The National University of Singapore's Landscape Architecture programme is a core programme of Asia's premier school of design and the built environment. Starting from the inception of the Master of Landscape Architecture in 2009, NUS Landscape Architecture has grown to also offer the Bachelor of Landscape Architecture in 2020, marking an exciting milestone for tertiary-level landscape architecture education in Singapore. We provides the only tertiary-level programmes that qualify graduates for accreditation as a practicing landscape architect in Singapore through the Landscape Architects Accreditation Programme of the Singapore Institute of Landscape Architects.

The core emphasis of NUS Landscape Architecture is excellence in design—we imbue our students with a deep understanding of the dual nature of design as both a process and a product. As a process, we prioritize landscape design to be creative, but one which is grounded in socio-cultural sensitivities, ecological knowledge, and grasp of conventional and emergent technologies and techniques. Design as a process benefits from synergistic knowledge exchange among multiple disciplines in NUS as one of the top research intensive universities in Asia and the world. As a product, landscape design expressed through various visual and digital media, must be inspiring, move the heart, and above all, instigate meaningful and impactful landscape changes in real life.

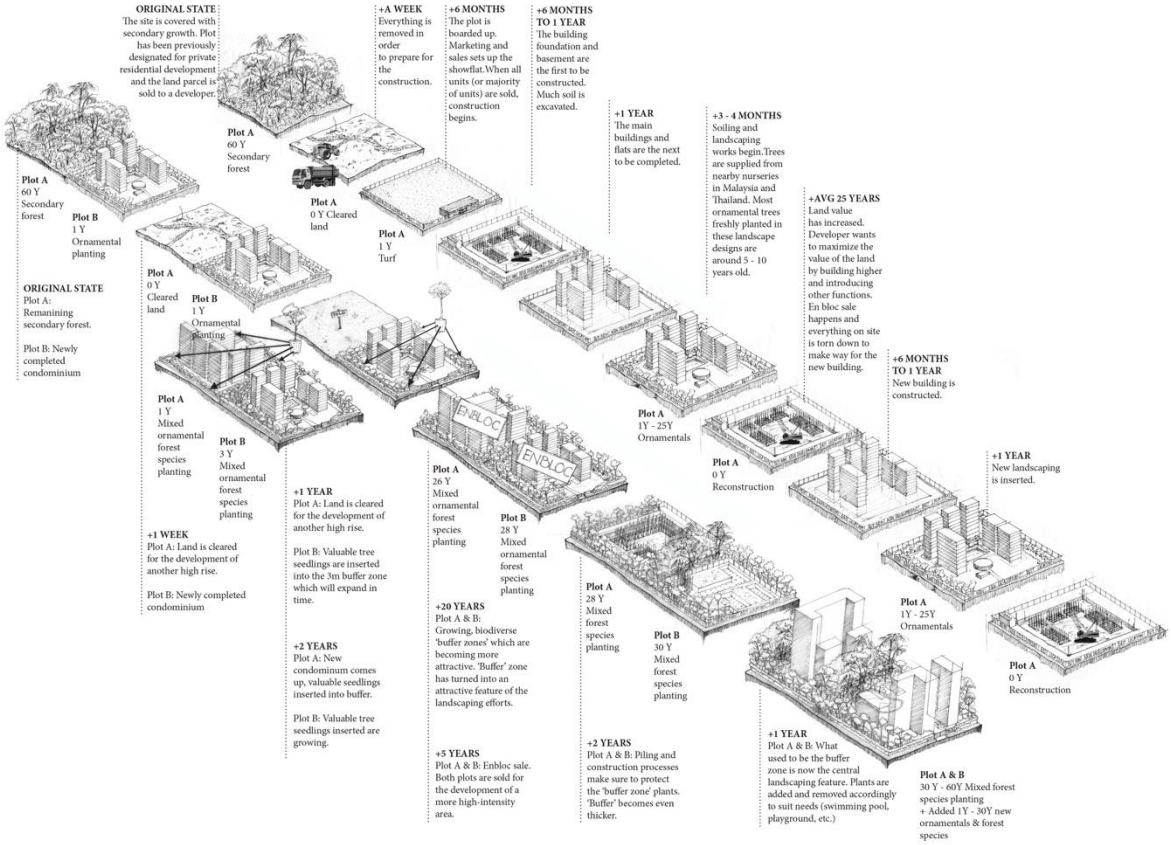
The programme is distinctively Asian and pantropical in its geographic attention and urban in its emphasis. With our central location in one of the most dynamic, diverse and rapidly urbanizing regions of the world, we aim to provide a landscape architecture education that is sensitive to the myriad challenges facing Asian cities, as well as opportunities provided by the sheer richness of heritage and cultural, socio-economic and ecological elements of the region. Our location in Singapore, with its diversity of culture and cosmopolitan outlook, and where greening and ecology of the built environment is a cornerstone of its urban development approach, also provides an enriching backdrop to our training of landscape architects

