paper proposes a multidimensional framework linking justice dimensions, planning requirements, and local contextual conditions. By offering empirical insights from a non-Western, state-led planning context, it contributes to global environmental justice debates. The study calls for a shift from supply-driven approaches to justice-oriented planning that actively recognises and responds to diverse social needs.

1. Introduction

Urban green space has become increasingly prominent in contemporary planning discourse. Cities worldwide are promoting greening policies to address challenges, including climate adaptation, biodiversity conservation, public health, and recreational needs. However, green planning is not a neutral or purely technical task (Anguelovski et al., 2020; Schell et al., 2020). Without explicit attention to justice, urban greening policies may produce or exacerbate social and spatial inequalities (Anguelovski et al., 2020; Grabowski et al., 2023; D. Haase et al., 2017).

Environmental justice (EJ) provides a critical lens for assessing the fairness and inclusiveness of urban greening. It commonly encompasses three dimensions: distributional justice (fair allocation of green spaces), recognitional justice (acknowledging diverse values, needs and identities), and procedural justice (inclusive participation in planning processes) (Kronenberg et al., 2020; Low, 2013; Schlosberg, 2013; Walker, 2012). EJ studies show that marginalised and vulnerable groups are often disadvantaged in green space access (Kabisch & Haase, 2014; Nesbitt et al., 2019; Wolch et al., 2014), excluded from planning processes (Agyeman et al., 2016; D. Haase et al., 2017), and more exposed to the adverse effects of market-driven green regeneration (Byrne, 2017; A. Haase et al., 2022). These findings challenge the assumption that greening initiatives are inherently just or universally beneficial (Diep et al., 2023; D. Haase et al., 2017; Wolch et al., 2014).

Despite these insights, two major gaps remain. First, few studies have systematically examined how different dimensions of justice are integrated in greening policies. Much of the literature continues to focus on outcome-based assessments, especially distribution inequalities, with limited attention to how policies themselves define, prioritise, or operationalise justice (Diep et al., 2023; Gradinaru et al., 2023). Second, there is limited exploration of the planning and governance contexts behind justice-related issues. Many studies overlook contextual settings, which are crucial for understanding the roots and responses to inequities (Anguelovski et al., 2020; A. Haase et al., 2022). These limitations are particularly evident in non-Western countries, where empirical studies on justice in greening policies remain scarce. While most EJ research and narratives have been established in Western contexts, non-Western settings remain underexplored (Agyeman et al., 2016; Jian, 2005). China provides a critical case in this regard: its distinct political,

* Corresponding author.
E-mail addresses: yuan.lu1@student.unimelb.edu.au (Y. Lu), sshan@unimelb.edu.au (S.S. Han), judy.bush@unimelb.edu.au (J. Bush).

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economic, and social contexts generate alternative dynamics in how justice is framed and operationalised.

In China, urban greening is deeply embedded in a top-down planning system (Palmer, 2007) and often tied to broader political and economic objectives such as land value capture, city branding, and performance-driven development (Chen & Hu, 2015; Wang et al., 2022). Many cities have significantly expanded green space and incorporated ambitious greening targets into strategic plans (J. Wu & Mei, 2021). However, a growing body of EJ research in China has revealed persistent inequalities in green space provision among different social groups (e.g., Li & Liu, 2016; Shen et al., 2017; Wang et al., 2022; Wei, 2017), raising questions about the extent to which justice is integrated into greening efforts. Greening strategies are also shaped by context-specific factors such as governance features, rapid urban redevelopment, and market forces (Palmer, 2007; Wang et al., 2022). However, the influence of such conditions on justice in green planning remains insufficiently explored.

To address the research gaps, this study aims to investigate how justice is addressed, understood and shaped in green planning. Focusing on distributional and recognitional justice, it examines how justice concerns are interpreted in planning practices and how they are influenced by contextual planning and governance conditions. The analysis centres on Shanghai, a global city that actively promotes urban greening alongside rapid urban transformation. This study focuses specifically on urban parks as a central form of green spaces, defined here as publicly accessible green spaces primarily intended for recreation while also serving ecological, landscape, and social functions. This study is guided by the following research questions:

1) How do urban greening policies address justice concerns in park provision across the four aspects of adequacy, availability, accessibility, and attractiveness?
2) How do local contextual factors influence the integration or absence of justice concerns in greening policies?

Our study contributes to bridging global and China-focused debates on just and inclusive urban greening by offering empirical insights from a non-Western context and advancing justice-oriented planning. The remainder of this paper is structured as follows. Section 2 reviews key justice perspectives applied in international greening policy analysis, examines Chinese EJ studies, and develops an analytical framework. Section 3 outlines the case study, data sources, and analytical methods. Section 4 presents the findings on how park provision policies address distributional and recognitional justice. Section 5 discusses the results, summarising the expressions and limitations of justice, and analysing the role of contextual factors. Section 6 concludes the paper.

2. Greening policies and justice: global framework and local challenges in China

2.1. Justice perspectives in urban greening policy analysis

Urban greening policies vary in how they frame and prioritise justice concerns. Some explicitly emphasising fairness, inclusion, and compensation have the potential to advance justice (Anguelovski et al., 2020; Gradinaru et al., 2023). For example, Barcelona's greening strategies incorporate social and gender justice to better address the needs of vulnerable groups (Calderón-Argelich et al., 2023). In contrast, when justice is weakly addressed, standardised targets may overlook local priorities, resulting in uneven park provision and an overemphasis on quantity over quality (Boulton et al., 2018; Byrne et al., 2010). In some cases, park upgrades contribute to gentrification and displacement (Byrne, 2017; D. Haase et al., 2017; Wolch et al., 2014), while in others, greening can be instrumentalised within neoliberal or market-driven planning agendas, serving economic goals over social ones (A. Haase et al., 2022).

Policy-oriented research on EJ often conceptualises justice through three key dimensions: distribution, recognition, and participation. *Distributional justice* concerns the allocation of urban parks and their associated benefits. Key debates centre on the normative principles for distribution. Egalitarianism advocates equal provision for all residents (Nielsen, 1979). For example, green space planning in Soviet socialist cities emphasised uniform spatial distribution (Kronenberg et al., 2020). While the difference principle, which is widely adopted in EJ literature, argues for prioritising disadvantaged groups to address structural inequities (Rawls, 1971). *Recognitional justice* examines whether the needs, values and identities of different groups are properly acknowledged and reflected in planning. It complements distributional justice by emphasising whose interests are considered (Schlosberg, 2013). For instance, "just green enough" strategies in some US cities have been proposed to meet the needs of marginalised communities while limiting green gentrification (Rigolon et al., 2020). *Procedural justice* refers to the participation of relevant groups in decision-making processes, particularly regarding who participates and how decisions are made (Low, 2013). For example, New York's greening plans emphasise inclusive community involvement in green space design and management (Calderón-Argelich et al., 2023). While this dimension is essential, it is not within the scope of this article.

