

# Understanding the different histories and heritage meanings of the Singapore Botanic Gardens, to interpret its importance to people and the state

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## ABSTRACT

In 2014, the State Party of Singapore nominated the Singapore Botanic Gardens to be part of the UNESCO World Heritage List. This study reviewed the Botanic Gardens' definitions of heritage based on four relevant documents. It used the HUL Assessment Framework, developed by Veldpaus & Pereira Roders in 2013 to analyze conservation documents and interpret public feedback on the historical and cultural significance of the Botanic Gardens. Local knowledge, statements of support and personal memories have added new meanings to the site's significance, providing alternative interpretations of what is heritage and why is it important. In the spirit of the Historic Urban Landscape Approach, this study is embedded with the principle that local people need to be seen not just as consumers or passive recipients of heritage activities, but they are also creators of heritage meanings. The site draws its rich history from the actions of people who have built it in the past, but also the users who patronize it in the present. Its cultural significance continuously evolves, intertwiningly defined and redefined by people and the state.

The study found out that the Singapore Botanic Gardens has different definitions that show the diversity of interpretations of its cultural significance. Firstly, it is defined by the state, with what it believes as what constitutes as built heritage. Secondly, it is defined using the parameters of Outstanding Universal Value, as set by the State Parties to the World Heritage Convention. Lastly, it is defined by the generations of users of the Botanic Gardens. This study also corroborates with the conclusions of previous studies that the HUL Assessment Framework is effective in mapping heritage resources. It also indicates the tool's potential as a starting point for discussing heritage attributes and values that different stakeholders can use to make sense of different histories and heritage meanings to create inclusive urban management strategies.

## INTRODUCTION

In 2012, as Singapore became the 190<sup>th</sup> State Party that ratified the Convention concerning the protection of the World Cultural and Natural Heritage (WHC, 2012),

the government started the process of putting up its first nomination to the World Heritage List. Singapore Botanic Gardens was selected as the country's best bid to be included in the list of heritage sites of Outstanding Universal Value (OUV). The Botanic Gardens was successfully inscribed as part of the World Heritage list in 2015 at the 39<sup>th</sup> session of the Committee in Bonn, Germany. This study explores whether the national and international heritage listing captures the essence of the site's cultural significance, including the values and attributes that makes it an important place for present day residents of Singapore.

Using the HUL Assessment Framework developed by Veldpaus & Pereira Roders (2013a), this study analyzed the similarities and differences of cultural significance of the Singapore Botanic Gardens based on its formal, State Party definition and the informal inputs of local stakeholders based on their own personal impressions of the site. The main methods used in this study were derived from public sources or gathered through information provided by government institutions during the course of the study. Detailed findings of the study were compiled in 2014 as part of a bigger research of the site in relation to a bigger heritage phenomenon in Singapore (Caballero, 2014).

The HUL Assessment Framework is aimed to assist the implementation of the 2011 UNESCO Recommendation for the Historic Urban Landscape, (also known as the HUL Approach), providing direction in applying HUL for local use and vice versa (Veldpaus & Pereira Roders, 2013b). This study uses this specific knowledge tool in "undertaking comprehensive surveys and mapping of the historic cities' natural, cultural and human resources" as explained by the HUL Approach as its 1<sup>st</sup> critical step for implementation (UNESCO, 2012). It also bridges into the 2<sup>nd</sup> critical step of "reaching consensus using participatory planning and stakeholder consultations on what values need to be protected for transmission to future generations, and determining the attributes that bear these values" (ibid).

This study attempted to use the HUL Assessment Framework in integrating public feedback during the nomination process of the Singapore Botanic Gardens. By classifying the attributes and values of personal memories, local knowledge about the site and statements of support for its World Heritage nomination, new and informal definitions of cultural significance was captured. The author hypothesizes that not only can the tool be useful for analyzing heritage policies and structured management concerns, it may also used to capture different interpretations of meanings of what is heritage. Hence, it broadens the application of the tool and begins to integrate diverse groups of stakeholders in defining heritage in a holistic heritage management process. This specific use of the tool is hoped to become a valuable innovation to the HUL Assessment Framework.

## **THE HISTORIC URBAN LANDSCAPE**

In 2005, an international initiative was set up as a foundation for a new UNESCO Recommendation, which would recognize and guide economic investments and

development needs of historic cities, while at the same time highlighting the layers of values embedded in their spatial and social structures (Bandarin & van Oers, 2012). This initiative recognized that the dilemma goes beyond World Heritage cities and affects all historic cities, so broad solutions that can be tailored to local situations was conceptualized (Rao,2012). This later became known as the 2011 UNESCO Recommendation for the Historic Urban Landscape, also called the HUL Approach.

The HUL Approach extends beyond specific monuments and groups of buildings to address a broader geographical setting and urban context, employing a landscape-based approach (O'Donnell & Turner, 2012). It perceives cities as both carriers of meaning, collective memory, architectural and artistic achievements, and they are recognized as dynamic organisms that continuously evolve (Bandarin & van Oers, 2012). It recognizes heritage as an important resource to the city and its communities, both its intangible and tangible components (WHC, 2013). The HUL Approach also aims to support the belief that heritage can be a driving force for economic, environmental, social and cultural improvements to cities (WHC, 2013) and that inputs of various actors from the public, private, national and international sectors can create or enhance existing management tools and regulation systems that deal with communities, urban planning and financing (Bandarin & van Oers, 2012).