Landscape Design Studio

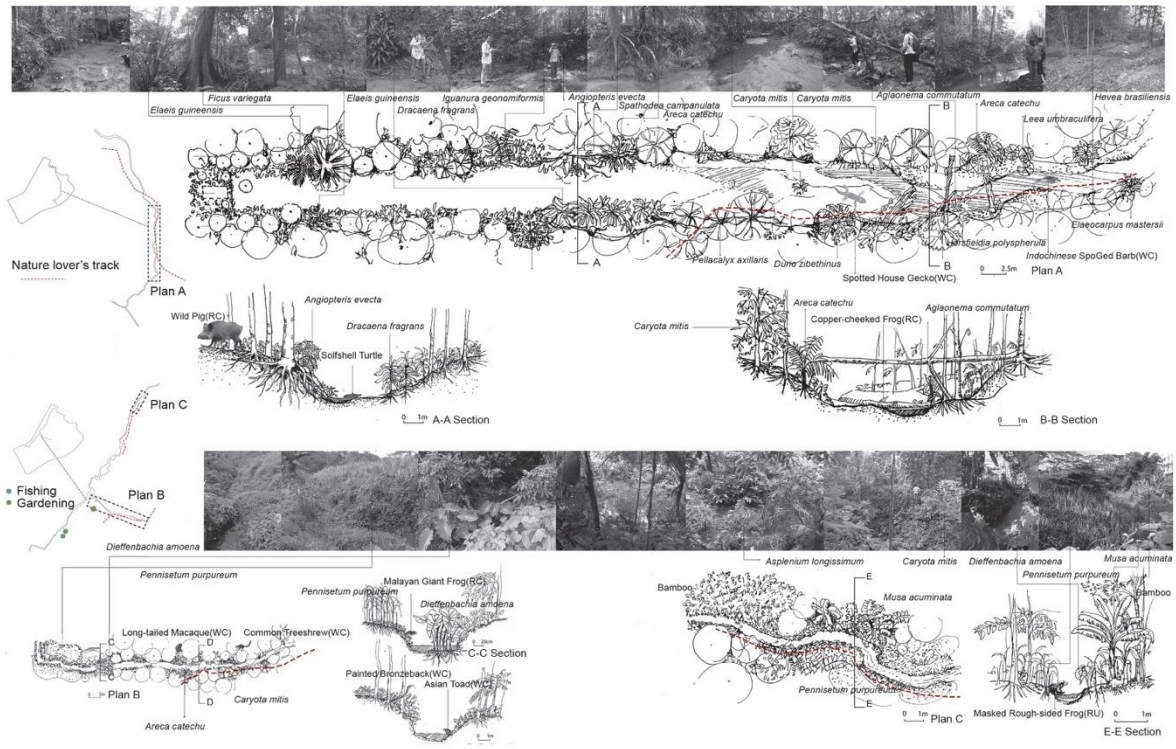
The Landscape Design Studio, a core module in the Master of Landscape Architecture programme, aims to develop higher level skills and knowledge in landscape architecture through design projects. Projects are undertaken to explore a multitude of socioenvironmental issues in complex urban areas, especially in Singapore and other Asian cities. Studio features multifaceted relationships between open space, infrastructure, community, ecology, policies, and society as springboard for design development. Through these projects, students learn to understand contested issues, demands, acquire fundamental skills and techniques to synthesise knowledge, and develop logical thinking from concept development to outcomes. Thirty-nine studios conducted over ten years, led by eleven tutors with different expertise, have cumulated into a spectrum of design studios covering the ten following topics: deforestation management, land-water interface, re-wilding Singapore, landscape & urban infrastructure, landscape and mobility, neighbourhood landscapes, productive landscapes, landscape planning, landscape in high density environments, urbanizing regions, and landscape as necessity.

