

BELMESSAOUD Baya is an Associate Professor at the École Polytechnique d'Architecture et d'Urbanisme (EPAU) in Algiers, Algeria. Her academic work focuses on Urban Design and Applied Ethics Design. The impact of urban ethics extends to holistic healthcare, influencing the design of urban environments in ways that promote overall well-being.

Urban Health: Analysis of the Bainem Forest. A Vital Urban Green Space Facing Challenges of Urbanization and Unsustainable Practices

This research investigates Bainem Forest in Algiers, Algeria, as a critical urban asset for public health and well-being, focusing on its potential for “forest therapy.” Employing a mixed-methods approach integrating Space Syntax analysis with field observations, the study evaluates the forest’s spatial accessibility, connectivity, and the equitable distribution of amenities. Findings highlight significant spatial disparities, with poor connectivity in the southern and western regions and a concentration of amenities- such as benches, picnic areas, and restrooms- near primary entrances. These inequalities hinder exploration and limit access, particularly for marginalized groups. The trail network further reflects uneven accessibility, with some areas facilitating easy movement and others remaining poorly connected. Inspired by successful urban forest models in Curitiba (Brazil), Portland (USA), and Singapore, this study proposes a comprehensive management strate-

gy for Bainem Forest. Recommendations include improving connectivity through expanded and well-integrated trail systems, ensuring equitable distribution of amenities, enhancing waste management practices, and fostering community participation in forest stewardship. These measures aim to transform Bainem Forest into a sustainable, inclusive urban space, serving as a model for integrating ecological health, urban design, and social equity in Algiers.

Keywords:
Urban Health; Forest Therapy; Urban Ethics;
Accessibility; Amenities; Bainem Forest.

DESIGNING INCLUSIVE URBAN FORESTS FOR HEALTH

Urban forests are vital components of urban ecosystems, offering environmental, social, and health benefits. These green spaces function as natural infrastructure, filtering pollutants, mitigating heat islands, regulating water cycles, and supporting biodiversity (Bolund & Hunhammar, 1999). They also enhance human well-being by providing spaces for recreation, physical activity, and mental restoration (McPherson et al., 1997; Roy et al., 2012; Simkin et al., 2020). As cities expand, accessible green spaces are critical for sustainable urban development, public health, and social equity (Solomou, 2019). Factors such as spatial configuration, inclusive design, and environmental constraints influence park use (Aziz, 2024).

However, unequal access to urban forests, especially in rapidly growing cities, exacerbates health disparities (Wolch et al., 2011). Addressing these gaps requires urban planners to create inclusive spaces that balance accessibility and amenities. A people-centered approach, as seen in the Carpuagne project, emphasizes safety, well-being, and inclusivity (Pfützner, 2023). Case studies from Guangzhou, Rome, and Thammasat highlight key principles: high-quality green spaces that address barriers and equity (Long et al., 2023), participatory planning for accessibility (Magarò et al., 2024), and inclusive design for supporting people with disabilities (Selanon et al., 2024).

Spatial configuration also influences accessibility, with space syntax analysis revealing its impact on park usage (Gomaa et al., 2024). This method analyzes spatial layouts and their effects on movement and interaction (Hillier & Hanson, 1984; Hillier, 1996), providing insights for optimizing urban design. Shinrin-yoku (forest therapy) is recognized for its health benefits, such as reduced blood pressure, lower cortisol levels, and enhanced cognition (Hansen et al., 2017; Mazzoleni et al., 2024). However, socio-economic and geographic disparities in access to urban forests raise ethical concerns about equitable planning. Islamic ethics emphasize

es environmental stewardship, advocating for sustainable management that balances biodiversity preservation and equitable access (Belmessaud, 2012; Khalid & Ozturk, 2013). Ethics, accessibility, inclusivity, and spatial configuration are key, interconnected factors in urban park design (Fig. 1).

Bainem Forest in Algiers, covering 504 hectares, exemplifies the potential and challenges of urban forests (Fig. 2). Ecosystem degradation, driven by societal neglect of environmental stewardship (Belmessaud, 2019) and insufficient reforestation efforts since 2013 (Fig. 3), highlights the need for a paradigm shift toward sustainable, equitable urban planning. Limited access for underserved areas, uneven amenities, and environmental degradation underscore the urgency of ethical and inclusive management.

