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Exploring the Role of Landscape Architecture in Advancing Environmental Equity and Climate Justice

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ABSTRACT

Landscape Architects through their expertise and knowledge can shape human experiences by adopting equitable design strategies into designing healthy, equitable and inclusive open spaces and balancing the scale of environmental justice. People with different physical abilities and belonging to different economic, social and ethnic origins tend to dwell within the cities. Public parks and open spaces are a perfect aid for this rapidly growing socio-economic discrepancy in any urban setting. Hence inclusive and accessible landscape designs reflect and celebrate the social diversity and identity of the users by recognising different cultures, values, histories and aspirations of the people within the communities. Through intensive studies, researchers have observed that public spaces also contribute to the upliftment of both physical and psychological well-being within urban areas. In countries of Global South where urbanization is occurring at a tremendous pace, safeguarding and promoting these natural ecologies should take place simultaneously along with social and economic development. These countries are designing landscapes that are related to existing green-blue infrastructure and forming adaptive spaces within landscapes that provide resilience to the cities during times of disaster. Thus, creating landscapes that serve as the connection between the city and nature through their ecologies should be implemented and designed for the proper functioning of cities. Understanding and implementation of landscape architecture strategies in current global times is crucial in synthesising the existing ecological systems, social practices and values and also to promote social and environmental equity. The paper will analyse the role and importance of landscape architecture in current scenario and its function in creating spaces that overall helps in providing and improving resilience in urban areas. The paper will also investigate the factors and possibilities of successful implementation of landscape architecture solutions in cities to achieve environmental justice and how communities perceive these landscapes within those urban areas

INTRODUCTION

As the world continues to urbanize rapidly, cities face complex challenges related to equity, resilience, and sustainability (United Nations, 2018). Landscape architecture practices that integrate social and ecological considerations have emerged as critical tools for creating vibrant, just, and climate-resilient public spaces. In current times climate change possesses

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grave threats to the rights and livelihoods of the rural and the indigenous communities who rely heavily on natural resources (Beringer, 2020). Transforming unsustainable industrial food systems is crucial for meeting climate goals and ensuring global food security. Guaranteeing rural communities' right to land and resources is also essential, as land use changes drive climate change. This paper examines key principles and case studies at the intersection of landscape architecture, environmental justice and climate resilience. The primary is the background on environmental equity and climate justice is provided to situate the current domain of landscape architecture within a social justice framework. Next, the core principles are explored around fostering inclusion, centering community needs, supporting ecological resilience, and facilitating adaptive spaces.

LITERATURE REVIEW

Environmental Justice and Equity

Environmental Justice is attained when individuals; irrespective of their race, colour, origin, gender or economic status, reside within the communities devoid of health hazards and further entails on to ensuring equal access to safe and healthy environments as well as facilitating meaningful participation in the community planning process (United States Environmental Protection Agency (US EPA)). Historically anthropogenic activities, such as landfills, industrial facilities and other high pollution activities have disproportionately burdened the low income, minority and native communities. The genesis of environmental justice movement in the 1980's can be traced back to the localized and indigenous communities that provided the resistance against the siting and operation of the toxic water sites especially in the black and Hispanic neighbourhoods (Pulido, 2017). The residents, confronting the threats to their health from the pollution, leaks and contamination that leveraged the discourse of the civil rights movement to instigate change through advocacy and legal actions (Schlosberg, 2004).

But the evolution of environmental justice exceeds beyond addressing the mere existence of health hazards. It also encompasses a broader perspective that includes the lack of access to essential resources such as public transportation, open spaces, parks and adequate fresh food. Furthermore, the marginalized groups have also historically lacked the influenced in urban planning and policy making decision processes, impeding their ability to further advocate for design changes that would overall enhance their health and well-being. The concept of design for environmental justice thus calls upon for an inclusive approach, inviting diverse stakeholders to the decision-making table (Bullard, 1993) (Pellow, 2000). This participatory and inclusive design process is deeply rooted in the local context, considering the unique circumstances, challenges and aspirations of each community for a more equitable and sustainable future (Spiegelhalter, Ruswick, & Noto, 2018).

The setting scene for Climate Justice and Environmental Equity Environmental equity is the equitable allocation of environmental benefits and liabilities to all societal sectors, irrespective of background, income, colour, ethnicity, age or ability. (Walker, 2012). Climate justice builds upon this concept by emphasizing the disproportionate climate change impacts faced by marginalized groups and calling for their leadership in solution-building (Shi et al., 2016). Landscape architecture projects situated within this framing aim to redress historical social and ecological injustices while creating public spaces that are responsive to a community's needs and values.

Correlation between Landscape Equity and Climate Justice

The relationship that is formed between landscape equity and climate justice is intricate and revolves around addressing environmental disparities with the context of climate change impacts. Landscape equity thus emphasises on the equitable division of the benefits and burdens related not only to the environment but also considering the geographical, social and economic factors. The idea of landscape equity also addresses the disparities in access to the green open spaces such as parks, public spaces, forests and other natural environments within urban settings; which through various reports and researches had shown to have significant implications in public health, overall social well-being and environmental justice. These when intertwined with the concepts of climate justice, aims to rectify the disproportionate impacts that vulnerable communities often face due to climate change. Overall in practical terms, achieving landscape equity within climate justice involves:

1. Resource Distribution: ensuring fair allocation of resources such as green open spaces, clean air and water especially in the marginalized areas that may be more susceptible to environmental degradation and climate-related risks.
2. Adaptation and Resilience: focusing more on building resilience in communities that are currently facing climate challenges with particular emphasis on equitable access to infrastructure, technology and knowledge that may enhance adaptation capabilities.
3. Participation and Decision-making: involving affected communities in decision-making processes related to landscape management and climate policies and also recognising the importance of local knowledge and perspectives.
4. Mitigation Strategies: implementation of climate mitigation strategies in a way that doesn't only ex-

acerbate existing environmental injustices but also considers the social and economic implications of such measures on different communities.

