CATCHMENT AREA TREATMENT PLAN

(A Brief Note on the Project)

1. INTRODUCTION

ShahpurkandiDam Project comprising of 55.5m high concrete dam with overflow section of 418 m long and non over flow sections of 158.314 m on left bank and 142.780 m on right bank, 2 number Head Regulators one for Shahpurkandi hydel channel (PB) & other for Ravi canal (J&K), 7.70 Km. long Shahpurkandi Hydel Channel and 2 Number Power Houses having installed capacity of 206 MW is being constructed on River Ravi at a distance of 11 Km.D/S of Ranjit Sagar Dam Project and 8 Km. U/S of Madhopur Head Works to Harness the diurnal water releases to the UBDC system off taking from Madhopur Head Works and Ravi Canal (J&K) which will off take from U/S of the SPK Main Dam on its R/S and to ensure optimum power generation from RSD Project during peaking hours.The expeditious completion of Shahpurkandi dam is of utmost importance for optimum utilization of Ravi water for power generation and irrigation. Shahpurkandi Dam will act as balancing reservoir for working of Ranjit Sagar Power Plant as a peaking station.

With Completion of this project, increased and intensive irrigation benefits will get a boost in 1.18 lacs hectares in existing UBDC system and in 5000 hectare new command area in Punjab & 32173 hectares in J&K state will come under irrigation Command.

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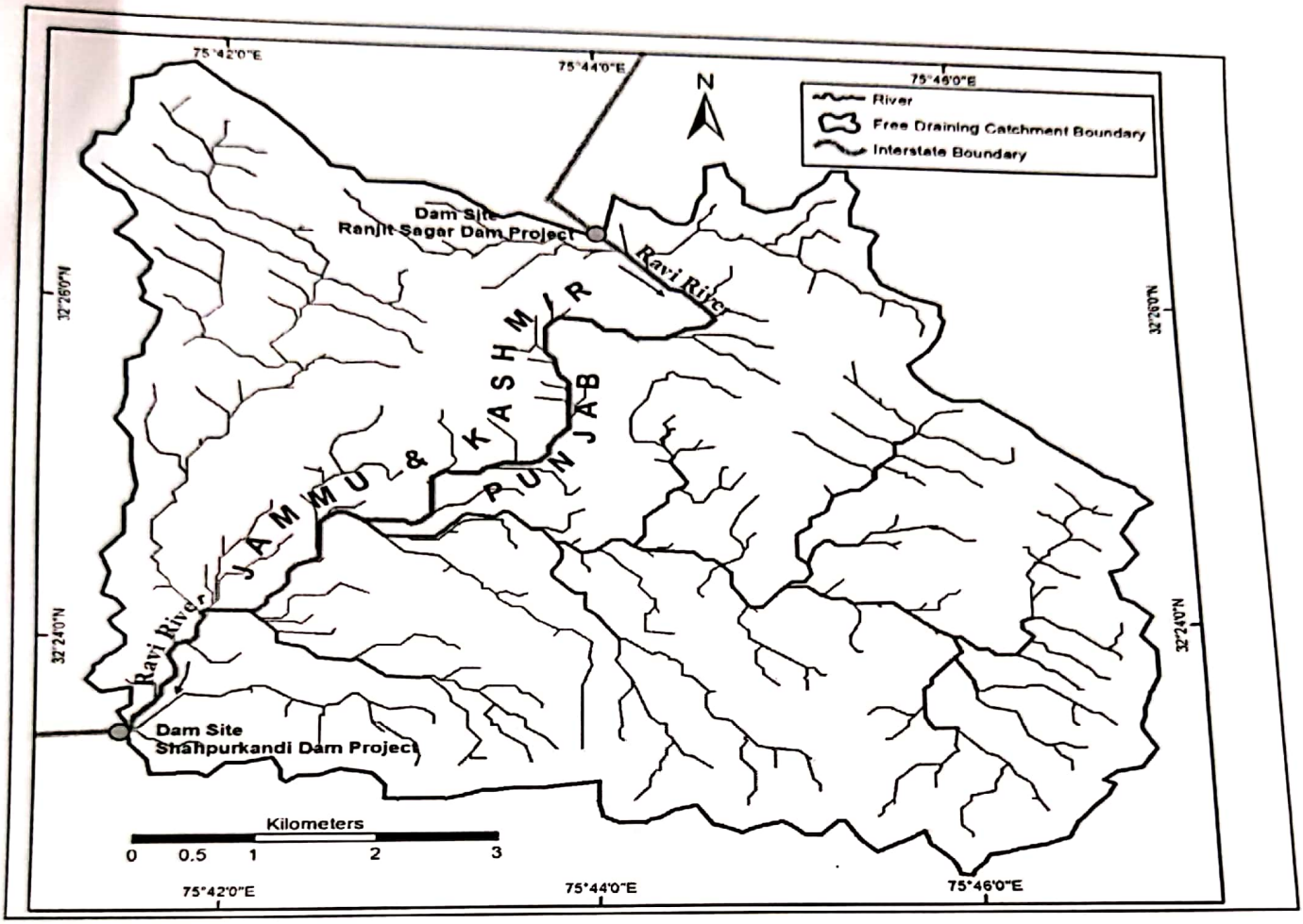
2.1 NEED FOR CATCHMENT AREA TREATMENT

It is a well-established fact that reservoirs formed by dams and barrages on rivers are subjected to sedimentation. The process of sedimentation embodies the sequential processes of erosion, entrainment, transportation, deposition and compaction of sediment. The study of erosion and sediment yield from catchments is of utmost importance as the deposition of sediment in reservoir reduces its capacity, and thus affecting the water availability for the designated use. The eroded sediment from catchment when deposited on streambeds and banks causes braiding of river reach. The removal of top fertile soil from catchment adversely affects the agricultural production. Thus, a well-designed Catchment Area Treatment (CAT) Plan is essential to ameliorate the above-mentioned adverse process of soil erosion .

Soil erosion may be defined as the detachment and transportation of soil. Water is the major agent responsible for this erosion. In many locations, winds, glaciers, etc. also cause soil erosion. In a hilly catchment area, as in the present case erosion due to water is a common phenomenon and the same has been studied as a part of the Catchment Area Treatment (CAT) Plan.

The Catchment Area Treatment (CAT) plan highlights the management techniques to control erosion in the catchment area. Life span of a reservoir in case of a seasonal storage dams and barrages is greatly reduced due to erosion in the catchment area.

The intermediate catchment area intercepted at the diversion structure of Shahpurkandi Dam Project on right bank of River Ravi on J&K side is about **17.66 SqKm (1766 Ha)** and the same is marked in the figure shown below



DRAINAGE MAP FOR SHAHPURKANDI DAM CATCHMENT ON J&K SIDE

The Detailed Catchment Area Treatment Plan of the project on J&K side shall be submitted separately.

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