ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

Inclusive National Parks and Disability Well-being: A Comparative Study of Accessibility Governance between Japan and China

Wenquan Wang[1,a], Lin Du[2,b,*]

[1]*Institute of Forest Resource Information Techniques, Chinese Academy of Forestry, Beijing, 100091, China*
[2]*School of Social Development, Tianjin University of Technology, Tianjin, 300382, China*
[a]*wwq@ifrit.ac.cn,* [b]*torin_cc@email.tjut.edu.cn*
**Corresponding author*

Abstract: *National parks rest on the ideal of universal access, yet persons with disabilities (PWDs) remain largely excluded from nature-based experiences worldwide. This paper compares how Japan and China govern disability inclusion in national parks, and examines the mechanisms through which park accessibility shapes the well-being of PWDs. Drawing on the social model of disability extended to ecological settings and the capability approach, we construct a four-dimensional analytical framework encompassing institutional, infrastructural, service, and attitudinal dimensions. Our analysis of policy documents, government reports, and existing empirical studies reveals that Japan's five-decade trajectory has moved progressively from compensatory provision toward social inclusion, underpinned by mandatory legislation and civil society co-governance. China's young national park system, by contrast, is constrained by legislative gaps and a residual welfare paradigm, though its centralised planning capacity and existing spatial zonation offer distinctive resources for rapid progress. We identify three mechanisms linking accessible environments to disability well-being, namely capability expansion, recognition through spatial integration, and participatory community-building, and conclude with policy recommendations grounded in China's governance architecture.*

Keywords: *National Parks, Disability, Accessibility Governance, Well-being, Universal Design*

1. Introduction

The notion that national parks serve universal public benefit has long anchored conservation governance. The lived experience of persons with disabilities in such spaces, however, tells a different story. The World Health Organization estimates that 1.3 billion people, roughly 16% of the global population, live with significant disability [1], and a growing literature documents their systematic exclusion from nature-based recreation through physical barriers, informational deficits, and exclusionary attitudes [2, 3]. Given the mounting evidence that nature contact confers well-being benefits [4, 5], inaccessible parks effectively deepen the disadvantage already borne by disabled populations.

Scholarship on disability and outdoor recreation remains geographically concentrated in Anglo-American and Northern European settings [6], with East Asian cases receiving scant comparative attention. This gap matters because Japan and China share Confucian cultural heritage, confront rapid population ageing, and articulate commitments to harmonious human-nature relations, yet they diverge sharply in the maturity of their disability governance. Japan's accessibility reforms span five decades and were recently catalysed by the Tokyo 2020 Paralympic Games (held in 2021). China's national park system, formally inaugurated in 2021, is still making foundational design choices. This pairing is analytically productive because the two countries are similar enough to hold broad cultural variables roughly constant, yet different enough to illuminate the conditions under which inclusive governance emerges.

Three questions guide the analysis. How do Japan and China differ in governing disability accessibility within national parks? Through what mechanisms does park accessibility shape the well-being of PWDs? What contextually appropriate lessons can China draw from the Japanese experience? The paper contributes to comparative disability policy, environmental governance, and the emerging field of inclusive conservation [7].

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

2. Theoretical Framework and Analytical Model

We draw on two complementary intellectual traditions to construct the analytical foundation of this study. The social-ecological model of disability extends the core insight of the social model, that disability is produced by disabling environments rather than residing in impaired bodies [8], to the specific materiality of natural settings, with their topographic irregularity, ecological fragility, and cultural valuation of wildness [9, 10]. A national park with inaccessible trails does not merely fail to accommodate wheelchair users, it actively produces their exclusion through a configuration of terrain, design choices, and institutional norms.

The capability approach [11, 12] supplies the normative metric. Well-being, on this account, consists in the substantive freedoms, or capabilities, a person enjoys, meaning the real opportunities to do and be what they have reason to value. For disability, the approach foregrounds "conversion factors," whether personal, social, or environmental, that translate resources into achieved functionings [13]. Accessible park design operates as a positive environmental conversion factor. It does not alter bodily impairment but enlarges the capability set available to the individual.

