PREFACE

The problem of ravine and gully erosion with consequent loss of agricultural land has received much attention both in tropical and temperate countries. Ravines have been found developing along most of the rivers in India. Here nearly 3 million hectares of agricultural land has become almost unculturable waste, out of this about 0.5 million hectares are found along the river Chambal and its tributaries. The ravines of the Chambal are of very intense type, which pose a very serious problem in agricultural and irrigation planning. Therefore, a scientific study of ravine lands along with their related problems is essential to augment the agricultural production.

The present study deals with the physiography of the Lower Chambal Valley and its agricultural development since the independence. In the work, unified theme is provided by the ravines. The emphasis throughout is on the analysis of geomorphic and hydrologic factors that are partinent to ravine genesis and processes of erosion and deposition. A detailed discussion on the correlation between the evolution of ravines and agricultural development is also included.

References are listed at the end of each chapter. Inevitably there is some duplication of references for this reason. In the end a complete list of bibliography
is also provided.

Except, in few places and in appendices, all measurements are given in the metric system.

The agricultural data are calculated on tahsil level and not according to the geomorphic boundary of the Valley.

The author makes an apology for the occasional overlap of material in some chapters. Such overlapping is unavoidable particularly when a topic is relevant to more than one chapter, and is essential for clarity of presentation.

Late Prof. S.M. Ali (F.N.I.) had been a constant source of inspiration at the time of commencing this research work for the thesis. His ever-present encouragement and guidance, and his vast funds of knowledge, which was always generously made available, had been invaluable in the development of ideas. His untimely death in December 1966 has meant a tremendous loss to Geomorphology as well as to Geography. The author owes a great debt to him.

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\[\text{\underline{Hasan}}\]

Hari Shanker Sharma

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