

## Ancient Built Environment – A Sri Lankan Legacy

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**B**uilt environment is a product of continuing cultural changes of man that interfered with the natural environment. Sri Lanka is a small island surrounded by the Indian Ocean faced with two monsoons. A large number of rivers originate from the central mountains flowing down to the surrounding ocean. People who have migrated from the Indian peninsula through prehistoric time have subsequently made their settlements along the river valleys and also on the hills as indicated by the megalithic burials widely spread throughout the country. Their living shelters other than the natural caves have vanished with time due to the impermanent materials used in

building their shelters.

With the advancement of agricultural activities specially in the dry zone area, they had realised the need and importance of retaining and collecting the monsoon rain water for use during the dry season. For this they mastered building reservoirs by constructing earth bunds blocking the flow of water. Further anicuts across rivers were built to store and raise the water level, and then divert the water through earth channels to fill large and small Wewas. Sri Lankan civilization is referred to as a tank based civilization, and not a river valley civilization. More than twenty thousand tanks had been built creating village settlements next to

the tanks. This built environment was composed of the tank, catchment area of the tank, paddy fields fed by the tank and the village settlement with houses built around a large central court yard with a monastery, at a higher elevation. Most of the time the tanks were built one after the other as a chain and sometimes small tanks were fed by a large tank that stored a large water acreage.

The administration of the country was carried out through principalities in addition to the capital city. Built environment of a principality was rural, but with semi urban arrangement. Royal presence of the provincial King or the Lord was placed with large reservoir or a MahaWewa that continuously provided water for the settlement or the city. The royal temple was located to the south of the city with a large stupa exhibiting a scale in relation to the power and wealth of the provincial King. The built environment created would have been semi urban harbour cities like Mantai which were fortified to perform as the trade and economic cities of the King, who was reigning from the capital Anuradhapura. Major harbour villages located round the coastal area were developed as





**Fig : Ruwanweliya**

monasteries in the surrounding park land, with the MahaVihara and Jetavana to the south of the city, and Abhayagiriya monastery to the north of the city. There were four major tanks located around the city that provided water

common buildings like kitchen and refectory, hot water baths, hospitals etc. Five sacred buildings found in every monastery were of magnificent scale dominating the landscape. These are namely, the Stupa, the Image house, Congregation hall, the Bo tree shrine, and meeting halls. Jetavana Stupa is the tallest brick structure in the world, next in order comes Ruwanmali, Abhayagiriya and Mirisawetiya. These are the most prominent architectural edifices in the city scape.

international trade ports with urban character. Kirinda was the major port that served the southern capital Magama. The built environment of all harbour cities starting from Manna along the western coast, south western coast and southern coast have grown with the trade community of Muslims settling down to carry out trade.



**Fig : Abhayagiri Stupa**

Abhayagiriya monastery complex can be considered as a good example to understand the complexity in planning achievements, complexity in handling of space, creations in architecture, and sculptural aesthetics of the created built

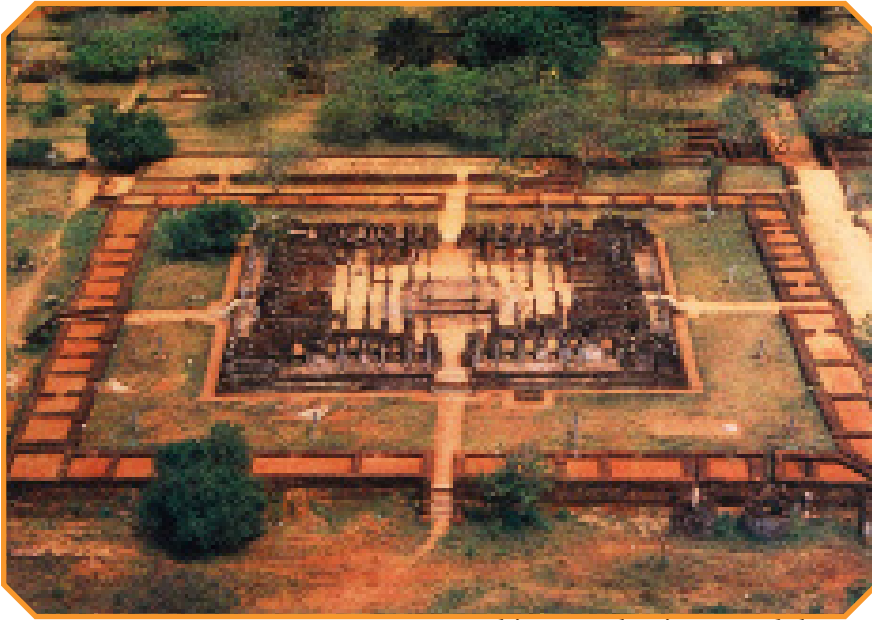
City of Anuradhapura continuously served as the capital of Sri Lanka for thirteen hundred years. The plan of the fortified city wall gave a configuration of '*Mrudanga*', the drum. Archaeological cultural layers within the citadel went down to a depth of ten metres, the bottom layers were dated 9th century BC. The City wall was surrounded by a protecting moat, and entry was through four gates located at four cardinal directions. The *Mrudanga* city plan was not Indo-Aryan. Indo-Aryan city plans were square, rectangular, circular or semicircular. City of Anuradhapura was located on the left bank of the Malwathuoya, and continuously grew as a religious city by establishing large Buddhist