#### *HUL Assessment Framework*

The HUL Assessment Framework is part of the knowledge and planning tools that are being developed to aid the implementation of the HUL Approach in different local contexts. The Framework was developed from the Leopold-matrix (Leopold et al., 1971), which is a method that relates project activities with environmental parameters (Thompson, 1990). The framework reveals what tangible or intangible heritage assets or attributes are being mapped, providing some light to the definition of heritage in particular policies. It highlights the need for an inclusive notion of tangible attributes (such as buildings), intangible attributes (such as traditional dance), and cultural values (such as social value) to understand the meaning of heritage (Veldpaus & Pereira Roders, 2014). This can mean, for example, that a historical art nouveau style dance studio for young underprivileged dancers can have a complexity of cultural significance, not just because of its architectural style but also for the creative dances that are developed there and its social impacts to the community. The level of significance should be seen together to define its meaning together with its heritage value.

Veldpaus & Pereira Roders (2014) have classified tangible and intangible attributes into categories to be used for the HUL Assessment Framework:

#### **Tangible Attributes**

- *Object* (also known as Asset) – individual heritage assets (e.g. details, façade, buildings, material street furniture, specific flora or fauna, water elements, etc.)

- *Area* – demarcated districts in the urban landscape; a specific combination of natural and cultural elements. (e.g. urban fragments, ensemble of buildings, districts and townscapes, route or park)
- *Landscape* – a diversity of manifestations that reflect the interaction between people and the natural environment; it depicts the evolution of human society and settlement over a period of time; the integrated whole

#### **Intangible Attributes**

- *Asset Related* – intangible attributes that are related to or representative of tangible heritage asset. (e.g. manifestations of styles and periods, design concept, character and context)
- *Societal* – the function of a place; people’s association with the environment or even the community itself (as a person or group), including their practices and traditions
- *Process* – the actual process of layering, development evolution and management processes

#### *The Value-Based Approach in Heritage*

The question of why some places and objects are designated to be conserved, to whom are these places meaningful and what the social impacts of their conservation are, is part of a bigger question of associating values. At the core of contemporary research on heritage is the notion that heritage is a social construction that are the results of social processes in a given time and place (GCI, 2000). The act of conservation is a sociocultural activity that is determined by an object or place’s value, its social context, the local priorities, and available resources (Mason, 2002). The things people conserve are not static manifestations of culture, but they are a medium through which power, identity and society are produced and reproduced (GCI, 2000). Specific objects, buildings, places and collections are defined as “heritage” because of conscious efforts and unspoken values of people or groups to define their pasts and their futures (ibid). As Stuart Hall (1997, p.61) mentioned, “It is us – in society within human culture – who makes these things signify. Meaning, consequently, will always change, from one culture or period to another”.

The following are primary values that Pereira Roders (2007) identified in her study and tabulated by Tarrafa Siva & Pereirar Roders (2012) in Figure 1:

- *Social* – often expressed by the “spirit of place” or genius loci;
- *Economic* – the profitability or marketability of the potential function of a place;
- *Political* – symbolism of power relations and principles pursuing political targets;
- *Historic* – association with important concepts, people or events in the past;
- *Aesthetic* – resulting from how people draw intellectual and sensory stimulation from places or products of human creativity;
- *Age* – relating to survival and evolution of things through the passage of time;

PRIMARY VALUES	SECONDARY VALUES	REFERENCES
	SOCIAL	Spiritual
Emotional, individual		memory and personal life experiences;
Emotional, collective		notions related with cultural identity, motivation and pride, sense of "place attachment" and communal value.
Allegorical		objects/places representative of some social hierarchy/status;
ECONOMIC	Use	the function and utility of the asset, original or attributed;
	Non-use	the asset's expired function, which has its value on the past, and should be remained by its (material) existence, option (to make some use of it or not) and bequest value (for future generations);
	Entertainment	the role that might be have for contemporaneous market, mainly for tourism industry;
	Allegorical	oriented to publicizing financially property;
POLITICAL	Educational	the education role that heritage assets may play, using it for political targets (e. g. birth-nations myths, glorification of political leaders, etc.);
	Management	made part of strategies and policies (past or present);
	Entertainment	part of strategies for dissemination of cultural awareness, explored for political targets;
	Symbolic	emblematic, power, authority and prosperous perceptions stem from the heritage asset;
HISTORIC	Educational	heritage asset as a potential to gain knowledge about the past in the future;
	Historic-artistic	quality of an object to be part of a few or unique testimonial of historic stylistic or artistic movements, which are now part of the history;
	Historic-conceptual	quality of an object to be part of a few or unique testimonial that retains conceptual signs (architectural, urban planning, etc.), which are now part of history;
	Symbolic	fact that the object has been part/related with an important event in the past;
AESTHETICAL	Archaeological	connected with Ancient civilizations;
	Artistic	original product of creativity and imagination;
	Notable	product of a creator, holding his signature;
	Conceptual	integral materialization of conceptual intentions (imply a conceptual background);
SCIENTIFIC	Evidential	authentic exemplar of a decade, part of the History of Art or Architecture;
	Workmanship	original result of human labour, craftsmanship;
	Technological	skillfulness on techniques and materials, representing an outstanding quality of work;
	Conceptual	integral materialization of conceptual intentions (imply a conceptual background);
AGE	Workmanship	craftsmanship value oriented towards the production period;
	Maturity	piece of memory, reflecting the passage/lives of past generations;
	Existential	marks of the time passage (patine) presents on the forms, components and materials;
ECOLOGICAL	Spiritual	harmony between the building and its environment (natural and artificial);
	Essential	identification of ecological ideologies on its design and construction;
	Existential	manufactured resources which can either be reused, reprocessed or recycled;

Figure 1: Cultural Values Source: Tarrafa Silva & Pereira Roders, 2012.

- *Ecological* – relationship with the natural environment & the capacity to regenerate or sustainably survive

Because of the changing nature of values, the Getty Conservation Institute has stressed the necessity of creating logically constructed research tools that provide means of creating understandable value representations and tools that are focused on attributes, which convey the site's values, should also be developed (GCI, 2002).