Therefore, understand and addressing this relationship between landscape equity and climate justice is crucial for creating future sustainable, inclusive solution that will mitigate the future impacts of climate change while also promoting equality and social equity. Reports from various organisations such as the World Resource Institute (WRI), United Nations Environment Program (UNDP) and other environmental NGO's also reflect upon on valuable insights on this domain. Thus the concepts and philosophies associated with landscape equity values seeks to ensure that everyone within a community; regardless of socioeconomic status, race, gender or geographic location; has the opportunity to enjoy the overall benefits of nature and that no community in any way is disproportionately burdened by the impact of environmental degradation or lack of access to green spaces.

Core Principles associated with Landscape and Environmental Equity

Inclusive, community-centered landscape architecture can foster resilience and advance environmental equity through four key principles:

1. Fostering Inclusion and Accessibility
2. Centering Community Needs and Identity
3. Supporting Ecological Resilience
4. Creating Adaptive Spaces

The following sections explore each principle in greater depth, along with case study examples of their on-the-ground application.

1. Fostering Inclusion and Accessibility

Inclusive landscape architecture celebrates diversity and ensures spaces are accessible across race, ethnicity, gender, age, ability, and socioeconomic status (Wolch et al., 2014). Inclusive designs enhance feelings of belonging through thoughtful accommodation of disabled populations, elderly, very young, minorities and other groups who have traditionally been marginalized in public space design. Tactics like wheelchair/stroller accessibility, culturally significant planting and art, gender-neutral restrooms and multilingual signage help support inclusion and accessibility (Boone et al., 2009).

The Heritage Line transformation in Medellin, Colombia powerfully demonstrates principles of inclusion and accessibility in landscape architecture. Historically, the ditch running through the city center was a dangerous, crime-ridden informal settlement area isolating low-income barrios. Through extensive community participation, the city redesigned the space as an accessible park integrating surrounding neighborhoods. The project includes ramps and lifts between upper and lower promenades to enable wheelchair access, as well as amenities like playgrounds, a library and senior center to serve diverse community needs (UN-Habitat, 2020). The Heritage Line increased mobility for tens of thousands while helping to socially and economically integrate once-segregated neighborhoods of varying income levels (Cervero et al., 2009). This increased mobility and helped integrate the once-segregated neighborhoods.

2. Centering Community Needs and Identity

Community-centered landscape architecture uplifts cultural narratives, environmental knowledge, design priorities and place attachments of local residents (Ghavampour & Vale, 2019). The goal is to celebrate diverse social identities and relationships to land/water while meeting community-defined needs for public space uses. Tactics include participatory design processes, showcasing community history/culture, utilizing local construction materials and integrating green infrastructure meaningful to the community like heritage gardens or species supporting subsistence lifestyles (Abunnasr et al., 2015).

The Benthemplein Water Square in Rotterdam, Netherlands demonstrates centering cultural heritage and community flood protection needs through design. Historically known as "Water Fear Square", the space was prone to flooding which was expected to worsen due to climate change. The redesign integrated community priorities for an open, blue-green space showcasing the relationship between Rotterdam residents and water. Local construction materials and native plant species were utilized alongside playscapes, event spaces and water retention infrastructure doubling as public art. The square captures and retains large volumes of rainwater through subtly graded sidewalks and subsurface water storage, reducing flood risk for surrounding neighborhoods (Voskamp, 2015). The integration of community heritage, recreation needs and flood protection infrastructure made Benthemplein Water Square a beloved community space.

3. Supporting Ecological Resilience

Ecologically resilient landscape architecture regenerates natural systems, supports biodiversity and integrates green infrastructure to increase climate adaptation (Colding & Barthel, 2013). Projects situated within an urban ecology framework enhance ecosystem services like air/water filtration, microclimate regulation, carbon sequestration and pollinator/wildlife habitat critical for community health and wellbeing (Pickett et al., 2013). Tactics include native plantings, bioswales, green roofs/walls, urban tree canopy, constructed wetlands and wildlife crossings through transportation or other barriers.

The Cheonggyecheon stream restoration in Seoul, South Korea demonstrates ecological resilience principles by transforming an elevated freeway into an ecological and recreational corridor through the city center. Historically a polluted stream covered by an expressway, the $900 million project removed infrastructure to daylight the Cheonggyecheon stream. The design reintroduced native vegetation, fish/avian habitats and traditional promenade spaces alongside flood protection infrastructure in this highly populated district.

Since opening in 2005, species biodiversity has continued to increase, air temperatures during summer peaks have lowered by several degrees, and thousands visit daily to enjoy cool breezes, wildlife and open space (Seo, 2016). Cheonggyecheon stream restoration increased ecological resilience and enhanced cultural identity for Seoul residents.

4. Creating Adaptive Spaces

Landscapes that flexibly accommodate changing social and ecological conditions build resilience to uncertain climate impacts in coming decades (Colding & Barthel, 2019). Adaptive tactics include multi-functional green infrastructure, moveable seating, temporary event accommodations and programming that responds to seasonal or longer-term shifts in use or demand. Adaptive capacity also links to governance and funding structures that allow for community-guided evolution over time (Abunnasr et al., 2021).

The Buffalo Bayou Promenade in Houston, Texas demonstrates adaptability principles in landscape architecture design. Historically prone to catastrophic flooding, the space was reimagined to accommodate both everyday recreation needs and extreme weather events through dynamic design. Parking lots double as water detention areas during floods while a large lawn and integrated drainage infrastructure provide further retention capacity. Paths and amenities shift across levels to maintain access through various water stages. Programming includes both everyday cultural events and specific hurricane readiness activities keeping the space vibrant year-round for this flood-prone neighborhood (Kambites & Kambites, 2022). The flexibility embedded across governance, design and programming enable Buffalo Bayou Promenade to adapt to Houston's shifting social-ecological realities.

