

Table 2.2.4 Action Plan for rejuvenation of River Musi (Priority-I stretch) approved by RRC during the meeting held on 13.03.2019 as per the directions of Hon'ble NGT order in O.A.No.673/2018, dated: 20.09.2018 and 19.12.2018

S.No.	Action Plan	Organization responsible for implementation of action plan	Timeline	Budget (Rs. in Lakhs)
Industrial Pollution				
1.	Actions against the identified industries in operation without consents under air and water acts	TSPCB	Already under implementation and to continue as regular activity	As part of department activity
2.	Action against Industries not installed ETPs or ETPs exist but not operating or ETP outlet or treated is not complying to the effluent discharge standards or norms	TSPCB	Already under implementation and to continue as regular activity	As part of department activity
3.	Directions to all industries which are observed to be not in operation or closed or temporarily closed to remain close till further orders of TSPCB	TSPCB	Already under implementation and to continue as regular activity	As part of department activity
Sewage Treatment Plan and Disposal Plan				
1.	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	MA&UD, HMWS&SB, PHED (Urban areas)	Study awarded and the report is about to be submitted by July, 2019	HMWS&SB awarded the study to M/s. Shah Consultancy
2.	To undertake the measurement of flow of all the drains presently contributing to pollution load in river and to formulate DPR for each drain and corresponding town	State I&CAD, HMWS&SB, GHMC, PHED (Urban areas)	6 months	-
3.	Design and execution of STPs Set up of new STPs at the desired locations and follow up of the same	HMWS&SB, GHMC, PHED (Urban Area)	36 months	2,34,000/-
4.	Channelization including diversion of sewage generated from villages/towns etc through I&D of all the drains presently carrying sewage and for ensuring proper treatment of the upcoming STPs	HMWS&SB, GHMC, PHED (Urban Areas)	36 months at present a study is awarded to M/s. Shah Consultancy and the final report is expect by July, 2019	HMWS&SB awarded the study to M/s. Shah Consultancy for
5.	Implementation of the faecal management with co-treatment facilitated at various STPs	HMWS&SB	2 months	400/-

Groundwater Quality				
1.	Supply of potable water to the affected communities in the identified critical blocks	HMWS&SB, GHMC, Rural Water Supply and Sanitation Department	1 month and to continue as regular activity	As part of departmental activity
2.	Carrying assessment of groundwater survey for quality and to identify over exploited zones and critical zones in the city	SGWB	2 months and to continue as regular activity	As a part of departmental activity
3.	To ensure rain water harvesting by the, commercial and other Institutions and groundwater recharging with only clean water be encouraged by TSPCB/State Ground Water Board	SGWB / GHMC / TSPCB	3 months and to continue as regular activity	As a part of departmental activity
4.	Periodical ground water quality assessment and remedial actions in case of contaminated GW / TW / BW / HP and assessment of the need for regulating use of ground water for irrigation purposes	SGWB / TSPCB // State I&CAD	2 months and to continue as regular activity	As a part of departmental activity
5.	Installation of piezometers and recharge shafts	SGWB	11 months	726.25
Flood Plain Zone				
1.	Plantation in flood plain zone	State I & CAD, HMWS&SB, GHMC, Rural Water Supply and Sanitation Department	1 month and to continue as regular activity	As a part of the Government Haritha Haram Programme
2.	Checking encroachments in the flood plain zone	State I&CAD, GHMC, Revenue Department	2 months	As a part of departmental activity
3.	Prohibition of disposal of municipal, bio-medical in drains	TSPCB, GHMC	Already under implementation and to continue the activity	As a part of departmental activity
4.	Prohibition of disposal of Plastic, Hazardous and E-waste in drains	TSPCB / State I & CAD	Already under implementation and to continue the activity	As a part of departmental activity
5.	Notification of Flood Plain Zone	State I&CAD	3 months	-
Environmental Flow (E-flow)				
1.	Measurement of flow of all the drains meeting the river and maintenance of all records	CWC / State I&CAD	6 months	88/- for water level measurement at 8 locations
2.	Water and Irrigation practises and organization of awareness programmes for the farmers	State I&CAD, GHMC, Revenue Department	3 months	-

**PERT Chart with proposed timelines for Action Plan Implementation from June 2019
onwards for rejuvenation of River Musi**

Action Plan	June-Aug 2019	Sep-Nov 2019	Dec2019-Feb 2020	March-May 2020	June-Aug 2020	Sep-Nov 2020	Dec2020-Feb 2021	March-May 2021	June-Aug 2021	Sep-Nov 2021	Dec 2021-Feb 2022	March-May 2022
Identification of location for proposed STPs	Yellow	Yellow										
Preparation of DPR		Light Green	Light Green									
Tender finalisation and award of work				Green	Green							
Set up of STPs						Blue	Blue	Blue	Blue	Blue	Blue	
Installation of peizometers and recharge shafts		Orange	Orange	Orange								
Implmentation of fecal management with co-treatment facilities at various STPs	Dark Purple											
Water Quality sampling after set up of STPs								Light Blue	Light Blue	Light Blue	Light Blue	
Flow measurements of all the drains and calculation of E-flow	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	
Preparation of final report after the implementation of the action plan										Yellow	Yellow	Yellow

The above action plan and the time lines mentioned would be contingent on the availability of land for construction of STPs at the identified locations, the delays involved in the process of removal of encroachments, land acquisition procedures and litigation thereon. Allocation of finances to the various components of the action plan involves legislative and administrative actions and predicting their timeliness accurately may not be feasible.