RESEARCH AIM

The paper aims to develop a framework for designing and managing urban forests that prioritizes equity, accessibility, environmental stewardship, and community well-being. Through a case study of Bainem Forest, it evaluates barriers, explores spatial design principles, and examines ethical dimensions of urban planning. The study focuses on three core questions:

1. Accessibility: How accessible is Bainem Forest to residents from diverse neighborhoods in Algiers?
 2. Spatial Design and Health: How does the forest's layout and amenities affect its role in promoting urban health?
 3. Equity and Sustainability: What measures can enhance ecological health and equitable access for all residents?
- By addressing these questions, this study offers practical recommendations to guide the creation of inclusive, sustainable urban green spaces that foster ecological and social health.

METHODOLOGY

This study adopts a mixed-methods approach, integrating Space Syntax analysis, on-site field observations, and comparative case studies

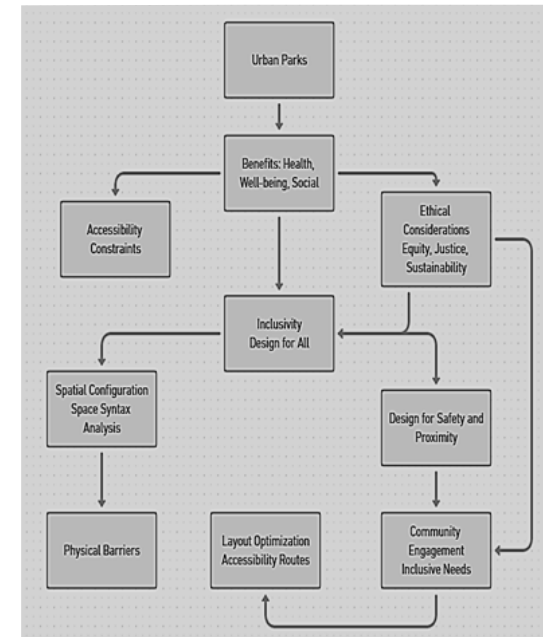


Fig.1- Conceptual relationships between key factors in urban park design



Fig.2- Bainem Forest (<https://earth.google.com>)

from cities such as Curitiba, Portland, and Singapore. The Space Syntax methodology provides a quantitative framework to evaluate accessibility and connectivity within Bainem Forest. Using the DepthmapX tool (Turner, 2001), three critical spatial properties are analyzed:

1. Connectivity measures the degree of linkage between different areas within the forest, which influences ease of movement and exploration. Case studies of urban forest management in globally recognized cities offer valuable insights into best practices and innovative strategies. Individuals with limited mobility.

2. Integration assesses the forest's integration inside and into Algiers' broader urban fabric, highlighting how well it connects to surrounding neighbourhoods and urban infrastructure.

3. Intelligibility evaluates how easily visitors can navigate the forest. Low intelligibility can result in disorientation, limiting usage and reducing the overall visitor experience.

On-site field observations complement these analyses by providing qualitative data on visitor behaviours, the condition of amenities, and indications. High connectivity improves access, whereas low connectivity poses challenges, particularly for individuals with limited mobility.

On-site field observations complement these analyses by providing qualitative data on visitor behaviors, the condition of amenities, and indicators of environmental health. Comparative case studies of urban forest management in globally recognized cities offer valuable insights into best practices and innovative strategies. By combining these methodologies, the study establishes a comprehensive framework for evaluating Bainem Forest's accessibility, ecological health, and social equity, forming the basis for practical, actionable solutions.

Bainem Forest case study

On-site field observations provide critical first-hand insights into the natural and built environments of Bainem Forest, enabling accurate, real-time analysis. Located

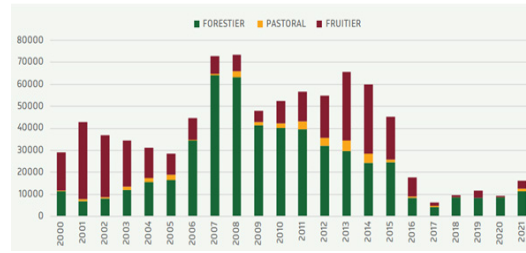


Fig.3 - Reforested areas, PNR from 2000 to 2021 (World Bank, 2023)



Fig.4- Bainem forest situation in Grand Algiers (Source: Expo Park,2009).



Fig.5- 3D view on the Bainem forest (GoogleEarth, 2024).