2.2. EJ studies in China

2.2.1. Park provision and justice in China

Academic interest in urban greening and EJ in China has grown recently, with most studies focusing on distributional justice. The Chinese literature categorises justice into three levels (Tang & Gu, 2015, 2016). At the basic level, geographic parity refers to an even spatial distribution without considering population. Social/spatial equity goes further by examining whether park provision matches population distribution. Social justice is the highest level, centred on addressing the distinct distribution of disadvantaged populations. Empirical studies have analysed disparities in park provision across age and socioeconomic status (e.g., income, housing prices, household registration, and occupation), revealing widespread spatial inequality in many Chinese cities (H. Li & Liu, 2016; Shen et al., 2017; Wei, 2017). However, most analyses focus on park proximity and size, with limited attention to park quality and functional accessibility.

Despite these efforts, existing research remains descriptive, emphasising spatial patterns and neglecting the planning processes that shape them. While scholars have suggested planning interventions, for example, prioritising park provision in underserved areas, few have evaluated the role of planning tools, standards, or implementation mechanisms in integrating and promoting justice (J. Wu & Mei, 2021). In addition, existing studies rarely extend beyond distributional justice to include other dimensions—such as recognition—both conceptually and empirically, leaving significant gaps in understanding how planning responds to the diverse needs of different social groups.

2.2.2. Policy and governance insights on justice in the Chinese context

Critical social-ecological studies highlight greening policies, shaped by market forces, power, and inequality, often involve trade-offs between multiple goals and social outcomes (A. Haase et al., 2022). Such complexities underscore the need to consider the context when assessing how justice is defined and pursued. Non-Western EJ scholars have emphasised the importance of situating justice frameworks within specific sociopolitical and institutional settings (Jian, 2005; Kronenberg et al., 2020). However, how justice is interpreted and implemented in the Chinese context remains limited.

China presents a distinct planning and governance environment. Justice has been incorporated into national policy discourse, most notably through the inclusion of "fairness (gongping)" and "justice (zhengyi)" in the core socialist values since 2012. The National New Urbanisation Plan also emphasises "promoting comprehensive human development and social equity and justice" (The Central Committee of

the Communist Party of China and the State Council, 2014). However, these references largely remain at the level of policy rhetoric, serving as broad political commitments with limited operational clarity. Justice is typically framed in general terms of benefits for the public at large (Jian, 2005). By contrast, explicit requirements are rarely found in legislation or regulatory documents, and there is little practical guidance on how justice-related principles should be translated into planning standards or implementation mechanisms (J. Wu & Mei, 2021).

China's highly centralised environmental governance further shapes justice-related outcomes in planning. Local governments exert strong control over land use decisions, and the extent to which they engage with justice-related concerns may affect the spatial and social equity of public resource provision decisions (Jian, 2005; Palmer, 2007; Wang et al., 2022). Studies suggest that justice concerns can be deprioritised in favour of economic development and political performance targets (Lu et al., 2019; Palmer, 2007).

Urbanisation pressures and compact development have further intensified land constraints, complicating equitable green space provision (Du & Zhang, 2020; H. Li & Liu, 2016; Wei, 2017). The planning priorities of local governments vary across regions and development periods, shaping how justice goals are interpreted and pursued. Moreover, urban redevelopment is frequently framed as a strategy for economic upgrading and city branding, with limited attention to its potential social impacts (Wang et al., 2022). Neoliberal logics, such as land commodification and fiscal dependence on land transfers, also influence local decision-making, often encouraging profit-driven development over socially oriented investments such as green space (Chen & Hu, 2015; Du & Zhang, 2020).

2.3. Conceptual framework: connecting justice, park provision requirements, and contextual factors

We develop a 4A framework—adequacy, availability, accessibility, and attractiveness—to evaluate how justice is addressed in park planning (Fig. 1). The framework integrates insights from research on park provision and EJ theories. It draws on Biernacka & Kronenberg (2018), who identified availability, accessibility, and attractiveness as key aspects of green space provision. We extend them by adding adequacy to capture the overall supply of parks (Boulton et al., 2018). We further link these four aspects with EJ theories (Schlosberg, 2013; Walker, 2012), focusing on distributional and recognitional justice. The framework provides a concrete, policy-relevant entry point for examining how planning defines provision goals and whose needs are acknowledged.

Within this framework, adequacy concerns the total supply of parks to meet population needs; availability refers to the allocation principle and the spatial presence of parks; accessibility highlights the physical and psychological barriers that affect use; and attractiveness relates to the qualities that make parks usable and inclusive. Each aspect relates to distributional concerns (e.g., how resources are allocated) and recognitional concerns (e.g., whose needs, values, and identities are considered or neglected). While these provision aspects have been used singly or in multiple ways to analyse distributive outcomes, they have rarely been systematically applied to evaluate policy content or planning practices, especially in non-Western contexts.

Building on this, justice concerns are further understood as shaped by contextual factors, including governance divergence, developmental stages, regulatory constraints, and growth-oriented planning narratives. These structural conditions mediate how justice is framed, constrained, or overlooked in practice. The 4A framework thus offers an operational approach to translate abstract justice dimensions into observable planning requirements. It is particularly suitable for the Chinese context, where justice increasingly appears in policy discourse but remains underexplored empirically, while also providing transferable insights for other comparable urban contexts.

3. Methods

This study adopts a qualitative research design that combines policy document analysis with semi-structured interviews. This approach enables an in-depth examination of how urban greening policies engage with EJ, and how local governance and planning contexts influence such engagement.

3.1. Case study: Shanghai central city

Shanghai, situated along China's central coastline, serves as the country's national economic hub. With a population of 24.76 million in 2022, it ranks among the world's most densely populated cities (Shanghai Municipal Bureau of Statistics, 2023). The central city, defined within the outer ring road, covers approximately 660 km^2 (Xiao et al., 2017) and comprises eleven subdistricts—eight in Puxi and three in Pudong—divided by the Huangpu River (Fig. 2). Nearly half of the city's population resides in this area (Shen et al., 2017).

