

Proposed action plan for Rejuvenation of River Shimsha



Karnataka State Pollution Control Board

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January 2019

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Proposed action plan for Rejuvenation of River Shimsha

11.State : Karnataka
River Name: **Shimsha**
River Stretch: **Yedyur to Halagur**
Priority : **IV (BOD 6-10 mg/L)**
BOD Range: **4.0-10 mg/L**

1.Shimsha River originates in the southern part of the Devarayanadurga hill in the Tumkur District of Karnataka and flows for about 221 km (137 mi) before joining the River Cauvery at Karnataka State. Maddur town (Town Municipal Council) is the only local body located on the bank of the River Shimsha. **The total polluted stretch of the river is about 80 Kms i.e., from Yedyur to Halagur.**

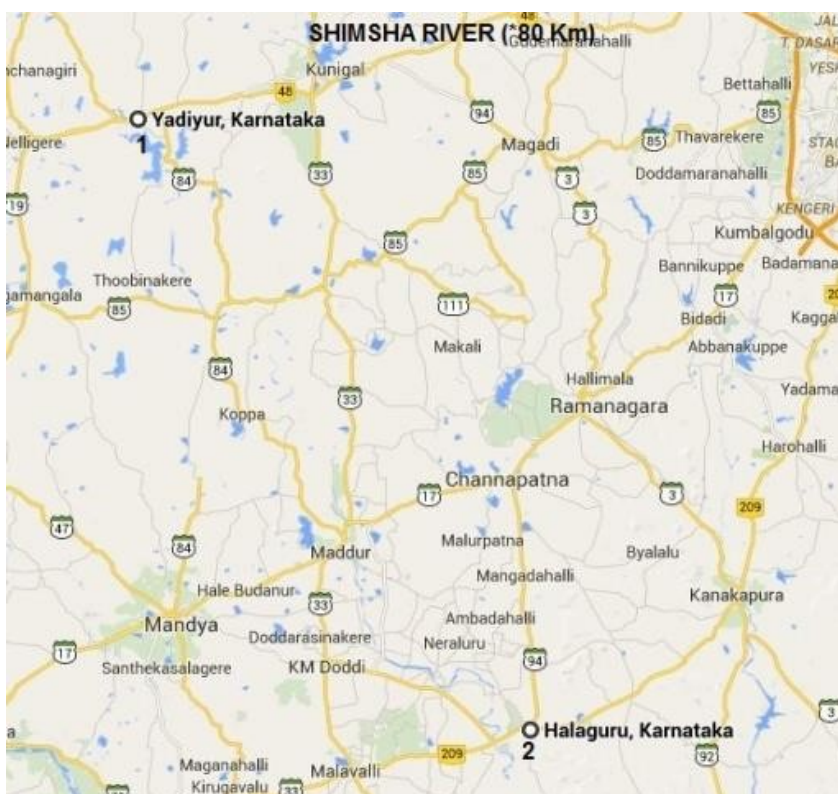


Figure 1. The Simsha River Stretch

2. Major Polluting sources:

2.1 Status of Industrial Effluent and Treatment Facilities:

The category wise number of industrial units located within five Km from the bank of Krishna River (Polluted Stretch) are as follows:

Sl.No	Category	Number of Industries	Distance from Shimsha River Km
01	Sugar, Co-gen & distillery	1	1) About 5Kms

Industry has provided required water pollution control measures & using the treated effluents on land for irrigation.

2.2 Discharge of sewage from Maddur TMC area:

The Population of Maddur town as per 2011 census is 28, 902. The water supply is around 3.0 MLD. The generation of sewage is estimated is 2.4 MLD. **About 80% of the town is provided with UGD facility.** A low cost sewage treatment facility is provided to treat sewage of about 3.5 MLD. The sewage and sullage from the area which is not provided with UGD and outlet of STP and other missing links are discharged in to the river Shimsha.

2.3. Municipal Sewage generation and Treatment

The Town wise sewage generation and treatment capacity developed so far is provided in **Table-1**

Table-1: Status of Domestic Pollution in River - Shimsha.

Sl No.	Name of the local body	Type	Total Sewage generation in MLD	Total Capacity of Sewage treatment in MLD	Status of STP
1	Maddur	TMC	2.4	3.50	Operational at present

2.4 Dumping of Municipal solid wastes on the banks of river:

The quantity of Municipal Solid waste generated per day is about 9 Tons / day. MSW site has been identified and necessary infrastructures facilities to process the wastes are provided. At present they are not segregating the wastes and the wastes is being dumped in MSW site. Apart from dumping the solid wastes in the MSW site, some quantity is also dumped on both banks of the river.

2.5 Vehicle Washings by the publics at different places.

2.6 Non point sources from Agricultural fields / Farms etc.

2.7 Water Quality Monitoring Stations:

In the above polluted river stretch, water quality is being monitored at 3 locations.

