3. RESEARCH AIMS AND APPROACH

Skin ulceration is a common disease sign affecting fish of different species both in freshwater and marine environments. Hence, the present study is mainly carried out to explore the organism responsible for causing ulcerative lesions and mortality in the Labeo rohita fish at Cauvery riverine area (Nerinjipettai) and its control measures through different sources, with the following objectives:

A Survey and collection of ulcer diseased L. rohita from a fish farm in Nerinjipettai-village near Mettur Dam, Salem District, Tamil Nadu (India).
A Biochemical and molecular characterization of bacterial pathogen isolated from the infected L. rohita.
A Experimental pathogenicity in fish by intramuscular, immersion, oral route methods and histopathological analysis in diseased fish.
A In vitro inactivation of bacterial pathogen in fish by physical and antibiotic treatments.
A Phytochemical screening of five selected indigenous plants and their bactericidal activity against the infectivity on L. rohita.
A To study the specific immune response in potential plant extract treated L. rohita.

The research approach of the present study has been arranged in the following manner:

The background information of the current topic has been presented in chapter-1 as general introduction and the review of literature and research approach are presented in chapters 2 and 3.

Chapter-4 deals with the survey of ulcer diseased rohu fish and molecular identification of the causative organism.

Chapter-5 documents the experimental infection in rohu fish by causative microorganism and the histopathological changes in infested fish.

Chapter-6 deals with the in vitro inactivation of bacterial pathogen P. vermicola by physical and antibiotic treatments.
Chapter-7 describes the phytochemical screening of five selected indigenous plants, their bactericidal activity against the infectivity on L. rohita.

Chapter-8 describes the specific immune response in potential plant extract treated L. rohita.

Chapter-9 presents the summary conclusion of the work done. This is followed by the list of references and the reprints of publications are attached.