Climate Justice and Landscape Environmental Equity: India's position

India rated seventh out of 180 nations impacted by climate change in the Global Climate Risk Index 2021, suggesting a very high exposure and susceptibility. Overall 75% of the Indian districts are known to be hotspots for the extreme weather phenomena. For India to continue on its current growth path and address climate change at the same time, effort must be taken to lessen the effects of the phenomenon and foster community resilience. In order to prevent, minimize, and address climate difficulties, it is imperative that effective methodologies for climate risk assessment and management be developed and put into practice. This is emphasized by both climate research and international climate negotiations (Madan, Prasad, Bhandari, & Sharma, 2022).

Government forecasts indicate that by 2036, almost 40% of India's population would reside in cities; yet, high heat and water stress are already being experienced by many urban regions due to climate change (Gupta, Biswas, & Kabiraj, 2021). The list of the 100 cities in the world most susceptible to natural catastrophes and climate-related occurrences now includes more than 40 Indian cities. The COVID-19 epidemic has only made these issues worse, with rural poor people in India seeing higher rates of unemployment and food insecurity in recent years. (Perappadan, 2020). In this setting, closing the urban development gap presents tough and complicated difficulties for the governing and authoritative bodies that supervise the cities and states of India. In order to tackle these obstacles, a methodical and thorough evaluation of the current urban green management systems for climate change adaptation, mitigation, and other environmental initiatives is needed (Jain & Padmanabhi, 2021).

For the Indian states and cities to meet the social and economic needs of a growing urban population, sustainable urban development policies and practices should be included into their governing structures. This would necessitate evaluating India's preparedness for taking on the difficult and intricate tasks associated with closing the urban development gap.

The objectives of India's Nationally Determined Contributions (NDCs) are:

- Lowering the GDP's emissions intensity from 2005 levels by 33% to 35%.
- Enhancing the forest and the tree cover to provide extra carbon sinks equivalent to the 2.5- 3 billion tons of carbon dioxide produced by 2030.
- Achieving 40% of the cumulative installed capacity of electric generation from non-fossil fuel sources (Jain & Padmanabhi, 2021).

In India, landscape equity is an increasingly important concept given the country's diverse landscapes, rapid urbanization, and socio-economic disparities. Several factors contribute to the discussion and implementation of landscape equity and their related projects in India:

1. Urbanization and Green Spaces: India's urban areas are experiencing rapid growth which in turn has led to increased pressure on the available green spaces, natural landscapes and their related resources. Ensuring equitable access to these parks, gardens, and recreational areas is crucial for the well-being of urban residents, particularly in densely populated cities such as Bangalore, New Delhi, Mumbai, Kolkata, etc. where green spaces are limited.
2. Rural-Urban Disparities: Rural areas in India often have limited access to green infrastructure and natural landscapes compared to developing urban centers. Promoting the principles of landscape equity involves addressing disparities between rural and urban areas by improving access to natural resources, supporting sustainable agriculture practices and conserving biodiversity in rural landscapes.
3. Environmental Justice: Environmental injustices, such as pollution, deforestation and land degradation, disproportionately affect marginalized communities in India. Achieving landscape

equity requires addressing these environmental disparities and ensuring that all the communities have access and connections to clean air, water, and natural resources.

4. Community Participation: Engaging local communities in the processes and stages of planning, management and conservation of natural landscapes is essential for promoting landscape equity in India. Also by empowering the communities to participate in the decision-making processes and advocating for their environmental rights can help in ensuring that their needs and interests are also being considered in landscape management initiatives.
5. Policy and Governance: The policy reforms and governance mechanisms play a pivotal role in promoting landscape equity in India. Implementing land-use planning regulations, environmental protection laws and conservation policies that prioritize equitable access to these natural landscapes can help in addressing the existing socio-economic disparities and promoting sustainable development.
6. Traditional Knowledge and Indigenous Practices: Recognizing the value of traditional knowledge and indigenous practices in landscape management is important for promoting landscape equity in India. The indigenous groups frequently have long-standing relationships to their landscapes and are often well knowledgeable about sustainable land management techniques, which may help guide a variety of conservation initiatives.

METHODOLOGY

The methodology established for the paper involves a blend of methods that comprises of site visits and interviews for the primary data collection; and also literature study, archival research and survey reports for secondary data analysis. For the study to be carried out two primary study areas were selected - the first study area comprised of namely, Yamuna Biodiversity Park and Hauz Khas Deer Park located in the region of Delhi. These were predominantly selected on the basis that were surrounded with different communities and were also used by those communities for different purposes as they were designed not only as community spaces but also for uplifting the city's biodiversity. For the second study area, Central Park located in New York was selected to analyse how the different settings in its periphery interacted within the surrounding areas and how also the entire park was acting as an urban oasis within its context.

SITE STUDY

Study Area 1: Delhi

The city of Delhi as a Metropolis has a very distinctive green character with its rich location of the Ridge and other greens distributed along the region. The connection between these greens is crucial to form a continuous green space encouraging in pedestrianization, provision of community greens and community engagement.

Sl.No.	Category	Permissible activities as per master plan 2021
1	Green Belts	Forest, vegetation belt, bird sanctuary, biodiversity, police post, fire post, veterinary centre, dairy farms
2	Regional Parks	Ridge, residential flat for watch and ward, picnic huts, shooting range, zoological garden, bird sanctuary, botanical garden, open air theatre, police post, fire post, orchard, plant nursery
3	City Parks	Aqua/water sports park, arboretum, botanical garden, national memorial, amphitheatre, open playground, aquarium and activities permitted under District Park
4	District Parks	Theme parks, recreational club, national memorial, open air foodcourt, children's park, orchard, plant nursery, area for water harvesting, archaeological park, specialized park, amusement park upto 10 ha, sports, activity, playground, amenity structures, restaurant in District Park of area over 25 ha.