Deforestation Management

Secondary forests in Singapore are often viewed as temporary. Based on land use designations in the Urban Redevelopment Authority (URA) Master Plan, most could become residential, commercial, institution, or reserve sites over the next 10–15 years. These urban forests presently occupy a significant proportion of land, with important functions in the socio-ecological system of the city—biological, biophysical and social-cultural. When developing forested sites, it is important to take this into account and manage long-term socio-ecological consequences.



In response to the issue of secondary forest loss, four design studios between 2012 and 2016 studied forests projected to be cleared in the near future. Situated in the south of the Central Catchment Nature Reserve, Bukit Brown woodland (Studio 2012) is a living museum—a cultural and ecological hot spot—but the new four-lane highway is planned to cut through the 200ha woodland. Despite its small size (2ha), Pasir Ris woodland (Studio 2013), in the north-eastern tip of Singapore, is a haven for endangered birds and an invaluable asset for nearby residents. Tengah forest (Studio 2015) is one of the largest secondary forest sites (720ha) connecting the central to western catchment. Tagore forest (Studio 2016) is an important stopover for wildlife moving from the central catchment nature reserves; it has distinctively rich biodiversity and contains rare freshwater streams.



Common questions investigated in the studios were the following: How can we compensate for the potential socio-ecological impacts of deforestation while meeting commercial and housing demands? Should the woodland be largely conserved or could it be developed in an environmentally responsible fashion? Beyond simply preserving the site, can novel design prototypes infuse greater ecological functions and diversity into the urban context? How can design improve well-being and promote a stewardship ethic in city dwellers by bringing nature closer to everyday life?

