## CONTENTS

1. Introduction 1
   1.1 Scope and Objectives of the Study 5

2. Description of the Study Area 6

3. Review of Literature 10

4. Mangrove Vegetation Structure 30
   4.1 Introduction 30
   4.2 Material and Methods 32
   4.3 Result 33
   4.3.1 Tree Density 33
   4.3.2 Tree Height 34
   4.3.3 Tree Girth (Girth at Breast Height-GBH) 35
   4.3.4 Canopy Index 37
   4.3.5 Regeneration Class 39
   4.3.6 Recruitment Class 39
   4.4 Discussion 40

5. Mangrove Associated Macro Fauna 46
   5.1 Introduction 46
   5.2 Methodology 47
   5.3 Results 50
   5.3.1 Faunal Composition 50
   5.3.2 Seasonal Faunal Composition 51
   5.3.3 Density 52
   5.3.4 Diversity Indices 54
   5.3.4.1 Shannon Diversity Index 54
   5.3.4.2 Margalef’s Species Richness 55
   5.3.4.3 Simpson’s Species Evenness 55
   5.3.4.4 Berger-Parker Dominance 55
   5.3.5 Graphical or Distributional Techniques 56
   5.3.5.1 K-Dominance Curve 56
   5.3.6 Multivariate Methods 57
   5.3.6.1 Bray- Curtis Similarity and Multi Dimensional Scaling 57
   5.4 Discussion 58

6. Physico-Chemical Parameters 66
   6.1 Introduction 66
   6.2 Materials and Methods 67
   6.2.1 Sampling and Analysis of Water 67
   6.2.2 Statistical Analysis 69
6.3 Results
6.3.1 Dissolved Oxygen
6.3.2 Temperature
6.3.3 Hydrogen Ion Concentration (pH)
6.3.4 Salinity
6.3.5 Turbidity
6.3.6 Total Suspended Solids-TSS
6.3.7 Nutrients
6.4 Discussion

7 Threats And Conservation Issue of Kachchh Mangroves
7.1 Introduction
7.2 Methodology
7.3 Results and Discussion
7.3.1 Traditional Mangrove Resource Utilization
7.3.2 Developmental Scenario
7.3.3 Developmental Implications on Mangroves
7.3.4 Mangrove Conservation in Kachchh
7.4.5 Operational Modifications in Ports

8 Mangrove Plantation Activities
8.1 Introduction
8.2 Methods
8.3 Reasons for Mangrove Plantation
8.4 Mangrove Plantation in Gujarat
8.5 Issues in Mangrove Plantation
8.6 Discussion

9 Summary

10 References