for city needs, for agriculture, and also to keep the environment green. The three major monasteries at Anuradhapura occupied a large extent of land. Built environment created a complex situation. According to evidence available, Abhayagiriya monastery had accommodated six thousand monks. Jetavana monastery had five thousand monks and MahaVihara was occupied by three thousand monks. Creation of a functional religious environment can be seen in the remains of buildings of these residential monasteries, with drinking and bathing ponds,



**Fig : Jetavana Stupa**

environment. In addition to the hundreds of interwoven monasteries in the complex with designed pathways, there were common facility buildings like the kitchen and refectory complex, hot water baths, drinking water ponds, bathing ponds like the twin ponds, and elephants pond etc. These monasteries exhibit the skill of



**Fig : Baddha Seema Pasada**

creating a built environment with tranquility essential for a monastery, and creating public spaces like ‘*salapathalamaluma*’, stone paved compound and ‘*velimaluma*’, the sand court, around the great stupa for many thousands of devotees and monks to gather. Axial arrangements of buildings and spaces, composition of buildings and path ways, have demonstrated their capabilities and architectural skills. Designing of all MahaVihara type monastery complexes have followed a similar pattern.

The second ring of monasteries around the fringe of Anuradhapura city, have exhibited three other types of monastery complexes, namely, the Cavere type, *Pabbatha* Vihara type and double platform or western monasteries.

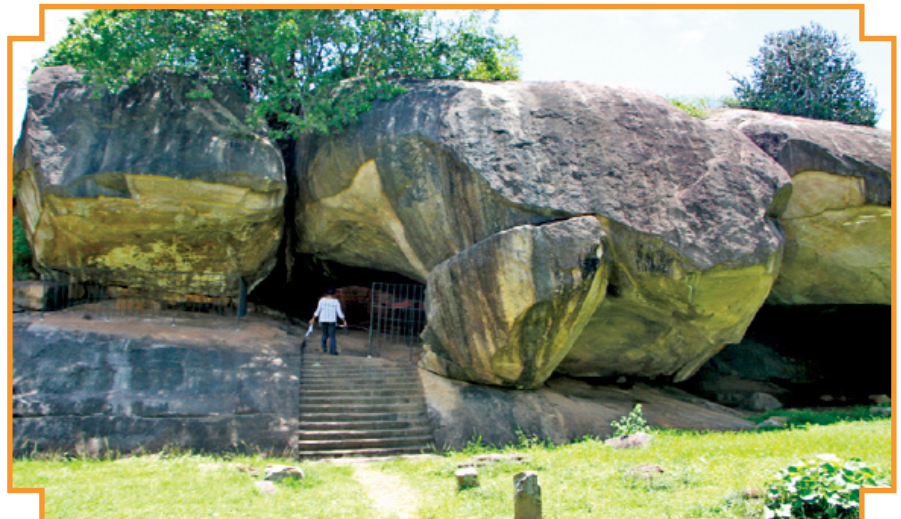
Vessagiriya is centered within adopted natural caves as monks’ residence in a plan with an axial arrangement for constructed buildings. Vessagiriya is an excellent example to show the Sri Lankan theory of landscape driven

architecture that integrated the tranquility and beauty of nature with built environment.

