The aquatic environment with its water quality is considered the main factor, controlling the state of health and diseases in both man and animal. Biological-indicators are the measurements at molecular, biochemical or cellular level in either wild populations of the organisms from contaminated habitats, or in organisms experimentally exposed to pollutants.

Now-a-days, the pollutants have been rapidly growing components which are due to urbanization, industrialization and agriculture wastes, and it leads to increase of discharges containing acids, alkalies, pesticides, oils, varnishes, plastics, petrochemicals, rubber, paints and the wastes of paper, soap, sugar, distillery, mine drainage, tannery, cyanide and radioactive substances entered into the marine environment. These first affect rivers, beaches, estuaries, harbours, near-shore zones and enclosed basins having restricted water exchange and finally it causes hazardous effect to human beings and aquatic organisms. The main pollutants of marine water are the heavy metals, which are very dangerous and disturb the biological functions of the organisms.

The hazardous heavy metals are Aluminum (Al), Arsenic (As), Antimony (An), Barium (Br), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Iron (Fe), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), Selenium (Si), Silver (Ag), Vanadium (Vd) and Zinc (Zn). Visakhapatnam is
one of the districts of Andhra Pradesh, located in the coastal area of
Bay of Bengal, which has a natural harbour and all types of industries.
Visakhapatnam coast is partially surrounded by the industries and
therefore, it is very much polluted with all types of wastages as said
above.

The author has tried to detect the effect of heavy metals like
Cadmium and Lead (Non-essential elements), Iron and Zinc (Essential
elements) in Visakhapatnam coastal water using the Crab, *Portunus
sanguinolentus* as bio-indicator. To check this from time to time, this
type of investigations regarding to heavy metal toxicity and the
disturbances of biological functions in the marine organisms are very
essential to ensure sustainable living and conservation of aquatic bio-
diversity.

The pains and strains experienced by the author in conducting the
present investigation, time limitations of the course, costs involved are
to be taken into consideration. This small piece of work undertaken by
the author, no doubt forms the basis to minimize the marine pollution
and toxicity in marine organisms like crab, fish etc. in Visakhapatnam
coast. Thus the work carried out has aspects of relation between marine
water, sediment and crab. The over all collected data forms the Ph.D.
thesis part of the author, which is a partial fulfillment for the award of
the degree.