In the Asian context, because of the idea that progress is defined through the western perspectives of modern living, it has been observed that there is a deficiency in the public appreciation of heritage in Asia (Silva, 2006). This should be taken into consideration in applying the value-based approach in conserving Asian urban heritage, amidst the pressures of modernization, growth and development

(ibid). Heritage conservation in Asia needs to address development needs, providing socio-economic solutions for people and at the same time, giving local communities the voice so that their value systems are also integrated to decision-making processes.

### *Community Involvement in World Heritage*

In 1992, when the cultural landscape category was adopted by the World Heritage Committee, a paradigm shift was created wherein local communities became essential stakeholders to be consulted during the World Heritage nomination process (Rössler, 2012). It became clear that the participation of local people was crucial in creating a shared responsibility in maintaining and protecting a site, hence necessary changes were also done for the World Heritage Operational Guidelines in 1995. The role of communities were further strengthened in 2007, during the 31<sup>st</sup> session of the World Heritage Committee in New Zealand, where the “the fifth C” for ‘Community Involvement’ was added to the strategic objectives of the World Heritage Convention, included with Credibility, Conservation, Capacity Building and Communication (UNESCO 31Com/13B, 2007). The World Heritage Papers 13 and 31 have since been compiled to provide deeper understanding of the relationship of communities (with local values) and World Heritage (with outstanding universal values). Both World Heritage Papers reflect the complex realities of World Heritage Sites to the lives of people who live in and around these areas where heritage is not a mere reflection of important heritage constructed in the past, but they are places of on-going changes in the present. Traditional values such as historic, scientific and aesthetic values should be complimented with local community values in heritage sites (Rössler, 2012). It is also noted that aside from ensuring that heritage sites receive best practice conservation, local people need to be active beneficiaries in order to be sustainable.

Most often, local people, private businesses and government bodies are not aware of the meaning of ‘authenticity’ and ‘integrity’ of heritage sites and the concept needs to be broken down by experts and communicated effectively (Albert, 2012). However, Sullivan (2004) noted that people, particularly traditional owners of the land, may have a very different perspectives of value, that are sometimes difficult to categorize in rigid management systems imposed by experts. Experts should not also disregard the characteristics that are recognized by local communities to have ‘heritage value’ but are seemingly understated connections to ordinary settings where people live (ibid). Local communities do not need strict assessment methods to validate their sense of place but modern heritage conservation dictates such practice (ibid).

The increased professionalism of the heritage profession is seen to be of importance but this, at the same time, alienates most people and makes them passive recipients of heritage practice (Sullivan, 2004). Laypeople should be seen as partners and creators of heritage, not just people who need to be educated to conserve and appreciate their own heritage resources.

## SINGAPORE BOTANIC GARDENS

The Singapore Botanic Garden is a 150-year old botanic garden located in the western edges of the city center of Singapore. This is the most visited botanic garden in the world, having recorded around 4.4 million visitors last 2012/13 (Nomination Dossier 2014, p.11). The World Heritage Site is 49 hectares out of the total 74 hectares of the total site. Within the context of Singapore, the Botanic Gardens is the green oasis of the city and it serves of the main park within the central region.

### *Outstanding Universal Value of the Botanic Gardens*

The Singapore Botanic Gardens has been inscribed under criteria (ii) and (iv) of the World Heritage Convention. It is “an exceptional example of a ‘British tropical colonial botanic garden’, which emerged during the 19th century period of global expansion, exploration and colonization in Southeast Asia” (Nomination Dossier 2014, p.1). It also holds a significant role in the promotion of economic botany in the Straits Settlement and the Malay Peninsula from the late 19<sup>th</sup> to the early 20<sup>th</sup> century (ibid). It is seen to retain such legacy until today and it is part of the economic, scientific and social development of the region, particularly because of its pioneering work on rubber cultivation and techniques that boomed in the early 20<sup>th</sup> century (ibid). The Botanic Gardens’ extensive work in orchid hybridization that began in the 1920s still continues to this day (Nomination Dossier 2014, p.88).

The landscape features of the Botanic Gardens still shows the initial design intention of a pleasure garden that was built in the 1860s (Nomination Dossier 2014, p.2). It also includes six hectares of primary lowland equatorial rainforest within the site, which is not common for botanic gardens. Several historic buildings that served as staff housing from the 1860s to the 1920s and some designated Heritage Trees of social and cultural value are also within its boundaries. Aside from being a leading scientific institution for tropical botany, horticulture, and orchid breeding science, the Botanic Gardens has an important role on the development of Singapore as it is at the heart of the movement to transform the city to become a ‘City in a Garden’ (Caballero, 2015).

The Nomination Dossier provided a summary of key ‘attributes’ that convey the proposed OUV which it wants to protect, manage and monitor, and this is reflected in Figure 2. Putting this into perspective with the ideas of Veldpaus & Pereira Roders (2014), the word attribute was used in the dossier as a hybrid idea that reflects both values and attributes. It provides both tangible and intangible aspects of the OUV, which implies thematic genres of values and written as a statement of partial significance.

## Heritage Values Identified in the Management Plan

The Management Plan (2014, pp.81-82) attached to the Nomination Dossier identified the national and local values that are part of the significance of the Botanic