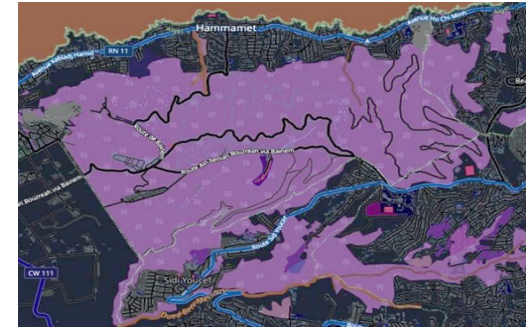


Fig. 6- Bainem's historical and contemporary maps (Modern urbanization (in grey)).



Fig. 7- Bainem Forest maps (Openstreetmap, 2024)

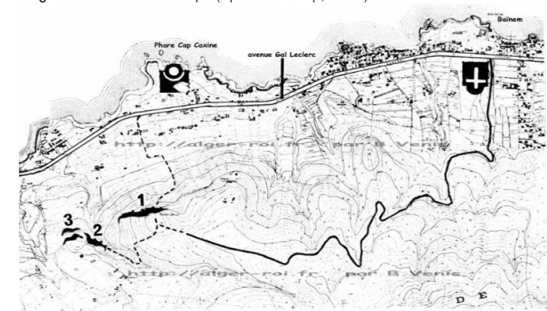


Fig. 8- Historical map of the Cap Caxine area (https://alger-rol.fr/Alger/staoueli/textes/15_escalade_carte_altimetricque.htm) (https://alger-rol.fr/Alger/staoueli/textes/15_escalade_carte_altimetricque.htm)



a) Picnic area



b) restoration area



c) entrance



d) Waypoint easy pathway



e) View on the Mediterranean Sea

Fig. 9- Amenities

in Algiers, Algeria, Bainem Forest spans an area bordered by Hammamet, Aïn Benian, Béni Messous, Bouzaréah, and Rais Hamidou. This green space serves as an essential ecological and recreational asset, renowned for its diverse tree species and ecological significance. Despite its value, Bainem Forest has largely avoided the urban expansion and infrastructure developments prevalent in Grand Algiers, preserving its natural state but limiting accessibility (Fig. 4; Fig. 5).

Comparative Cases Studies

To contextualize the challenges of Bainem Forest, this study draws on successful urban forest management examples from three model cities, offering adaptable strategies to enhance social equity, accessibility, community involvement, and ecological sustainability:

1. Curitiba: The integration of green spaces with the Bus Rapid Transit (BRT) system demonstrates how improved connectivity can enhance accessibility, particularly for underserved neighborhoods (Rabinovitch & Leitman, 1996). (Fig.10)
2. Portland: Community engagement initiatives, including volunteer programs and public education campaigns, provide a blueprint for fostering resident participation in the stewardship of Bainem Forest (Ozawa, 2004). (Fig.11)
3. Singapore: The use of smart technologies for forest monitoring and the integration of green corridors into urban areas showcase effective methods for sustainable forest management. Similar data-driven approaches could bolster ecological health and visitor experience in Bainem Forest (Tan & Jim, 2013). (Fig.12)

This comparative framework highlights actionable strategies to transform Bainem Forest into an inclusive and sustainable urban space, while mitigating the pressures of urbanization. Combined observations provide a foundation for assessing Bainem Forest's current challenges and opportunities, guiding strategies for enhancing accessibility, ecological health, and recreational value while mitigating the pressures of urbanization.

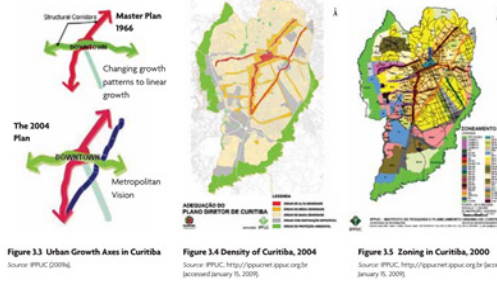


Fig. 10- Master plan of Curitiba. Source : https://www.esmap.org/sites/default/files/esmap-files/CS_Curitiba.pdf

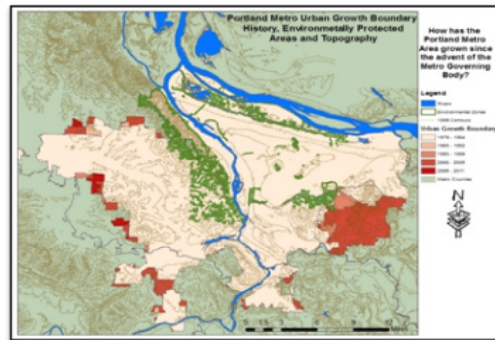


Fig. 11- Urban Growth Boundary - Portland Metropolitan Area. (<https://portlandweird.weebly.com/urban-growth-boundary.html>).

