

PROJECT FEATURES

Jacob Ballas Children's Garden

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On the northernmost tip of the Singapore Botanic Gardens is an immersive landscape for learning and play, the Jacob Ballas Children's Garden. On a typical Sunday, if one were to take the Mass Rapid Transit, he would likely approach the Bukit Timah Gate, and onward through the meandering paths around Eco Lake. He is expected to be greeted by joggers, before reaching the Children's Garden, when the ambient noise transits into the welcoming laughter of children. Past an overhead path, one encounters a shelter where light filters in through a patterned canopy, arriving at the entrance of a sanctuary.

Established in 2007, the Children's Garden was the first in Asia to be dedicated to children, as a response to the "strong demand for children's programmes" with the objective of "cultivating awareness and developing appreciation" in children for nature and ecology.¹ Initially spanning two hectares, the Children's Garden was open to children 9 years and below. When the two-hectare extension opened in 2017, new facilities were added to cater to children of up to 14 years old of age.

The expansion was planned to provide an opportunity for families with older children to enjoy the garden. Hence the architectural and educational features of the landscape was conceptualised and designed to resonate with the older children. The project focused on tactile and sensorial exploration, which was a success in the existing garden, complementing the children's school curriculum through hands-on or demonstrative workshops.

Inscribed as a UNESCO World Heritage

Site in 2015, redevelopments in the historical Singapore Botanic Gardens necessitates a careful and sensitive approach. Dating back to 1859, the Gardens is a rolling landscape and the mature trees with extensive root networks presented a particular challenge. The land designated for the extension was habitat to large heritage trees that were earmarked for preservation. This constraint led to an augmenting architectural approach without overpowering the elements of existing nature. The architecture was envisioned as a vehicle that facilitated phenomenological experience where space and landscape are united to produce an interactive learning opportunity.

Programming the New Extension

In addition to the close collaboration between architects, landscape architects and children's play consultant, a workshop was organised to incorporate children's input in shaping and programming the Children's Garden. A workshop, involving small groups of children of different ages, was conducted on site. Introducing the extension as a "Supergarden", the workshop's design exercise provided the project team with informative feedback through attentive observation while eliciting a spectrum of ideas for evaluation, some of which were later materialised.

The participants, children between 2 to 14 -years old, were posed the challenge of maintaining a coherent garden narrative that could accommodate the diverse interests of the various age groups. The different definitions of play, as

1. The flying fox gives children a sense of adventure.

2. Layout of Jacob Ballas Children's Garden.

References

¹ Wong, Winnie and Janice Yau. "Jacob Ballas Children's Garden: Asia's First Children's Garden," Citygreen, no.8 (2014): 71



The integration of the green element here is about minimum footprint of the built and minimum cutting in of soil. We walk through the site several times in term of siting, structure and theme. Our encounter with the unexpected like the underground roots were part and parcel of adapting and mitigating the design to fit.

communicated by the children of different age groups, in conjunction with the function to resonate with the local academic curriculum, prompted a design that would enable each individual child to form a pleasant and unique memory of the garden. The project team postulated that there had to be a process of 'graduation' in the sense that as the children grew, they would be able to move on to a different part of the Children's Garden, while taking on the position of mentorship to the younger children. This community spirit and sense of ownership were deemed critical to the success of the Children's Garden.

Among the observations of the workshop was an evident difference in the behavioural characteristics between the younger (7 to 9 years-old) and older (10 to 14-years-old) children. Whereas the younger children tended to engage in more active, carefree physical play and exploration, the older children often assumed leadership and adopted a passive, almost-supervisory role to the extent of guiding the younger group in developing and realising their ideas. Observations also revealed a third group of children appeared more introverted, preferring to explore and experience nature on their own. These findings inspired the project team to formulate the garden's extension as a platform for peer learning and mentorship, one that promotes community spirit. Simultaneously, the observations enabled the design to be calibrated

so as to be as engaging as possible to children of different ages in order to ensure that the garden would provide a most endearing and memorable experience for all.

An Overview of the Extension: Overcoming Challenges on Site

The Jacob Ballas Children's Garden is organised into five zones along the central themes of agriculture and the ecology, as part of a holistic strategy to re-habituating children to the natural environment. Through experiencing the garden, children are inculcated with a critical set of knowledge on food production – that fruits and drinks are not found naturally in packaged or cubed forms – as well as in understanding tropical environment and its natural inhabitants. In this way, the Children's Garden seeks to cultivate an appreciation for the outdoors in children that is often overlooked, in light of the many competing demands for children's attention and time in Singapore.