The second type *Pabbatha* Viharas were planned residential monasteries with an axially arranged development on a square or rectangular plan form. It has a moat filled with water right round the monastery outside the boundary wall. It can be entered across the water only through one gateway. The center square with sacred buildings is raised to a height of about a meter, and entered through a flight of steps placed on all four

cardinal directions. Five buildings comprising the stupa, image house, Bo tree shrine, congregation hall and saba or meeting hall are placed on a raised platform. Two storey residential buildings are placed in the area between the outer wall and the raised platform situated in the middle. Bathing and drinking ponds are also located in the same area. This form of built environment is seen in *Pabbatha* Viharas of *PachinaTissaPabbatha*, Puliyankulama, Pubbarama, Pankuliya etc. Tholuvila monastery was built on a well-developed central axial form covering a large area of land.

The third type known as *Padanagara* and Western monasteries are located to the west of the city. They were strictly meditation monasteries. The built environment was prepared to create a space isolated from the surrounding activities, and providing the meditating monks, isolation and tranquility suited and supportive for concentrating the mind in meditation. Each unit has two platforms connected by a large rectangular monolithic stone bridge across the moat around one of the platforms. There is only one



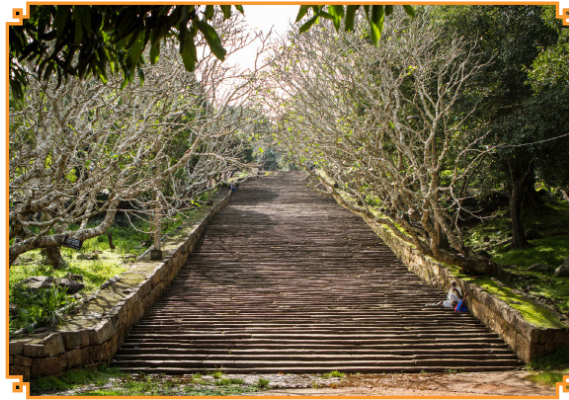
**Fig : Wessagiriya**

entrance to the rectangular walled area, while all ancillary buildings like toilets, refectory, kitchen etc. were placed outside the walled area. The architectural space and environment created were very special, and this building type was developed not only in Anuradhapura but throughout the island as forest monasteries with a large number of double platform buildings.

Their designed forest monasteries were excellent architectural achievements of the Sinhala civilization, incorporating natural caves, or without any cave. Sri Lankan cave dwelling was unique with a cut drip ledge along the top edge of the cave to prevent rain water running along the interior rock surface. These caves are linked with the common service building by constructing stone steps and pathways on axially organic form. Mihintale, the first monastery built in the 3rd century BC on a rocky hill in close proximity to Anuradhapura, was the first to be built.

The forest monasteries at Kaludiya, Arankele, Ritigala etc. are excellent architectural achievements of Sinhalese architects who created these by integrating all natural elements, the topography, water streams, rocks and boulders as well as the thick forest in achieving a built environment carefully and artistically integrating nature in creating an environment suitable for meditation. Stone paved serpentine pathways creeping through the full grown forest can be aesthetically valued and appreciated as architectural achievements. Scale was limited

to man and the forest. Artistically utilised and integrated rocks, boulders and streams in the built environment, was a unique architectural concept. Use of water as a component in the architectural design had created the required physical and mental isolation needed for meditating monks. The City of Anuradhapura evolved with Sri Maha Bodhi



**Fig : Mihinthale**

Shrine, Ruwanmali. Thuparama, Jetavana, Abhayagiristupas and the monasteries, served as the Religious-cultural capital of Sri Lanka for thirteen hundred years until the capital was shifted to Polonnaruwa, where they have followed the same religious and cultural planning principles in addition to defense elements. Alahana Pirivena and other monasteries were given high priority to the total built environment. Stupas, image houses and residential monasteries have independently followed the inheritance of the MahaVihara, Abhayagiriya and Jetavana sects. In city planning, street bazaars, road ways and Hindu shrines were also given a prominent place. The scale of the seven storey palace of Parakramabahu I, Royal gardens and public parks also gives an indication of the type of environment planning they

