# PROPOSED ACTION PLAN FOR REJUVENATION OF RIVER NEWAJ AT SHUJALPUR

## M.P. POLLUTION CONTROL BOARD

# INDEX

## 1.0 BACKGROUND

**1.1** **NGT Case No. 673/2018** : Hon'ble National Green Tribunal Central Zonal Bench New Delhi, in the matter of original application no. 673/2018 *(News Item Published in the "Hindu" authored by Shri Jacob Koshy titled" More river stretches are now critically polluted: CPCB")* passed an order on 20/09/2018. The para 48, 49 and 50.3 of this order are relevant to comply. The para 48 states that *"it is absolutely necessary that Action Plans are prepared to restore the polluted river stretches to the prescribed standards"*. Para 49 states that *"Model Action Plan for Hindon River, already provided by CPCB, may also be taken into account"*

In para 50(i, ii, iii) Hon'ble National Green Tribunal has issued following directions:-

*i.* *All States and Union Territories are directed to prepare action plans within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i,e BOD < 3 mg/L and FC < 500 MPN /100 ml) within six months from the date of finalization of the action plans.*

*ii.* *The action plans may be prepared by four-member Committee comprising, Director, and Environment. Director, Urban Development. Director, Industries. Member Secretary, State Pollution Control Board of concerned state. This Committee will also be the monitoring Committee for execution of the action plan. The Committee may be called "River Rejuvenation Committee" (RRC). The RRC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory.*

*iii.* *The action plan will include components like identification of polluting sources including functioning/ status of STPs/ETPs/CETP and solid waste management and processing facilities, quantification and characterization of solid waste, trade and sewage generated in the catchment area of polluted river stretch. The action plan will address issues relating to; ground water extraction, adopting good irrigation practices, protection and management of Flood Plain Zones (FPZ), rain*

*water harvesting, ground water charging maintaining minimum environmental flow of river and plantation on both sides of the river. Setting up of biodiversity parks on flood plains by removing encroachment shall also be considered as an important component for river rejuvenation. The action plan should focus on proper interception and diversion of sewage carrying drains to the Sewage Treatment Plant (STP) and emphasis should be on utilization of treated sewage so as to minimize extraction of ground or surface water. The action plan should have speedy, definite or specific timelines for execution of steps. Provision may be made to pool the resources, utilizing funds from State budgets, local bodies, State Pollution Control Board/ Committee and out of Central Schemes.*

**1.2** **Location detail of City:** Shujalpur is located at 23.4°N 76.72°E It has an average elevation of 448 metres. The city falls in the Malwa region. Two rivers, the Nevaj and the Jamdhad, flow through the city. As of 2011 India cecsus Shujalpur had a population of 60375. **Shujalpur railway station** is a small railway station in Shajapur district

**1.3** **Polluted river stretch of Newaj :** In para 47 of the above order dated 20/09/2018, the polluted river stretch of Newaj river has been mentioned as ***" Shujalpur Dist. Shajapur ".*** The Newaj river near the western boundary of Sehore District. It flows towards the north and enters Shajapur District, near Geglekheri. The river drains the major part of Shujalpur . After flowing for about 48 km in Shajapur District, it passes through Rajgarh District and finally joins the River Chambal. This is a non perennial river, generally flows during mansoon/winter season. This River flows the outer boundary of Shujalpur city. *The Part of the Newaj river about 1.0 Kms from confluence point of Jamdhad River to Barrage(Bavan Ghat) constructed across Newaj river at Jhirniya village is found to be polluted due to city sewage of Shujalpur*

## 2. Newaj River & Pollution Status

The Newaj is left bank tributary of the river Parwati . The catchment lies between North latitudes of 22 o 51'06" and 24 o 24'44" and East longitudes 76 o 27'11" & 77 o 05'53". The Newaj River rises at an elevation of 634 m in the Astha tehsil of the Sehore district in Madhya Pradesh and traverses a total length of 220 km, out of which 205 km is in Madhya Pradesh and the remaining in Rajasthan. The average bed slope of Newaj River is 0.15%. The catchment area of Newaj upto its confluence with Parvati is 4372 sqkm and the area upto Mohanpura dam site is 3594 sqkm. The districts covered by the sub-basin are Sehore, Dewas, Shajapur and Rajgarh in Madhya Pradesh and Jhalawar in Rajasthan. The districts covered by the sub-basin upto dam site are Dewas, Sehore, Shajapur and Rajgarh of Madhya Pradesh.River newaj flows adjacent to Shajalpur town about 02 Km .

