

Jaffna Traditional Well Irrigation; Study Focusing on Legacy of the Thulaa Well

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Introduction

Irrigation methods have always played an important role in sustaining agriculture in regions with limited water. In Jaffna, where there are no major rivers or tanks, people depended mainly on agro-wells for cultivation. To reduce the effort of lifting water, a system similar to the globally known Shadoof was developed, locally referred as the Thulaa well (Balance well). With its unique structure and technique, this method became a significant traditional practice that supported agriculture efficiently. The objective of this study is to examine the traditional Thulaa well in Jaffna, outline its features, early uses, and identify the areas where it was common. Although traditional wells in Jaffna have been studied, the Thulaa well remains largely unexplored. This research problem examines its role, spread and neglected place in Sri Lanka's irrigation history.

Methodology

In this research, primary sources were mainly used to collect data. First, a preliminary survey was carried out in different parts of Jaffna to identify traditional wells. Based on this, 10 Thulaa wells that are still in use were selected for the study. The selection was made by considering the present condition of the wells and the level of usage by the local community. Each well was directly observed and documented with regard to its structure, dimensions, and water-lifting technique. Through this process, Quantitative data related to the use of Thulaa wells, traditional knowledge, and their

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socio-cultural importance. As there is very limited literature on Thulaa wells, only a few books were consulted, which offered useful background details. For data analysis, the structural features of the wells were compared, quantitative data were organized and interpreted statically, and the qualitative data from interviews were examined through thematic analysis. This combined approach helped to understand the technological features, cultural role and sustainability of Thulaa wells in Jaffna.

Results and Discussion

The findings of this research highlight the historical, technological and cultural significance of Thulaa wells, which were once an important part of Jaffna's water management system. Despite their decline today, they reflect a traditional method of irrigation that combined practicality, sustainability and social relevance.

One of the main findings is the definition and identification of Thulaa wells. These are balance-type irrigation devices that use a lever system to draw water. The structure consists of a long wooden pole pivoted on a strong post, with a heavy counterweight, water could be easily lifted from deep wells. This system shows how local people adapted simple principles of physics to meet every day needs.

The second finding concerns their unique structural and technological features. Most Thulaa wells were built using Palmyra wood for the pole, due to its strength and availability. The base was often reinforced with stone to secure the post firmly. Unlike other well-lifting techniques, the Thulaa method required very little human effort, making it suitable for continues agricultural work. It was also durable and could be repaired with locally available materials.

Another important finding is their usage in agriculture and society. Thulaa wells were not limited to fields alone, they served both social and farming purposes. In agriculture, they provided essential water for crops such as onions, chilies, and tobacco, which required frequent irrigation in the dry

Jaffna climate. Socially, they were placed near temples and communal spaces, supplying water for rituals, cooking and daily village activities. This dual usage demonstrates how water technology was embedded in both economic and cultural life.

Regarding geographical distribution, the research found that Thulaa wells were most often located near temples, where they served community needs. Their secondary distribution was in agricultural fields, where farmers relied on them for intensive cultivation. This pattern shows that the positioning of wells was not random but linked to both spiritual and practical priorities of society.

Finally, the study highlights the decline and cultural memory of these wells. With the introduction of motorized pumps and large-scale irrigation systems, Thulaa wells gradually disappeared from everyday use. Yet, they remain in the cultural memory of older generations, often mentioned in local proverbs and stories as symbols of hard work, simplicity and communal sharing of resources.

In conclusion, Thulaa wells represent more than just water-lifting technology, they reflect a harmonious balance between environment, society and agriculture. Their decline may indicate modernization, but their memory continues to carry cultural and historical value for the people of Jaffna.

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