Fig. 3 illustrates the spatial distribution and growth of parks in Shanghai Central City. From 2000–2020, the number of parks increased from 100 to 290 and the total park area rose by 126 %. Growth was particularly pronounced between 2000 and 2010, when both park numbers and total area doubled, showing a strong policy-driven expansion of urban greening.

These spatial changes reflected deeper institutional and policy shifts

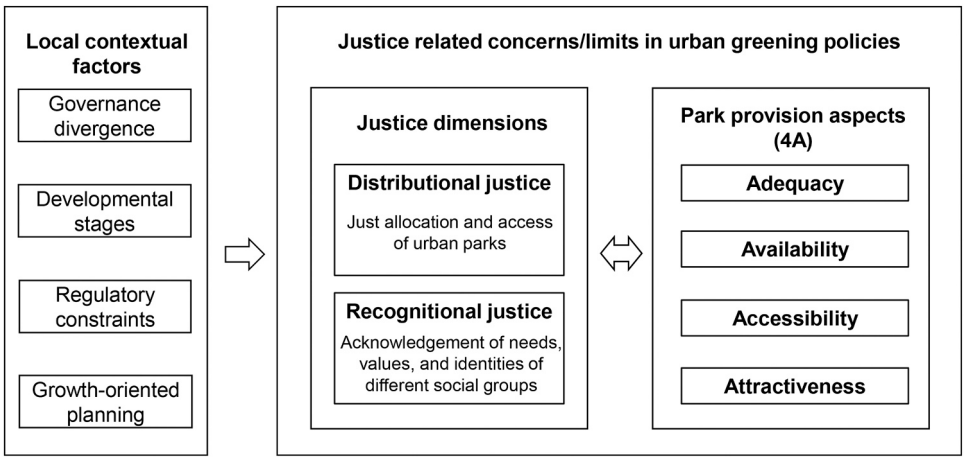

Fig. 1. Conceptual framework connecting justice dimensions, park provision aspects, and local contextual factors. Adapted from research on park provision (Biernacka & Kronenberg, 2018; Boulton et al., 2018) and EJ theories (Schlosberg, 2013; Walker, 2012).

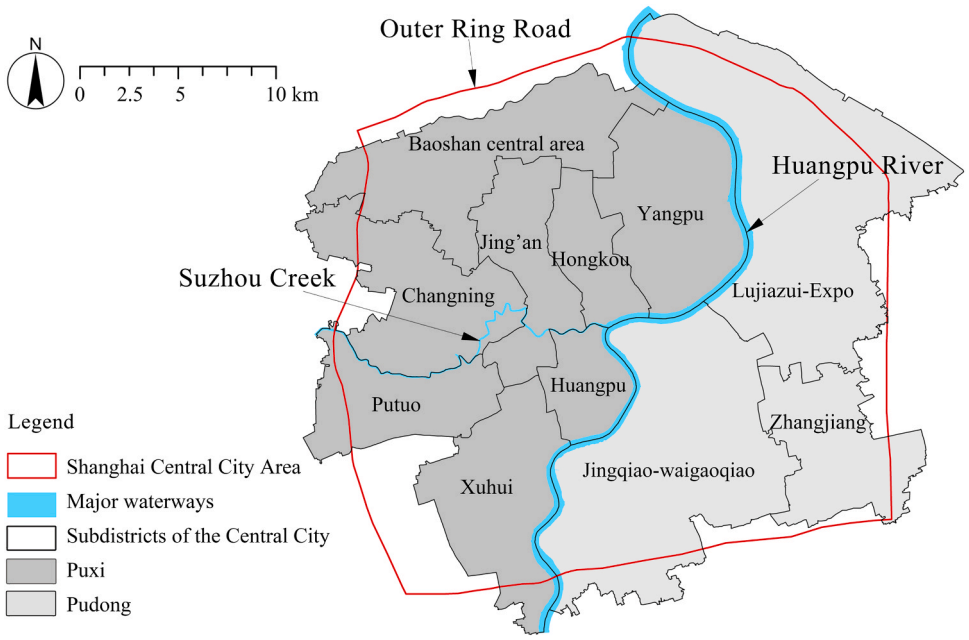

Fig. 2. Subdistricts and major waterways of Shanghai Central City.

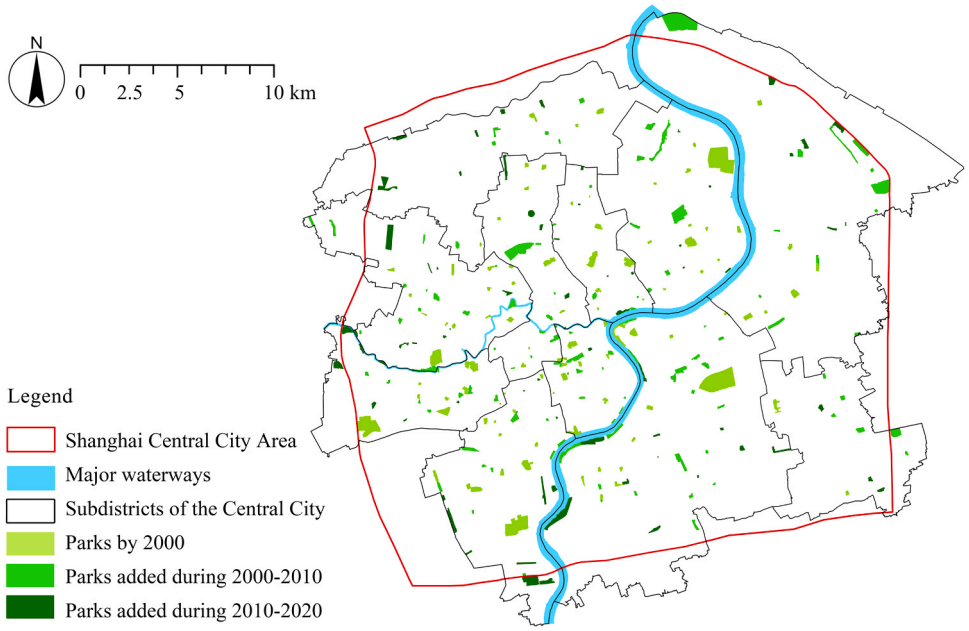

Fig. 3. Distribution and growth of parks in Shanghai Central City (2000, 2010, 2020). Based on Google Maps historical imagery and data from the Park Directory of Shanghai (Shanghai Landscaping and City Appearance Administration Bureau, 2025).