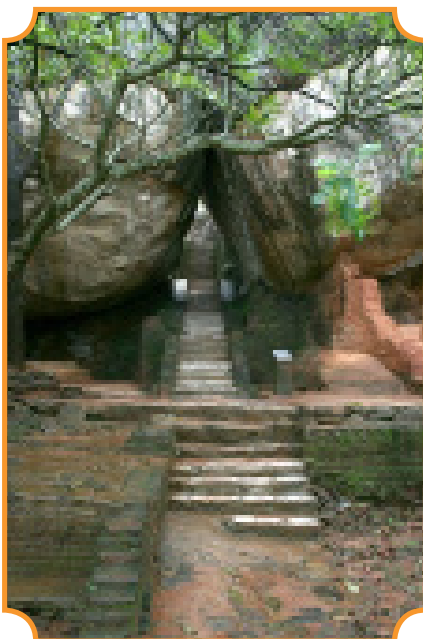
developed in an urban context. In traditional city planning with safety considerations different types were identified, such as *Giridurga* – based on an impenetrable hill, *Jaladurga* – providing protection from water, *Vanadurga* – protecting forest, and *Pankadurga* – protected with mash. Sigiriya, Kurunegala, Dambadeniya, Yapahuwa were cities designed incorporating a rocky mountain with city walls and moats, where royal presence is afforded with protection on top of the rock. Out of these, Sigiriya is a unique World Heritage, a landscaped city built in the 5th century. Sigiriya is a city designed on a north-south axis incorporating inorganic principles and forms of nature. Sigiriya is totally a landscape-driven architectural product. The Architect has harnessed the beauty of the natural setting, and incorporating it with designed elements, buildings, pathways, ponds, flight of steps and forceful special and varying level compositions. They have combined the selected rocks and boulders with the built environment, resulting in an excellent architectural setting. Irrigation technology has been simplified and incorporated in the built environment as an important component in architecture in creating ponds with geometric forms, harnessing the beauty and tranquility in flowing water, their reflection, coolness, fountains, cisterns, bathing ponds, reservoirs and two sets of moats around the city.

All the royal cities of Kurunegala, Yapahuwa and Dambadeniya focused on defense, considering the Giridurga concept. Kurunegala was comparatively a larger city well



**Fig : Ritigala**

designed embracing the Ethugala rock. City walls were both earth and stone built. Yapahuva city was circular in plan with two city walls and surrounding moats. Beautifully designed, decorative and with a steep staircase, were the most dominating features. The center part of this staircase which would have been in timber and removable during an enemy attack, has now been restored with brick steps. Dambadeniya city plan was



**Fig : Sigiri Garden**

a larger version of Yapahuwa. Kotte was a *Pankadurga* surrounded with marshland water. Only about one kilometer of cabok built city wall remains today as it was totally destroyed by Portuguese, who took away the cabok blocks of the city wall to build the Colombo Fort.

During the Gampola period of Sri Lankan history, there was a new concept where temple villages have been introduced.



**Fig : Temple of Tooth Relic**

Embekka, Gadaladeniya, Lankathilake, and Vegiriya were the Buddhist-Hindu temple villages in Sinduruwanarata, Gampola. Saman Devala, Soraguna, Ukgala pothnuwara, and Bolthumbe were found in Rathnapura valley. The plan form in these is such that the temple is approached by the main street, or the processional path ending with a *Sinbasana* position. Ware houses of temple servants were placed on either side of the processional Path. These temples were based on a new approach, where combining both Buddhist and Hindu temples was the result of Hindu Pandarams dominations, the social status that occurred during Gampola Period. .

The last capital Kandy or Senkadagala Nuwara was originally the temple village of Natha Devala.

The location of the city was well protected, as three sides were bounded by the Mahaveli River, while one side was protected by the Bahirawa Kanda Mountains and the forest to the east extending from the city up to the Mahaveli River giving protection as *vanadurga*. With Royal presence, the temple of the Sacred Tooth Relic was built on the hill slope on terraces; all buildings are single storey other than the two storey temple. The other four temples dedicated for

Vishnu, Natha, Pattini and Kataragama were found outside the moat of the royal presence. The residential part of the city with grid pattern streets were placed next to the temple area. The present Lake Kirimuhuda was originally a paddy field belonging to MalwatteVihara until 1803.

During the Kandyan period the buildings were comparatively small, but well decorated with paintings and carvings done out of timber, ivory, stone, metal, terracotta etc. Buddhist temples built during this period were cave shrines; solid buildings in clay and timber; and temples on pillars. The traditional architecture and the sustainable built environment had changed with the colonial influence brought in from the 16th century in the maritime region, and after 1815 in the hill country.

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