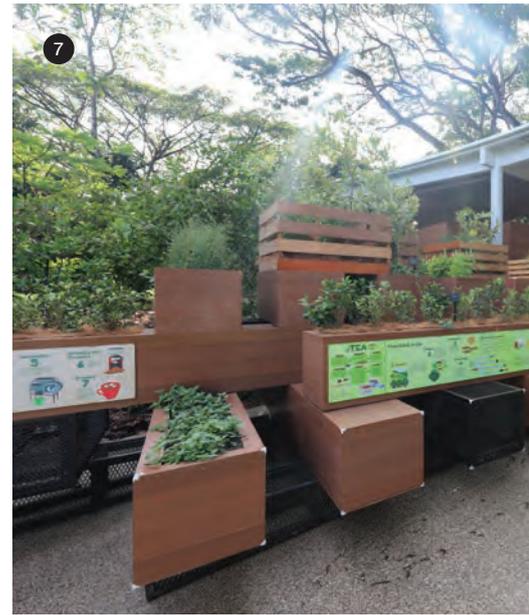
As part of the Singapore Botanic Gardens, the project was layered with a latent narrative which the team sought to understand and exploit. The zoning of the extension was informed in part by the remnants of the site, for example the banana plantation site that was appropriated was later reorganized as part of the Orchard zone. The challenge here was in striking a sensitive balance that minimized transplantation as much as possible



3. Visitors can enjoy a bird's eye view of the garden from the tree house and walk through a Frangipani grove.

4. View of the treehouse.

5. Overhead bridge.





6. On the Orchard, children can look out for cocoa, tea and coffee plants and find out how their favourite beverages and desserts are processed.

7. Farm garden

8. Learning Kiosk

9. Visitors can ramble along the stream and spot the animals and plants that live here.

while ensuring that the spatial experience of the garden remained aligned to its narrative and instructional content.

With the addition of the new extension, the Jacob Ballas Children's Garden comprises two sections adjacent to the carpark. The new circulation was thus envisioned in a way that forms a complete loop to the path, establishing a seamless and direct physical link between the old and the new. This circulation pathway is elevated near the JBCG's entrance, where its path crosses that of the other parts of SBG's circulation, to offer an uninterrupted experience. At the eastern end of the extension, several heritage structures were discovered during the project, prompting the need for a sensitive response and treatment that included consultation with the National Heritage Board.

Throughout the construction of the extension, the original Children's Garden remained open with minimum disruption.

Farm

On the northern interface between the original garden and the extension, the Farm is a zone intended for hands-on experience in the cultivation of plants. The landmark is a pavilion among the edible garden patches designed to simulate a farmhouse with programmes to facilitate peer-to-peer learning and mentorship. The pavilion is an open classroom that facilitates workshops through which children may learn how to grow their own food and in reducing food waste by composting. The natural contours of the landscape are sown with a vibrant palette of edibles including chili and tomato as living specimens of common culinary ingredients.

Orchard

Complementing the Farm is the Orchard, which houses a selection of fruit trees and plants that are the source ingredients of many beverages such as coffee and tea. A learning kiosk anchors the zone by delineating a space for activities. The learning kiosk is conceived as an assemblage of crates that are stacked to provide a platform for children to climb and sit, while investigating the samples of fruits and produce stored within.

Stream

The Stream recreates a wetland environment that children could explore. A pavilion, inspired by a traditional pondok with a distinct roof, performs as a visual marker that signifies the starting point for children arriving at the zone. Rocks that line the wetlands provide a varied platform that encourage an active exploration for children to climb and traverse.

Forest

The Forest contains a constellation of tall, mature heritage trees that form the backdrop for revealing rainforest and its inhabitants. Committed to the conservation of these trees, the architectural intervention weaves itself around the zone, avoiding the well-developed network of roots. The highlight of the zone comprises an elevated treehouse that is nested around a large Ficus tree. The physical form of the treehouse consists of a series of planes, arranged to give the illusion of a volumetric solid while in effect allowing for transparencies when viewed from certain angles. Psychomotor trails, swing rope bridges and a flying fox lend an adventurous character to the zone.

Learn

At the eastern end of the extension sits the Learn zone, housing a configurable multi-purpose shelter that facilitates group activities such as arts and other hands on projects. The open air shelter with a distinct, porous bamboo envelope additionally marks the beginning of an overhead bridge that gives a unique view of the forest canopy.

Conclusion: An Instructive Landscape

As a unique space that encourages an embodied engagement with nature, the extended Children's Garden demonstrates the case for more of such insightful landscapes that cultivate an appreciation for the environment for both children and adults through a process of habituation. The garden reflects the value and importance our society accords to children and the development of their potential, in addition to providing families with a green space for recreation and education. 