To operationalize these commitments, we construct a four-dimensional framework that maps the governance landscape across institutional, infrastructural, service, and attitudinal dimensions (Table 1). This framework is applied symmetrically to both cases.

Table 1. Four-dimensional analytical framework for park accessibility governance.

Dimension	Core Questions	Key Indicators
Institutional	What legislative and regulatory frameworks govern accessibility?	Mandatory vs. aspirational language; cross-departmental coordination; accountability mechanisms
Infrastructural	What physical and informational infrastructure exists?	Trail gradient standards; rest-stop frequency; information accessibility (WCAG compliance, tactile and audio aids)
Service	What human capacity supports accessible experiences?	Staff certification; volunteer networks; training curricula
Attitudinal	How is disability conceptually framed within governance?	Welfare vs. rights paradigm; disabled persons' participation in design review

The four dimensions are analytically distinct yet empirically interdependent. Institutional provisions establish the formal mandate that gives direction and legal force to infrastructural investment, while service capacity determines whether built infrastructure is practically navigable by visitors with diverse impairments. Underlying all three is the attitudinal dimension, which shapes how disability is conceptualized in policy design and stakeholder engagement: a welfare paradigm tends to generate discretionary accommodations, whereas a rights paradigm generates enforceable entitlements. By examining each dimension in parallel across the Chinese and Japanese cases, the framework enables structured comparison and reveals the specific pathways through which governance arrangements expand or constrain the capabilities of disabled park visitors.

3. Methods and Data

The paper adopts a comparative case study design following "most similar systems" logic [14]. Japan and China share broad cultural, demographic, and ideological characteristics while differing in the maturity of their accessibility governance, which constitutes the dependent variable under investigation.

Data sources fall into three categories. The first consists of legislative and policy texts, including the Japanese Natural Parks Act (amendments of 2002, 2009, 2021), the Barrier-Free Law (2006) [15], 2018 amendment [16], and the Ministry of the Environment's Universal Design Guidelines for National Parks (2018) [17], alongside the Chinese National Park Spatial Layout Plan (2022) [18], National Park Establishment Standards (GB/T 39737-2020) [19], and Accessible Environment Construction Law (2023) [20]. The second category comprises government and NGO evaluation reports from Japan's Ministry of the Environment [17, 21, 22], DPI Japan [23], and the Nature Parks Foundation, as well as from

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

China's National Forestry and Grassland Administration and the China Disabled Persons' Federation. The third category includes academic literature in English, Chinese, and Japanese, retrieved from Web of Science, CNKI, and CiNii.The reliance on secondary sources and the absence of primary fieldwork constitute important limitations, discussed in Section 6.

4. Comparative Governance Analysis

4.1. Institutional Dimension

Japan has assembled a multi-layered legislative architecture with mandatory force. The 2009 amendment to the Natural Parks Act introduced Article 45, which uses obligatory language (shinakereba naranai, "must") rather than aspirational formulations (tsutomeru, "shall strive to"), imposing a legal duty on park operators to pursue barrier-free design [24]. The 2018 amendment to the Barrier-Free Law extended its spatial scope explicitly to national parks [16]. Organizationally, the Universal Design 2020 Action Plan, established under the Cabinet Secretariat, links the Ministry of the Environment, the Ministry of Health, Labour and Welfare, and the Ministry of Land, Infrastructure, Transport and Tourism in a formalized tripartite arrangement [25]. Accountability is enforced through a three-tier evaluation system consisting of annual self-assessment, triennial third-party audits by the Nature Parks Foundation, and annual user evaluation organized by DPI Japan. Parks scoring below 60 out of 100 face budgetary consequences [21, 23].