A barrage has been also constructed on this river (***Bavan Ghat barrage***) *at Jhirniya village*, which is the main source of water supply of Shujalpur City . Total water supply of city from Nagar Parishad Shujalpur is 5 MLD & generation of domestic effluent is about 4.0 MLD .Domestic effluent of city meets the river Newaj at village Jhirniya through River Jamdhad after travelling about 2.0 Kms from city,which is main source of pollution in the river stretch about 1.0 Km after mixing of River Jamdhad. Generally domestic effluent meets in Rainy & Winter season & during summer season River Jamdhad dry & no effluent meets River Newaj. There are about 10 small check dams of height about 05 meters constructed in Shajapur Districts on the River Newaj & water is accumulated in the pockets .Accumulated water is being used by local farmer for irrigation.

Latitude: - 23°24'23.42"N, Longitude: - 76°41'13.69"E

## Confluence Point of River Jamdhad


Latitude: - 23°23'18.28"N, Longitude: - 76°41'45.77"E

Confluence Point of Railway Bridge Nallah

## *2.1* River Newaj & Various Nallas joining river Newaj

**It is to be mentioned here that there are 02 river/nallas namely River Jamdhad & under bridge Nalla in flowing in the area and other 25 are the tributary nalas. The details of these rivers/nalas are as below:-**

- **Jatashankar Nala: -** *Is originates from Ward no. 12 and join to Jamdhad River . Mostly sewage of the Ward no. 12 of city Shujalpur flows in it.*
- **Four lane Road Nala :-** *Is originates from Ward no. 12 and join to Jamdhad River . Mostly sewage of the Ward no. 12 of city Shujalpur flows in it.*
- **Four lane Nala :-** *Is originates from Ward no. 13 and join to Jamdhad River . Mostly sewage of the Ward no. 13 of city Shujalpur flows in it.*
- **Four lane Nala:-** *Is originates from Ward no. 14 and join to Jamdhad River . Mostly sewage of Ward no 14 of the city Shujalpur flows in it.*
- **Brajnagar Nala :-** *Is originates from Railway colony area and join to Jata shanker Nala . mostly sewage Railway colony area of the city Shujalpur flows in it.*
- **Ward No. 15 Nala:-** *Is originates from Ward no. 15 and join to Jamdhad Nala . mostly sewage* Ward No. 15 *of the city Shujalpur flows in it.*
- **Bus stand Nala :-** *Is originates from Ward no. 12 and join to Jamdhad Nala . mostly sewage of the city Shujalpur flows in it.*
- ***Ward no. 17*** **Four Line Nala :-** *Is originates from Ward no. 17 and join to Jamdhad Nala . mostly sewage Ward no. 17 of the city Shujalpur flows in it.*
- **Prem Nagar Colony Nala :-** *Is originates from Prem Nagar colony and join to Jamdhad Nala . mostly sewage of the area flows in it.*
- **Ajad Nagar Nala Purana Jatashankar Nala :-** *Is originates from Ajad Nagar Area and join to Jamdhad Nala . mostly sewage of the area flows in it.*
- **Ward No. 17 Punjabi Mohalla Nala :-** *Is originates from Ward no. 17 and join to Jamdhad Nala . mostly sewage of the area flows in it.*
- **Railway Colony Nala :-** *Is originates from Railway colony area and join to Jamdhad Nala . mostly sewage of the area flows in it.*
- **Ward No. 19 Nala :-** *Is originates from Ward no. 19 and join to Jamdhad Nala . mostly sewage of the area flows in it.*
- **Ward No. 22 Ware house Nala:-** *Is originates from Ward no. 22 and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Patidar Colony Nala:-** *Is originates from Patidar colony area and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Ganesh Mandir Road Nala :-** *Is originates from Ganesh mandir road and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Police Thana Nala :-** *Is originates from Police Thana area and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Ganesh Colony Nala :-** *Is originates from Ganesh colony area and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Raikanpura Tanki Nala:-** *Is originates from Raikanpura area and join to Jamdhad Nala . mostly sewage of the area flows in it.*