RESULTS

This study investigated the interplay of spatial accessibility, environmental health, and social equity within Bainem Forest, using spatial analysis, field observations, and lessons from international case studies to identify critical disparities and suggest pathways for improvement. The findings revealed considerable challenges in connectivity, ecological degradation, and unequal amenity distribution, highlighting the need for comprehensive urban planning.

Spatial Accessibility

Spatial analysis underscores significant dispar-



Fig. 12- Singapore's new eco town: the five planned housing districts in Tengah (Photo: Housing & Development Board)

ities in connectivity and integration, particularly in the southern and western regions of Bainem Forest. These areas, which rely on limited access points through RN 11 and Avenue Kébdani Hamid, are poorly connected to the forest's primary pathways, restricting visitor movement and marginalizing communities in proximity (Fig. 13). Conversely, the northern sections exhibit better connectivity, benefiting visitors from more affluent neighborhoods, which exacerbates spatial inequalities.

Integration analysis further reveals that Bainem Forest is insufficiently connected to Algiers' broader urban framework. Neighborhoods closer to the city center show high integration levels, while southern and western areas experience limited linkage due to the absence of direct public transport routes (Fig.14). This spatial disconnect diminishes equitable access to the forest, especially for less privileged populations, and emphasizes the need for improved public transit infrastructure. Space Syntax analysis also reveals significant accessibility disparities within Bainem Forest. Southern and western areas suffer from poor connectivity, limiting access for marginalized communities, while the northern edge, connected by major roads, benefits more affluent neighbourhoods (Fig.15). Uneven amenity distribution and environmental degradation (litter, fire, invasive species) further compound these challenges. While valuable, Bainem Forest requires interventions prioritizing equitable access and

improved management to reach its full potential. Intelligibility analysis highlights additional challenges within the forest itself. The interior areas suffer from poor legibility due to unmarked pathways and insufficient signage, making navigation difficult for visitors (Fig.16). This lack of clarity deters deeper exploration, increases the likelihood of misuse, and reduces the forest's potential to serve as an inclusive and accessible public space.

Environmental Health

Field observations indicate that Bainem Forest faces numerous ecological threats. Littering and vandalism, particularly near main entrances and picnic areas, reflect inadequate maintenance and oversight, which accelerates environmental degradation. Invasive plant species thrive in underutilized sections of the forest, disrupting biodiversity and further straining the ecosystem. Deadwood accumulation compounds these issues, as it not only detracts from the forest's aesthetics but also promotes the growth of invasive species and heightens wildfire risks.

Fire damage is pervasive, with several areas showing visible signs of burns. Despite the forest's vulnerability to wildfires during dry seasons, current management strategies have been ineffective in addressing these risks, leaving the damage largely unmitigated. Additionally, urban encroachment from expanding neighborhoods like El Hammamet and Bousmaha threatens the forest's ecological integrity, further exacerbating the environmental pressures it faces. Despite these challenges, Bainem Forest retains significant ecological and recreational value. Its proximity to the coastline and natural landmarks such as Cap Caxine positions it as a valuable urban green space, offering potential health and well-being benefits for Algiers' residents..

Social Equity

The distribution of amenities within Bainem Forest reveals significant inequities, which undermine its ability to serve all segments of the population. Es-

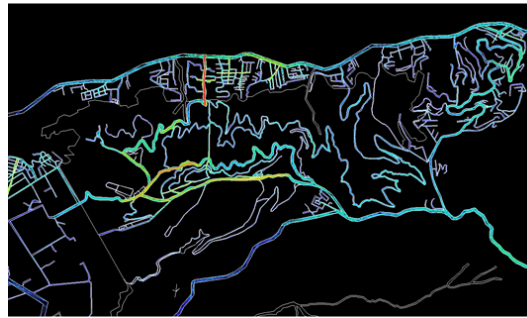


Fig. 13- Connectivity map of Bainem Forest.