in Shanghai's urban development agenda. Shanghai has long faced a severe shortage of green space, especially in the dense city centre. Before the 21st century, its greening indicators lagged far behind the national urban average, making it a "green poverty city" (W. Wu, 1999). This situation began to improve in the broader context of Shanghai's state-led urban transformation, where the municipal government actively guided land use and spatial development to enhance global competitiveness and attract investment (Han, 2000). As part of this agenda, greening became a tool for environmental improvement and city branding. In the late 1990s, investment focused on large-scale green spaces to improve the ecological environment and compete for the National Garden City title. The Shanghai Master Plan (1999–2020) proposed building a greening system suited to megacity needs. From the late 2000s, World Expo-related projects enhanced Shanghai's image through landmark landscapes, especially along the Huangpu River and Suzhou Creek. By the late 2010s, the Shanghai Master Plan (2017–2035) shifted toward building "high-quality" and "people-oriented" public spaces. Recent policies further introduced the goal of building a Park City, as well as concepts such as "openness, sharing, and integration", signalling a shift toward more diverse and inclusive greening.

3.2. Data collection

3.2.1. Policy research

To analyse urban park supply in Shanghai's Central City, we reviewed municipal-level green planning documents from 2000 onward,

including master plans, specialised greening plans, design standards, and park provision guidelines (Table 1). These documents define key objectives and requirements, and their planning scope covers or includes the Central City, aligning with this study's spatial focus.

3.2.2. Semi-structured interviews

We conducted 38 in-person and online interviews between November 2022 and April 2023. Interviewees held diverse roles in formulating and implementing urban greening policies in Shanghai Central City, including officials from the Planning and Natural Resources Bureau (PNRB) and the Landscaping & City Appearance Administrative Bureau (LCAAB), urban planners from planning and design institutes, university academics, and researchers from planning institutions (Table 2). Using snowball sampling, we identified participants through prior research, policy documents, government websites, and academic publications, continuing until saturation. All interviews (30–120 min) were conducted in Chinese. Transcripts were analysed in the original language using NVivo, and all quotes were translated by the authors.

3.3. Data analysis

3.3.1. Coding framework and process

This study used thematic coding to analyse qualitative data from policy documents and interviews, guided by the conceptual framework in Section 2.3. Coding focused on two interrelated categories: justice dimensions and park provision aspects (4A). Contextual factors were incorporated at the interpretation stage to explain how institutional, regulatory, and developmental conditions shaped justice outcomes.

Both policy and interview materials were coded under the same coding framework, enabling direct comparison between planning intentions and practitioners' interpretations. Codes were organised around adequacy (Ad), availability (Av), accessibility (Ac), and attractiveness (At) to identify related requirements, strategies, and narratives. Table 3 presents the operational definitions of the park provision aspects that served as the coding guide. These operationalisations provided the basis for grouping each aspect into subthemes (e.g., Ad1, Av2, Ac3, At3). The subthemes structure the Findings and capture specific distributional and recognitional justice concerns, which were further summarised in Table 4.

3.3.2. Analytical procedure and triangulation

The analysis proceeded in the following steps. First, we examined how greening policies defined park provision requirements. Second, using the same coding scheme, we analysed interview data to understand how practitioners interpreted, implemented, and critiqued these provisions. Third, we integrated policy and interview insights to examine how justice was jointly framed and enacted across policy intentions and planning practices. Finally, we interpreted these findings

Table 1
Key greening policy documents cited in this paper.

Released Year	Document type	English title (translated)	Acronym in this paper
2001	Master plan	Shanghai Master Plan (1999–2020)	SMP (1999–2020)
2002	Greening plan	Shanghai Urban Green Space System Plan (2002–2020)	SUGSSP (2002–2020)
2004	Greening plan	Public Green Space Plan of Shanghai Central City (2002–2020)	PGSPSCC (2004–2020)
2016	Design standard	Public Park Design Standards (GB 51192–2016)	PPDS-2016
2018	Master plan	Shanghai Master Plan (2017–2035)	SMP (2017–2035)
2021	Greening plan	Shanghai Ecological Space Plan (2021–2035)	SESP (2021–2035)
2021	Greening guideline	Guiding Opinions on Promoting the Construction of Park City	GOPCPC-2021
2022	Greening guideline	Shanghai Park City Planning and Construction Guideline	SPCPCG-2022

Table 2
Interviewee classification and roles in green planning.

No.	Category	Involvement in green planning activities
1–16	Urban planners	Engaged in formulating plans related to park provision, including master plans, unit plans, regulatory detailed plans, specialised greening plans, and urban regeneration plans
17, 18, 19, 23, 24	Municipal level PNRB and LCAAB officials	Developed strategic plans and guidelines; coordinated across districts; reviewed and aligned detailed plans with citywide goals
20, 21, 22, 25, 26, 27	District level PNRB and LCAAB officials	Prepared regulatory detailed plans; implemented projects; adapted municipal targets to local conditions
28–38	University academics/ Institute researchers	Researched green planning, justice/equity, policy implementation, and supported policy making

Table 3
Operationalisation of park provision aspects (4A) for coding policy documents and interviews.

Park provision aspect	Subthemes (codes) and operational definitions	Supporting EJ literature informing operationalisation
Adequacy (Ad)	**Ad1:** The sufficiency of overall park supply, typically operationalised through quantitative indicators (e.g., per capita park area). **Ad2:** Allocation of greening targets across different districts or user groups.	Kabisch & Haase (2014); Shen et al., (2017)
Availability (Av)	**Av1:** Spatial distribution of parks, especially when allocation principles were discussed (e.g., service radius, walking distance/time). **Av2:** Presence and classification of parks at multiple levels (city, district, neighbourhood).	Kronenberg et al., (2020); Nesbitt et al., (2019); Gradinaru et al., (2023)
Accessibility (Ac)	**Ac1:** The surrounding access environment of parks, including linkages to greenways, slow lanes, and public transport hubs. **Ac2:** The removal or persistence of physical and psychological barriers (e.g., fences, entry design, barrier-free facilities) that affect park access. **Ac3:** Policy measures promoting public access beyond formal parks, such as opening affiliated green spaces of schools or enterprises.	Kronenberg et al., (2020); Gradinaru et al., (2023)
Attractiveness (At)	**At1:** Definition and assessment of park quality in planning, focusing on the use of measurable standards and criteria. **At2:** Planning prioritises for parks, reflecting spatial selectivity in policy attention. **At3:** Amenities and functions incorporated into parks that influence user experience, such as facilities, events, and design features.	Kabisch & Haase (2014); Kronenberg et al., (2020)

Table 4
Justice-related concerns in park provision: distributional and recognition dimensions across the 4A framework.