<p><b>1.) The Botanic Gardens' role as a leading centre in plant science and conservation, which has been a key function for the site since the late 19th century.</b></p> <p>Areas of focus have included:</p> <ul style="list-style-type: none"><li>– Plant exchange and economic botany, associated with colonial plantation crops.</li><li>– Plant breeding/ornamental plant research.</li><li>– Plant taxonomy and systematic botany.</li><li>– Biodiversity and plant conservation.</li><li>– Capacity building and collaborative work - the Botanic Gardens continues to endeavour to share its knowledge and skills widely and encourage collaborative research.</li></ul>	<p><b>3.) The invaluable living and preserved plant collections, which underpin the site's scientific, conservation, educational and recreational functions.</b></p> <p>These consist of:</p> <ul style="list-style-type: none"><li>– The living collections which include 36,400 plant accessions which represent 226 plant families; 1,739 general; 6,544 species and 9,021 taxa. A number of accessions pre-date the Gardens' establishment and some are rare. The site also has genetic collections.</li><li>– The preserved collections, housed in the internationally accredited Herbarium, which include 750,000 dried paper mounted plant specimens, of which 8,000 are type specimens; 6,000 fungi specimens and 6,200 plant/fungi specimens preserved in alcohol.</li><li>– The bibliographic and visual reference collections, housed in the library and archive, which include 28,000 books/pamphlets, 300 journal titles, 2,000 paintings/ illustrations.</li></ul>
<p><b>2.) The well-defined multi-layered cultural landscape, which includes a rich assortment of historic features and clearly demonstrates the site's evolution.</b></p> <p>This includes:</p> <ul style="list-style-type: none"><li>– The site's original 1860s pleasure garden layout, an unusual landscape design in the tropics (containing interconnecting curving pathways and promenades, a levelled parade area for military bands to play music and a pocket of primary lowland rainforest. It also includes Swan Lake, created in 1866).</li><li>– Other historic landscape features including heritage trees, heritage plant collections (e.g. Frangipani collection), Palm Valley (1879), The Dell (1882), the Sundial Garden (1929) and brick steps constructed during the Second World War.</li><li>– The ensemble of surviving historic buildings and structures (e.g. Burkill Hall and the bandstand).</li></ul>	<p><b>4.) The site's key contribution to the development of Singapore's identity and social development.</b></p> <ul style="list-style-type: none"><li>– The continued presence and survival of the Botanic Gardens conveys a strong sense of place and identity to Singaporeans.</li><li>– The site provides a cherished and popular flagship green space and visitor attraction, which continues to foster community cohesion and cultural and social ties in Singapore.</li></ul> <p><b>5.) The site's key contribution to the greening of Singapore, which has influenced town planning in other cities across the world.</b></p> <ul style="list-style-type: none"><li>– The Botanic Gardens was central (in a practical, training and research capacity) to the delivery of Lee Kuan Yew's 'Garden City' (now 'City in a Garden') vision.</li><li>– Today it plays a central role in providing expertise and plant material for in situ conservation efforts in Singapore; it delivers important educational activities and also remains a key component of Singapore's green infrastructure network.</li></ul>

Figure 2: Attributes of Outstanding Universal Value. Source: Nomination Dossier 2014, p.89

Gardens. Although not fully detailed in the Nomination Dossier, these values are taken into account for the future management of the site. The values identified were the following:

- *Other historic / cultural values*

The Gardens is a place that has been visited by several important guests including heads of states and royalty.

- *Other community and recreational values*

The Botanic Gardens attracts different types of user groups that visit the site for formal and informal recreational activities, popular events, and musical festivals. The community value is seen with the active participation of volunteers for the Gardens.

- *Nature conservation value*

Aside from the research done for nature conservation, the site itself is important for local nature conservation, as it is the habitat for several species of flora and fauna. The primary rainforest within the Botanic Gardens is particularly important in this regard.

- *Aesthetic and architectural values*

There are several structures and buildings that have high beautifully designed and made and the horticultural displays that are designed for public enjoyment have aesthetic value.

- *Educational value*

The Botanic Gardens works closely with the Ministry of Education to implement the Global Strategy for Plant Conservation. 746 educational activities took place within the Gardens from April 2012 to March 2014 to promote such endeavor.

- *Tourism and economic values*

The Gardens is the most visited botanic gardens in the world, which has received 4.4 million visitors in 2012/13. It serves as a key visitor destination in the country.

### *Public Participation in the Nomination Process*

By September 2013, the public consultation for the Singapore Botanic Gardens World Heritage Nomination commenced (Nomination Dossier 2014, Appendix A). The State Party informed the public that the draft Nomination Dossier and Management Plan were available for comments and improvements before they submit the documents to the World Heritage Centre on February 2014. The process was done in two phases. First phase dealt with views on the Draft Nomination Document and the second phase was for the site's Management Plan (ibid). The first phase commenced on September 2013 and the second phase, two months later in November (ibid) and both lasted until January 2014. The public either had the opportunity to access the digital files of the documents and they could make their comments through email. Alternatively, they were able to go to three visitor counters

within the Botanic Gardens to review the hardcopy drafts and they could fill up a form onsite (ibid). The websites of the National Parks Board, National Heritage Board and Preservation of Sites and Monuments Agency had linked their webpages so that they can capture different stakeholders to provide their inputs and people can read further the inscription process at exhibition panels within the CDL Green Gallery inside the Botanic Gardens.

Representatives from heritage and environmental organizations like Nature Society of Singapore, and Singapore Heritage Society, ICOMOS Singapore and Singapore Institute of Architects were also involved in the nomination process (ibid). These organizations formed part of the 15-member committee that was consulted to contribute to the development of the Nomination Dossier and the Management Plan. These were the stakeholders that were consulted (ibid): (1) Government Bodies, (2) Educational Institutions, (3) Cultural Heritage Experts, (4) Natural Heritage Experts and (5) nearby resident groups and Botanic Gardens volunteers. Prior to the public consultation process, the State Party also did 'sharing sessions' to organizations, stakeholders and individuals to provide some ideas on how the inscription process works, what is the history behind the Singapore Botanic Gardens and what is the meaning of Outstanding Universal Value (ibid). The attendees of the sharing sessions were given the copies of the draft Nomination Dossier or were given the online link of the downloadable file for their comments. Heritage Tours were also done for different youth groups, students, and some botanical institutions in the region.