- **Jamdhad River :-** *It flows in city Shujalpur and joins at village Jhirniya river Newaj. Total length approx 07 km within Shujalpur and Shujalpur mandi area . The Jamdhad does not has its Natural water & the sewage of Shujalpur city Both the stretches mostly carry sewage of the area. 20 small above nala joins these River.*

- **Ward No. 23 Railway Colony Nala :-** *Is originates from Ward no. 23 and join to* **under brige nalla** *. mostly sewage of the area flows in it.*

- **Ward No. 24 Dindayal Nagar Nala :-** *Is originates from Ward no. 24 and join to* **under brige nalla** Kamliganj *Nala . mostly sewage of the area flows in it.*

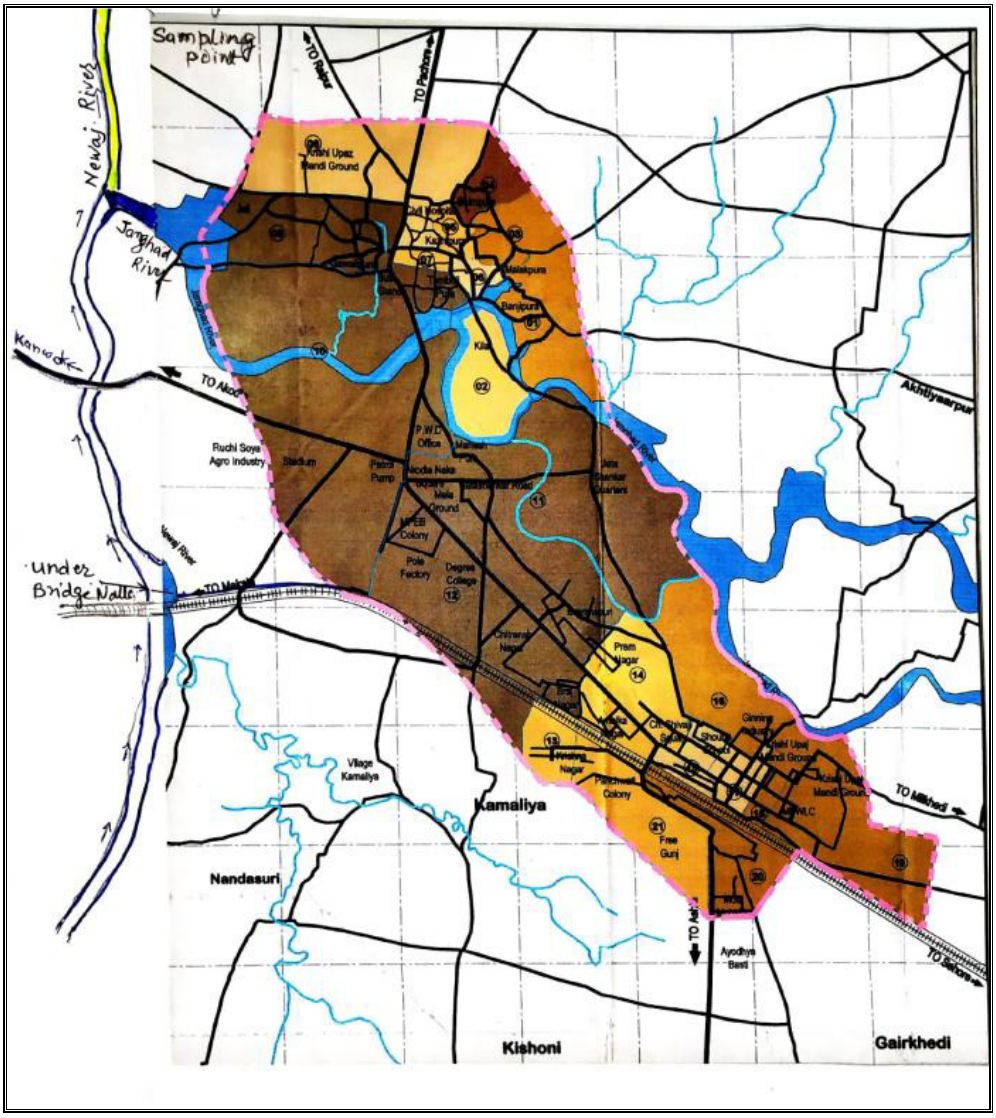
- **Ward No. 24 Aashta Road Nala :-** *Is originates from Ward no. 24 and join to* **under brige nalla** *Nala . mostly sewage of the area flows in it.*