Table 1: Categorization of Green Areas along with activities as per the Master Plan of Delhi (MPD), 2021 and 2041

Source: Master Plan Delhi (MPD), 2021 and 2041

Site 1: Yamuna Biodiversity Park, Delhi

The Yamuna Biodiversity Park was developed in two phases in two different areas - Phase I, spread over an area of 157 hectares, on the passive floodplains of the river and Phase II on the active floodplains. The site was acquired in 2002, and upon analysis of the soil profile, physicochemical properties and nutrient levels, it was discovered to be nutrient deficient and very alkaline. About 100 grass species, including Leptochloa fusca, Vetiveria zizanoides, Bothriochloa species, Cenchrus ciliaris, Cenchrus setigerus, and others, were planted as part of an early effort to improve the quality of

the soil. Numerous native legumes, including Rhynchosia species, Indigophera tinctoria, Indigophera linifolia, and Sesbania sesban, were also used to boost nutrient levels and start microbial activity in the soil. Following that, during the monsoon season, saplings of several forest species representing the top, medium, and lower canopy were planted in 30-35 biotic groups annually. In other locations, landscaping was also completed, resulting in hills of various sizes, forms, and heights. Each mound symbolizes a forest habitat that stretches from Uttarakhand's Vikas Nagar to Uttar Pradesh's Allahabad, where the Yamuna River empties into the Ganga River. The park is divided into two zones - "visitor area" and "nature reserve". These include the "medical plant greenhouse," "butterfly garden," "border areas," "sacred grove," "acacia forest," "migratory duck" and "resident duck" wetland, and "fruit-bearing species winter garden." Over 1500 plant and animal species may be found at the Yamuna Biodiversity Park, which features a variety of the Yamuna basin's natural ecosystems. In contrast to reptiles, which have grown from three to eighteen species, avian diversity has surged dramatically, rising from 37 to 196 species since 2002. With its diverse forest communities, alternating wetlands, and expansive grasslands, the nature reserve is a fully functional ecosystem. The canopies have already grown in certain forest communities, drawing in creatures like nilgai, carrion, civets, and jungle cats. (Khurana & Tiwari, 2016).

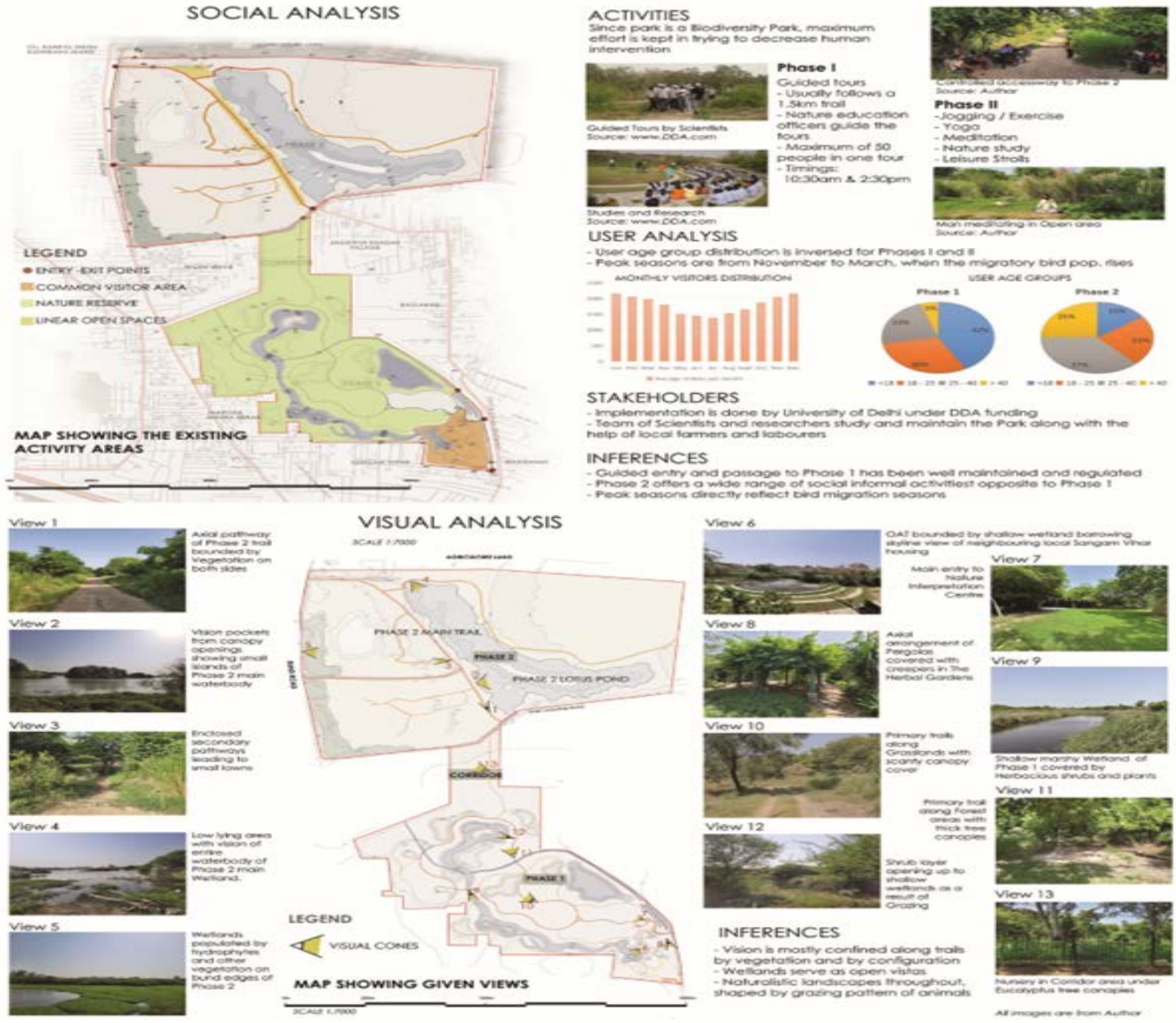

Figure 1: Social Analysis at Yamuna Biodiversity Park showcases that Phase 1 is catered towards ecological restoration and Phase 2 is for public amenities. The majority of migratory birds can be seen in the site during March to November. 80% of the area is kept for biodiversity zone and 20% is for public use which includes outdoor yoga and exercise areas, meditation areas, nature study for students and researchers and spaces for surrounding communities to carry out urban farming at its edges. Naturalistic landscapes throughout the site create a uniform and serene vision. (Source: Author)