For the whole process of public feedback, it was noted that the State Party only selectively considered the comments. As what the Singapore Botanic website indicated, "After the consultation process, we will collate the responses that we have received and, *where applicable*, use the to enhance the contents of the Nomination Dossier" (ibid). 201 individual feedbacks were gathered from the public and it is unclear how they have been integrated to the plan. Heavy documentation was focused on awareness raising activities but it did not detail the steps used to get consensus, and achieving continuous, constructive dialogue between different stakeholders. Although efforts have been done by the State Party to include stakeholders for the decision-making process of the nomination of the Singapore Botanic Gardens, there was greater emphasis on intergovernmental coordination to smoothly resolve management issues for the Botanic Gardens. The inclusion of the public and everyday users of the Singapore Botanic Gardens was through online feedback, sharing sessions and media activities. Such activities mostly strengthened awareness of the cultural significance of the site but its focus to discuss and address possible stakeholder concerns was not clearly defined. Lastly, there was also lack of private industry participation in the process and most local stakeholders that were considered were the heritage and environmental organizations and only one group of residents and Botanic Gardens volunteers provided layperson perspectives to the process.

## APPLYING THE HUL ASSESMENT FRAMEWORK TO THE SITE

### *Data Collection*

The HUL Assessment Framework was used as a knowledge tool in mapping the Singapore Botanic Gardens' natural, cultural and human resources based on several documents. The documents used describes the cultural significance of the Botanic Gardens, both its formal, State Party definition and the informal inputs of local stakeholders based on their own personal impressions of the site's significance. These were the documents that were used:

- Description of the Singapore Botanic Gardens Conservation Area by the URA (2014a), which was referred to as document “**URA (1)**”;
- Justification for Inscription as part of the Nomination Dossier (2014), which was referred to as document “**NF (2)**”;
- Compilation of public feedback received from the Singapore Botanic Gardens World Heritage nomination process (2014), which was referred to as document “**PF (3)**”;
- Part of the description of the Former University of Singapore Conservation Area (2014b) prepared by the URA, in which some buildings were located within the Singapore Botanic Gardens. This was referred to as document “**URA (4)**”.

Document URA (1) describes the Conservation Area for the Singapore Botanic Gardens while URA (4) describes Raffles Hall, the five art deco Houses and the Garage which were part of the Former University of Singapore but were also within the boundaries of the site. The document NF (2) was the most up to date information about the Singapore Botanic Gardens, wherein several government bodies contributed to its full compilation. These three documents represented the formal, state-authorized definition of cultural significance of the site. PF (3) was a compilation of feedback from the public received from emails and from the three station points that were designated within the Botanic Gardens. The feedbacks provided were personal memories, local knowledge about the site and statements of support for its World Heritage nomination. These statements provided new, informal definitions and perceptions of cultural significance.

### *Deriving Attributes from the Documents*

In applying the first step of the HUL Assessment Framework of identifying ‘what is heritage’, the text of the four documents were broken down into short statements that revealed specific attributes of the site’s broader cultural significance. These attributes were qualities or characteristics that are either tangible or intangible elements that reflected part or the whole Botanic Gardens’ cultural meaning.

For example, in the statement from URA (1) [quo ID 1.2.1-3], “*The Gardens were used to study native plants, useful or revenue-earning crops and ornamental plant cultivation,*” the word “*Garden*”

was the attribute that the statement hinges on and it was representative of the whole site’s significance.

Feedback to the Nomination File and Management Plan for the proposed World Heritage Site had implied attributes, like the example [quo ID 3.51.1-3], *“It would be pleasant and beneficial if we were exposed to such rich historical cultural and natural information at the tertiary level of studies. I would never have expected to discover the dense heritage that was present in a place where I had spent much of my childhood (picnics etc). I think it is extremely important, the way in which such information is presented to the public. I can assure you such a way of touring and explaining is a personal and impactful one.”* Here, words like “studies” and social activities like “picnics” and the act of doing “Heritage Tours” were listed as attributes. They were not necessarily elements found in the Gardens but they were activities that emphasized and imprinted to visitors the cultural significance of the site.

All these attributes were compiled and tabulated and a pattern emerged highlighting the attributes that were being prioritized by each document. NF (2) and PF (3) provided a diversity of attributes while URA (1) and URA 4) had a small amount of attributes, which focused on specific elements found within the Botanic Gardens. Some attributes were related to each other like “Gardens” and “Singapore Botanic Gardens” as shown in the examples above. These attributes were grouped based on their relationships to each other creating ‘attribute genres’ which formed a map of different themes that were the carriers of cultural significance of the site.