China's institutional architecture is comparatively nascent. The Accessible Environment Construction Law (2023) marks an important advance, as its Article 29 requires parks and green spaces to construct accessible facilities, but implementing regulations have not yet been extended to natural protected areas, leaving an enforcement gap [20]. The National Park Establishment Standards (GB/T 39737-2020) contain no accessibility provisions [19], and no cross-departmental coordination mechanism analogous to Japan's tripartite arrangement exists. The National Forestry and Grassland Administration bears sole management responsibility with minimal formal engagement from the China Disabled Persons' Federation.

A closer reading of China's institutional landscape, however, reveals features that could enable rapid progress if strategically leveraged. The centralized planning capacity embodied in the National Park Spatial Layout Plan's top-down authority over 49 planned parks permits systemic policy insertion in ways that Japan's more fragmented prefectural governance does not easily allow [18]. The ecological redline system, which already differentiates core protection areas from general control zones, provides a ready-made architecture for differentiated accessibility standards, something that took Japan decades to develop [26].

4.2. Infrastructural Dimension

Japan's infrastructural investments have been substantial. The Ministry of the Environment's 2018 Universal Design Guidelines set detailed technical standards, including primary trail gradients of 1/12 (8.3%) or less, rest stops every 200 metres, and multi-sensory interpretation systems incorporating tactile maps, audio-described landscapes, and olfactory wayfinding through aromatic planting [17].

Wheelchair-accessible trail coverage on primary routes has expanded considerably since 2007 [22]. This progress is geographically uneven, however. Remote parks such as Shiretoko and Iriomote-Ishigaki, where ecological sensitivity constrains infrastructure, record wheelchair-accessible trail ratios below 10% [22]. This tension between accessibility imperatives and the preservation of wild character that may, on Kaplan's Attention Restoration Theory [27], hold particular restorative value has prompted Japan to experiment with low-impact technologies such as degradable coconut-fibre pathways, seasonal removable boardwalks, and remote camera-based observation systems for inaccessible core zones.

China's infrastructural baseline is far lower. Our analysis of the five pilot parks' master plans and official websites indicates that accessible trail coverage averages under 1 kilometre per park, compared with Japan's national average of approximately 18.3 kilometres [22]. None of the five parks' websites meet WCAG 2.1 standards, and none provide Braille materials or sign-language interpretation services.

4.3. Service Dimension

Since 2015, Japan's Ministry of the Environment has operated a professional certification known as

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

the National Park Barrier-Free Service Specialist (Kokuritsu Koen Barifurii Saabisu-shi), requiring 40 hours of training in wheelchair assistance, visual-impairment guidance, basic sign language, and disability awareness [21]. At Fuji-Hakone-Izu, a substantial proportion of park staff hold this certification [22]. Volunteer networks supplement the professional workforce and offer regular sign-language-guided tours at several major parks.

China currently operates no comparable certification or training programme. The institutional conditions are favourable, though. The pilot national park system already employs approximately 5,200 ecological wardens [28], a workforce that could be upskilled through disability-awareness modules added to existing training curricula.

4.4. Attitudinal Dimension

Perhaps the most consequential difference lies in how disability is conceptually framed. Japan's trajectory reflects a discernible shift from welfare paternalism to rights-based inclusion. The segregated facilities of the 1990s expressed a logic of charitable provision, while the post-2016 emphasis on inclusion reflects the normative influence of the CRPD, ratified by Japan in 2014 [29], and the social model of disability [30]. DPI Japan's formal role in design review, contributing numerous recommendations to the Fuji-Hakone-Izu renovation project, a majority of which were adopted, institutionalizes the "Nothing About Us Without Us" principle [23, 31].

In China, available evidence suggests that park managers tend to frame accessibility as discretionary welfare provision for a statistically marginal population rather than a rights-based obligation [32, 33]. Yet this paradigm is neither monolithic nor static. China's ratification of the CRPD in 2008 [29] and the 2023 Accessible Environment Construction Law [20] provide a legislative basis for normative reorientation. The official discourse of ecological civilization offers a culturally resonant frame within which disability inclusion could be positioned as an organic extension of "harmonious coexistence between humans and nature" rather than a Western import [34].

