

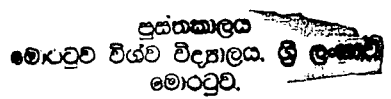
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POST PROJECT EVALUATION STUDY OF THE RAJAWELLA GOLF COURSE AND HOTEL PROJECT

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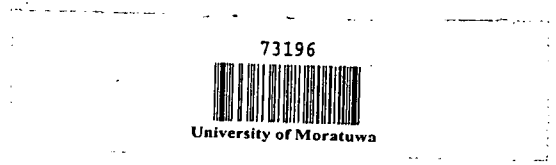
This thesis was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfillment of the requirements for the Degree of Master of Engineering.

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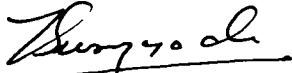
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DECLARATION

This thesis is a report of research out in the Department of Civil Engineering University of Moratuwa between January 2000 and October 2000. Except where references are made to other work the contents of this thesis are original and have been carried out by the under signed. The work has not been submitted in part or whole to any other University. This thesis contains 66 pages.



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ABSTRACT

Tourism is a growing industry in the world today. The amount of social and ecological problems it may bring in its wake is also increasing. Therefore, many developments in relation to tourism are very often questioned. The Sri Lankan tourism products, mainly Golf Courses and ancillary facilities, tend to place primary emphasis on economic gains often at the expense of the social and natural environment. Tourism in developed countries is said to be a social activity with economic consequences, whereas tourism in developing countries is an economic activity with social and environmental consequences.

This study was undertaken to evaluate the performance of such projects, at a time when the interest in construction of Golf Courses and ancillary facilities in the country is rapidly increasing. The objective of the study was to compare the actual situation in the Project Area after implementation of the project with the situation predicted in the EIA Report, and to study is expected to help Project Proponents in the preparation of EIA Reports and Project Approving Agencies in the evaluation of future EIA Reports and in granting approval for Golf Courses and other Tourism Products.

The Rajawella Golf and Hotel Project was taken as a case study, as it is a Project where an EIA was carried out, conditional approval for construction given, and implementation of Phase I of the Project almost complete. It is sited on a 209 Ha. of land at Rajawella approximately 24 km away from Kandy and 8 km from Digana New town. The project site was a mixed farm owned and managed by the National Livestock Development Board. An 18 hole Golf Course of Championship standard, two 4 to 5 star rated hotels each with 100 room capacity about 200 condominium/villa, a craft village, shops, swimming pool, sports complex and staff quarters are the salient features of the project. The project is to be executed in a phased manner. This study is limited to the issues arising by operating the Golf Course only, as the other elements of the Proposed Project are yet to be completed.

According to the EIA Report, the project would relocate 1152 persons, who were resident on the farm. One hundred and nineteen of them were farm workers, while others found employment outside. These people were to be relocated at the cost of developer of a part of the project area, as a mitigatory measures.

The intended benefits from the project as reported in the EIA Report, were found to be received by the target social groups, and the beneficiaries' living standards and social recognition have improved considerably with the new ownership of a house and 40 perches land. It was observed that the mitigatory measures adopted were satisfactory in this respect, except for the delay in resettling of some of the families. The affected people were able to continue with the type of occupation with which they were familiar, without interruption. It is also evident that new job opportunities were created by the project. There is also a notable development in infrastructure facilities in the area, due to implementation of the project.

Thus, with respect to social impacts, it could be observed that mitigatory measures suggested in the EIA report, are quite satisfactorily implemented, and no adverse impacts or notable unforeseen consequences occurred as a result of the project.

The main negative impacts on the natural environment identified in the EIA report and the effects on quantity and quality of surface and ground water, due to heavy abstraction and use of chemicals as fertilizers, weedicides and pesticides. Suggested mitigatory measures included effluent recycle process from the hotel complex for irrigation of the Golf Course, proper land preparation aimed at water conservation and turf grass management with well planned chemical applications maintaining a buffer zone with thick vegetation and thick grass cover etc.

This study showed that Golf Courses consume a substantial quantity of water and therefore availability of water is a decisive factor for the sustainability of a Golf Courses project. Where rainfall is not uniform, storage facilities need to be provided for collection of runoff or treated effluent, for use during dry seasons. Alternatively, some other source of water such as ground water should be available. In this case study the water budget showed that ground water abstraction may exceed the safe yield from the wells when the full project is implemented, unless the proposed water recycling system is also implemented. No significant increase in the concentrations of organic agricultural chemicals was observed in the surface water downstream of the Golf Course. However, there was a significant increase in the concentration of nitrate in ground water an one tube well.

When comparing the Rajawella Golf Course and Hotel Project with other alternative land uses such as cash crop planting, vegetable cultivation or potato farming on the same land area, the water use was found to be much higher, but income generation and employment opportunities are also much higher, and therefore the economic viability is much more controllable and mitigation for surface and groundwater contamination easier to implement in the Golf Course Project. Close supervision of the Monitoring Committee is necessary in this respect.

Thus the case study showed that there are no significant deviations from social or environmental impacts predicted in the EIA Report, after implementation of the Golf Course construction phase, and the mitigatory measures and monitoring plan suggested in the EIA Report and the conditional approval for the project seen to be adequate.

Thus it could be concluded from this study that provided the required amount of water can be supplied by conservation and without affecting other uses, and all required mitigatory measures for social and environmental impacts identified in a carefully conducted EIA are implemented, and key activities such as chemical use, water use and waste disposal are monitored by an independent monitoring committee Golf Courses can bring in many social, economic and environmental benefits to the country, and it is a much less harmful and more environmental friendly activity than many other comparable land uses.



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ABBREVIATIONS AND ACRONYMS

EIA	-	Environmental Impacts Assessment
CEA	-	Central Environmental Authority
NEA	-	National Environmental Act
PAA	-	Project Approving Agency
NLDB	-	National Livestock Development Board
NWSDB	-	National Water Supply & Drainage Board
MASL	-	Mahaweli Authority of Sri Lanka
FSL	-	Full supply Level
RDA	-	Road Development Authority



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