Park provision aspects	Distributional justice concerns	Recognition justice concerns
Adequacy		
Ad1 Setting ambitious targets for all residents	Aggregate per capita indicators safeguard land thresholds. Targets largely symbolic and approval driven.	User perspective regarding sufficiency unrecognised. Satisfaction indicators appear in policy but not institutionalised.
Ad2 Disparities in target allocation across districts	Uneven distribution of citywide targets. Compliance based on land availability, not needs. Entrenches inequalities between central and peripheral districts.	Residents' differentiated demands ignored. Negotiation shaped by feasibility, not equity.
Availability		
Av1 Even distribution through distance-based standards	Service-radius framed as equal coverage. Geographic parity prioritised.	Demographic characters/ user diversity rarely considered for park allocation. Treat residents as a homogeneous group.
Av2 From large to small parks: numerical expansion	Expansion through numbers rather than quality. Larger parks provide richer facilities. Smaller parks remain basic.	Children and older adults gain recognition as vulnerable users. Everyday needs of other user groups overlooked.
Accessibility		
Ac1 Connectivity through green paths	Connectivity framed as universal benefit. Priority given to flagship waterfronts, while other areas fragmented.	Waterfronts receive priority with other areas fragmented. Younger/athletic groups advantaged over older adults.
Ac2 Removing barriers & enhancing entry environment	Fence removal and barrier-free design promoted, but mainly symbolic. Focus on iconic parks.	People with disabilities explicitly recognised. Other physical and psychological barriers for diverse users overlooked.
Ac3 Opening affiliated green spaces	Little real increase in park areas. Access remains formalistic.	Usability restricted in practice. Conflicts between internal and external users.
Attractiveness		
At1 Missing quality standards and unequal investment	"High quality" undefined. Investment privileges larger, central, and high-tier parks. Small and peripheral parks underfunded remain basic.	User perspectives regarding park quality not systematically integrated. Quality tied to investment, not user needs.
At2 Providing high-quality parks in strategic areas	Superior greening concentrated in showcase areas. Distribution favours symbolic areas.	Benefits flow to middle-/ upper-income residents. Low-income and dense areas neglected.
At3 Adding facilities and functions to parks	Multifunctionality promoted as policy goal. Parks host cultural and commercial events.	Children, older adults, and people with disabilities are explicitly recognised. Amenities and activities align with middle-class lifestyles. Young and low-income users underserved.

within broader governance and policy contexts in the Discussion section.

This joint coding and comparative approach ensured systematic integration of policy and interview data. It also enabled data triangulation, where different sources were cross-checked to strengthen the credibility of findings.

4. Findings

We analysed the four park provision aspects (adequacy, availability, accessibility, attractiveness) in relation to specific greening interventions, focusing on how justice-related content was addressed and integrated into greening plans. Table 4 summarises the main distributional and recognition justice concerns under each aspect.

4.1. Adequacy

4.1.1. Setting ambitious targets for all residents (Ad1)

Shanghai has prioritised expanding greening coverage through quantitative indicators such as per capita park area, green space ratio, and greening coverage rate. For example, the SMP (2017–2035) mandates doubling the per capita park area of the central city from 3.8 to 7.6 m^2 per person (p. 41), benchmarking against global metropolises like Paris, London, and Tokyo. These targets are officially presented as benefiting the entire population.

Interviewees acknowledged that such targets were effective in safeguarding green space during rapid development (I23, I30, I32, I37). However, they noted that ambitious greening targets were largely symbolic, driven by inter-city competition: *'Greening targets could be very high, as the government thought the numbers looked good (…) this is also driven by the comparison and competition among different cities'* (I2). Meeting such quantitative metrics was described as a prerequisite for plan approval (I2, I7, I22, I31), while users may rarely perceive any benefit: *'The per capita indicator might have increased from 5 to 6 m^2 per person, but people are not able to feel the difference'* (I5)." Some recent indicators, such as "green space satisfaction" in SPCPCG-2022 (p. 100), show tentative attempts to incorporate user perspectives, but land-based measures continue to dominate the evaluation logic (I2, I7, I38). In essence, adequacy is framed by aggregate targets presumed to benefit all, while these metrics neglect sufficiency in user experience.

4.1.2. Disparities in target allocation across districts (Ad2)

City-wide greening targets have been allocated to each district, but the distribution is highly uneven. Based on the SMP (2017–2035), central Puxi districts, such as Hongkou and Huangpu, were assigned per capita park targets of 2.7 and 2.6 m^2 per person, while Pudong areas, including Jinqiao–Waigaoqiao and Zhangjiang, reached 28.5 and 34 m^2—over ten times higher.

Interviewees explained that tensions emerged between municipal and district governments over how these targets were set and adjusted. The municipal government initially proposed uniform per capita targets for all districts, emphasising its role as a gatekeeper for maintaining a green threshold for the whole city (I9, I20). However, district representatives criticised this "equal" allocation for disregarding disparities in existing green space conditions: "*The targets are unrealistic for the central areas"* (I20). They highlighted land scarcity and the high costs of redevelopment, making uniform targets infeasible. In response, central Puxi districts negotiated for lower requirements, and the municipal government compensated by assigning higher targets to Pudong, where land was more available (I5, I9, I31). This negotiated redistribution prioritises measurable compliance, defined by land availability rather than residents' needs, thereby entrenching inequities between land-abundant and land-scarce districts.

4.2. Availability

4.2.1. Even distribution through distance-based standards (Av1)

Greening plans have long aimed for equal spatial allocation of parks through service-radius standards. The SMP (1999–2020) proposed "even distribution" and "reasonable service radius" (p. 66), which were reinforced in subsequent plans such as SUGSSP (2002–2020) and PGSPSCC (2004–2020) with a 500-metre target for park access. The SMP (2017–2035) further aligned with the "15-minute neighbourhood"

concept, requiring smaller parks within a 5-minute walk.