DISTANCE STUDIES

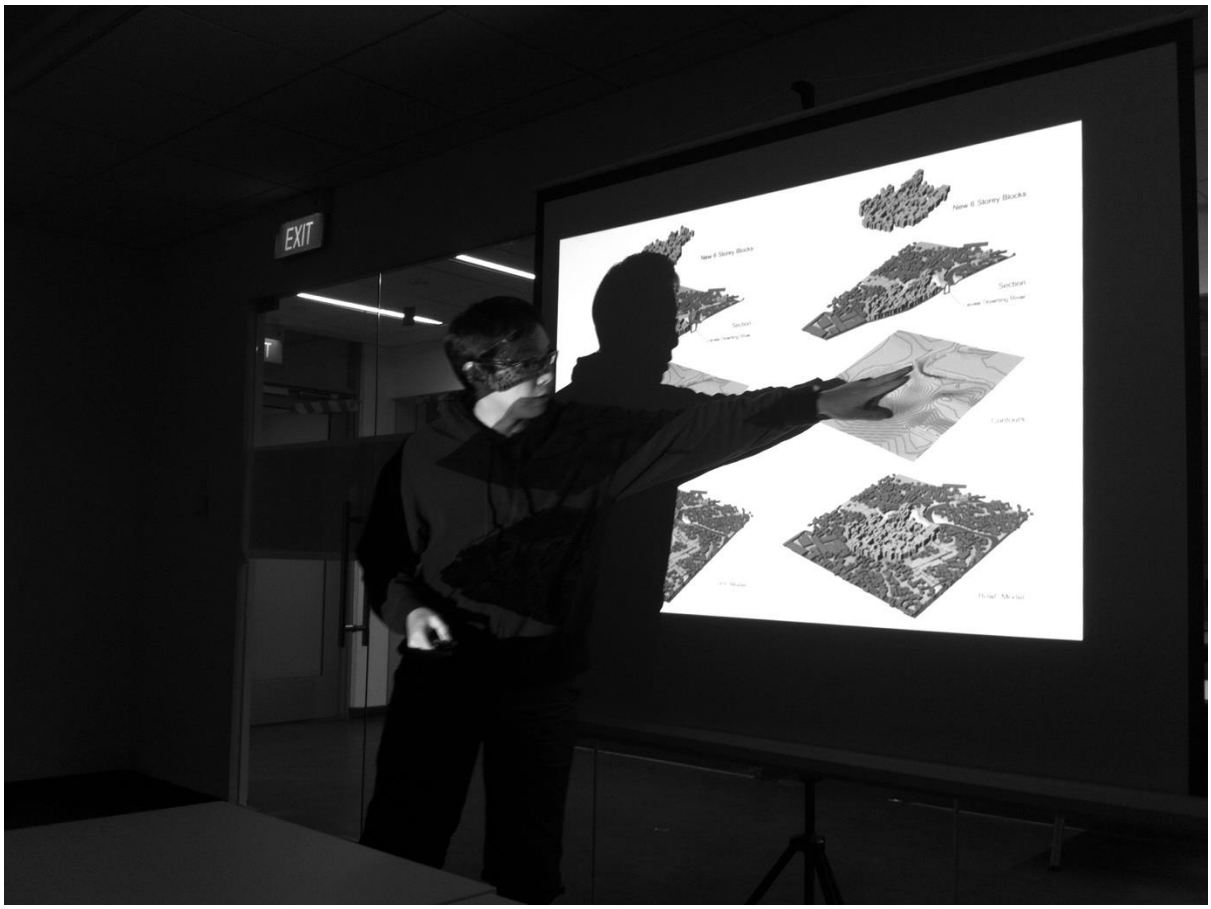
To determine the Planting Strategies

The first half of each studio began with a theoretical understanding of urban ecology and tropical urban forests, with intellectual input from urban ecologists. Intensive fieldwork captured the spatial characteristics and locality of the assigned forests. Guided by members of Nature Society Singapore Group and environmental surveyors, students collected data for design decision-making, including types and locations of habitats, valuable plant species, animal movement, landforms, natural water flows, microclimate, soil quality, and site history. Students also interacted with residents in the periphery of the woodlands to understand socio-cultural attachment to nature. The second half of the studio was the design development stage; it included prioritizing ecological, biophysical, and socio-cultural values of the sites, envisioning future landscape scenarios based on the ecosystem value assessment, experiencing iterative design process, and applying designs.

As the plots targeted were slated for high-dense housing development, student proposals focused on the design of residential neighbourhoods, synthesizing social, ecological, and aesthetic considerations.

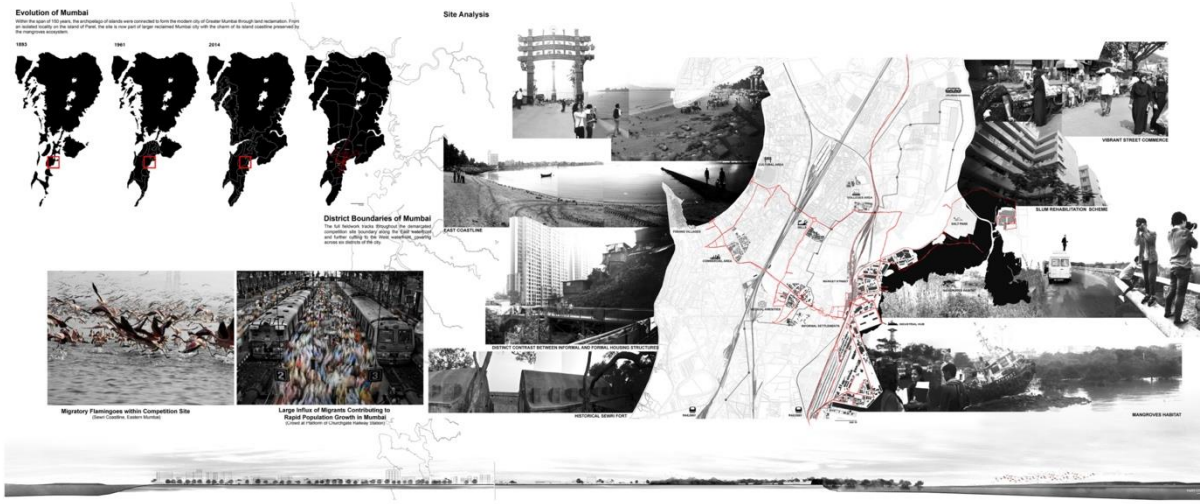
As development encroaches into green spaces all over the island, a set of design proposals to address the secondary forest context is imperative to manage the social and ecological consequences.

