ACTION PLAN FOR RESTORATION OF POLLUTED STRETCH OF BANGURU NALLAH ALONG TALCHER RENGALI

UNDER PRIORITY CATEGORY-V

EXECUTIVE SUMMARY ON PROPOSED ACTION PLANS

Sl. No.	DESCRIPTION OF ITEM	Details	
1.	Name of the identified polluted river and its tributaries	:	Banguru nallah No tributary
2.	Is river is perennial and total length of the polluted river	:	Banguru nallah is a small storm water drain with a length of approximately 15 Km from its origin to its outfall into Brahmani river.
3.	No of drains contributing to pollution and names of major drains	:	No drains
4.	Whether 'River Rejuvenation Committee (RRC) constituted by the State Govt./UT Administration and If so, Date of constitution of 'RRC'	:	Yes. Constituted by the State Government vide letter No. 24426 dated 12.11.2018
5.	Whether 'River Rejuvenation Committee (RRC) have approved the Action Plan :		Yes. RRC have approved the Action Plan in its 3rd meeting held on 04.06.2018.
6.	Major Towns on the banks of the river with population	:	No ULB situated along the river.
7.	a. Total no. of existing STPs and the total capacities in MLD	:	No STP has been established.
	b. Total MSW generation in TPA	:	Insignificant
	c. Existing treatment and disposal facilities and total capacity	:	Total MSW is being disposed in the earmarked dumping yard.
8.	a. Major industrial estates located with total no. of industries	:	Not applicable
	b. No of CETP's and their treatment capacity	:	Nil
	c. Gaps in treatment of industrial effluent	:	Nil
	d. Existing HW Treatment and Disposal Facilities and total capacity with life span	:	Nil

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1.0 Background

Water quality assessment of Banguru nallah has been carried out by the State Pollution Control Board, Odisha under the project "National Water Quality Monitoring Programme" at only one location, Kalindiprasad in Angul district since April, 2017. The Biochemical Oxygen Demand (BOD) range in this stretch of Banguru nallah during 2017 was observed to be in between 0.3-3.2 mg/l. BOD has exceeded the tolerance limit of 3.0 mg/l in this stretch only once during the total period of observation and therefore has been identified as polluted river stretch under Priority Category-V.

The polluted river stretches are categorized under five different priorities based on the BOD values as per Central Pollution Control Board (CPCB) classification. Monitoring locations with BOD concentration exceeding 30 mg/l have been categorized as Priority-I. Monitoring locations with BOD concentrations in the range 20-30 mg/l, 10-20 mg/l, 6-10 mg/l and 3-6 mg/l are categorized as Priority-II, Priority-III, Priority-IV and Priority-V respectively. Based on this classification, the river stretch of Banguru nallah has been categorized by CPCB under Priority-V with the maximum BOD value being 3.2 mg/l.

2.0 Water quality of Banguru nallah

Banguru nallah, a small rivulet having a length of 15 Km and maximum width of 30 feet, originates near Talcher coal field and joins river Brahmani at the upstream of Talcher town in Angul district. The flow in the river is marginal during non-monsoon season. Banguru nallah and location of water quality monitoring station are shown in Fig. 1.

Water quality of Banguru nallah is being monitored by the Board on regular basis since April, 2017. Monthwise water quality data of Banguru nallah with respect to Biochemical Oxygen Demand (BOD) during the year 2017 and 2018 are given in Table-1.