3. Characteristics of River water quality:

The monitoring results of **Shimsha**. River at down stream of Bridge Halagur ,down stream of Shimsha near Madduar town and Yediyur on NH-47 for the year 2017 & 2018 are shown in **Table-2**. River water quality conforms to Class C- means Drinking Water Source with

conventional treatment followed by disinfection for Maddur town in year 2017 and Class D- Means Propagation of wild life, fisheries for two stations in 2017& 2018. Class E for Maddur town during 2018 means fit for irrigation ,industrial cooling and controlled waste disposal.

3.1 Status of Water Quality

The details of parameter and specific concentration are provided in **Table-2**

Table-2 : Status of Water Quality of River – Shimsha .

Year	Loations	DO (mg/L)		BOD(mg/L)		Fecal Coliform (MPN/100ml)		Total Coliform (MPN/100ml)		Class
		Min	Max	Min	Max	Min	Max	Min	Max	
2017	At D/S of Bridge Halagur	4.6	6.1	2.14	3.68	3.90	490	1700	2200	D
	Near Yediyur on NH-47	5.1	6.9	3.0	3.0	33	3300	172	13000	D
	D/s Shimsha near Madduar town	5.9	6.4	1.85	2.56	210	380	1400	1500	C
2018	At D/S of Bridge Halagur	4.5	7.1	1.1	3.2	310	470	1300	2200	D
	Near Yediyur on NH-47	5.1	7.2	3.0	4.0	330	1700	5400	16000	D
	D/s Shimsha near Madduar town	2.8	6.8	1.4	6.2	210	410	1200	2400	E

The results indicate that the water is polluted due to sewage from Maddur town.

3. Action taken by the Board:

- TMC Maddur has been informed to provide UGD and STP to the whole municipal area and to treat to the standards prescribed by the Board and to make use of the treated sewage for irrigation / secondary purposes. In this regard, they have been advised to submit action plan for the treatment of sewage and utilization of which includes solid waste management.

4. Actions plan to be taken for Rejuvenation of River water quality:

1. The TMC, Maddur shall provide 100% UGD system to the entire town.
2. The TMC, Maddur shall provide terminal sewage treatment plant to treat the sewage to the standards stipulated by the CPCB.
3. The TMC shall stop discharge of un-treated / treated sewage directly in to the river. Treated sewage shall be utilize for irrigation purpose. Un-treated sewage shall be used for farming till full pledged STP is established.
4. Municipal solid wastes including poultry and slaughter house wastes shall be disposed only in MSW sites as per MSW guidelines and shall not be disposed on river banks.
5. Vehicle washings and other activities shall be regulated.
6. There shall not be discharge of sewage or sullage in to storm water drains. If any discharges are there same may be regulated by taking measures not to discharge into river.
7. River cleaning and rejuvenation activities like removal of algae, sediments, weeds etc., shall be undertaken.
8. Caution display boards at strategic points shall be displayed.
9. Creation of buffer zones on either side of the river bank and developing green belt in that area. No developmental activities shall be taken in this area.

6.0. Cost component involved in the Restoration of Polluted stretch

Cost component shall be an integral part of Detailed Project Report (DPR). Most of the cities and towns are deficient in treatment of its total sewage generated. In order to cater each identified town on the bank of polluted river and gaps observed between total sewage generated and treatment capacity needs to be considered for planning.

Cost component shall invariably depend towards construction, operation and maintenance of sewage treatment plant. On an average Rupees 2.5 Crore has been estimated as Capital Cost per MLD (for primary, secondary and Tertiary treatment) excluding Operation and maintenance cost for all the available conventional and recent technologies. In some cities and towns developed capacity of STP is fully or partially underutilized due to inadequate sewerage network and other implementation issues.

Total estimated cost **of Rs. 30.25 Crores** should be made budgetary provision by local bodies for operation and maintenance of existing / proposed STPs in the identified cities i.e., Maddur town along the **Shimsha** River.

Table -3: Cost Component involved in the Rejuvenation of Polluted Stretch of Shimsha

Sl. No.	Activity	Cost in Rupees Maddur town
1	Operation & maintenance (O&M) cost for existing STP per annum	25 lakhs
2.	Capital cost including O&M for proposed new STP (3 MLD with UGD)	30 Crores
	Total Rupees	30.25 Crores

7. Status of Environmental Flow (E-Flow) :

The details of Flow (discharge) is provided in **Table-4**

Table-4 : Status of E-Flow of River - Shimsha.