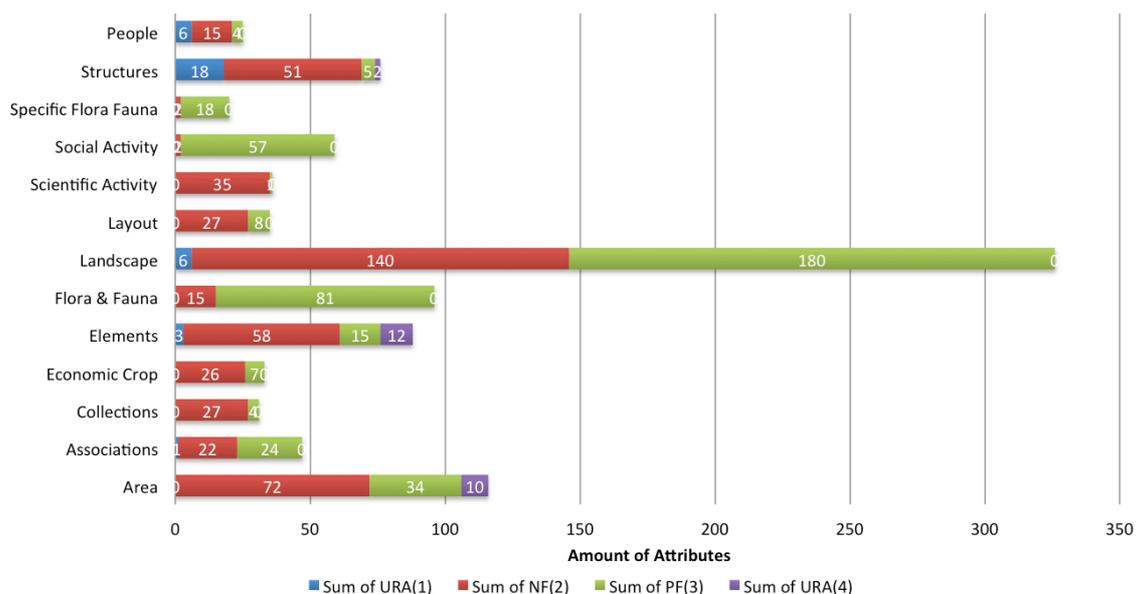


Figure 3. Overall amount of attributes in all documents reviewed.

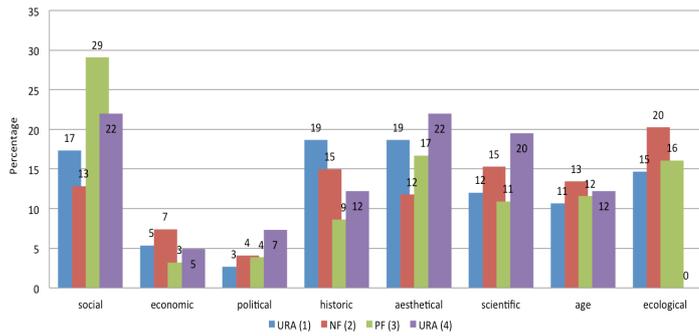


Figure 4. Overall Comparative Percentage of Values

After classifying all the attributes into genres, certain patterns emerge as what is defined as heritage in the Singapore Botanic Gardens (as seen in Figure 3). It can be seen that the Landscape attribute genre surpasses any other type of attributes. There are only seven attributes under this

genre, namely “Singapore Botanic Gardens,” “Botanic Gardens,” “Gardens,” “Cultural Landscape,” “Nominated Property,” “Site,” and “Park”, it has produced different permutations of meanings; 326 times (35%) of the entire data that has been compiled. The Landscape attribute genre was to a smaller extent, followed by the genre of Area, Flora and Fauna, Elements and Structures. Notably, the top attribute genres are focused on tangible assets and not so much on the intangible assets (People, Social Activities, Scientific Activities, Layout and Associations).

If these attribute genres are compared with the Veldpaus & Pereira Roders’ (2014) definition of attributes, the genres can be grouped together to fit the parameters which the previous study identified:

#### Tangible Attributes

- Object – Elements, Structures, Area <sup>1</sup>, Collections, Economic Crops, Specific Flora & Fauna, Flora & Fauna;
- Area – Area <sup>1</sup>;
- Landscape – Landscape;

#### Intangible Attributes

- Asset Related – Layout;
- Societal – Associations, People, Social Activities, Scientific Activities;
- Process - (none discovered for the documents reviewed)

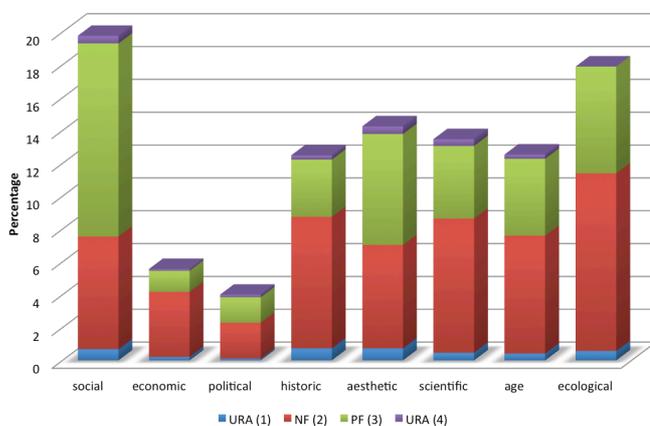


Figure 5. Overall Cummulative Percentage of Values.

When the social, economic, political, historic, aesthetic, age and ecological values of the different documents were compared with one another, it was observed that each document highlighted specific values (as seen in Figure 4). For example, the description of the Conservation Area of the Singapore Botanic Gardens (URA 1) highlighted the

<sup>1</sup> Classification is based on the extent of the Area, which varies considerably in this site.

historical, aesthetic and social values of the buildings that were designated under conservation by the URA. The Justification of the Inscription (NF 2) pointed more to the ecological values of the Botanic Gardens, followed by its scientific and historical significance. Public Feedback (PF 3) captured the social meaning of the site to those who responded and it also pointed to the aesthetic quality and ecological meaning of the Gardens to its visitors. Lastly, the conservation document that described the Former University of Singapore (URA 4) captured a lot of social and scientific values, and it also highlighted its aesthetic qualities of the different buildings described.

Combining all these information together (as seen in Figure 5), it was observed that the Singapore Botanic Gardens highlighted many different types of values, particularly those that were related to people (social) and nature (ecological). Some values were also not strongly identified in the documents, such as the site's political and economic significance.

## **DISCUSSION & APPLICATION OF THE STUDY**

This study has found that the Singapore Botanic Gardens has a multitude of cultural significance associated by different types of people, both formally defined by the State Party and informally perceived by local people. In a broader view, the Botanic Gardens is a historical site with several heritage elements, representing different architectural ideas and styles that was adopted to the tropics; it serves as a an important scientific institution for botanical research that began 150 years ago; and it is also a place of the people, where social memories are constantly being created.

