

PREFACE

Shrimp farming, a dynamic and rapidly growing industry, has acquired significant attention in recent years because of its potential for economic growth and sustainable food production. The demand for shrimp products both domestically and internationally has been repeatedly increasing, generating an opportunity for aspiring entrepreneurs and researchers to delve into the intricacies of this field. In my journey as a student, I stumbled upon the concept of site suitability analysis for shrimp farming during my college years. Although the idea intrigued me and my friends, the complexity of the task, coupled with our other academic commitments, deterred us from pursuing it further.

However, during my six-month project, an inspiration occurred. As I delved deeper into the world of GIS and remote sensing, I realized the enormous potential these techniques held in unraveling the complexities of site suitability analysis. The application of machine learning algorithms enabled a more holistic and nuanced approach, surpassing the limitations of traditional weighted analysis methods. The prospect of gaining deeper insights into the viability of shrimp farming sites through advanced computational techniques filled me with excitement and motivation.

Furthermore, as fate would have it, I hail from Ratnagiri district, a picturesque coastal region on the western coast of Maharashtra, India. Ratnagiri district, known for its breathtaking landscapes and rich cultural heritage, captivated my interest as a potential study area for shrimp farming. This district, with its extensive coastline along the Arabian Sea, ample water resources, and suitable climatic conditions, appeared to be a prime location for shrimp cultivation. Motivated by the vast potential for the growth of the shrimp farming industry in my hometown, I made the decision to select Ratnagiri district as the focal point of my thesis.