

Importance of Water Management in Overcoming Developmental Challenges Faced by Sri Lanka

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Introduction

Water is a finite natural resource and the fundamental pillar upon which human civilisations were built. Sri Lanka has a history of engineering irrigation marvels that spans millennia, whereby the smooth functioning of local agricultural system over generations was ensured while preserving the harmonious co-existence of humans with the nature. The ancient reservoirs remained in existence not only through physical structures, but also through specific socio-economic structures that operated under a Buddhist cultural background. However, a century of British reign created a significant amount of chaos in the ancient society which ultimately led to the dilapidation of irrigation facilities and rural agricultural systems. Specifically, the abolition of the traditional *Rajakari* System, and the introduction of plantation agriculture lead to a general negligence of the maintenance of the infamous cascading tanks system, was first constructed by the ancient kings of Sri Lanka. The subsequent reduction of agricultural production attracted the attention of the colonial governors and consequently the Department of Irrigation, which continues its operations to date, was founded with the aim of increasing domestic food production.

Half a century after the independence, even with the assistance of several other Government agencies, the proper management of the natural abundance of water resources available in the country, remains a strenuous task. The current water management crisis is complicated by the lack of appreciation of water resources. Additionally, there is an absence of a comprehensive aggregate water policy which collectively governs the bulk allocation of water for a wide variety of uses such as irrigation, domestic water supply, industrial water supply, hydro-electricity generation, fisheries management, wetland systems, and wildlife conservation.

Furthermore, there is a difficulty in equitably distributing water resources among different user groups in the community, caused by the deficiency of well-defined guidelines on water priorities. The inadequacy of water laws has benefitted powerful user groups while depriving weaker sectors of society of their basic water rights. Heterogeneous land use in most parts of the island has posed a significant disturbance to water management. The administrative boundaries inherited from the colonial days, which do not conform to the river basins and the associated natural

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resource boundaries, has spawned critical administrative errors by Government authorities. Additionally, ethnic issues have also come into play in matters of water sharing, due to the miscellany of ethnicities in different areas of the country, elaborating the need for neutral water-sharing principles. The corruption of politicians and Government officials, prevalent in a majority of developing countries of the world, concerns the Sri Lankan public as well. The self-interested behaviour and incompetency of political and bureaucratic administrators has led to a wastage of Government funds and impoverishment of the general public through lags in the economic growth in the country.

The environmental pollution due to human activities and the resultant climate change has adversely affected the rural agricultural systems. The inhabitants of the dry zone of Sri Lanka have been victims of annual droughts over a decade. The negligence of local authorities in the maintenance of ancient tanks has deteriorated irrigation facilities along with the quality of life of residents of the dry zone whose preferred livelihood over generations has been the cultivation of agricultural crops. The encroachment of humans into wildlife areas and mismanagement of brackish water in farming systems have generated significant imbalances in the surrounding eco-systems. The salinisation of water sources has created a crisis in drinking water supply in the Northern areas of the country. Increasing deforestation has had a negative impact on the natural water cycle posing a threat to the existence of natural water resources and causing infertility of land. Uninhibited ground water extractions in search of freshwater have expanded the risk of sea water intrusions into freshwater sources.

Addressing all the aforementioned issues can begin with the establishment of well-defined guidelines and well analysed public policy prescriptions in water management. The development of an aggregate water policy is of utmost importance. Thereafter the loophole in law enforcement has to be mended through imposition of all-encompassing water laws to ensure fair and equitable distribution of water resources among all sectors of the community. If the alteration of administrative boundaries remains a challenge owing to ingrained social norms of the public, the feasibility of superimposing natural resource boundaries and allotting natural resource management areas has to be explored. Adopting more scientific and neutral principles in sharing of natural water resources will reinforce reconciliation efforts among different ethnicities as well. The young minds of the country have to be fostered with education on the importance of proper management of water resources. The responsibilities of Government authorities have to be well defined and the efficiency and transparency of their actions has to be observed by independent bodies to prevent fraudulent activity. The externalities have to be addressed with creation of information through conduct of research on various areas of natural resource management. The policy implications of the

forementioned studies can be sent to administrators to improve the productivity and effectiveness of their decisions.

The issues arising from the dramatic climate change have to be addressed by creating scientific information of water availability. Rainfall variability, intensity, evaporation and spatial distribution data have to be recorded while river activities are closely observed. The tank system has to be properly renovated and maintained to ensure the full functionality of irrigation facilities. Methods have to be developed to measure the quantities of water received and retained, and the water available can be managed under the constraints of superimposed natural resource boundaries. Adoption of novel farming techniques to replace conventional techniques may sustain dry zone agriculture even under harsh climates. Farmers may benefit from diversification of crops as opposed to specialising. The ancient irrigation expertise of Sri Lanka has to be combined with the modern technological advancements to invent authentic solutions to the current complications that threaten to upset the balance between humans and nature. Self-interest must be replaced by the common interest and compatible policies must be developed. The politicians should be guided by policymakers on appropriate actions for the economic development and wellbeing of the public.

As a developing country, Sri Lanka can benefit from learning from the advanced water management techniques used by developed countries. Although the solutions may have to be translated to fit the local context, the underlying planning principles can be applied. Studies must be conducted to ascertain the feasibility of such principles to be utilised in local scenarios. No water policy is eternally sustainable, since environmental and demographic change is universal. Thus, every policy needs to be reviewed for continuous improvement. A well-developed policy incorporates diverse perspectives of persons from different walks of life. The aim is to ensure the progress of civilisation while maintaining a balance between humans and nature.

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Reference

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