CONTENTS

Acknowledgements iv
Preface vi
Contents viii

1 INTRODUCTION 1-21

1.1 General Account of Chandel District 2
1.2 Location and Accessibility 4
1.3 Climate 7
1.4 Flora and Fauna 8
1.5 Physiography 12
1.6 Drainage System 13
1.7 Brief Resume of the Previous Works 17
1.8 Scope of the Present Work 19
   1.8.1 Objectives 19
   1.8.2 Research Design and Methodology 20

2 GEOLOGY 22-62

2.1 Geological and Tectonic Setting of Indo-Myanmar Ranges 24
   2.1.1 Naga Hills 24
   2.1.2 Chin Hills 26
   2.1.3 Arakan Yoma Hills 27
2.2 Geological and Tectonic Setting of Manipur 28
2.3 Geological and Tectonic Setting of Chandel District
   and its Adjoining Regions 31
2.4 Stratigraphic Succession 36
2.5 Description of the Lithounits 37
   2.5.1 Ophiolite Melange Zone 37
      i. Ophiolite Suite 37
      ii. Associated Sediments 43
      iii. Associated Minerals 50
2.5.2 Disangs  
2.5.3 Barafs  
2.5.4 Alluviums  

3 PETROGRAPHY OF OPHIOLITIC ROCKS AND ASSOCIATED SEDIMENTS  

3.1 Petrography of Ultramafic rocks  
3.2 Petrography of Dyke and Sill rocks  
3.3 Petrography of Pillow lavas  
3.4 Petrography of Exotic Sandstone  
3.4.1 Modal Analysis  
3.4.2 Classification and Tectonic Implication  
3.5 Petrography of Pelagic Chert and Limestone  

4 ANALYSIS OF DRAINAGE SYSTEMS AND THEIR RELATION WITH STRUCTURAL AND TECTONIC LINEAMENTS  

4.1 Analysis of Structural and Tectonic Features and Lineaments  
4.2 Interpretation of the diagram  
4.3 Orientation of Stress Field  
4.4 Description of Structural and Tectonic Lineaments  
4.4.1 Tengnoupal-Narum Thrust (Ophiolite Thrust)  
4.4.2 Chandel Thrust  
4.5 Analysis of Drainage Systems  
4.5.1 Yu-Khampat River System  
4.5.2 Chakpi River System  
4.5.3 Sekmai River System  
4.5.4 Whole River System  

4.6 Mechanics of Structural Control on Streams  
4.6.1 Compression Structures  
4.6.2 Extension Structures  
4.6.3 Transcurrent Structures  

4.7 Drainage Pattern and Its Significance  

5 ANALYSIS OF MINOR STRUCTURES  

5.1 Fold Analysis  
5.1.1 Regional Fold Analysis
7.4.2 Estimation of Stretching Using Stretched Bed/Lens 199
7.5 Implication of Tectonic Shortening and Extension 199

8 DISCUSSION AND CONCLUDING REMARKS 201-210

8.1 Comments on the Geology 202
8.2 Significance of Petrographic Studies 204
8.3 Drainage System and Their Relation with Structural and Tectonic Lineaments 204
8.4 Implications of Minor Structures 206
8.5 Pencil Structures and Tectonic Significance 207
8.6 Estimation of Crustal Shortening and Stretching 208
8.7 Concluding Remarks 209

REFERENCES 211