Landscape in High Density Environment

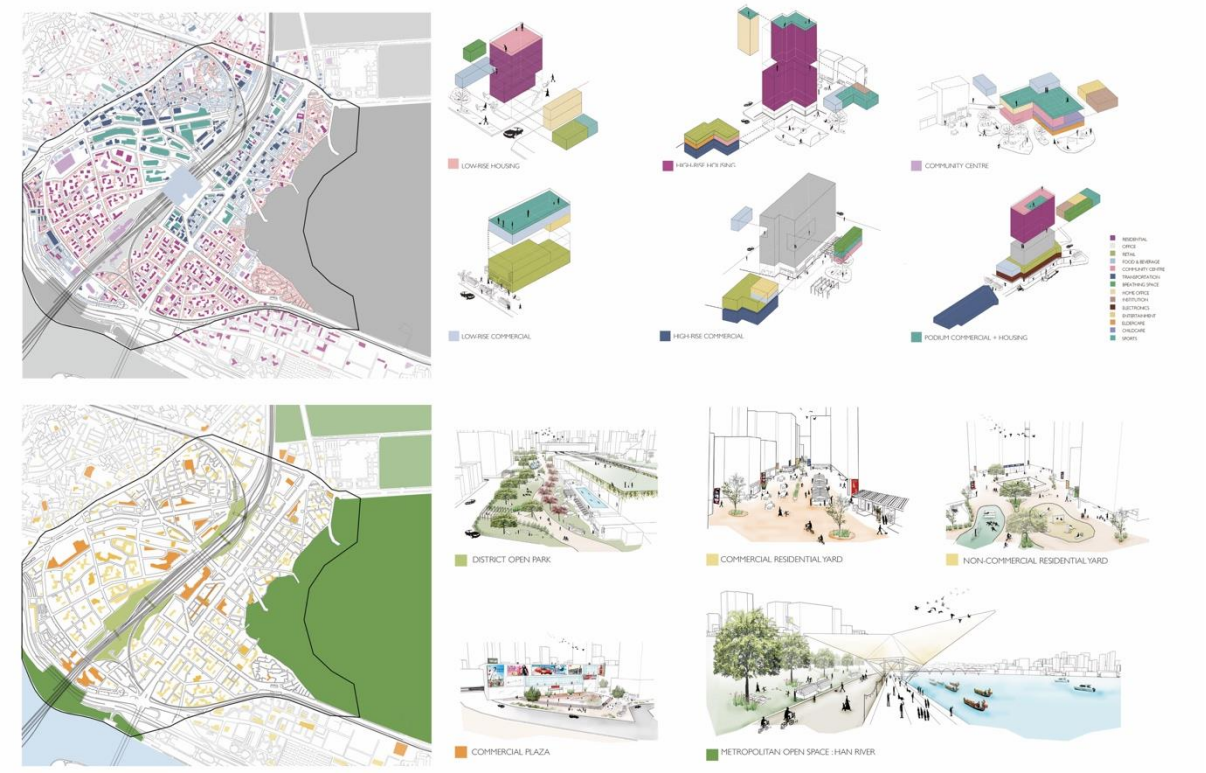


Given the growing populations, many Asian cities have densified their urban cores, leaving little space for ecosystem services to play a role. By and large, socio-economic factors define the priorities for land use