Year	Hydrological Observation Site	Flow (m ³ /s)	
		Min	Max
2015			

5. Action Plan- Short Term and Long Term Action and the Identified Authorities for initiating actions and the time limits for ensuring compliance

Short term and long term action plans and the implementing agencies responsible for execution of the action plans and the time limits are given in table as below :-

Sl. No	Action plan for rejuvenation of river Shimsha	Organisation/ Agency Responsible for Execution of the Action plan	Time Target
I.	Industrial Pollution Control		
	(a) Compliance of industries located in catchment area with respect to effluent discharge standards and its disposal as per consent conditions	KSPCB	Complied

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(b) Inventorisation of the industries in the catchment area of River Shimsha covering assessment on aspects relating to Status of Consents under Water & Air Acts and Authorisation, Effluent Generation, ETP capacities and final mode of effluent discharges	KSPCB	Complied
(c) Actions against the Identified industries in operation without Consents under Water & Air Acts/Authorisation under the H&OW (M & TM) Rules, 2016 as amended	KSPCB	Complied
(d) Action against the industries not installed ETPs or ETPs exist but not operating or ETP outlet or treated effluent is not complying to the effluent discharge standards or norms	KSPCB	Complied
(e) Action against the red category industries for installation of OCEMS and not transferring data to CPCB and KSPCB	KSPCB	Complied
(f) Small scale/tiny and service providing units located in urban or semi-urban limits like Dairies, Auto Service Stations to have minimum provision of O & G traps	Local Authorities (Maddur) /DMA	Within three months
(g) Prohibition of Burning of any kind of waste including agro-residues	State Govt./District Administration and Local authorities (Maddur) and agriculture dept.	Within three months

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	(h) Directions to all the Industries which are observed to be not in operation or closed or temporarily closed to remain close till further orders from CPCB.	KSPCB	Within three months
	(i) Estimation of industrial effluent generation and the existing CETP capacity and to arrive gap between the industrial effluent generation and the existing treatment capacity	KSPCB	Not Applicable
	(j) Channelization of industrial effluents to CETPs for ensuring treatment to comply with the discharge standards.	KSPCB and District /Local Administration	Not Applicable
	(k) Identification of suitable site within industrial estates, Execution and Commissioning of Adequate Capacity CETPs.	State Government , District/Local Administration /KIADB	Not Applicable
II. Sewage Treatment and Disposal Plan			
	(a) District-wise estimation of total sewage generation, existing treatment capacities, quantum of disposal of sewage presently through drains and the gaps in sewage treatment capacity.	State Government, KUWS & DB, District /Local Administration	Within six months

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	(b) To undertake measurement of flow of all the drains presently contributing pollution load in river Shimsha and to formulate detailed project report (DPR) for each drain and corresponding town and submission of DPR.	State Government, KUWS & DB, District Administration and Local Bodies (Maddur)	Within six months
	(c) Proper design, execution of STPs with full utilisation capacity	State Government, KUWS & DB, District/Local Administration	Within 24 months
	(d) Channelization including diversion of sewage generated from household/townships/villages to sewer lines/interception of all the drains presently carrying sewage and for ensuring proper treatment through the upcoming STPs	State Government, KUWS & DB, District/Local Administration	Within 18 months
	(e) Ensuring dairy/automobile service stations and Hotels / Restaurants particularly located on road-side should have a treatment system and levy of fine in case found Violations	Local authorities/DMA	Within three months
III	Ground water quality		
	(a) Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public	State Government, Karnataka rural drinking water and Sanitation Department and Local authorities	Contaminated ground water is not noticed
	(b) Supply of potable water to the affected communities in the identified critical blocks	State Government, Karnataka rural drinking water and Sanitation Department and Local authorities	Not Applicable

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(c) Carrying assessment of ground water survey for quality and to identify over exploited and critical blocks in the district (Mandya).	Karnataka Ground Water Authority	Complied
(d) To conduct periodic surprise inspection of the industry to rule out any forceful injection of industrial effluents into ground water resources	KSPCB /KGWA	Complied
(e) All the industry should be directed to obtain NOC from the CGWB and action against the Units in Operation without obtaining of NOC from CGWA	KSPCB, CGWB/CGWA and Karnataka .Ground Water Department	Within Six months (The proposed new industries will be directed to obtain NOC from CGWA)
(f) To ensure rain water harvesting by the industrial, commercial and other institutions and groundwater recharging with only clean water be encouraged by CGWB/CGWA	CGWA/ Karnataka Ground Water Department	Within Six months

IV	Flood Plain Zone (FPZ)	
(a)Plantation in Flood Plain Zone (FPZ)	Karnataka State Forest Department	Within Six months
(b)Checking encroachments in the FPZ of river Shimsha	District/Local administration	Within Six months
(c)Prohibition of disposal of municipal plastic and bio- medical waste particularly in drains	Local administration	Within Six months
(d)Notification of Flood Plain Zone FPZ	State Government	Within six months
V	Environmental Flow (E-Flow) and Irrigation Practices	
(a)Measurement of flow in the river and records maintained	Central Water Commission /Karnataka water resources	Regularly (Daily/ monthly)

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		department	
	(b) To conserve water and good irrigation practices to be adopted by the farmers by organising mass awareness programmes and through media in vernacular language	Karnataka State Irrigation and Agriculture Departments/ Water Resources Department	Once in six months