The risk, however, is that continued reliance on ad hoc, charity-inflected measures such as segregated entrances, "special" viewing areas, and paternalistic restrictions framed as safety protections [32] reproduces the misrecognition that the social model identifies as a core mechanism of oppression.

5. Mechanisms Linking Accessibility to Well-being

Drawing on the theoretical framework and cross-case evidence, we identify three mechanisms through which accessible park environments shape disability well-being.

5.1. Capability Expansion

Accessible infrastructure functions as a positive environmental conversion factor, enlarging the set of nature-based functionings available to PWDs [11, 13]. White et al. [5] established a dose-response relationship between nature contact and well-being, showing that at least 120 minutes per week in natural settings is associated with significantly higher self-reported health and life satisfaction. Evidence specific to disabled populations suggests amplified benefits. Duvall and Kaplan [35], studying veterans with serious injuries who participated in accessible outdoor recreation, found significant improvements in attentional capacity, psychological well-being, and social functioning that exceeded those typically observed in non-disabled populations. This is consistent with the hypothesis that individuals facing chronic environmental stress derive disproportionate restorative benefit from nature contact [27]. Japanese visitor data, while subject to confounding factors, show temporal patterns consistent with the expectation that improved accessibility expands disabled visitors' capability sets [22].

5.2. Recognition through Spatial Integration

The spatial organization of parks communicates social meanings about belonging [36, 37]. Japan's transition from segregated "disabled-only facilities" to universal design embodies what Fraser [37] describes as a shift from misrecognition to recognition. When PWDs use the same trails and facilities as non-disabled visitors, the built environment enacts social recognition with intrinsic well-being value. Hall [38] identifies "spaces of belonging," environments where disabled individuals feel accepted as ordinary participants, as critical determinants of social well-being. DPI Japan's user evaluations consistently highlight this dimension, with respondents reporting that "walking the same path as

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

everyone else" carries symbolic significance beyond the physical health benefits of the walk itself [23].

5.3. Participatory Community-Building

Accessible parks create conditions for social interaction across lines of ability. Co-governance arrangements between indigenous communities and disability organizations, such as those piloted around Akan-Mashu National Park, point toward a model of intersectional inclusion in which the cultural resources of one historically marginalized group can support another. Dennis et al. [39], in a scoping review of nature-based interventions for adults with developmental disabilities centring autistic adults, report that social connectedness, sense of belonging, and participation in shared activities are among the most consistently documented well-being outcomes across the included studies, frequently exceeding reported physical-health effects.

These three mechanisms are analytically distinct but practically reinforcing. Capability expansion creates preconditions for spatial recognition, which in turn enables participatory community-building, forming a cumulative process in which accessible environments generate expanding cycles of capability, recognition, and participation.

6. Conclusions, Policy Implications, and Limitations

This paper has argued that the governance gap between Japan and China in national park accessibility extends across all four analytical dimensions: institutional, infrastructural, service, and attitudinal. At the same time, China possesses distinctive institutional resources, including centralized planning authority, pre-existing spatial zonation, and extensive grassroots organizational networks, that create possibilities for non-linear progress which a simple deficit framing would obscure.

Three policy implications follow, each engaging directly with China's existing governance architecture. First, China should pursue targeted legislative insertion. A dedicated article on disability accessibility in the National Park Law and implementing regulations under the 2023 Accessible Environment Construction Law that explicitly bring national parks within scope would be valuable. Following the Japanese precedent of Article 45 [24], mandatory formulations rather than aspirational ones should be adopted. Second, differentiated accessibility standards should build on the existing binary zonation of core protection areas and general control zones [26]. General control zones in urban-proximate parks such as Wuyishan should aim for comprehensive universal design. Core protection zones should adopt low-impact approaches including remote observation systems and seasonal removable pathways. Cultural heritage zones should pursue dual-track solutions combining heritage preservation with alternative accessible routes. Third, attitudinal transformation should leverage existing institutions. Formalizing the China Disabled Persons' Federation's advisory role in national park planning, analogous to DPI Japan's participation in design review, requires administrative coordination rather than new institution-building. Adding a 16-hour disability awareness module to the annual training of China's approximately 5,200 ecological wardens [28] would improve service-level conversion factors at marginal cost.

