

THESIS
**EIA OF RIVER RAVI DUE TO LOW FLOW (WITH
SPECIAL REFERENCE TO GROUNDWATER AND
SOCIO-CULTURAL IMPACTS)**



Submitted by

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ABSTRACT

Environment Impact Assessments refers to the project specific level, in which procedure is established to determine the environment impact of specific project as well as the possible alternative to mitigate or compensate the negative effects. Nevertheless other environmental tools have been developed in a much wider framework in order determine and help at the decision making level in the determination of whole of environmental aspects of programmers, plants, regional development, etc. Those processes are then called Strategic EIA and Regional EIA depending on the scope of process.

The reach of the investigation area of River Ravi will be from Ravi siphon to the Balloki headworks. In this reach municipal and industrial effluent of Lahore city and industrial areas around, join the river water through different tributaries and outfalls. Moreover MR link canal and UCC Canal also join river in this reach and augment its water during low flows season

To study the impacts caused by low flow in River Ravi on its surrounding environment, various kind of data and information was required. This was collected by using various types of techniques i.e. initial site appraisal, physical surveys, personal contacts with concerned departments, previous studies and social survey technique. First four techniques are physical in nature, where data was collected which was recordable/measurable. Last technique was used to collect data which was not recordable/measurable.

After collecting the data, an information, it was analyzed as per set EIA procedure. Analysis of data was carried out for surface water, groundwater as well as sewerage discharge. O'Connor model was used to analyze the TDS concentration in river Ravi. After analyzing all above mentioned data, consulting focused group discussion, in depth interviews and questioners filled by stake holders. I made relevancy matrix, for finalization of EIA study of River Ravi due to low flow. Mitigation measures are also suggested for those parameters which are affected due to low flow. Compensation is suggested for affected parameters, an Environmental Management Plan (EMP) has also been prepared at the end for smooth functioning of mitigation and reliable monitoring of effected parameters in River Ravi due to low flow.

To safe guard River Ravi from environmental problems it is strongly recommended that Indus basin treaty should be reconsider and India should be bound to release at least that much amount of water which should not leave adverse impacts on environment.

In order to improve the quality of water the pollutant concentrations should be lowered by adopting waste load allocation system for which a detailed water quality modeling program for the river Ravi is recommended. Arrangements should be made to re-charge ground water aquifer beneath city of Lahore. For which artificial ground water recharge arrangements can be made in which inundation can be made towards North and Western sides of Lahore from BRBLC and UCC water. Flow should be increased and sewage should be treated so that dilution ratio should be 1:10. This will promote recreational activities and give rise to esthetic look of River Ravi.