Planners adopt gap-filling strategies to meet these standards, starting with central residential areas and gradually extending coverage to peripheral zones, which meant coverage improved earlier in core districts (I4, I5, I6, I7, I8, I9). However, they noted that this approach treats the population as homogenous and rarely incorporates sociodemographic characteristics: *"It is possible to do a thorough analysis of user characteristics, but not a regular practice"* (I5). Most respondents agreed that planning prioritises overall service coverage, with limited attention to distinguish diverse user groups. As a result, spatial equality is prioritised, narrowing availability to geographic parity rather than social responsiveness.

4.2.2. From large to small parks: numerical expansion (Av2)

Shanghai has adopted a multilevel park system based on park size and service radius. Earlier plans, such as the SMP (1999–2020), prioritised the construction of city-level and district-level parks to deliver ecological functions and enhance the city's image, while rapidly increasing the overall green space area. More recent strategies prioritise smaller neighbourhood parks to enhance everyday access. For example, the GOPCPC-2021 set a goal to increase the number of parks from 438 to over 1000 by 2025 (p.3).

Interviewees explained that most of the newly added parks in the central city are small, making them more accessible and frequently used, particularly by vulnerable users, including children and older adults, whose activities are mainly neighbourhood-based (I3, I26, I38). However, in dense central districts, their siting often depends on whether land becomes available through urban regeneration, rather than on population size or social demand (I9, I16). Migrant and low-income groups are occasionally recognised as vulnerable users but are seldom considered in planning decisions, as park provision is framed as a universal public good (I5, I28). Thus, while availability has expanded in numerical terms, it remains focused on statistics rather than social diversity.

4.3. Accessibility

4.3.1. Connectivity through green paths (Ac1)

Policy documents such as the SMP (2017–2035) and SESP (2021–2035) promote the development of a greenway network linking isolated parks into a cohesive system. The policy goal, as one interviewee explained, is to provide continuous access: *"If we can provide an accessible network, for example, the waterfront green spaces being connected and continuous, then users can walk all the way and enjoy more than just one park"* (I36). Green paths are expected to support daily activities such as walking, running, and cycling (I27) while improving access conditions (I9, I11).

However, interviewees also highlighted that the implementation of green paths often depends on feasibility, leading to fragmented networks and uncertain experience for users (I9, I11). Regional disparities are evident: key waterfronts such as the Huangpu River and Suzhou Creek receive stronger policy support due to their symbolic significance in city branding, while other areas are less prioritised (I17, I21, I37). Furthermore, patterns of use vary: *"Young people and sports enthusiasts are more inclined to utilise cycle paths, whereas older individuals may find them less usable"* (I1), indicating that the benefits of greenways are differentiated across groups.

4.3.2. Removing physical barriers and enhancing the entry environment (Ac2)

Parks in Shanghai were traditionally enclosed, restricting entry points. Under the Park City principle of "opening, sharing, and integration", recent policies (e.g., SPCPCG-2022) encourage removing or modifying fences to improve green visibility and reduce barriers. Interviewees further noted that access requires more than visual openness, adding that park entrances should be better linked with slow lanes and public transit hubs (I6, I15, I20, I33).

In practice, renovations have concentrated on city- and district-level parks with iconic or cultural significance, while smaller or less prominent parks often remain unchanged. Some projects focus primarily on creating visual permeability (I25), raising doubts about whether they genuinely enhance functional accessibility or simply serve symbolic purposes.

Another policy focus has been on barrier-free design. The PPDS-2016 mandates barrier-free paths and entrances that meet the standards for wheelchair accessibility. Interviewees acknowledged this as progress but also pointed out its limitations: while people with disabilities receive specific design attention, planning rarely considers physical or psychological barriers faced by other user groups.

4.3.3. Opening and sharing affiliated green spaces with the public (Ac3)

Recent policies, including SMP (2017–2035) and SPCPCG-2022, promote opening internal green spaces of enterprises, schools, and service institutions to the public. Measures such as removing fences, retreating boundaries, and increasing entrances aim to supplement parks, especially in dense central areas.

Interviewees generally viewed this strategy as an innovative way to improve park access by converting private spaces into shared ones. However, they also questioned its substance: "*It actually does not increase the total amount of green spaces*" (I5). Others noted challenges in managing conflicts between internal and external users (I6, I28). District officials (I20, I25) highlighted the efforts and resources required for negotiating with land use rights holders and managing the newly opened spaces. In many cases, these spaces remain visually open but functionally restricted, offering limited usability (I20). Such openings remain largely formalistic, creating the appearance of expanded access without delivering substantive usability.

4.4. Attractiveness

4.4.1. Missing quality standards and unequal investment (At1)

Planning documents advocate for "high-quality, user-friendly public spaces" (SMP 2017–2035, p. 2). However, interviewees consistently highlighted the absence of concrete and measurable standards: *"We require all parks to be of high quality, but there is no specific standard"* (I16). They noted that without institutionalised criteria, quality is difficult to define in planning. This vagueness results in a weak connection between quality and user needs. Although some planners reported occasional surveys with users, these efforts were not embedded in statutory procedures (I2, I3, I5, I16). As a result, user perspectives are not systematically recognised or translated into design requirements.

In practice, park quality depends on implementation shaped by investment. Centrally located, large-scale, and higher-tier parks tend to receive more funding and offer better facilities and landscaping. They are often developed alongside surrounding urban upgrades (I6, I9, I14, I26). In contrast, small and peripheral parks often receive limited investment with basic amenities: *"We will not invest particularly large but consider affordable. Providing some seating facilities is enough (for small pocket parks)"* (I26). This uneven investment contributes to spatial disparities, privileging certain districts and user groups while leaving others under-provided.

4.4.2. Providing high-quality parks in key strategic areas (At2)

The SMP (2017–2035) calls for "high-quality" development in strategic urban areas, particularly image-showcasing zones such as the Huangpu River and Suzhou Creek waterfronts, central activity zones, and key business clusters. Interviewees (I9, I14, I26, I27) confirmed that these areas receive greater investment, as authorities treat park development as a tool for enhancing land values and promoting urban regeneration. This approach appears to be driven more by urban marketing than by equity considerations.