Several limitations warrant candid acknowledgement. The reliance on secondary sources precludes the fine-grained understanding of implementation gaps and user experiences that primary fieldwork would provide. The three well-being mechanisms, while theoretically grounded, remain to be directly tested in the specific context of Chinese national parks. The "most similar systems" design, though analytically productive, risks overstating the transferability of governance models between countries whose institutional and political-economic contexts differ in ways this short paper cannot fully address. Future research should prioritize primary fieldwork incorporating disabled park users as co-researchers, longitudinal tracking of China's emerging accessibility governance, and quantitative measurement of nature-based well-being among disabled visitors using validated instruments such as the Warwick-Edinburgh Mental Well-being Scale. The ultimate test of inclusive governance is not what policies promise but what disabled citizens experience.

Acknowledgements

This research was funded by the 2021 Tianjin Philosophy and Social Science Project "Research on the Transformation of Disability Concepts and Assistance Mechanisms—From Theory to Practice", grant number TJSR21-007.

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

References

[1] WHO. (2022). Global report on health equity for persons with disabilities. World Health Organization. https://www.who.int/publications/i/item/9789240063600

[2] Burns, N., Paterson, K., & Watson, N. (2009). An inclusive outdoors? Disabled people's experiences of countryside leisure services. Leisure Studies, 28(4), 403–417. https://doi.org/10.1080/02614360903071704

[3] Darcy, S., & Dickson, T. J. (2009). A whole-of-life approach to tourism: The case for accessible tourism experiences. Journal of Hospitality and Tourism Management, 16(1), 32–44. https://doi.org/10.1375/jhtm.16.1.32

[4] Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. Annual Review of Public Health, 35, 207–228. https://doi.org/10.1146/annurev-publhealth-032013-182443

[5] White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., … Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. Scientific Reports, 9, 7730. https://doi.org/10.1038/s41598-019-44097-3

[6] Burns, R. C., & Graefe, A. R. (2007). Constraints to outdoor recreation: Exploring the effects of disabilities on perceptions and participation. Journal of Leisure Research, 39(1), 156–181. https://doi.org/10.1080/00222216.2007.11950102

[7] Scheyvens, R., & Biddulph, R. (2018). Inclusive tourism development. Tourism Geographies, 20(4), 589–609. https://doi.org/10.1080/14616688.2017.1381985

[8] Oliver, M. (1990). The politics of disablement. Macmillan. https://doi.org/10.1007/978-1-349-20895-1

[9] Skulski, J. D., & Mullick, A. (2011). Universal design in natural settings. In W. F. E. Preiser & K. H. Smith (Eds.), Universal Design Handbook (2nd ed., pp. 37.1–37.26). McGraw-Hill.

[10] Lid, I. M. (2014). Universal design and disability: An interdisciplinary perspective. Disability and Rehabilitation, 36(16), 1344–1349. https://doi.org/10.3109/09638288.2014.931472

[11] Sen, A. (1999). Development as freedom. Oxford University Press.

[12] Nussbaum, M. C. (2011). Creating capabilities: The human development approach. Harvard University Press. https://doi.org/10.4159/harvard.9780674061200

[13] Mitra, S. (2006). The capability approach and disability. Journal of Disability Policy Studies, 16(4), 236–247. https://doi.org/10.1177/10442073060160040501

[14] Przeworski, A., & Teune, H. (1970). The logic of comparative social inquiry. Wiley-Interscience.

[15] Ministry of Land, Infrastructure, Transport and Tourism, Japan. (2006). Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. (Act No. 91 of 2006).