Fig. 15- Integration map of Bainem Forest

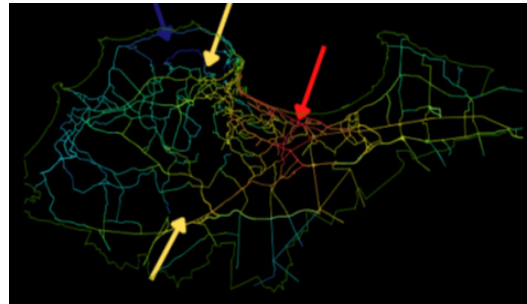


Fig.14- Integration map of Algiers

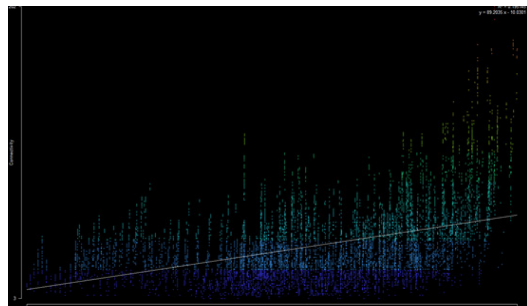


Fig.16- Intelligibility map of Bainem Forest: 0.0195

sential facilities, such as restrooms, picnic areas, and benches, are primarily concentrated near the northern entrances, which are more accessible to affluent neighborhoods. In contrast, the southern and western sections, closer to underserved communities, lack basic infrastructure. This uneven distribution restricts marginalized populations' ability to access and enjoy the forest's resources..

Visitor patterns further reinforce these disparities. The northern sections, benefiting from higher connectivity and greater infrastructure, attract more visitors, while the underserved southern and western areas see minimal activity. This imbalance contributes to the overuse and accelerated degradation of well-equipped zones, while underutilized regions remain neglected. Consequently, the forest's potential to function as an inclusive recreational and ecological space for all residents of Algiers is compromised.

Lessons from International Case Studies

Global examples from Curitiba, Portland, and Singapore offer valuable strategies to address Bainem Forest's challenges. Curitiba's integration of green spaces with public transport highlights the importance of accessibility for ensuring equitable use. The city's Bus Rapid Transit (BRT)

system connects diverse neighborhoods, including marginalized areas, to parks and forests. Adopting a similar model in Algiers could improve connectivity to Bainem Forest, particularly for under-served southern and western communities.

Portland provides insights into the role of community engagement in urban forest management. Volunteer programs and public education initiatives have enhanced stewardship and ecological health while promoting inclusivity. Applying such strategies to Bainem Forest could empower local residents to participate in its care, addressing issues like litter, invasive species, and fire risks. Community involvement would foster a sense of ownership and responsibility, improving both the forest’s ecological condition and its role as a shared public space.

Singapore demonstrates the transformative potential of smart technologies for urban forest management. Real-time monitoring systems track visitor patterns, invasive species, and fire risks, enabling proactive management. Integrating similar technologies in Bainem Forest could streamline ecological monitoring, enhance visitor experiences, and improve overall management efficiency. Interactive tools, such as apps that provide real-time updates on forest conditions, could also raise public awareness and encourage responsible use.

By addressing these challenges through globally inspired urban design strategies, Bainem Forest can become a more accessible, ecologically resilient, and inclusive public space for all residents of Algiers. Key features are summarized in Table 1. This study identifies several pressing challenges for Bainem Forest, particularly regarding spatial accessibility, environmental health, and social equity (Table 2). Limited connectivity, poor integration within Algiers’ urban framework, and unequal distribution of amenities hinder the forest’s ability to meet the diverse needs of the city’s residents.

Additionally, the forest faces significant environmental threats, including habitat degradation, the proliferation of invasive species, and vulnerability to fire damage.

Table 1- Key features from Curitiba, Portland, and Singapore.

Feature	Virtuous city	Application for Bainem Forest
Integrated Public Transport	Curitiba, Brazil	Improve public transportation connections to Bainem Forest
Linear Parks/Buffer Zones		Create linear parks or buffer zones around Bainem Forest
Urban Growth Boundaries	Portland, Oregon	Advocate for urban growth boundaries around Algiers to restrict sprawl and safeguard Bainem Forest’s long-term viability
Community Participation		Empower local communities in the planning, design, and management of Bainem Forest
Park Rangers & Education		Invest in park rangers to enforce regulations, educate visitors, and promote responsible use of the Forest
Vertical Greenery	Singapore	Explore opportunities for incorporating vertical greenery in nearby development projects to expand green cover and connect to Forest
Technology for Monitoring		Using technology to monitor forest health, visitor patterns, and the effectiveness of management strategies
Public Awareness Campaigns	Curitiba, Portland, Singapore	Develop educational campaigns to raise awareness about the value of Bainem Forest, promote responsible use, and encourage community stewardship.