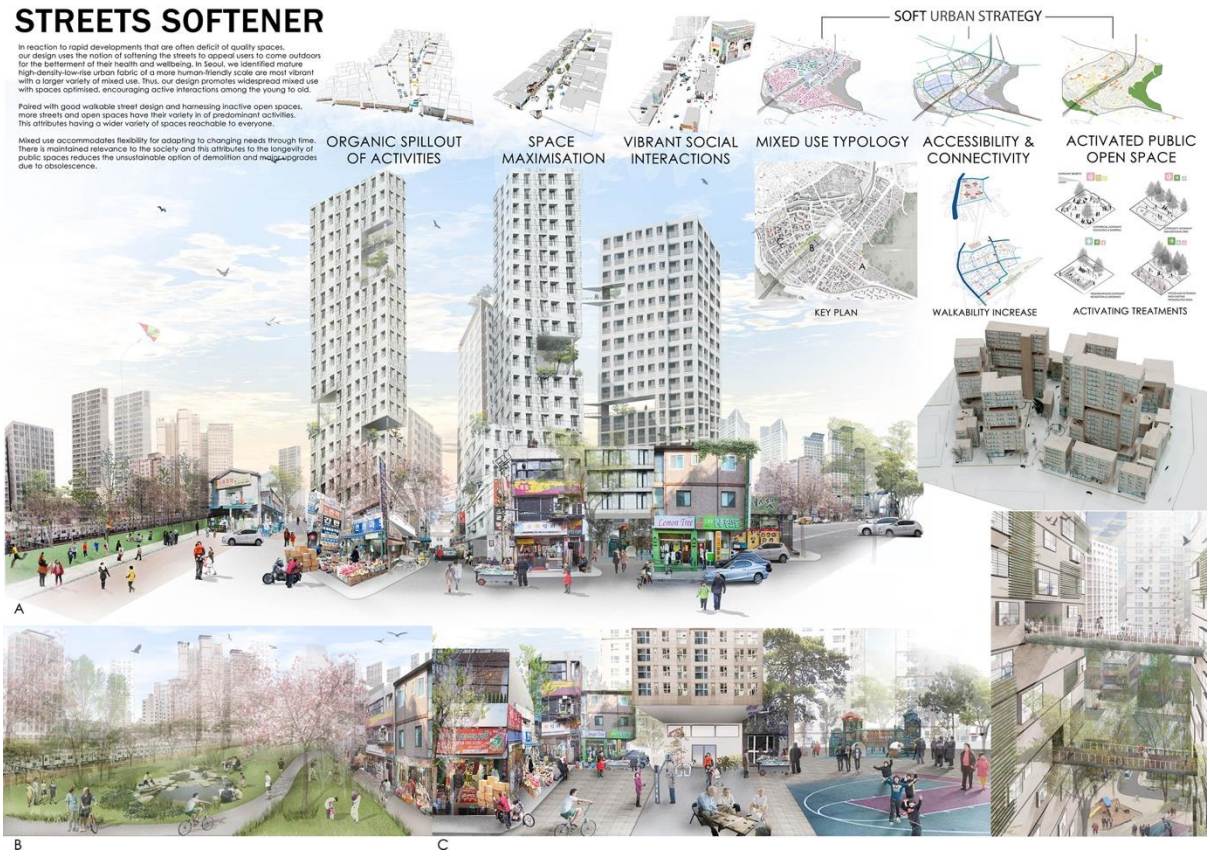
and occupancy patterns. However, Asian cities are always looking for new urban frameworks to address their social needs, regardless of how established they are – from rapidly growing metropolises to cities reaching their mature state. It is critical to collectively react to urbanization and explore pre-emptive measures to ensure a long-term livable environment for city residents



In response to this need, all four studios dealt with the following common questions: Can we find a balance between urban density and livability for city dwellers? Can we intensify land usage by juxtaposing conflicting domains: nature-human, public-private, and permanent-temporary? Can we accommodate and ensure sustainable multi-functionality within a given site? Answering these questions required careful analysis of the existing urban fabric, with dissection of a city's spatial and functional "patterns" using geo-spatial analysis and ground-level observations. The most challenging aspect was to restructure such "patterns" while addressing the respective studios' themes and each city's socio-economic situation.



The Vertical Cities Asia (VCA) International Design Competition focused on design explorations of and research into new architectural and planning models for the vertical, dense and intense urban environments in Asia. Two studios were carried out following this agenda: Studio 2012 in Seoul, South Korea and Studio 2014 in Mumbai, India. Reflecting contrasting socio-economic situations, the Seoul studio's theme "Everyone Ages" emphasized rapidly aging societies and looked for spatial solutions to foster a new urban lifestyle and sense of belonging. Mumbai studio's theme "Everyone Connects" asked students to come up with a new architectural and urban design framework to accommodate an additional 10,000 inhabitants within a given site, while ensuring human livability.