High levels of social and ecological values are associated with the site and aesthetic, historical, age and scientific values are secondary reasons of its significance. Although the Botanic Gardens is a site where political philosophies have been forged, like Lee Kwan Yew's vision of a Gardens City for Singapore; and it is also as a place for economic activities, as what was done during the colonial period for testing crops to propagate in Southeast Asia, these values are not as clearly defined by the general heritage discourse, for the moment.

The prevalence of landscape attributes in the longer description of the site, both in NF(2) and PF(3), are indicative that the cultural significance of the Botanic Gardens is strongly attached with a whole set of attributes that cannot be easily separated. The site has originally been conceptualized as a setting, with trees, flowers, built structures, water elements, paths, etc. that form a composition, much like a landscape painting. It is hard to detach one attribute with another because the elements are linked together, and its historical expansion further intensifies its layers of meaning as a whole. All its parts validate its significance and both experts and local people share this overall view. Only after the landscape attributes are understood, secondary interpretations emerge and variations of meaning become apparent.

### *Different Definitions of what is Heritage*

There are three definitions of the Singapore Botanic Gardens' cultural significance that were identified. These definitions show a diversity of interpretations of meaning, which are all valid but are considered in heritage policies in different ways.

- *Singapore's Traditional Definition of Built Heritage*  
The data revealed that the documents that was written by the Urban Redevelopment Authority, both URA (1) and URA (4), mainly focused on defining the significance of built heritage in its more traditional sense. The documents prioritized buildings, and ensembles that showcase the architectural development of Singapore. The documents also highlight places of historical significance. These results are consistent with how national monuments are valued in Singapore by both Urban Redevelopment Authority and Preservation of Sites and Monuments Agency, which focuses on historical, aesthetic and technological values of material heritage above other cultural values (Legislative Council Secretariat, 2008).
- *World Heritage Definition Fitting the Parameters of OUV*  
The Justification for Inscription in the Nomination Dossier has a broader definition of cultural significance, not just capturing the historical features of the Gardens, but it also highlights the site's role as a scientific institution for plant science and conservation. The document showcases different scientific activities that the Gardens has focused on during its 150 years of existence. It points to the vast collection of living and preserved plants contained within the Gardens and in the herbarium and library, and it also indicates the importance of the Botanic Gardens to the greening of Singapore. However, these descriptions were written to fit the criteria of Outstanding Universal Value (Nomination Dossier 2014, pp.2-3) as defined by the UNESCO World Heritage system. The idea of value in this document denotes universality, or a certain type of uniqueness that makes it worth the international recognition. Such a stringent requirement has been observed to have limited the Botanic Gardens' local attributes and associated values.
- *Current, Local-User Definition of Heritage*  
Using the HUL Assessment Framework, the responses from the public consultation were used to get a glimpse of local significance of the Singapore Botanic Gardens today. The Gardens is a venue of many social activities and personal moments that make people feel connected to nature (or in this case, a certain vision of nature). Respondents are attracted to different types of flora and fauna, they feel that some areas of the Gardens are special, and to a small extent, they also perceive the importance of its historic elements such as the conserved buildings, the heritage trees and the rainforest. These responses are related to the fourth attribute of OUV, which mentions the Gardens' link to a strong sense of place and identity to Singaporeans.

Nigel Taylor (2014), the director of the Botanic Gardens, mentioned in his interview that there is a certain disparity with what people know as the Botanic Gardens and what is the site's significance in the past, hence they have focused their efforts in raising awareness to the public through media campaign on social media, newspapers and on television. He believes that it will take some time before people become familiar with its significance and it is through their partnership with the Ministry of Education that the new generation will learn of the Gardens' heritage. This notion is embedded on the principle that the site's local significance today has lesser importance than what it used to have, and local values are not concrete enough to be outstanding and universal. The idea that local people need to be 'taught' of the site's value is symptomatic of what Laura Jane Smith (2006) describes as a 'hegemonic discourse about culture' where heritage that is passed on by the state is a set of Western elite cultural values that are prescribed to be universally acceptable. It is also reinforcing the top-down approach to heritage and urban policy discourse in Singapore that Henderson (2011) observed, in which the state perceives the public as beneficiaries of policies, and although there is a system to gather feedbacks, public opinion provides a very small role in policy decisions.

### *People-Centered Approaches for the Botanic Gardens*

In the Management Plan of the Nomination Dossier, it was mentioned that aside from conservation issues for the landscape, built heritage and natural heritage, issues related to people are also tackled (Management Plan, 2014). For example, visitor management issues dealing with conflicts between user groups, increasing the amount of volunteers, and improving interpretation and educational opportunities are part of the ideas that are being considered for the future of the site. However, when the details of the Management Plan are reviewed, the public involvement is mainly through volunteering opportunities (ibid, p.109), being recipients of educational outreach (ibid, p.109), and participants of visitor surveys for effective visitor management (ibid, p.108). There are no mention of possible opportunities for periodic dialogue between relevant stakeholders and the management team.

This study points out that the informal perceptions of heritage could be combined with the formal, state-authorized definition of cultural significance. To be more inclusive, local users need to be seen not just as consumers or passive recipients of heritage activities, but they are also creators of heritage meanings. The site draws its significance from the actions of people who have used it in the past, including the present, forming the narrative of its cultural significance, knowledge and memoirs (Smith, 2006). Here are some ideas that local values and attributes can be integrated to facilitate stronger heritage meaning formation:

- *Memory Forums*

Facilitate discussions that talk about the personal significance of the Singapore Botanic Gardens to individuals, capturing its' long social history. Topics do not need to be about memories of the experiencing the site, but it can be about the activities of the Botanic Gardens that have affected people's lives locally and regionally. For example, topics like how the rubber

industry have provided economic benefits for farmers in the region, and understanding the role of the Botanic Gardens history to the greening of Singapore. The information shared in these forums can be collected to be part of the continuing narrative of the site.