Table 2- Bainem Forest results summary

Category	Key Findings	
Spatial Accessibility	Low connectivity in southern and western regions; poor integration with broader urban fabric of Algiers; low intelligibility in interior areas.	
Environmental Health	Littering, fire damage, and presence of invasive species; significant amounts of deadwood increasing fire risk; environmental degradation more pronounced in less-maintained areas.	
Social Equity	Amenities concentrated near northern entrances, limiting access for underserved communities in southern and western areas; uneven visitor distribution, with higher foot traffic in well-maintained regions.	
Virtuous case studies	Curitiba	Curitiba’s integration of green spaces with public transportation offers a model to improve Bainem Forest’s accessibility. Lesson: A similar system could be implemented to connect underserved neighborhoods to the forest.
	Portland	Portland’s focus on community engagement suggests that public volunteer programs and education initiatives could enhance stewardship and sustainability
	Singapore	Singapore’s use of smart technology for environmental monitoring could provide data-driven solutions for improving ecological health and managing visitor patterns.

Nevertheless, lessons from successful urban models offer practical, adaptable strategies to address these issues. These approaches have the potential to enhance the forest’s accessibility, promote community participation, and strengthen its ecological management. These ap-

proaches have the potential to enhance the forest’s accessibility, promote community participation, and strengthen its ecological management..

SUSTAINABLE FUTURE FOR BAINEM FOREST

Bainem Forest holds significant potential to become a model of sustainability and inclusivity for Algiers. Lessons from Curitiba's integration of public transport and parks (Lindau et al., 2010), Portland's community engagement and urban growth boundaries (Abbott, 2001), and Singapore's vertical greenery strategies (Tan & Jim, 2013) provide actionable frameworks for improvement (Fig. 12). A comprehensive plan focusing on ecological connectivity, multimodal transport, zoning, visitor management, and public stewardship is vital for addressing equity and environmental challenges while enhancing accessibility.

Accessibility and Equity

Access remains a critical issue for Bainem Forest, especially for marginalized communities in southern and western Algiers. Limited public transport links and poor internal legibility hinder equitable access (Wolch et al., 2011; Vaughan & Hillier, 2007). Space Syntax analysis highlights weak integration with Algiers' broader urban fabric (Hillier & Hanson, 1984), while poorly maintained paths and inadequate signage complicate navigation. Addressing these barriers requires developing entry points in underserved areas and extending public transport connections. Internally, trail upgrades and signage systems can improve usability, enabling exploration of underutilized sections.

Environmental Health

Bainem Forest faces ecological degradation from littering, invasive species, deadwood accumulation, and fire damage (Parsons et al., 1998). Unevenly distributed amenities concentrate human activity near entrances, exacerbating overuse in certain areas while neglecting others (Arnberger, 2006). Targeted waste management, invasive species control, and deadwood removal are essential to restoring ecological balance.



Fig.17- Theoretical sustainable future of Bainem Urban Forest (DALL-E).

Integrating smart technologies can monitor biodiversity and visitor behavior, supporting proactive management and sustainable use.

Urban Encroachment

Urban expansion poses a significant threat to Bainem Forest, as unchecked development reduces its ecological value (Cilliers et al., 2010). Lessons from Curitiba and Portland demonstrate the efficacy of urban growth boundaries and buffer zones in protecting green spaces (Abbott, 2001). Establishing these measures around Bainem Forest can safeguard its ecological health. Expanding green corridors into urban areas would also enhance accessibility and connectivity while mitigating sprawl.

Opportunities and Ethical Foundations

The Metropolitan Park of Bainem project (Fig. 17) offers a transformative opportunity to enhance infrastructure, introduce recreational activities,

and improve integration with Algiers' urban framework (ParqueEXPO, 2009). Community engagement will be pivotal to its success, empowering residents to participate in stewardship and long-term preservation (Macedo & Haddad, 2016).

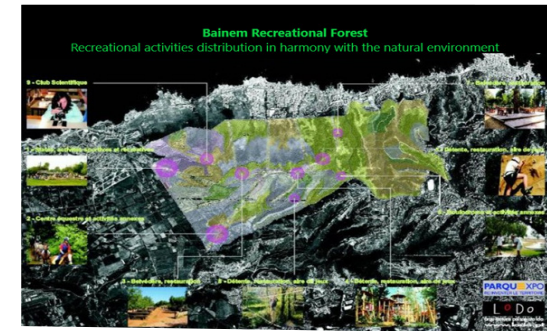


Fig. 18: ParqueExpo Project: recreational activities.

Incorporating Islamic environmental ethics strengthens the initiative's foundation, emphasizing stewardship, justice, and intergenerational equity.

