

## **An Investigation of the applicability of ancient hydrological and water resource management techniques to the present urban planning; A case study on Ranmasu Uyana, Anuradhapura.**

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Ranmasu Uyana is a Royal water park that enriched with indigenous water resource management techniques which situated in Anuradhapura. The study conducted on the applicability of ancient hydrological and water resource management techniques to the present urban planning. The objective of the study is to investigate the applicability of ancient hydrological and water resource management techniques to the present, with special reference to Ranmasu Uyana. Data collected through field observations and as well as secondary data sources like journal articles, ancient inscriptions and web. Vessagiriya slab inscription of King Mihindu IV, reveals many details of the unique constructional techniques if the Ranmasu Uyana, which is considered to be a marvel of ancient water management in Sri Lanka. According to the epigraphic disclosure, water through the main sluice gate is first taken to the gold fish park and then it was diverted to the play house and then to the garden pond. Finally, it was released to the paddy fields in the surrounding area of the Isurumuni Viharaya. The study made it clear that there are specific features such as transport water by tunnel system, open water distribution canal made from bricks, infiltration of water at low pressure in to the interior of the pond, avoiding rainwater collection in ponds and systematically transport water to the water moat. According to The Mahavamsa water collected in the interior of the city and water fountain were used to enhance beauty and the aesthetic value of the city environment. Further used underline pipe system to produce water pressure and used earth's gravity to speedup water distribution. Thus, it can be concluded that the past water management methods used in Ranmasu Uyana can be applied to present urban planning to reduce current negative impacts of Urban Planning.

**Key Words :** Hydrological techniques, Water moat, Urban planning, Water management, Tunnel system.

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