

Chapter 1

Introduction

1.1 Preamble

Severity of Water pollution, a global problem, is continuously mounting due to indiscriminate and unscientific releases of huge quantities of untreated or partially treated domestic and industrial wastewaters and also agricultural runoff. In India, most of the major rivers are badly polluted resulting in non compliance of the water quality standards specified for best designated uses of the specified river stretches. Almost 70 percent of the surface water resources and groundwater reserves are contaminated by inorganic, biological, toxic and organic pollutants. In many cases, these sources have been rendered unsafe for human consumption as well as for other activities. Due to draught conditions and limited releases from dams in the downstream river stretch during non monsoon months, the minimum required flow in the river is not maintained at many places. The degraded water quality and inadequate quantity contribute to water scarcity and ecological stress.

Godavari, the second longest river in India after the river Ganges is known as "Dakshin Ganga (Southern Ganges)" or "Budi Ganga". It is one of the large river basins and the only river in India that flows from west to east. Its catchment area of 312,813 km², nearly 10% of the total geographical area of the country, extends in six states i.e. Maharashtra, Chhattisgarh, Madhya Pradesh, Andhra Pradesh, Karnataka and Odisha. Its surface water potential is 110.54 km³ and Ground water potential is 40.65 km³. Godavari, is the largest river in Peninsular India with Holy places located on the banks of the river at Nashik and Bhadrachalam. KumbhMela which attracts millions of devotees is organized at Nashik after every 12 years.

Gangapur dam reservoir located at 10 Km upstream of Nashik city is the main source of water for domestic and industrial use in Nashik city. The domestic waste generated is disposed off in the river through nallas in unsewered areas. Beyond urban area, agricultural activities are carried out at a very large scale on both the banks of river Godavari. The growing problem of degradation and human activities has made adverse impacts on river ecosystem and hence it is important to monitor water quality of river, define the level of pollution and take prompt remedial measures to restore the quality.

Mr. Rajesh Madhukar Pandit and Ors. filed a Public Interest Litigation (PIL No. 176 of 2012) against Nashik Municipal Corporation and Ors. and the matter was placed before Hon'ble High Court on 18.4.2013 (**Annexure 1**). As per the PIL, the river does not meet the prescribed Class A-II category (MPCB Standards). During the non- monsoon period, the river water flow is reduced due

to the limited release of water from Gangapur dam and more importance is given to irrigation, drinking water and water supply to thermal power plant in Eklahara. This leads to reduced flow of the river and thus, water quality of river gets deteriorated due to disposal of wastewater and other contaminants.



Washing of Clothes and Vehicles in Godavari River At Balaji Mandir Near Someshwar Waterfall

It was decided by the Hon'able High Court that an expert agency like NEERI should be appointed to prepare a comprehensive action plan on cleaning and proper maintenance of the Godavari river. Accordingly all the necessary documents were received by NEERI for preparation of a project proposal. TOR was stipulated by MPCB. Hon'ble High Court has appointed National Environmental Engineering Research Institute (CSIR-NEERI) to prepare a comprehensive action plan on cleaning and proper maintenance of the Godavari river. Accordingly NEERI has submitted a proposal (**Annexure 2**) with respect to following objectives and scope of the work:

1.2 Objectives

The main objective of the study is to assist the Nashik Municipal Corporation in overall management of Environmental aspects of all the infrastructural facilities. It includes critical evaluation of current systems, monitoring and suggestions for mitigation measures.

1.3 Scope of Work

The scope of work given below has been derived from the PIL documents and issues raised. Primarily, the draft TOR suggested by the MPCB has been taken up as it addresses almost all the major issues concerned in cleaning River Godavari.

The scope of work is considered in three sub- categories mentioned as under:

1. Initial survey to asses existing status of water quality of River Godavari and wastewater disposal and treatment practices adopted;
2. Assessment of solid waste management impacting the river/nallas;
3. Social custom and practices (which are impacting the stream)

The major activities to be considered during the whole study are:

- Collection of secondary data for existing situation of water quality, wastewater systems as a whole, sanitation and solid waste management.
- Reconnaissance survey of the river Godavari from Gangapur dam upto downstream of Nandur Madhyameshwar Bandhara, covering about 60 km stretch.
- Assessment of water quality in 60 km stretch of Godavari River for pre monsoon and post monsoon season at upstream and downstream of confluence points of 19 natural streams which are converted into nallas carrying waste water.
- Suggest remedial measures to restore and maintain the river ecology for its designated use
- Finalize the appropriate monitoring stations in the identified river stretch and work plan for regular monitoring.
- Evaluation of existing STPs and assess the adequacy of planned and under construction STPs.
- Methods for Recycle and Reuse of treated effluents from wastewater treatment plants
- Assessment of current practices adopted for removal and ultimate disposal of Nirmalya, plastic bags and water hyacinth.
- Establishment of Special Environment Management cell along with analytical Laboratory requirement, staffing pattern, requirement of specialized qualifications and experience in environment protection, duties and responsibilities like O&M of Waste management, creation of vigilance squad
- Examination of issues in respect of O&M of waste Management systems for sewage and solid waste and suggest permanent measures to ensure proper administration, supervision and management of provided waste management facilities
- Suggest long term, medium term and short term solutions, especially for waste water disposal through nallas.
- Rejuvenation of river stretches and natural drains through adequate and appropriate design and implementation.
- Evaluation of adequacy and performance of current waste management systems and suggest corrective measures if required

- Development of a model for effective implementation of environmental protocols.
- To prepare detailed Management plan to be implemented during forthcoming “KumbhMela”

The proposal was submitted to High court on 6th May 2013. After scrutinizing the issues, the modifications in the modality of project activities were suggested by the jury.

1.3.1 Suggestions from Honorable High Court Authority

Considering the magnitude of problem, The High court jury was of the opinion that by accepting the project proposal submitted by NEERI, a direction needs to be issued of appointing NEERI to complete the study and submit reports as provided in clause 7.0 of the project proposal. The only modification which was proposed to be made of directing NEERI to submit a preliminary report in June, 2013 containing the recommendations as regards the immediate measures which are required to be taken. Thus NEERI is directed by the High Court to submit the preliminary report by 20th June 2013 stating the steps required to be taken immediately by Nashik Municipal Corporation authorities. Municipal Corporation is expected to extend all possible cooperation and assistance to NEERI to enable the NEERI to complete the assigned task.

1.3.2 Activities Assigned for Preliminary Assessment Report

The following activities are considered for the Preliminary Assessment Report to be submitted by 20th June 2013 (**Annexure 3a through c**):

- Initial Survey of the study Area and Preliminary assessment of the complaints received under the PIL
- Collection and collation of secondary data pertaining to infrastructural facilities and City Sanitation Plan with specific reference to domestic and industrial waste disposal
- Site visit for Sampling and analysis of the identified stretch before monsoon along the river for Rapid evaluation of water quality
- Identification of major areas of concern
- Suggestions/ Recommendations for immediate action to be taken by NMC.

Accordingly the preliminary report was submitted in two parts on 20th and 28th June 2013. On request from NMC, a detailed Action plan document to be implemented for the proposed Kumbh Mela was prepared and submitted to High court on 18th Nov. 2013.