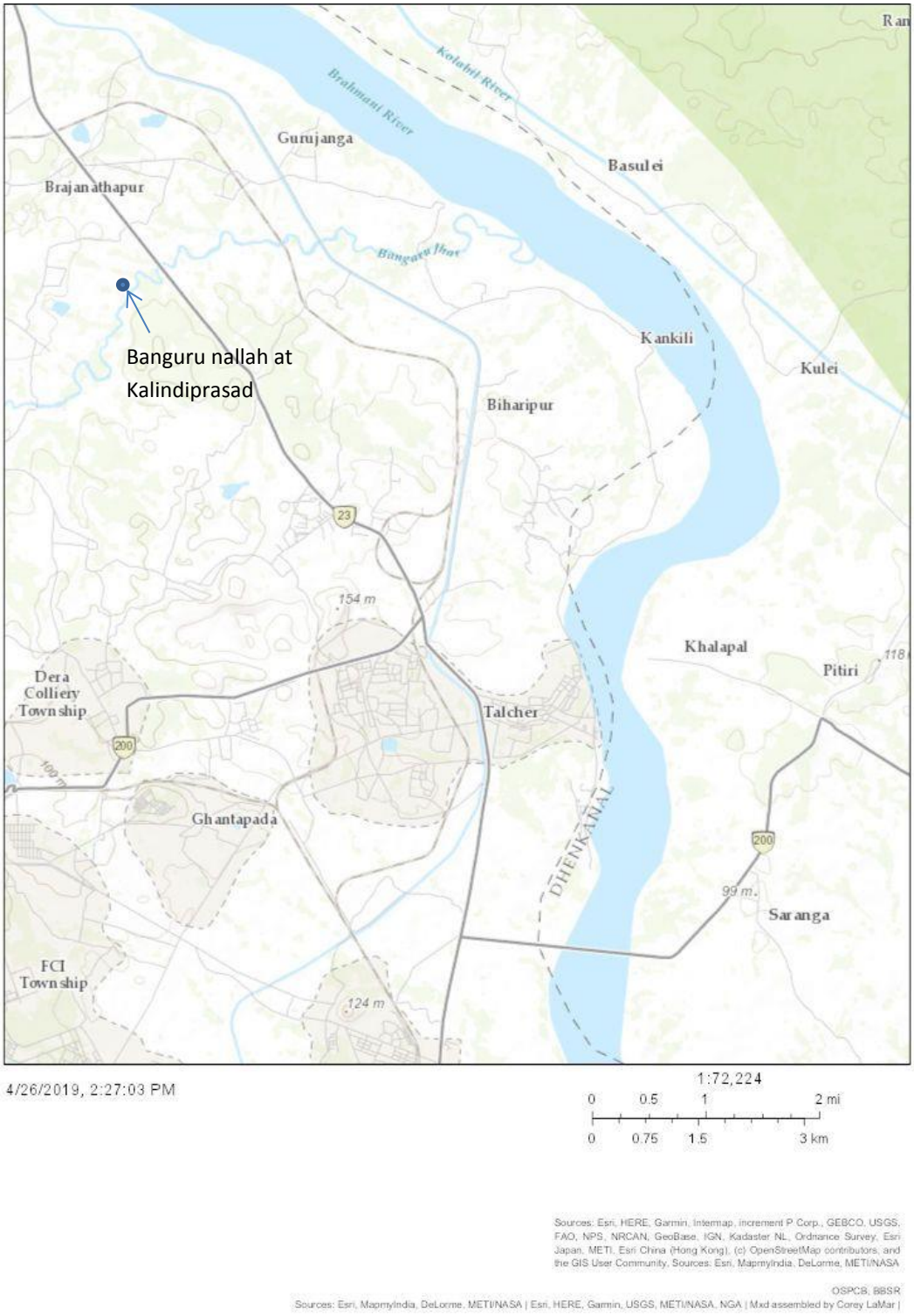

Fig.1. Water quality monitoring location on Banguru nallah

Table-1 Monthwise BOD (mg/l) in Banguru nallah during 2017 and 2018

Month	BOD, mg/l	
	Banguru nallah at Kalindiprasad	
	2017	2018
January	-	1.2
February	-	1.0
March	-	1.6
April	1.6	3.9
May	3.2	1.0
June	0.3	1.5
July	1.3	0.8
August	0.5	0.8
September	1.5	0.5
October	1.2	0.8
November	1.4	1.1
December	0.8	0.8
Minimum BOD, mg/l	**0.3**	**0.5**
Maximum BOD, mg/l	**3.2**	**3.9**
Average, BOD, mg/l	**1.3**	**1.3**

The data shows that BOD has exceeded the tolerance limit of 3.0 mg/l marginally only once in each year during the lean period (May, 2017 and April, 2018. Otherwise, BOD remained much below the tolerance limit of 3.0 mg/l during rest period of the year.

There is no organized wastewater discharge to Banguru nallah upto its confluence with Brahmani river. As Banguru nallah flows at the upstream of Talcher town, the only urban local body in this area, there is remote possibility of domestic wastewater discharge of the town to Banguru nallah.

However, the observation of single marginally deviating BOD value may be ascribed to decomposition of aquatic plants and dead leaves in the water which has been amplified due to marginal flow in the river during lean period.

3.0 Action plan for restoration of Water quality of Banguru nallah

As evidenced from the foregoing discussions, there is no identified point source of pollution to Banguru nallah. This is also reflected in the BOD values of Banguru nallah in which most of the time BOD remained within the tolerance limit of 3.0 mg/l during the period 2017-2018 excepting only one occasion in each year. Such single deviation may be treated as outlier or may be due to some incidental effects.

In Para 42 of the order of the case No. 673/2018 (More river stretches are now critically polluted), Hon'ble NGT has suggested a two-fold concept for restoration of polluted river stretches as follows.

1st concept : To target enhancement of river flow through interventions on the water sheds/ catchment areas for conservation and recharge of rainwater for subsequent release during lean flow period in year. This concept will work on dilutions of pollutants in the rivers and streams to reduce concentration to meet the desired level of water quality.

2nd concept : Regulation and enforcement of standards in conjunction with the available flow in rivers/ streams and allocation of discharges with stipulated norms.

BOD value in the river most of the time remained within 3.0 mg/l excepting a single occasion in each year. The water quality of the river can be maintained within the tolerance limit by enhancement of river flow through interventions of the river catchment area for conservation and recharge of rainwater for subsequent release during lean flow period in the year.

The implementation of Swachh Bharat Abhiyan and construction of individual household toilets and community/public toilets, provision of water supply and increase in awareness among local inhabitants have significantly reduced the open defecation practice of the local inhabitants in the stretch.

Since Banguru nallah is a small storm water drain with a length of approximately 15 Km, action plans covering aspects w.r.t. Flood Plain Zone protection and its management, maintaining E-Flows and water shed management, good irrigation practices setting up of Bio-Diversity parks, removal of encroachment and Plantation on both sides of the river are not feasible in the catchment of Banguru nallah.

4.0 Implementing Authority

Panchayati Raj and Drinking Water Department in Govt. of Odisha has the mandate to implement Swaach Bharat Abhiyan (Gramin) in all the village and make the people of peripheral villages of a river aware to use toilets and to provide health sanitation facilities.

5.0 Conclusion

There is no wastewater discharge to Banguru nallah in its catchment. Single marginal deviation in BOD values from the tolerance limit of 3.0 mg/l observed in both the years in the identified stretch of Banguru nallah may be attributed to some sporadic events or in-stream activities. The single marginal deviation of BOD values (3.2 mg/l in 2017 and 3.9 mg/l in 2018) may be treated as an outlier and **therefore the river stretch may be considered as not polluted.**

On the above background, the categorization of the river stretch by CPCB under Priority category – V with the identified stretch "Along Talcher, Rengali" and maximum BOD values in the range 3.2 mg/l needs reconsideration and the stretch **may be deleted** from the list of polluted river stretch which has been prepared by CPCB only on the basis of deviation of BOD values from the tolerance limit of 3.0 mg/l.