Examples such as the Demonstration Neighbourhoods of Park City in

the SPCPCG-2022 show that superior greening is more concentrated in waterfronts and cultural areas. Interviewees noted that this pattern mainly benefits middle- and upper-income residents who can afford to live in such locations (I14, I29). By contrast, areas with higher residential density or lower socioeconomic status receive little policy attention, and the current greening focus tends to reinforce rather than reduce distributive inequalities.

4.4.3. Adding facilities and functions to parks (At3)

Policies such as SPCPCG-2022 promote the "Park Plus" concept, which encourages multifunctionality beyond greening. This marks a shift from earlier standards like PPDS-2016, which emphasised vegetation coverage over public use. Interviewees supported mixed-use of parks: *"We encourage the integration of culture and sport"* (I28); *"Commercial and cultural functions can improve park quality"* (I29). As a result, parks are increasingly adding facilities and hosting public events, such as art exhibitions and music festivals, and lawns are opened for activities like picnics and casual camping (I2, I9, I22, I25).

Designs aim to serve all age groups, with priority given to children and older adults (e.g., SPCPCG-2022). Standards also mandate accessible features such as ramps and handrails for people with limited mobility (e.g., PPDS-2016). However, interviewees noted that young people remain underserved and conflicts between age groups over shared spaces are common (I29, I37). Many new functions, particularly cultural events and commercial amenities such as café, artisanal markets, and outdoor concerts, are more aligned with middle-class lifestyles (I35). By contrast, the everyday needs of low-income or working-class residents remain marginalised, exposing a recognitional justice gap.

5. Discussion

5.1. Representations and limits of justice in green planning

Our findings reveal varying degrees of justice-related concerns and limitations across the four aspects of park provision. Consistent with previous studies in other contexts (Calderón-Argelich et al., 2023; Gradinaru et al., 2023), justice is addressed in superficial and limited ways in Shanghai's green space planning.

5.1.1. Distributional justice: quantitative and spatial parity

Shanghai's distributive justice in park provision is primarily constructed through numerical and spatial parity. Aggregate targets, service-radius standards, and park number expansion safeguard land for greening and extend coverage, but they reduce equity to the fulfilment of quantifiable metrics. This reflects an egalitarian logic rooted in China's socialist planning legacy (Nielsen, 1979; Xiao et al., 2017), where the uniform thresholds for all residents measure parity.

However, such spatial parity masks differences in who benefits from parks (Tang & Gu, 2015, 2016). Although empirical research in China has linked green access to population characteristics, planning continues to prioritise geographic parity over social responsiveness. In practice, the allocation of targets and the increase in small parks largely reflect land availability rather than social and demographic conditions. Improvements in accessibility and attractiveness are often concentrated in high-profile zones aligned with city branding, while disadvantaged communities receive limited attention (Wang et al., 2022). As a result, the pursuit of numerical parity entrenches spatial hierarchies and overlooks differentiated social demands.

5.1.2. Recognition justice: selected inclusion and structural blindness

Our analysis reveals that recognition is often articulated in generic terms, such as "all residents" or "all age groups," assuming universal benefits. This is consistent with a broader pattern in Chinese policy discourse, where EJ is framed in collective terms rather than for specific social groups (Jian, 2005). It also echoes cultural traditions that value harmony and balance, viewing fairness as maintaining order and collective well-being instead of highlighting differences (X. Li & Han, 2025). Only a few groups with demographic visibility or policy backing, including children, older adults, and people with disabilities, are explicitly acknowledged. By contrast, other disadvantaged groups, such as low-income residents, migrants, and those living in poor housing or with limited education, remain largely unaddressed in planning, even though many interviewees recognised them as socially vulnerable and empirical studies have documented their uneven access to parks in Shanghai (H. Li & Liu, 2016; Shen et al., 2017; Wang et al., 2022).

This selective recognition produces symbolic inclusion while neglecting deeper social diversity. Superficial measures such as removing fences and opening affiliated spaces emphasise visibility rather than use. Although many new amenities are introduced for "all users", their design and programming primarily reflect middle-class lifestyles. Inclusion thus becomes market-shaped rather than socially responsive.

Such outcomes underscore a disjuncture between high-level rhetoric and practice. While long-term master plans endorse basic services for migrants and advocate for inclusive public spaces (Shanghai Municipal People's Government, 2018), implementation remains narrow, focusing on short-term goals and reinforcing symbolic rather than substantive recognition.

5.2. Contextual drivers of justice gaps in green space planning

Justice in green planning is not only a matter of policy intent but also of contextual translation. This section identifies and examines four key local drivers that shape how justice is defined, constrained, or omitted in Shanghai's planning practices.

5.2.1. Governance divergence: strategic priorities across multilevel authorities

In China, coordination between municipal and district governments in urban planning involves continuous negotiation within a hierarchical structure (Hsing, 2010; Tian, 2001). Municipal authorities define overall targets and policy orientations, while district governments adapt and implement them within local fiscal and spatial limits. This arrangement generates tensions between top-down mandates and local feasibility.

Recent studies in Beijing indicate that, even under emerging discourses of participation and co-production, greening governance remains predominantly state-led and performance-driven (Liang et al., 2025; Liang & Han, 2025), with municipal authorities retaining primary control and district governments acting mainly as executors. By contrast, Shanghai follows a more decentralised arrangement, granting greater administrative power to districts (Tian, 2001). Shanghai's municipal targets emphasise measurable indicators and showcase projects for city branding and global competitiveness, whereas districts under fiscal and spatial constraints tend to pursue feasible, market-driven solutions through pocket parks, shared green spaces, and mixed-use development. As each level concentrates on its own performance goals, institutional attention to justice weakens (Hsing, 2010; Wang et al., 2022), leaving disadvantaged groups largely invisible and justice concerns reduced to politically visible, quantifiable achievements. This reflects a structural–institutional constraint in multilevel governance, where performance-based evaluation and fragmented responsibilities limit justice-oriented planning.

5.2.2. Development stages: shifting strategies without shifting justice

The transition from large ecological and aesthetic parks in the 2000s to small pocket parks, greenways, and multifunctional spaces in the 2010s reflects both the densification of the central city and the broader shift in urban policy rhetoric toward "people-oriented" development. These newer strategies are presented as more flexible and responsive to everyday needs, contrasting with earlier large-scale and exclusionary provision (Du & Zhang, 2020).