- *Community-Led Tours*

A volunteering system has already been developed in the Botanic Gardens where volunteers facilitate tours that tell the Singapore Botanic Gardens story. Examples of tours currently done in the Botanic Gardens are Healing Garden Tours, Rainforest Tours and Eco-Garden Tours. Main discussions in these activities tackle ecological and scientific knowledge in the Botanic Gardens. This initiative can be developed so that different types of tours can incorporate the diversity of meanings of the site. Tours that focus on social, historical and aesthetic values can also be discussed. For example, architectural tours of the conserved buildings, historical tours that capture the prominent events and people in the Gardens' history, community tours sharing favorite locations of people over the years and photography tours that capture the site's most picturesque locations. These tours can strengthen informal meanings of the site, adding to its acceptable narrative and historical layering.

- *Community Gardening*

Although the Botanic Gardens is a highly controlled environment that showcases specific plants and botanic techniques, there can be an area in the Gardens that nearby residents and garden enthusiasts can take care of. Community gardens have been done in a few residential communities in Singapore but the Botanic Gardens can be a special place to strengthen such efforts. It will allow local users to feel more connected with the Gardens because it becomes a shared responsibility for its upkeep. This can also facilitate knowledge exchange among experts and the community. In the UK, the English Heritage believes that volunteers are key participants in many heritage sites (including historical gardens) because volunteers provide shared activities for different types of people, it gives valuable training for young adults and it contributes to the sustainability of nature conservation and heritage protection.

- *Integrated Management Planning*

During the nomination process, some stakeholders were consulted in the creation of the Nomination Dossier and the Management Plan. A possible means of getting more inclusive with the management process is to let relevant stakeholders to be more involved in the creation of policies and management strategies through more long-term discussions. A committee can be set up with an appropriate mix of inter-governmental representatives, NGO's, residents and enthusiasts to form part of the heritage management team that formulates, implements and monitors management plans for the site. Regular discussions should be facilitated to address changing priorities and needs for the site.

- *Online Platform for Local Stakeholders*

As Liew and others (2013) have observed, the social media has become the avenue where Singaporeans contribute their heritage opinions, moving the discussions beyond the tightly restricted realm of the public sphere. Strategies that create positive Interaction with online stakeholders can be developed so that opinions, memories and meanings can be incorporated to new management techniques. One idea is to create a community page that is linked with the main website of the Singapore Botanic Gardens, wherein different groups can interact with the management team to create possible synergies and collaborations. There can be community events pages, forums, booking system for different activities and online photo galleries that can be facilitated so that different people are represented in the Botanic Gardens. In a country where technology is embedded in everyone's lives, dealing with the virtual nature of public participation should be better thought of.

## **CONCLUSION**

The Singapore Botanic Gardens is a 150-year old cultural landscape that has acquired layers of meanings in its long history. With the Historic Urban Landscape Approach as a core principle, this study pointed out that the informal perceptions of heritage could be combined with the formal, state-authorized definition of cultural significance as part of the comprehensive mapping of natural, cultural and human resources. The Botanic Gardens has a strong anchor as a regional institution for plant science and conservation, which was initially fuelled by the influence of the British Empire, but it is now a place of social memory and 'nature' appreciation among local inhabitants and visitors. Peoples' perceptions provide a glimpse of why the site is important now, and as such, they are part of its process of layering and development evolution, which are as important as its significance in the past.

The study showed that the HUL Assessment Framework could be used not only to interpret policies and conservation documents, but also to interpret unfocused public feedback on heritage policies and management plans. Personal memories, local knowledge and statements of support for World Heritage nomination have provided new meanings to the site's cultural significance, providing alternative interpretations of what is heritage and why it is important. This specific usage is perceived to be an innovation to the HUL Assessment Framework. The Assessment Framework serves as a mapping tool to identify cultural, natural and intangible attributes and their associated values. It provides empirical data, which can be reviewed by different stakeholders, allowing transparency to the community participation process. Because the Framework analyzes documents written by different stakeholders for different reasons, one can question whose narrative should be interpreted and who should be part of the process of defining cultural significance.

The cultural significance of the Botanic Gardens should not only be focused on the snap-shot in time set during the inscription process, but the significance of heritage should be inclusive, evolving and enriching with the changing times. Local values created in the present should continuously be integrated to heritage management strategies so that the Botanic Gardens remains relevant to current users and visitors. For the moment, great emphasis from the public is placed on valuing different social and ecological activities they experience within the confines of the Gardens, which is not necessarily related to its history and scientific endeavors. The different meanings that the site activates for different visitors and institutions should be embraced in an inclusive way, wherein local people are seen as creators of heritage meaning, not just as recipients of concepts and policies. Steps for awareness raising should be seen with collaborative thinking and education should coincide with personal contribution to the narrative of the Gardens.

## ABOUT THE AUTHOR

**Gabriel Caballero** is a landscape architect from the Philippines, who has worked for leading landscape design practices in Asia for the last nine years. In 2012, Caballero started his graduate studies on World Heritage Studies at Brandenburgische Technische Universität Cottbus–Senftenberg and after that, he got involved in heritage management projects in different parts of Germany such as in Spandau, Hellerau and Wendland. In 2013, Caballero worked in the Netherlands at TU Eindhoven for the research entitled, "*OUV, WH CITIES & SUSTAINABILITY: Surveying the relationship between Outstanding Universal Value (OUV) assessment practices and the sustainable development of World Heritage (WH) Cities*". In September 2014, he presented at the 12th International Conference on Urban History in Lisbon, Portugal for his research, "*Understanding Trends on Urban Heritage Research in Asia*".

He is a member of the Philippine National Committee of the International Council of Monuments and Sites (ICOMOS) and an advisor to the National Youth Forum Network, which reinforces his commitment to help improve the communication of heritage issues to the broader Filipino community. Caballero currently lives in Singapore and works as a landscape architect and an independent heritage researcher.

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