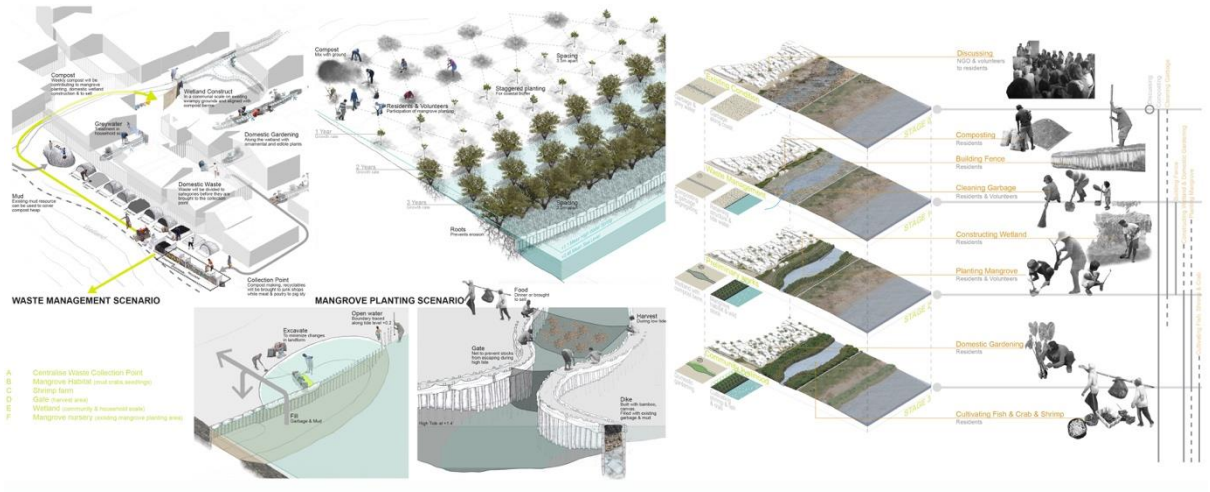


The complex nature of the challenge required multi-disciplinary thinking. Thus, both VCA studios included architecture, landscape, and urban design students. Beginning with a weeklong field trip to the city of interest, students observed, identified and analysed underlying challenges. Over the semester, they developed coherent and context-sensitive urban strategies integrating landscape, urban, and architectural design principles.