However, our findings indicate that this shift has not fundamentally

altered the justice orientation of greening. The strategies remain grounded in a generic notion of the "user," focusing primarily on visible demographic groups such as children and older residents, while overlooking others. This outcome resonates with sustainability scholarship, which cautions that incremental improvements in access do not automatically ensure equity (Badiu et al., 2016; Calderón-Argelich et al., 2023). In Shanghai, the "people-oriented" label serves more as a legitimising narrative than a real shift in priorities. Supply models continue to adapt to spatial constraints rather than to social diversity, keeping justice concerns peripheral (Du & Zhang, 2020). This reveals a policy–practice gap, as inclusive rhetoric in policy discourse contrasts with persistent supply- and growth-driven practices.

5.2.3. *Regulatory constraints: indicator dependence and justice invisibility*

A further constraint lies in China's statutory framework, which provides little systematic guidance on justice in planning (J. Wu & Mei, 2021). Similar to the criticised greening metrics noted in EJ studies (Badiu et al., 2016; Byrne et al., 2010), existing spatial planning laws and technical standards prioritise quantitative adequacy and geographic coverage, with binding indicators for user-related aspects largely absent. Our findings confirm that such a regulatory environment encourages practitioners to prioritise compliance with rigid, approval-driven indicators rather than adapting provision to user needs and social diversity (Boulton et al., 2018).

The absence of justice-oriented benchmarks means that recognition of disadvantaged groups is structurally excluded from statutory planning procedures. Although some ternational cities have experimented with social and participatory indicators to guide equitable park provision (Boulton et al., 2018; Rigolon et al., 2020), such tools remain marginal in the Chinese planning context (J. Wu & Mei, 2021). Consequently, planning practice remains confined to formal equality, reflecting a technocratic focus on measurable compliance over social responsiveness that leaves disadvantaged groups invisible in both evaluation and implementation.

5.2.4. *Growth-oriented planning: positive narrative for gentrification*

Rapid urban redevelopment in Shanghai has contributed to the displacement of socioeconomically disadvantaged groups and most were relocated to suburban areas where park access is far more limited (He, 2010; Wang et al., 2022). Our findings suggest that greening projects are often accompanied by urban upgrades, rising land values and attract upscale real estate. In dense central areas where land is scarce, even small-scale interventions can trigger property price increases, thereby accelerating the process of "green gentrification" (Wolch et al., 2014).

While some cities have introduced planning tools to mitigate such impacts (Calderón-Argelich et al., 2023; Rigolon et al., 2020; Wolch et al., 2014), Shanghai's planning policies remain largely growth-oriented. Greening is framed as enhancing city attractiveness and competitiveness, with little concern for exclusionary effects. Fiscal dependence on land development and performance-based governance further reinforces this approach, prioritising visible urban upgrading over social equity (Chen & Hu, 2015; Du & Zhang, 2020). Within this narrative, gentrification is often portrayed as a sign of progress. Recognition justice is also undermined, as displaced groups remain absent from planning narratives and lack channels for their needs to be considered (Palmer, 2007; Wang et al., 2022). These dynamics reveal political–economic constraints, where land-based fiscal dependence sustains growth-driven agendas and marginalises justice-oriented goals.

6. Conclusion

This study examined how Shanghai's urban greening policies address justice by analysing four aspects of park provision—adequacy, availability, accessibility, and attractiveness—through the lenses of distributional and recognitional justice. While Shanghai has expanded green space and introduced measures to enhance access and use, justice considerations remain limited. Planning continues to prioritise quantitative targets and spatial parity, with limited attention to user diversity or group-specific needs.

These limitations are shaped by four interrelated contextual factors that reflect deeper structural constraints in Shanghai's state-led planning system. Governance fragmentation between municipal and district levels, incremental policy shifts without a change in justice orientation, indicator-based regulations, and growth-oriented narratives together limit how justice is addressed in planning. Together, these factors reinforce each other, reflect institutional and political–economic conditions that embed greening within performance- and image-oriented agendas, where visible achievements substitute for substantive inclusion. Although policy documents invoke "people-oriented" and "inclusive" principles, these are inconsistently translated into practice.

This paper makes two key scholarly contributions. First, it proposes a multidimensional analytical framework linking justice dimensions to planning tools and contextual conditions, moving beyond outcome-based equity assessments. Second, it brings empirical evidence from China's government-led planning context into global EJ debates, supplementing the dominance of Western-centric frameworks and highlighting the need for situated, context-sensitive understandings of justice.

For policy and practice, the findings underscore the need to move beyond geographic parity and incorporate justice explicitly into planning standards and regulatory tools. At the policy-design stage, national and municipal guidelines should clarify what "inclusiveness" means and identify which groups, such as migrants, low-income residents, and other marginalised groups, require particular attention. This also calls for translating inclusiveness into concrete planning practices, promoting consensus, negotiation, and shared responsibility within existing governance structures. Technically, planning indicators and standards can be revised to include demographic-sensitive metrics and evaluation mechanisms that link park performance with social outcomes, alongside user-based measures capturing how different groups use and experience parks. Implementation also depends on aligning incentives: local governments can be guided by performance criteria and funding mechanisms that reward equitable park access and mitigate exclusionary effects such as green gentrification. Taken together, these pathways suggest a transition from supply-driven, image-oriented planning toward justice-centred, user-informed practice that balances justice concerns with institutional feasibility.

This study is limited to qualitative analysis of policy content and expert perspectives, without direct examination of user experiences or project-level practices. It also does not combine quantitative or spatial data, which could help assess how policy intentions translate into actual park distribution and access. The focus on Shanghai further constrains the generalisability of the findings to other governance contexts.

Future research could combine user-based interviews and spatial data to capture how different social groups experience and access urban parks, and to assess how policy intentions translate into spatial justice outcomes. It could also adopt comparative approaches across cities or governance systems to identify institutional and cultural factors that shape justice-oriented planning. Another further direction is to examine how procedural justice functions within China's top-down system, for instance through studies of participatory pilots, consultation mechanisms, and interdepartmental coordination. Such research could show how participation can be institutionalised within hierarchical governance and guide reforms toward more inclusive planning practices.

Ultimately, this study calls for rethinking what it means to plan 'for all' in rapidly transforming cities. Justice in urban greening is not only about creating more parks—it is about recognising who benefits, who decides, and who might be left behind.

CRediT authorship contribution statement

Sun Sheng Han: Methodology, Resources, Writing – review & editing, Supervision, Conceptualization. **Judy Bush:** Methodology, Resources, Writing – review & editing, Supervision. **Yuan Lu:** Resources, Software, Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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