Table 3.2.4 Action Plan for rejuvenation of River Manjeera-Nakkavagu (Priority-II stretch) approved by RRC during the meeting held on 13.03.2019 as per the directions of Hon'ble NGT order in O.A.No.673/2018, dated: 20.09.2018 and 19.12.2018

S.No.	Action Plan	Organization responsible for implementation of action plan	Timeline	Budget (Rs. In lakhs)
Industrial Pollution				
1	Actions against the identified industries in operation without consents under air and water acts	TSPCB	Already under implementation and to continue as regular activity	As part of department activity
2	Action against Industries not installed ETPs or ETPs exist but not operating or ETP outlet or treated is not complying to the effluent discharge standards or norms	TSPCB	Already under implementation and to continue as regular activity	As part of department activity
Sewage Treatment Plan and Disposal Plan				
1	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	MA&UD, HMWS&SB, PHED	Study awarded and the report is about to be submitted within	HMWS&SB awarded the study to M/s. Shah Consultancy
3	Design, execution of STPs	HMWS&SB, GHMC, PHED (Urban Area)	36 months	18,330
4	Channelization including diversion of sewage generated from villages/towns etc through I&D of all the drains presently carrying sewage and for ensuring proper treatment of the upcoming STPs	HMWS&SB, GHMC, PHED (Urban Areas)	36 months	-
6	Treatment and disposal of septage and controlling open defecation	ULB / PHED	4 months	-
Groundwater Quality				
1	Supply of potable water to the affected communities in the identified critical blocks	HMWS&SB, GHMC, Rural Water Supply and Sanitation Department	1 month and to continue as regular activity	As part of departmental activity
2	Carrying assessment of groundwater survey for quality and to identify over exploited zones and critical zones in the city	SGWB	2 months and to continue as regular activity	As part of departmental activity
3	To ensure rain water harvesting by the Industrial, commercial and other Institutions and groundwater recharging with only clean water be encourages by TSPCB/State Groundwater Board	TSPCB / SGWB	3 months and to continue as regular activity	As part of departmental activity

4	Installation of piezometers and recharge shafts	SGWB	11 months	285.5
Flood Plain Zone				
1	Plantation in flood plain zone	State I & CAD, HMWS&SB, GHMC, Rural Water Supply and Sanitation Department	1 month and to continue as regular activity	As a part of the Government Haritha Haram Programme
2	Checking encroachments in the flood plain zone	State I & CAD, GHMC, Revenue Department	2 months	As part of departmental activity
3	Prohibition of disposal of municipal, bio-medical in drains	TSPCB, GHMC	Already under implementation and to continue the activity	As part of departmental activity
4	Prohibition of disposal of Plastic, Hazardous and E-waste in drains	TSPCB / State I&CAD	Already under implementation and to continue the activity	As part of departmental activity
5	Notification of Flood Plain Zone	State I&CAD	3 months	As part of departmental activity
Environmental Flow (E-flow)				
1	Measurement of flow of all the drains meeting the river and maintenance of all records	CWC / State I&CAD	6 months	33/- for water level measurement at 3 locations
2	Water and Irrigation practises and organization of awareness programmes for the farmers	State I&CAD, GHMC, Revenue Department	3 months	-

PERT Chart with proposed timelines for Action Plan Implementation from June 2019 onwards for rejuvenation of River Manjeera-Nakkavagu

Action Plan	June-Aug 2019	Sep-Nov 2019	Dec2019-Feb 2020	March-May 2020	June-Aug 2020	Sep-Nov 2020	Dec2020-Feb 2021	March-May 2021	June-Aug 2021	Sep-Nov 2021	Dec 2021-Feb 2022	March-May 2022
Identification of location for proposed STPs	Yellow	Yellow										
Preparation of DPR		Light Green	Light Green									
Tender finalisation and award of work				Green	Green							
Set up of STPs						Blue	Blue	Blue	Blue	Blue	Blue	
Installation of peizometers and recharge shafts		Orange	Orange	Orange								
Implmentation of fecal management with co-treatment facilities at various STPs	Dark Purple											
Water Quality sampling after set up of STPs								Light Blue	Light Blue	Light Blue	Light Blue	
Flow measurements of all the drains and calculation of E-flow	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	
Preparation of final report after the implementation of the action plan										Yellow	Yellow	Yellow

The above action plan and the time lines mentioned would be contingent on the availability of land for construction of STPs at the identified locations, the delays involved in the process of removal of encroachments, land acquisition procedures and litigation thereon. Allocation of finances to the various components of the action plan involves legislative and administrative actions and predicting their timeliness accurately may not be feasible.