These principles align with sustainable urban planning goals, reinforcing the moral imperative to protect Bainem Forest for future generations. By addressing holistically these issues, Bainem Forest can become an accessible, sustainable, and inclusive urban green space, setting a precedent for environmentally and socially responsible urban development. The recommendations outlined in this study (Table 3) not only address ecological and social challenges but also uphold principles of equity, environmental responsibility, and intergenerational justice. Preserving Bainem Forest is a collective responsibility rooted in our duty to protect nature.

CONCLUSION

Bainem Forest is crucial for Algiers, offering vital urban health, social equity, and biodiversity benefits. However, limited access, particularly for marginalized communities, coupled with environmental degradation (litter, fire damage, invasive species) and uneven amenity distribution, threatens its long-term sustainability. Learning from best practices in Curitiba (integrated transport), Portland (community-focused growth), and Singapore (innovative management), Algiers can implement key interventions. These include improved public transport links to underserved neighborhoods, enhanced pathways for greater accessibility, and targeted ecological restoration and management. Active community engagement, fostering stewardship through volunteer programs and public education, is essential for ensuring the forest benefits all residents inclusively. Furthermore, integrating faith-based principles, such as Islamic teachings on environmental care and social justice, reinforces the critical link between ecological and social goals, promoting equitable access and intergenerational responsibility. With these integrated efforts, Bainem Forest can become a vibrant, lasting legacy for Algiers, showcasing the powerful interconnectedness of ecological health and social equity for a more resilient and just city.

Table 3- Synthesis of Recommendations with Ethical Focus

Challenge	Recommendations	Ethical Principle
Limited Access	Develop entry points in underserved areas; improve public transport links; upgrade trails and signage.	Equity: Providing equal opportunities to resources and fair access
Uneven Amenities Distribution	Redistribute facilities fairly across the forest	Justice: Providing equal opportunities to resources.
Ecological Degradation	Enhance waste management; control invasive species; remove fire-prone deadwood.	Responsibility: Protecting and restoring ecosystems.
Urban Encroachment	Establish growth boundaries and buffer zones; integrate green corridors into the urban core.	Sustainability: Preserving the forest for future generations.
Community Involvement	Foster stewardship through volunteer programs, ranger presence, and education campaigns.	Stewardship: Encouraging community care and ownership.