- **Ward No. 25 Aashta Road Nala :-** *Is originates from Ward no. 25 and join to* under bridge *Nala . mostly sewage of the area flows in it.*

- **Under Bridge Nala :-** *Is originates from railway colony & nalla of ward No. 23,24 & 25 join this nalla . mostly sewage of the area flows in it .This nalla join to River Newaj at railway bridge in winter & mansoon season.*

# Map showing location Rivers, Nallahs & Ward of Shujalpur

**Barrage & Sampling Point**



## 3. Water Quality Goal

It is an important aspect for revival of river Newaj in context of its utility as it is Non-perennial River. The ultimate goal for beneficial use of river will determine the level of actions to be taken for maintaining the water quality. In the above application OA no. 673/2018, Hon'ble National Green Tribunal passed the order that "*All States and Union Territories are directed to prepare action plans within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i,e BOD < 3 mg/L and FC < 500 MPN /100 ml) within six months from the date of finalization of the action plans."* Thus accordingly to achieve above goal, the various stake holders viz. Nagar Palica Parshad Shujalpur , Water Resources Department etc. has been asked to submit the action plan considering the order of Hon'ble NGT as stated above. For achieving the river quality fit for bathing purposes, it is essential that there should be minimum flow available in the river during whole of the year, to get sufficient dilution for treated domestic waste water (BOD < 10mg/litre). In fact all domestic effluent of Shujalpur City is water feeder to river Newaj.

Also, the industrial effluents generated from the catchment of river Newaj which ultimately joining and contributing to the pollution load in river Newaj should be treated to meet the effluent discharge standards stipulated under Schedule-VI of the Environment (Protection) Rules, 1986 and to reuse the treated waste water for cooling/horticultures and other uses & maintain zero discharge at outlet.

Comparative suggested criteria for bathing in river Newaj is given in the following **Table-1**.

**Table 1. Suggested criteria for outdoor bathing**

| Sl.No | Parameters | Class 'B' Water Quality Criteria –for Bathing (to be achieved) | Class 'E' Water Quality Criteria for Irrigation (Present Quality) |
|---|---|---|---|
| 1 | pH | 6.5 to 8.5 | 6 to 8.5 |
| 2 | Dissolved Oxygen (DO) | ≥ 5.0 mg/l | - |
| 3 | Bio Chemical Oxygen Demand | < 3 mg/l | - |
| 4 | Total Coliforms Organism MPN/100 ml | < 500 | - |

## 4. The Basis of Proposed Action Plan for pollution Abatement of river Newaj

River Newaj being intermittent river, the action plan for maintaining water quality will be different from that of the perennial rivers. Presently, the river Jamdhad a tributary of river Nawej are carrying mostly domestic waste water generated in the municipal limit of Shujalpur. Also various very small nallas (20 nos) which carry the sewage meet to river Jamdhad at different locations. , the action plan for prevention and control of pollution of river Newaj has been drafted based on the directions given by this Hon'ble National Green Tribunal as mentioned here in above.

# 5. FIELD SURVEY

## 5.1 Field Survey

The field recon survey is carried out to see the pollution level and current status of Newaj River. The physical survey is conducted from Shujalpur city up to the confluence of Newaj River . During the field survey the following observations were made.

1. The Newaj river near the western boundary of Sehore District. It flows towards the north and enters Shajapur District, near Geglekheri. The river drains the major part of Shujalpur. After flowing for about 48 km in Shajapur District, it passes through Rajgarh District and finally joins the River Chambal. This is a non perennial river, generally flows during mansoon/winter season. The following important Nallas / Rivers are meeting with the Newaj River within shujalpur Nagar palica parshad limits.

**Table- 2: Outfalls meeting Newaj River within Nagar palica limits**

| Sr. No. | River / Nalla | Wards Covered |
|---|---|---|
| 1 | Jamdhad River | 22 Wards |
| 2 | under bridge nalla | 3 Wards |

2. There are in total 19 very small nallas meet into Jamdhad River directly. There is no sewer line in Shujalpur City & No STP is installed by nagar palica parishad .Jamdhad river mostly flows sewage of city which discharge the sewage into the river Newaj near village Jhinia (Winter & rainy season) after travelling about 03 Kms. During Summer season Jandhad river dry .