[16] Ministry of Land, Infrastructure, Transport and Tourism, Japan. (2018). Partial amendment of the Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. (Act No. 32 of 2018).

[17] Ministry of the Environment, Japan. (2018). Universal design development guidelines for national parks (2018 revised edition).

[18] National Development and Reform Commission, & National Forestry and Grassland Administration. (2022). National park spatial layout plan. Beijing. https://www.gov.cn/xinwen/2022-12/29/content_5734352.htm

[19] State Administration for Market Regulation, & Standardization Administration of China. (2020). Specification for designation of national parks (GB/T 39737-2020). China Standards Press.

[20] Standing Committee of the National People's Congress. (2023). Accessible environment construction law of the People's Republic of China. Adopted on 28 June 2023; effective 1 September 2023.

[21] Ministry of the Environment, Japan. (2015). National park management and operation policy. Nature Conservation Bureau.

[22] Ministry of the Environment, Japan. (2023). FY2022 survey of visitors to natural parks.

[23] DPI Japan. (2021). National park barrier-free experience evaluation report 2021.

[24] Japanese Diet. (2009). Act partially amending the Natural Parks Act (Act No. 47 of 2009).

[25] Cabinet Secretariat, Japan. (2017). Universal Design 2020 Action Plan.

[26] Gao, J., Wang, Y., Zou, C., Xu, D., Lin, N., Wang, L., & Zhang, K. (2020). China's ecological conservation redline: A solution for future nature conservation. Ambio, 49(9), 1519–1529. https://doi.org/10.1007/s13280-019-01307-6

[27] Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. Journal of Environmental Psychology, 15(3), 169–182. https://doi.org/10.1016/0272-4944(95)90001-2

[28] Tang, F., Yan, Y., & Liu, W. (2019). Construction progress of national park system in China. Biodiversity Science, 27(2), 123–127. https://doi.org/10.17520/biods.2019041

ISSN 2616-5872 Vol.8, Issue 1: 77-83, DOI: 10.25236/AJEE.2026.080111

[29] United Nations. (2006). Convention on the Rights of Persons with Disabilities (A/RES/61/106, adopted 13 December 2006).
[30] Shakespeare, T. (2006). Disability rights and wrongs. Routledge. https://doi.org/10.4324/9780203640098
[31] Charlton, J. I. (1998). Nothing about us without us: Disability oppression and empowerment. University of California Press. https://doi.org/10.1525/9780520925441
[32] Su, Y. (2020). Comparative studies on national parks in China and the United States. Chinese Landscape Architecture, 36(5), 45–50. https://doi.org/10.19775/j.cla.2020.05.0045
[33] Kohrman, M. (2005). Bodies of difference: Experiences of disability and institutional advocacy in the making of modern China. University of California Press. https://doi.org/10.1525/9780520932951
[34] Hanson, A. (2019). Ecological civilization in China. Routledge. https://doi.org/10.4324/9780429489242
[35] Duvall, J., & Kaplan, R. (2014). Enhancing the well-being of veterans using extended group-based nature recreation experiences. Journal of Rehabilitation Research and Development, 51(5), 685–696. https://doi.org/10.1682/JRRD.2013.08.0190
[36] Cresswell, T. (1996). In place/out of place: Geography, ideology and transgression. University of Minnesota Press.
[37] Fraser, N. (2000). Rethinking recognition. New Left Review, 3, 107–120.
[38] Hall, E. (2010). Spaces of social inclusion and belonging for people with intellectual disabilities. Journal of Intellectual Disability Research, 54(s1), 48–57. https://doi.org/10.1111/j.1365-2788.2009.01237.x
[39] Dennis, M., Henderson-Wilson, C., Watson, J., & Lawson, J. T. (2024). Nature-based interventions for adults with developmental disabilities: A scoping review centering autistic adults. Sustainability, 16(3), 1077. https://doi.org/10.3390/su16031077