

HYDROLOGY OF MAHAKANADARAWA SCHEME

BY

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This dissertation has not been
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A handwritten signature in black ink, appearing to read 'T.A.G. Gunasekara', written over a horizontal line.

T.A.G. Gunasekara

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A B S T R A C T

Harnessing the nature's gift of water resources abundantly available, has been the daunting task of Sri Lankan life over hundreds of generations. Evidence of great historical hydraulic developments are standing monuments of golden eras scattered along the long history of this island country, better known as the paradise of South-East Asia.



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The country is once again experiencing another chapter of intensive water resources development. Present day engineers are faced with the challenge of putting their sound theoretical knowledge into useful practice, with the primary objective of transforming the gift of naturally available water resources into invaluable sources of socio economic development of the nation. In an effort of further supplementing this task, University of Moratuwa offers opportunities for the young engineers to do Post-Graduate studies in the field of water resources. Author of this dissertation is one of such fortunate students, who was a participant in the Post Graduate Diploma/ Master of Engineering degree course in Applied

Hydrology, commenced in October 1982. This dissertation titled "HYDROLOGY OF MAHAKANADARAWA SCHEME" is submitted in partial fulfilment of Masters degree requirements in Engineering.

Mahakanadarawa, another major irrigation scheme of the golden history of Sri Lanka, has been restored once again by the government just after the independence in 1948. However the project poses serious problems owing to its continuous water shortages. Preliminary studies suggested that excessive exploitation of the catchment by restoring large numbers of minor tanks may be a basic reason for such shortages of water in the major tank. This problem had been common to few other reservoirs in the dry zone of Sri Lanka, as well.

An effort has been made in this dissertation to analyse this situation in detail, through a computerised water balance analysis, integrating all the minor tanks in the catchment. A generalised computer programme has been developed for the water balance study. Once the cause is first established, further effort has been made to suggest remedial measures such as augmenting the Mahakanadarawa tank through additional sources of water either from near by catchments or from the Mahaweli waters diverted to the dry North Central regions of the country.

Author wishes to note his sincere gratitude to all those who assisted him in his challenging task of making this dissertation a success in every aspect of it. Details of the particular assistance given by them are mentioned under title "ACKNOWLEDGEMENT"next.

It is hoped that the findings of this dissertation will eventually bring about desired results and constitute another significant contribution to the gigantic water resources development effort aimed at building an economically strong, prosperous Sri Lanka.



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