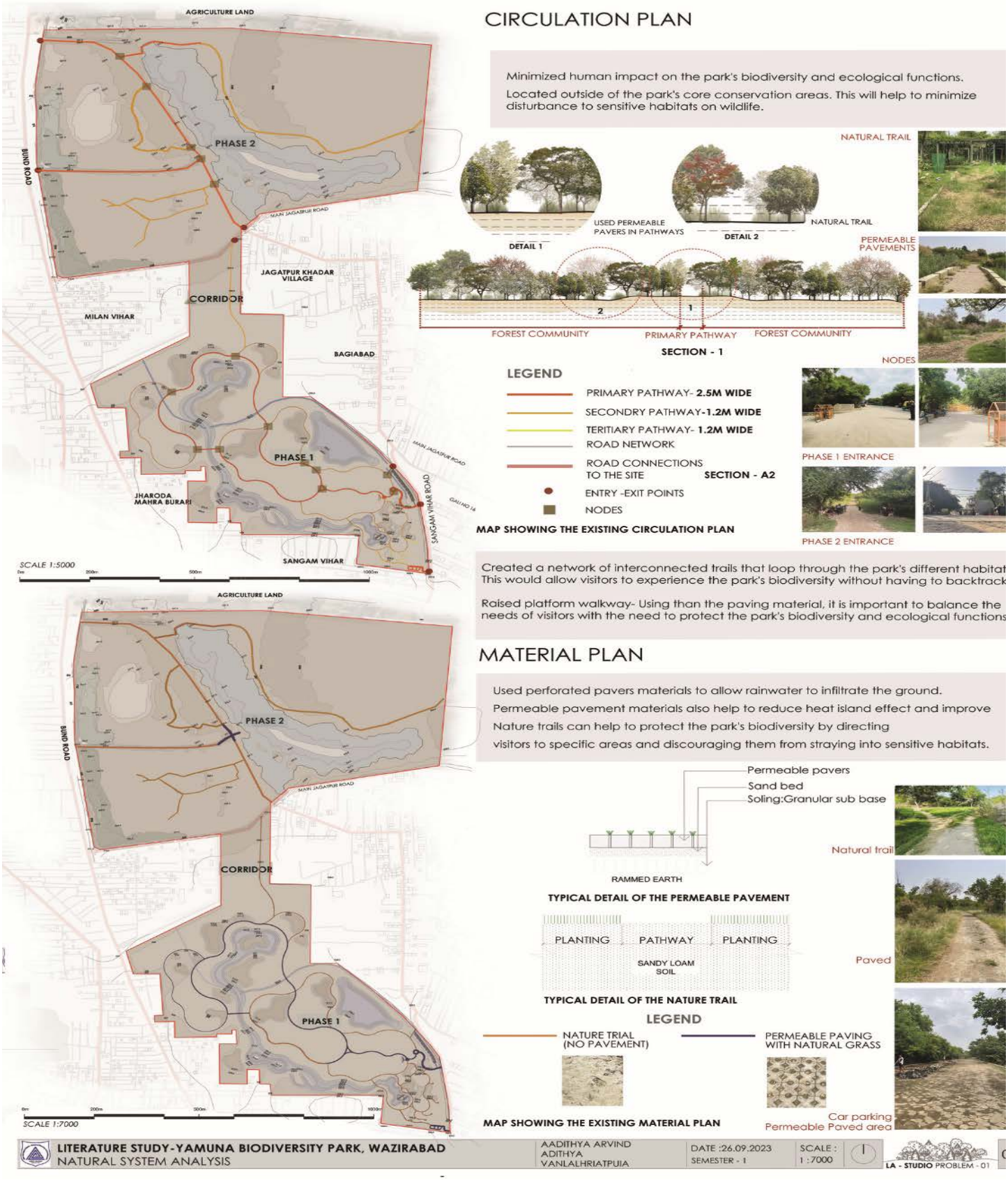

Figure 2: The circulation and material was kept minimal with perforated pavers and permeable materials to allow rainwater to infiltrate the ground and also in reducing the urban heat island impacts. Nature trails along the park were directed towards the visitors to encourage them to visit only certain specific areas and discouraging them from entering into sensitive habitats (Source: Author)