3. There are one Check Dam on the Jamdhad river at upstream of town, namely ***Jata shanker Dam*** to store the water for the water supply purpose and to facilitate the downstream village for drinking water sources of city.

4. There are in total 03 very small nallas of ward no 23,24,25 meet into **under bridge nalla** directly. There is no sewer line in Shujalpur City & No STP is installed by nagar palica parishad. **Under bridge nalla** flows sewage of 03 wards of city which discharge the sewage into the river Newaj near Railway

Bridge (winter & rainy season). During summer season this nalla dry.

## Jatashankar Dam on Jamdhad River

## Bawangaja Barrage on Newaj River

**Intake well & Sampling Point of PCB on Newaj River**


**River Newaj at Down Stream of Barrage**

5. Presently about 05 MLD water is supplied by Nagar palica Shujalpur from barrage on the Newaj river. Estimate quantity of domestic effluent of Shujalpur city is about 4.0 MLD. There are no Sewage Treatment Plant for the treatment of domestic effluent. The waste water that is about 4 MLD is directly flowing in river Jamdhad & meets River Newaj after travelling about 2 Kms in mansoon & winter season.

**Confluence Point of River Jamdhad & River Newaj at Vill. Jhirniya**

**Nallah meeting into Jamdhad River at Shujalpur**

**Railway Bridge Nallah dry in summer season**

6. At present, the local farmers along the Jamdhad River are using the water from the Jamdhad River for farming. Since, it has high nutrient value, it is good for irrigation / farming but on the other side, since, it is untreated sewage, it carries millions of e-coli bacteria with it and hence, it is not safe for irrigation purpose.

7. As described earlier, the farmers used the water from Jamdhad River to irrigate their fields; approximately 90% of running water (including partially treated sewage) is being used for farming. Hence, practically there was hardly any flow in the river except rainy season. This can be seen in the photographs here below.

## River Jamdhad at Down Stream of Shujalpur

### 5.2 Water Characteristics of river Newaj & nallas

The water quality of above rivers and nallas are given as under.

**Table 3:**

**Average Water Quality of River Newaj at intak well Shujalpur Year 2017-18**

| S. No. | Drain/Nallah | River in which drain | pH | BOD | COD | TDS |
|---|---|---|---|---|---|---|
| 1 | River Newaj at intak well Shujalpur | ---------- | 7.84 | 2.13 | 14.64 | 360.72 |

**Average Water Quality of River Newaj at intak well Shujalpur Year 2018-19**

| S. No. | Drain/Nallah | River in which drain | pH | BOD | COD | TDS |
|---|---|---|---|---|---|---|
| 1 | River Newaj at intak well Shujalpur | ---------- | 7.76 | 2.7 | 16.2 | 385.50 |

**Water Quality of River Newaj at intak well Shujalpur as on Dated 27-04-2019**

| S. No. | Drain/Nallah | River in which drain join | pH | BOD | COD | TDS |
|---|---|---|---|---|---|---|
| 1 | River Newaj at intak well Shujalpur | ---------- | 7.30 | 2.6 | 24 | 396 |

**Table 4 : Outfall Jamdhad River before (Near Shani mandir) confluence to Newaj River**

| S. No. | Parameter | Unit | Result |
|---|---|---|---|
| 1 | Colour | Pt.Co.sc. | Turbid |
| 2 | Odour | -- | odourless |
| 3. | pH | pH units | 8.3. |
| 4. | Chloride as Cr | mg/l | 329.8 |
| 5. | Total Solids | mg/l | 1960 |
| 6. | Suspended Solids | mg/l | 80 |
| 7. | Total Dissolved Solids | mg/l | 1880 |
| 8. | B.O.D. | mg/l | 40 |
| 9. | C.O.D. | mg/l | 90 |

## 5.3 Status of water quality of ground water in the study area

In the ground water quality no pollutant contamination is significant. No critical source, were identified.

## 6. Components of Action Plan

## 6.1 Main Sources of Pollution in river Newaj

- Domestic waste water of city Shujalpur directly meeting river newaj through Jamdhad River.

