ANCIENT IRRIGATION SYSTEMS IN SRI LANKA AND THEIR SOCIOECONOMIC AND ENVIRONMENTAL IMPACT.

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Irrigation archaeology in Sri Lanka, as a unique field of study, delves into ancient irrigation systems and their profound implications for understanding the agricultural practices, civilization, and environmental impact of the island's past. Spanning over two millennia, the island's history boasts a rich legacy of complex irrigation networks, constructed, and maintained by various kingdoms and empires. The focus of irrigation archaeology in Sri Lanka predominantly centers on the ancient hydraulic civilization, particularly during the Anuradhapura and Polonnaruwa periods (3rd century BCE to 13th century CE). These eras were marked by the construction of extensive irrigation systems that played a pivotal role in sustaining the nation's agriculture. A prime example of these remarkable irrigation projects is the Anuradhapura Jaya Ganga, an imposing reservoir constructed during the Anuradhapura period. Covering around 1800 hectares, it served as a lifeline for thousands of paddy fields, showcasing the advanced engineering skills of ancient Sri Lankans through its sophisticated design and construction techniques. Likewise, the Polonnaruwa period witnessed the development of several irrigation systems, including the colossal Parakrama Samudra, one of the world's largest ancient reservoirs. Encompassing approximately 2,500 hectares, it featured a complex network of canals. The study of these ancient irrigation systems is indispensable for comprehending the agricultural practices and socioeconomic development of ancient Sri Lanka. These irrigation networks not only facilitated crop cultivation but also exerted a profound influence on the growth of settlements, trade routes, and governance systems. Furthermore, the investigation of irrigation archaeology can offer insights into the environmental impacts of these ancient hydraulic civilizations. The construction of reservoirs and canals inevitably reshaped the local ecosystem, potentially leaving enduring effects on biodiversity and land use patterns. In conclusion, irrigation archaeology in Sri Lanka is a pivotal discipline that unravels the technological achievements, social dynamics, and environmental consequences of ancient Sri Lankan civilizations. By examining these ancient irrigation systems, researchers can acquire invaluable insights into the past while gaining a deep appreciation for the ingenuity and resilience of those who engineered and maintained these vital water management systems.

Keywords: Irrigation Archaeology, Ancient Irrigation Systems, Socioeconomic Development, Ancient Sri Lankan Civilizations.

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