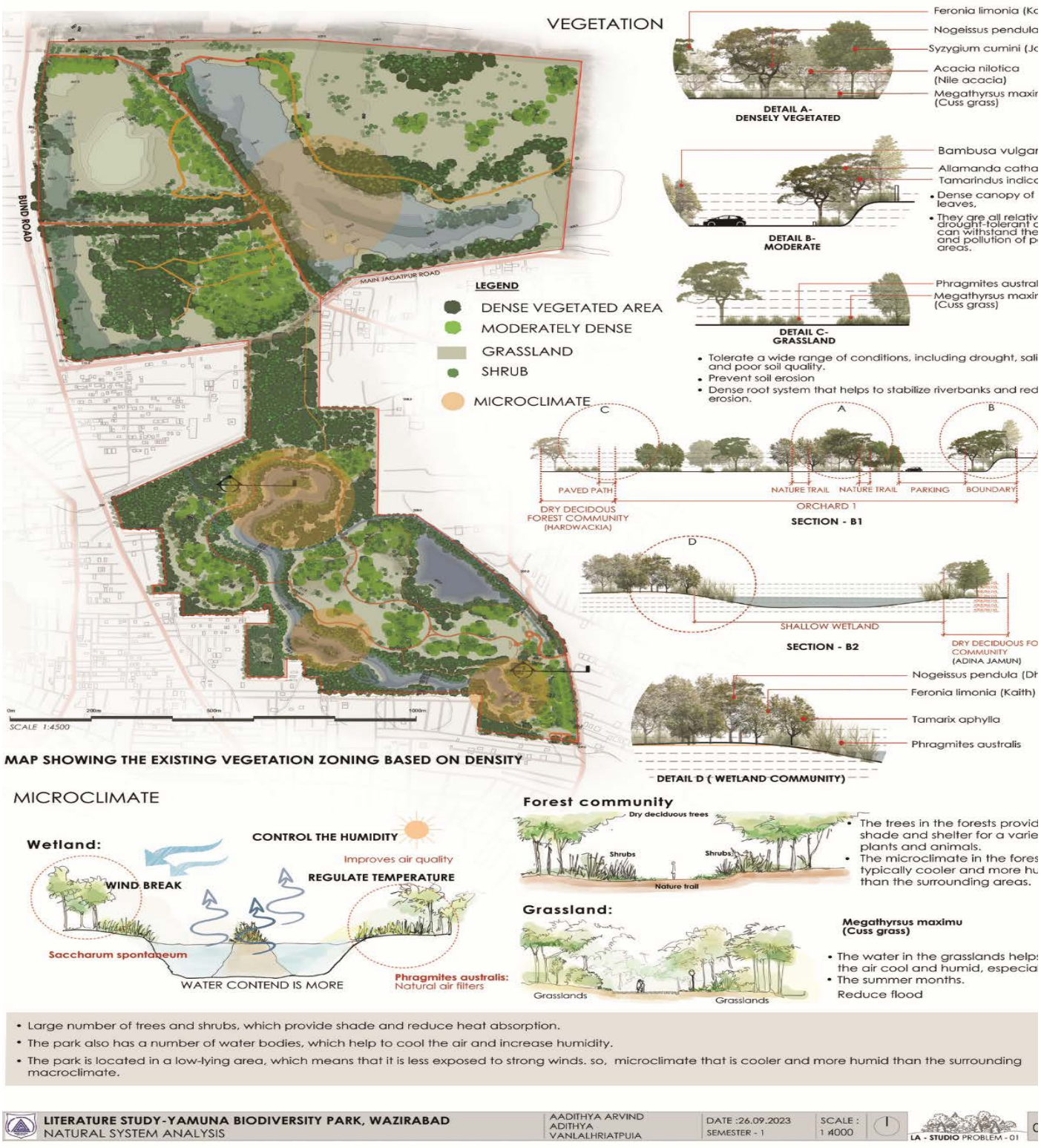

Figure 3: The vegetation is done generally on plant community typologies such as forest communities, grasslands, meadows. The core and the periphery areas are densely planted and the entrance and the public are planted in a designed manner to allow transitions for the visitors. (Source: Author)

Site 2: Hauz Khas Deer Park, Delhi

Located in the Hauz Khas area of South Delhi, Hauz Khas Deer Park, also called Aditya Nath Jha Deer Park, is a natural park in Delhi. Known as the "lungs" of Delhi, the Deer Park, the nearby District Park (which includes Hauz Khas Lake), and the nearby Rose Garden (which can be reached from IIT Delhi and Safdarjung Development Area) make up one of the city's largest green areas. They serve as a respite from the otherwise sweltering and polluted metropolis. Old Monuments, Fountain and District Park, Deer Park, Rose

Garden and Hauz Khas Art Market are the park's four distinct wings. (TNN, 2014).

Figure 4: The activities are primarily focused along the reservoir area, whereas rest of the area is being kept as a natural precinct with minimum intervention from humans. (Source: Author)

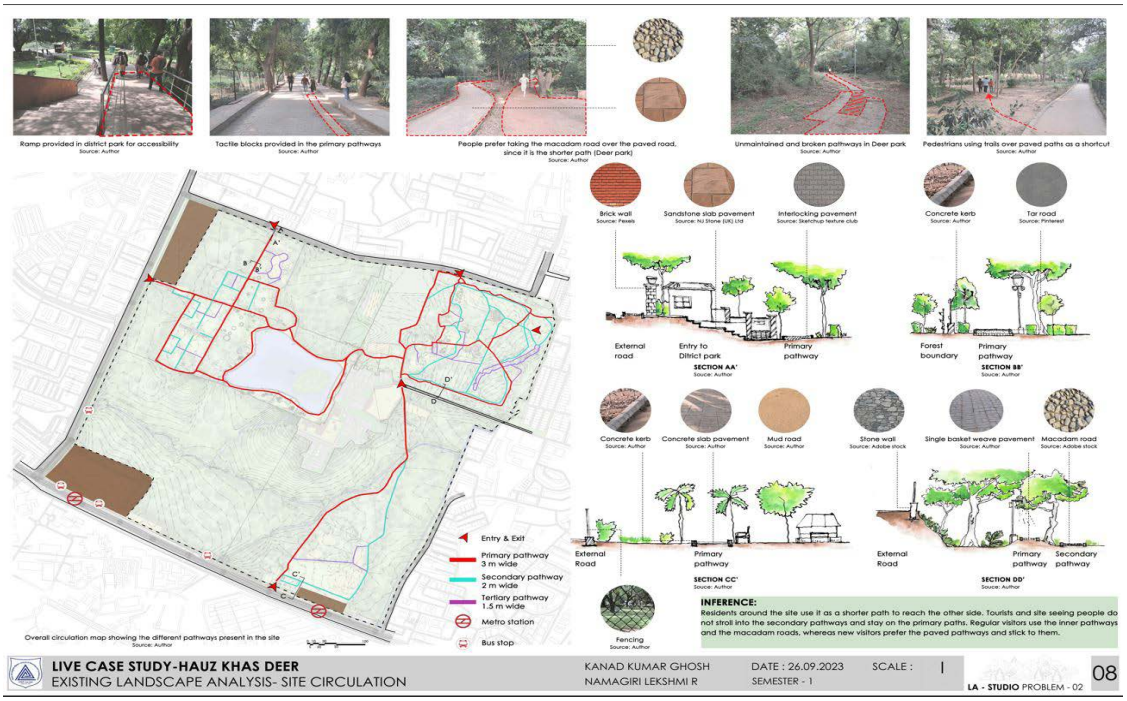

Figure 5: Just like the activities, the primary and secondary circulation are more focused and designed along the reservoir unit which is generally open to the public. (Source: Author)