- Two Medium scale industries are situated in the catchment area

## 7. MEASURES TO ABATE POLLUTION IN NEWAJ RIVER

*As stated here in above, various measures shall be implemented by Nagar Palica Parishad Shujalpur , District Administration , MPPCB and other government agencies in compliance of order passed by Hon'ble National Green Tribunal,.*

### 7.1 Work taken up so far in order to upgrade the Newaj & Jamdhad rivers of Shujalpur

**7.1.1 Solid Waste Management Practices -** By adopting the SWM practices in the city and creating the awareness in the public - not to dump house refuse, debris and demolished material in & along the river and not to dispose the sewage directly in the rivers or water streams. The following are the details of works done under SWM.

#### 7.1.1.1 Collection & Transportation –

a. 100 % Door to Door collection of waste is being practiced in all 25 wards of Shulalpur City.
b. There are 07 Twin comparted Vehicles for Door to Door Collection of Waste (One part for Dry Waste and Other for Wet waste).
c. All Household and Commercial area is covered by these 07 Door to Door Vehicles.
d. The cost of 07 Door to Door vehicles is approximately 0.42 Crore.

## Vehicle for Door to Door Collection of MSW


## Litter Bin for collection of MSW

### 7.1.1.2 Transfer Station of MSW

NO transfer point is installed by Nagar palica Shujalpur

### 7.1.1.3 MSW Processing & Disposal

- Government has allotted 6.870 ha of land for MSW Storage ,Segregation, Material recovery facilities ,Processing at village Shyampur on the Shujalpur –Pachore road .Site is situated about 07 kms away from city .
- Nagar palica has installed Segregation pits No Material Recovery Facility is in operation at the site for recovery of Plastic, Paper, Metal, Glass & etc.
- No Processing Unit is installed by Nagar palica.
- For the Treatment of Wet waste, No Composting Plant is installed by Nagar palica
- Presently about 20 MT/D MSW is disposed off on land filling unscientifically manner
- No compost pits were installed by Nagar palica at site

**Segregation Pits at MSW Site**

**Sludge Dying Bed for Sewerage Sludge**

### 7.1.2 Bin-free City

- 100% waste collection is practiced in the city.

### 7.1.3 Cleaning & dredging of river

Newaj River flows outer side of city about 2.0 KMs away from residential area. There is no encroachment is found in Newaj River. Hence there no need of cleaning & dredging of River Newaj.

### 7.1.4 Diversion of sewer outfalls

In Railway bridge nalla along with small nalla originates from ward No. 23, 24&25 joins River newaj at railway bridge may be diverted into Jamdhad. Presently no sewer pipe line in Shujalpur city .primary & secondary pipe line upto proposed STP shall be laid for collection of domestic effluent. Estimate the length of pipeline about 35 Km.

**7.1.5 Sewerage Treatment Plants and Common Effluent Treatment Plant –** The details are as below-

**(i) Sewerage Treatment Plant -**

5 MLD Sewage Treatment Plant based on SBR technology shall be constructed in 1 module to cater the need of the population of 2030 of city. The cost of this STP with 3 years O&M is Rs. 07 Cr.(Approx.)

**(ii) Common Effluent Treatment Plant -**

Only two water polluting industries M/s Ruchi soya & Adani Wilmer, Shujalpur is situated in the area, which has provided adequate ETP and maintaining zero discharge. A small industrial area is also situated in Shujalpur but No water polluting is in the operation. Hence Common ETP is not required.

**ETP of M/s Ruchi Soya Shujalpur**

**ETP M/s Adani Wilmer Shujalpur**

### 7.1.6 Regulatory measures

#### 7.1.6.1 Banning of use of Polythene Carry bags

Govt. of M.P. has issued order vide dated 24.05.2017 for banning of use, sale, manufacturing and storage of polythene bags. In compliance of this order Nagar palica Parishad Shujalpur has also banned the polythene carry bags in city Shujalpur.

**Action Taken against Polythene Carry bag**

### 7.1.7 Plantation including fencing along the bank of rivers in order to improve the environment

As stated ealier river Newaj flow the outer boundary of city & no encroachment found in River Newaj . No action taken regarding plantation in order to improve the environment. However encroachment is found river jandhad but no fencing along the bank of rivers in order to improve the environment is done .