REFERENCES

- Abbott, C., Howe, D., & Adler, S. (1994). *Planning the Oregon way: A twenty-year evaluation*. Oregon State University Press.
- Arnberger, A. (2006) Recreation use of urban forests: an inter-area comparison. *Urban For Urban Green* 4:135–144.
- Aziz, F. A. (2024). Accessibility, Usage Patterns of Forest Parks, and Their Relation to Residents' Behaviors based on the Theory of Planned Behavior - Evidence from Suqian, China.
- World Bank (2023). Note sur les forêts algériennes. Gestion durable des forêts pour lutter contre les feux de forêts. <https://documents1.worldbank.org/curated/en/099110823163530127/pdf/P1776690d14652080094ed-07663fc864a5a.pdf>
- Belmessaoud- Boukhalfa, B. (2019). Contemporary urban landscape cacography: an ethical cacophony. XVIIIth International Forum of Studies "Le Vie dei Mercanti" WORLD HERITAGE and LEGACY Culture Creativity Contamination. Naples, Capri.
- Belmessaoud, B. (2012). The ethical dimension of Islamic urban architectural heritage as sustainable design. *WIT Transactions on Ecology and the Environment*, Vol.155, pp.917-928.
- Bolund, P., & Hunhammar, S. (1999). Ecosystem services in urban areas. *Ecological Economics*, 29(2),293-301.
- Food and Agriculture Organization of the United Nations (FAO) (1998). *Urban forestry and urban greening in dryland Africa: Experiences from Sudan*. FAO Forestry Paper No. 140.
- Gamborg, C. (2001). Sustainability and biodiversity: ethical perspectives on forest management. Ph.D. thesis, The Royal Veterinary and Agricultural University, Department of Animal Science and Animal Health.
- Gomaa, M. M., Ullah, U., Afroz, M., & Zobia, Z. (2024). The Impact of Spatial Configuration on Perceived Accessibility of Urban Parks Based on Space Syntax and Users' Responses. *Civil Engineering and Architecture*.
- Hansen, M. M., Jones, R., & Tocchini, K. (2017). Shinrin-yoku (forest bathing) and nature therapy: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, 14(8), 851.
- Hillier, B., & Hanson, J. (1984). *The Social Logic of Space*. Cambridge University Press.
- Hillier, B. (1996). *Space is the Machine: A Configurational Theory of Architecture*. Cambridge University Press.
- International Association of Horticultural Producers (AIPH). (2024). *Green City Case Study: Curitiba, Brazil*. Retrieved from <https://aiph.org/green-city-case-studies/curitiba-brazil-urban-agriculture/>
- Kaplan, R., & Kaplan, S. (1989). The experience of nature: A psychological perspective. Cambridge University Press.
- Khalid, F. M., & Ozturk, I. (2013). Islam and Ecology. *Dans Environmental Ethics: An Anthology* (pp. 333-352). John Wiley & Sons.
- Lindau, L. A., Hidalgo, D., & Facchini, D. (2010). Bus Rapid Transit in Curitiba, Brazil. *Transportation Research Record*, 2193(1), 17-27.
- Long, Y.L., Xiao, J.X., Luo, M.J., M.J., Chen, Y., Huang, W.W. (2023). Inclusive Design and the User Experience in Green Spaces: A Case in Guangzhou, China. In: Duffy, V.G., Krömker, H., A. Streitz, N., Konomi, S. (eds). *HCI International 2023 – Late Breaking Papers*. HCII 2023. *Lecture Notes in Computer Science*, Vol 14057. Springer, Cham.
- Macedo, J., & Haddad, M. A. (2016). Equitable access to urban green spaces: A comparative study in two Latin American cities. *Cities*, 58, 7-17.
- Magarò, A., Mariani, M. A., & Trulli, L. (2024). Strategy of user-driven re-design for inclusivity: Schuster Park in Rome. *Techne. Journal of Technology for Architecture and Environment*.
- Mazzoleni, S., Carteni, F., Greco, M., & Giordano, C. (2024). Forest therapy in urban planning: Integrating well-being into the built environment. *Sustainability*, 16(2), 624-638.
- McPherson, E. G., Simpson, J. R., Peper, P. J., Maco, S. E., & Xiao, Q. (1997). Quantifying urban forest structure, function, and value: The Chicago Urban Forest Climate Project. *Urban Ecosystems*, 1(1), 49-61.
- Ozawa, C. P. (Ed.). (2004). *The Portland edge: Challenges and successes in growing communities*. Island Press.
- Pfütznner, M. (2023). Design, Inclusion and Sustainable Development: Guidelines for the Creation of a People-Centred Urban Park. *Springer Series in Design and Innovation*.
- Rabinovitch, J., & Leitman, J. (1996). Urban planning in Curitiba. *Scientific American*, 274(3), 46-53.
- Roy, S., Byrne, J., & Pickering, C. (2012). A systematic quantitative review of urban tree benefits, costs, and assessment methods across cities in different climatic zones. *Urban Forestry & Urban Greening*, 11(4), 351-363.
- Schebella, M. F., Weber, D., Schultz, L., & Weinstein, P. (2019). The importance of urban parks for physical activity and community well-being. *Landscape and Urban Planning*, 185, 120-129.
- Selanon, P., Puggioni, F., & Dejnirattisai, S. (2024). An Inclusive Park Design Based on a Research Process: A Case Study of Thammasat Water Sport Center, Pathum Thani, Thailand. *Buildings*.
- Simkin, R. D., Osgathorpe, L. M., & Rosier, J. R. (2020). The restorative effects of urban forests: A review of recent research. *Environmental Health and Preventive Medicine*, 25(1), 1-15.
- Solomou, A. D. (2019). Urbanization and its impact on climate change: The role of urban green spaces. *Journal of Environmental Management*, 250, 109503
- Tan, P. Y., & Jim, C. Y. (2013). Urban ecology in Singapore: Past, present, and future. *Ecological Research*, 28(6),955-963.
- Turner, A. (2001). Depthmap: A program to perform visibility graph analysis. In *Proceedings of the 3rd International Symposium on Space Syntax* (pp. 31-34).
- Ulrich, R. S. (1984). View through a window may influence recovery from surgery. *Science*, 224(4647), 420-421.
- Vaughan, L. & Hillier, B. (2007): The spatial syntax of urban segregation. *Progress in Planning*, 67/3: 205–294.
- Wolch, J. R., Byrne, J., & Newell, J. P. (2011). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning*, 125(3), 234-244.
- Chen, Y., Huang, W.W. (2023). In-Wolf, K. L., Kruger, L. E., & Flora, C. G. (2020). Urban forests and human well-being: A literature review. *Journal of Forestry*, 118(3), 320-335.
- Yuen, B. (1996). *Creating the Garden City: The Singapore experience*. *Urban Studies*, 33(6), 955-970.