Study Area 2: Site 3 – Central Park, New York

Manhattan's Central Park, which is a collective result of many leisure activities and has emotional value for New Yorkers, defies the conventional definition of a park. The park, which was created in 1858 on 843 acres of land, including 150 acres of water, covers 51 blocks in Manhattan. With its large green

spaces, water features, and a variety of facilities including 30 tennis courts, 21 playgrounds, and 26 ball fields, Central Park welcomes visitors of all ages and provides a break from the traffic and growing population of the city. Central Park serves as a cure for New York's urban problems and is more than just a park. The active participation of residents, volunteers, and members of the Central Park Conservancy, which was founded in 1980, is a crucial component guaranteeing its survival. More than $600 million has been contributed by the community to assist park upkeep, such as rubbish removal and biodiversity education, which helps draw more tourists. Known as a "urban heat island," New York has higher temperatures than its surrounds because of the extensive usage of heat-absorbing materials like glass and concrete. This effect is lessened by the 20,000 trees in the park, which act as natural air conditioners. In order to maintain the park's environment, trees are also essential for filtering precipitation, lowering toxins in water bodies, and absorbing air pollution. (Khurana A. , n.d.).

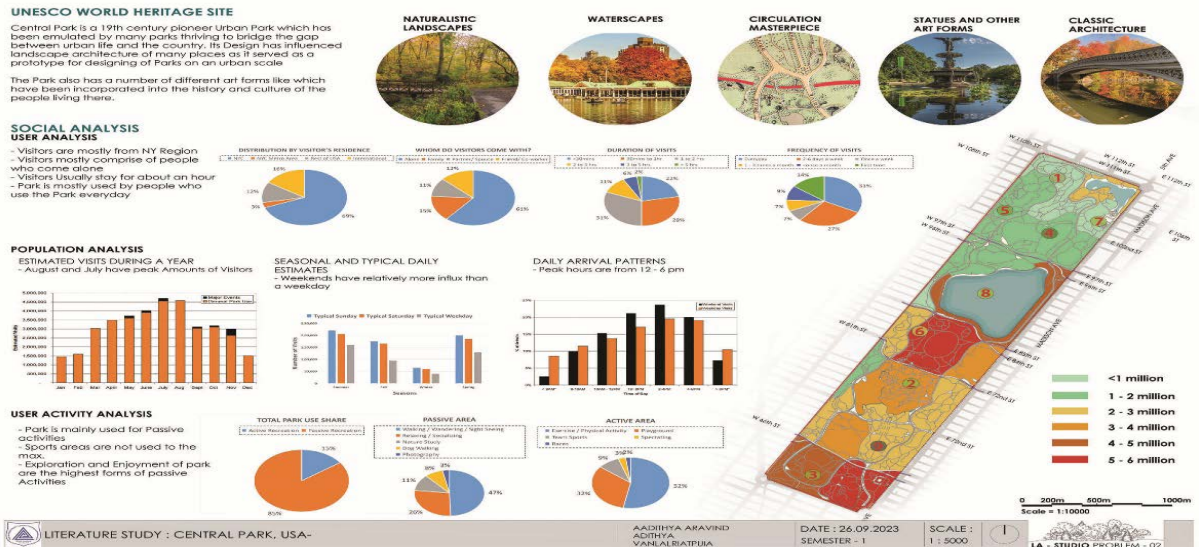

Figure 6: The user analysis stated that primarily for passive activities rather than active activities. The park has also lot of art-forms installed that attracts various community members. (Source: Author)

Figure 7: the park is also divided into different segments depending on the activities such as meadows, sports area, local park areas, etc. The central reservoir also acts as a ground water recharge for entire the park. (Source: Author)