### 7.1.8 Removal of encroachment

As per the directive issued by Hon'ble NGT the initiative for survey and removal of encroachment is found in Jamdhad river within the municipal limit . No encroachment found in River Newaj at Shujalpur .The following are the details –

**Encroachments**

a. Surveyed so far along Jandhad River – 40Nos.

b. Encroachment Removed -Nil

**8. Proposed action plan- Short term & Long term action and the identified authorities for initiating actions and the time limits for ensuring compliance.**

The 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 :-

## Proposed Short Term and Long Term Action Plan for abatement of pollution of River Newaj

| SI No. | Action plan for abatement of pollution of river Newaj | Organization/Agency Responsible for Execution of the Action Plan | Time Target (For Preparation of Scheme) | Present Status |
|---|---|---|---|---|
| I. | **Industrial Pollution Control** | | | |
| | (a) Construction of Effluent Conveyance System & CETP (Common Effluent Treatment Plant) | Not required | Not required | Not required |
| | (b) Inventorisation of the industries in the catchment area of River Newaj 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 | MPPCB and MPSIDC | completed | Only the two industry is situated in the catchment of the river at Shujalpur |
| | (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. | MPPCB/CPCB | Not Applicable | Not Applicable |

| | | | | |
|---|---|---|---|---|
| | (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. | MPPCB/CPCB | NA | NA |
| | (e) Action against the red category industries for installation of OCEMS and not transferring data in CPCB and MPPCB | MPPCB | NA | NA |
| | (g) Small scale/tiny and service providing units located in urban or semi-urban limits like Dairies. Auto Service Stations to have a minimum provision of O & G traps. | MPPCB | NA | NA |
| | (h) Prohibition of Burning of any kind of waste including agro-residues | State Govt./District and Local authorities | Regularly | Govt. of M.P. has already issued prohibitory orders. |
| **2** | **Sewage Treatment & Disposal Plan (Proposed STP) .** | | | |
| **1.** | **Protection of water quality of Newaj at Shujalpur** | | | |
| | (a) Laying of sewerage network in the colonies /residential area at upstream of Jamdhad River( 35 Km. Approx) | Nagar Palica parishad | No proposal has submitted by Nagar palica Shujalpur. | After submission of scheme & sactioned,<br><br>allotment of fund (Within 3 years after allotment of fund) |

| | | | | |
|---|---|---|---|---|
| | (b) Trapping of sewage source of residential conoly | Nagar Palica parishad | No proposal has s submitte d by Nagar palica Shujalpur | Estimate Cost is 07 crores for construction of STP -05 MLD & laying of sewer line including 05 years O/M |
| | (c) Construction of STP – 5 MLD,<br>**Proposed site**<br>Near Shamshaan Dhat (Hindu cremation Site) on the bank of Jamdhad river. | Nagar Palica parishad | No proposal has submitte d by Nagar palica Shujalpur | |
| | (d) Reuse of 5 MLD effluent of proposed STP for garden, flushing, horticulture & fire fighting i/c construction of 1 no OHT & pipe network | Nagar Palica parishad | No proposal has submitte d by Nagar palica Shujalpur | After allotment of fund (Within 3 years) |
| | (e) Plantation in the area | Forest Dept. | Within one year | |
| **3** | **Flood Plain Zone (FPZ)** | | | |
| | (a) Survey & Demarcation of FPZ of River Newaj & Identification of enchrochments. | District/Local administration | Within one year | |
| | (b) Checking encroachments in the FPZ of river Newaj | District/Local administration | Within one year | No encroachment is found in polluted stretch |
| | (c) Notification of Flood plain Zone FPZ | State Government | Within one year | |
| | (d) Plantation in Flood plain Zone (FPZ) | M.P. State Forest Department/ Nagar palica | NA | |

| | | | | |
|---|---|---|---|---|
| | (e) Prohibition of disposal of municipal plastic and biomedical waste particularly in drains | Local administration | Regularly | Disposal of Solid Waste in FPZ of rivers & Nallas already banned. |
| 4 | **Environmental Flow (E-Flow and Irrigation Practices)** | | | |
| | (a) Measurement of flow of Newaj river and maintaining records | M.P. Irrigation Department /Nagar Nigam/ Local bodies | Regularly | |
| | (b) To conserve water and good irrigation practices to be adopted by the farmers by organizing mass awareness programmes and through media in vernacular language | M.P. State Irrigation and Agriculture Departments. | Regularly | |