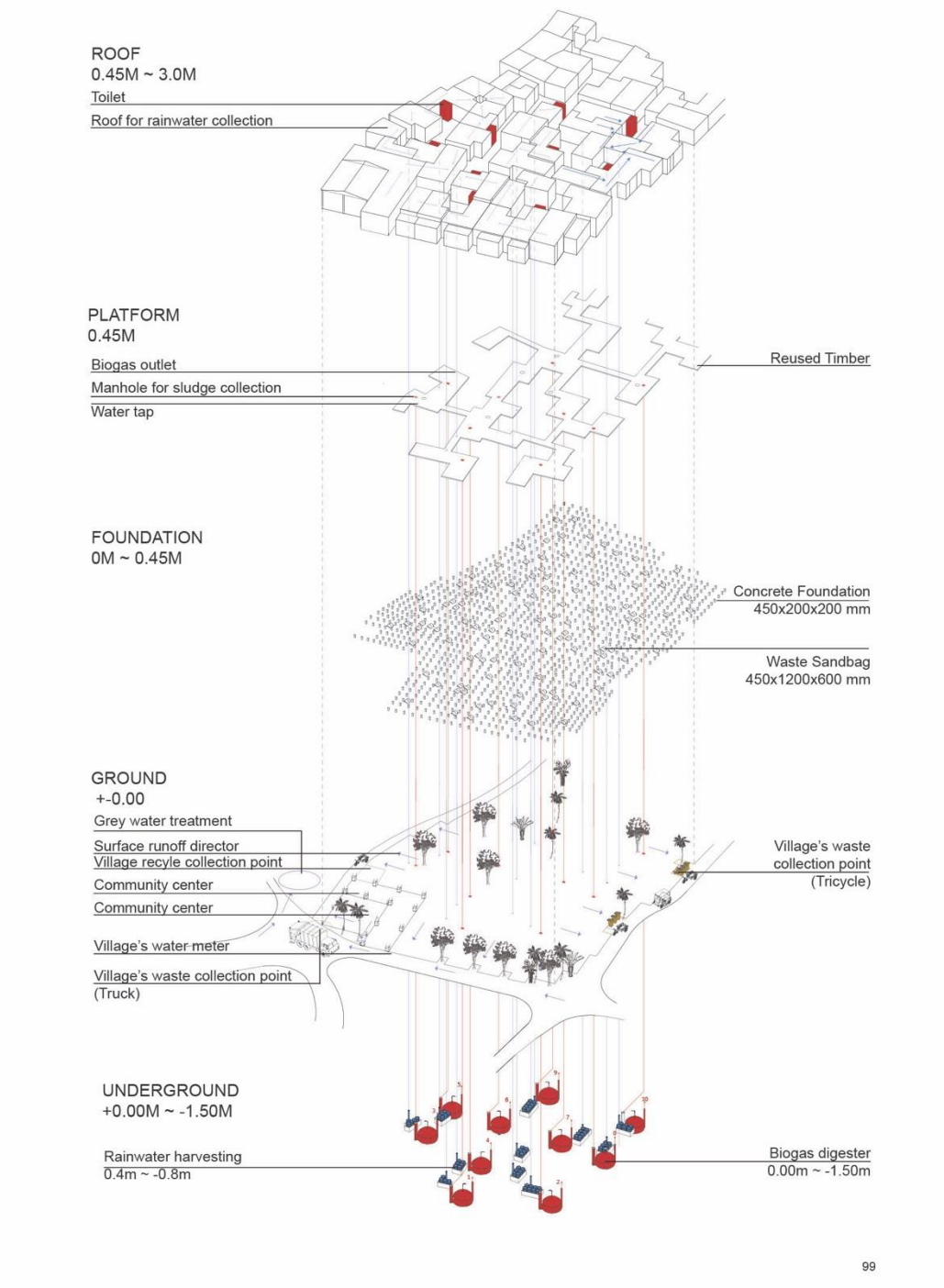
Landscape As Necessity

The Landscape of Necessity studios paid attention to the radical role of landscape architects in issues of everyday landscapes in rapidly growing cities, especially those that confront low-income urban residents experiencing environmental disasters, pollution, unemployment, crime, health issues, and social inequity on a daily basis. In compact tropical cities where land is overpopulated because of massive urban development, disrupted and disconnected urban ecosystems are major issues. Although the increasing numbers of urban poor are generating international attention, a common practice of design interventions is to draw on globally developed “universal” approaches that exclude the poor. However, landscape architectural intervention must become a necessity, not a luxury.

The studios focused on the following questions: What do communities in the midst of socioeconomic crisis need in everyday life? Beyond basic shelter, what can make low-income communities move forward incrementally toward a self-sustained everyday life in the long run? Can landscape architects manage complex problems of communities in environmentally vulnerable areas with a lack of land resources and limited social and economic opportunities? Can proposed design and management strategies enhance the quality of living and ameliorate the quality of the environment in the “global city” era? How should landscapes be considered in fast-growing high-dense development, and will the incisiveness/ importance of the poorer city dwellers grow? The series of studios began with an understanding of the need to make everyday landscapes more resilient to environmental change and healthier and more inclusive places to live for the urban poor.



Baseco studio tackled 57 hectares of reclaimed land off Manila Bay. It is home to 50,000 urban poor immigrants, including slum relocation sites funded by various local non-profit NGOs (MLA'15). Situated in the lowest topographical point in east-northern Manila, GK Brookside village is another slum relocation area where people are struggling with frequent and severe floods (MLA'14). Situated 45 km from Metro Manila and home to numerous relocation projects, San Jose del Monte (SJDM) faces overwhelming population growth and a lack of economic opportunities (MLA'16). Finally, Bangalore studio (MLA'20) focused on Hebbal Kempapura district on the periphery of Bangalore; it has a series of water related crises including water shortages, improper drainage systems, and polluted lakes.



Each studio comprised four phases: preliminary research, on-site fieldwork, scoping design tasks, and design development. The first two to three weeks of each studio was dedicated to gathering tangible and intangible information on the site at multiple scales before going to the site as a team. The second phase

was intensive fieldwork usually guided by local stakeholders, including government agencies, managers in NGOs, community leader groups, and resident volunteers. With their help, sub-groups of students conducted onsite mapping, took measurements, and held interviews to determine the demands of the chosen community. The third stage was to propose individual/small group projects by identifying site-specific topics and design sites based on the synthesis of accumulated materials from the previous two stages. Finally, each student delivered a set of design proposals and sequential planning of construction and management envisioning better working, living and playing environments in the long run.