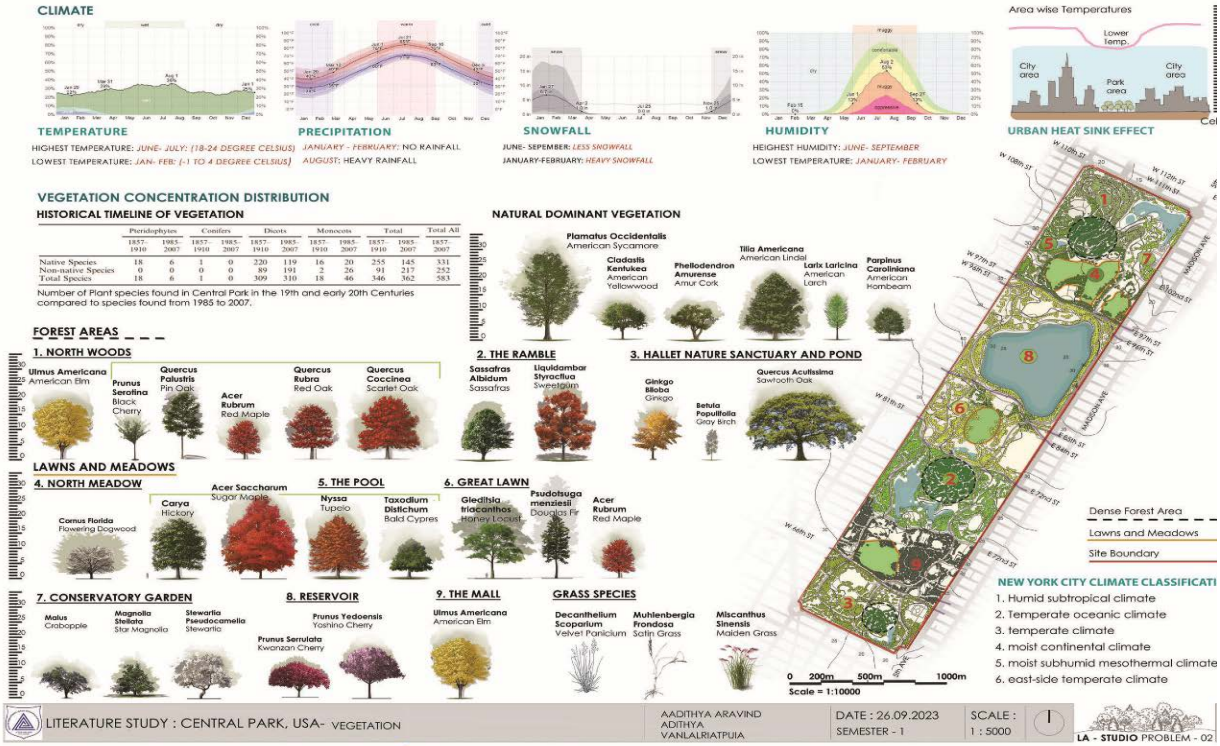

Figure 8: The vegetation was laid out in a way that it divides the entire park into smaller sections where different activities can be carried out. (Source: Author)

FINDINGS AND ANALYSIS

Upon carrying out the analysis, it was found that both the areas were acting as a major cultural and ecological zone within its settings. These findings can be summarised as follows:

- Yamuna Biodiversity Park was designed as a nature reserve park aiming as a prominent place for overall learning and understanding the natural environment of the region. The park acts as a biome for a diversity of forest communities, wetlands and grasslands. Hauz Khas Deer Park was designed along the historic structures that were located within its precinct; whereas Central Park, NY is also designed as a public park and over the period of time due to its grandeur gives an identity to the place.
- Both Yamuna Biodiversity Park and Hauz Khas Deer Park is active only during certain period of time but Central Park can be seen to be active through the day as different activities are organised.
- One of the notable things that were observed on all these parks was that their layout was done into two major zones – the visitor zone and the nature reserve zone.
- Both these parks have activities pertaining to the communities like organisation of monthly fairs and ceremonies, public events, picnics during weekends. The parks in Delhi were seen to be more active in winters, particularly during the winters of January 2024 as many books readers have created their own niche over there to enjoy the morning and the afternoon sun.
- Apart from the public participation, these green parks also act as carbon sink within the city's precinct and helps in mitigating the impacts of climate change and also providing shelter during time of resilience. These parks help in preserving the urban biodiversity in terms of flora and fauna, and also increasing the tree canopy for the region. They also help in ecosystem services such as ground water recharge, increase in infiltration rates, purification of air quality, etc.

POLICY AND DESIGN RECOMMENDATIONS THAT CAN BE IMPLEMENTED FOR FUTURE PROJECTS

While additional examples showcase ingenuity of landscape architects to address environmental justice, significant work remains to scale principles and co-create best practices. Specific recommendations include:

- Public agencies should fund participatory landscape architecture efforts as reparative environmental justice tools. There needs to be full respect and recognition of indigenous peoples' rights and traditional knowledge in climate solutions. This includes securing their prior and informed consent.

- Professional associations can expand knowledge-sharing networks and develop equitable design certification standards
- Designers can lead community visioning processes anchoring proposals in cultural narratives and climate resilience needs
- Communities can leverage funding streams to engage landscape architects capable of co-designing inclusive public spaces
- Additionally, landscape architecture projects must be coupled with other systemic efforts—policy reforms, planning processes, housing affordability protections, transition support for displacement-vulnerable residents—to holistically advance environmental equity and climate justice in rapidly evolving cities.
- Regional climate change frameworks should provide practical guidance to countries on priorities, resource allocation, implementation planning, etc. around issues like gender justice.

CONCLUSIONS

As urbanization intensifies globally, landscape architecture situated within social and ecological justice frameworks provide a lever for resilient, inclusive city-building. Core principles around fostering inclusion, centering community wisdom, supporting ecological regeneration and creating flexible designs showcase how public spaces can amend legacies of environmental injustice when done responsibly. While there is no universal cure for the complex challenges cities face, a landscape approach integrating reparative environmental justice and climate resilience can nurture emergent possibilities for what Kothari (2019) calls "radical ecological democracy"—vibrant, biodiverse, equitable urban futures marked by dignity and delight for all.

In conclusion, access to green spaces, environmental justice, community involvement, governmental interventions, and the acknowledgment of traditional knowledge are only a few of the many factors that make landscape equality in India a critical problem. Environmental deterioration, rural-urban inequality, and rapid urbanization all make it more difficult to distribute natural resources and landscapes fairly. The needs of underprivileged populations must be given priority in inclusive and sustainable methods to landscape management, which should be the main emphasis of efforts to address landscape equality in India. This calls for community involvement tactics, governance structures, and policy changes that empower locals and guarantee their opinions are heard throughout decision-making.

In addition, advancing landscape justice requires recognizing the significance of indigenous knowledge and practices in sustainable land management. More efficient and culturally aware solutions can result from fusing ancient knowledge with contemporary conservation initiatives. In general, coordinated efforts by local communities, government agencies, non-governmental groups, and scholars are needed to achieve landscape fairness in India. In order to create healthier, more resilient, and more egalitarian landscapes for all of its residents, India may prioritize equal access to green areas, address environmental inequities, and encourage community engagement.

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