

The River Disang : Pollution, Conservation and Your Experience

"Stop the pollution quick
Don't make the water sick
Disang needs proper strategy for rehabilitation"

Rivers are the backbone of human civilization! They provide us with fresh water which is helpful for various purposes such as drinking, washing, transportation, habitat for aquatic plants and animals, harnessing electricity, etc. For any civilization to flourish, there is a need of water for crops, for domestic animals and, of course, for human beings themselves.

The Disang river is a tributary of the river Dihing in its southern bank. It originates in the Patkai hill ranges at an elevation of 2,200 meters in the Tiring district of Arunachal Pradesh. The length of the master river Disang in Assam is 187.5 km. It is the most vulnerable and one of the major south bank tributaries of the Brahmaputra river. The river is characterised by a highly shifting behaviour, large number of meanders and abandoned channels within the belt of the river.

The Disang river basin covers an area of 3845.98 kms out of which an area of 2009.01 km is in the plains and hills of Dibrugarh and Sivasagar districts of Assam.

There was a time when the river Disang once provided potable drinking water to thousands of people living along its banks. It was also a source of variety

of fish and the beauty of the river was also eye-catching. But with the course of time, it has been amongst the most polluted stretch of rivers in the country, according to a study by the Central Pollution Board. The river's natural beauty ~~has~~ and condition has been destroyed due to the overcrowding on the banks of the river and the creation of a public dump near the river.

The Disang river at present receives serves as the natural drainage for storm water run-off and receives a large portion of household and other wastes. The polluted stretch of the river in length at Gudam ghat is 2.9 km (approx) with an area of 1.3 sq. km. The stretch identified as polluted is from Kecharuguri No. 1 to Kecharuguri No. 3 at Dibrugarh district which is situated 80 km away from sub-district headquarter Tingkhong and 80 km away from district headquarter Dibrugarh. The area has a total population of approximately 1134 with 228 numbers of households which are settled in scattered plan as per the 2011 census. The waste generated by Kecharuguri No. 1 and Kecharuguri No. 3 is approximately 197.1 KLD.

There are multiple causes of pollution in Disang river. Some of the identified sources include the following:-

- (i) Heavy deforestation in the hilly catchment of the river leads to considerable soil erosion on the slopes of the hills. The rainwater directly rushes down with red mud and silt and gradually the muddy water flows into the Disang river making the chest of the river high which depletes the flowing capacity of the river.

(ii) One of the main cause which contributes for polluting the Disang river is municipal sewage. There are no treatment systems for the sewages which are dumped in open thereby gets absorbed in soil or ultimately find their ways to the river without treatment. Also, domestic sewage carrying drains pollute the river undoubtedly. The river receives storm water along with municipal sewage by one of the major drains namely 2 No. Kothiakhunda braon drain, Dillibari, Dibrugarh.

(iv) The type of toilets used in some villages situated in the bank of the polluted river stretch are single pit into which waste or wastewater can discharge and from which the liquid can seep into the surrounding soil with little or no treatment. Ultimately, that ~~wat~~ liquid flows into the river and makes it polluted.

(v) Wastes from dairies and slaughter houses are also disposed into the river. Daily and weekly local markets also dispose their daily garbage into the river or along its banks. Thus, the river is highly polluted and has lost its natural significance in the region as a water body and has turned into a drain carrying large amount of sewage and unnecessary wastes.

(vi) Anthropogenic causes are also responsible for polluting the river in the catchment area such as - use of fertilizers, manures and pesticides used during agriculture.

animal husbandry activities, inefficient ~~or~~ irrigation practices, deforestation, etc.

- (vii) Data collected through field observations indicates that a few residents that settle on the banks of the river and dhobis use the river for washing clothes which contributes to pollution.
- (viii) Crematoria along the banks of the river also pollutes the water body. After the cremation, the remains being are disposed into the river which pollutes the river. However, some residents are seen to perform the cremation activity in their own respective premises. Disposal of carcasses into the river is also a factor for polluting the Disang river.
- (ix) A major problem of the Disang river being polluted is the large-scale disposal of banana plants after any occasion such as weddings and Diwali.
- (x) Raw domestic ~~sewage~~ from the nearby villages ^{highly} pollutes the river. In addition to domestic sewage, surface runoff also includes particulates from combustion of diesel fuel and other petroleum fuels, oils and greases from pavement areas, etc. Municipal Solid Waste (MSW) is dumped in the town streets and along the banks of the Disang river.
- Controlling river pollution is in our own interest. As the citizens of India, we have constitutional duty to protect our environment. Some permanent arrangements are needed to prevent further pollution of Disang river.

There must be short as well as long-term measures. Arrangements have to be made to prevent anyone from digging the closure of both the sides of the river and preventing the residents from throwing any garbage in the waterbody. In view of this, it is advisable to surround both the sides of the river with nets and grills. However, a lot of money has to be sent to do this. People or houses who throw any garbage in the river must be fined. As a result, some money will be earned from that too and people will also be forced to take the problem seriously. The issue of garbage especially requires the cooperation of the neighbouring people. The people of Dibrugarh and Sivasagar district have to be aware of this. Awareness is the first step in the way of success. Citizens, especially those who live on the banks of the river must be fully conscious and stand up as a wake-up and superstitious watchman. They must watch out so that no one can throw any garbage in the chest of the river. It must be explained to the people that maintaining the hygiene of the Disang river is essential for the citizens of Dibrugarh and Sivasagar. An individual effort is not sufficient to clean the river but if all of us contribute for this goal, it will become a big effort. The success of the river restoration project is dependent upon the acceptance and ownership by the public. Currently, the citizens of Dibrugarh and Sivasagar district

are not considering the Disang river as a resource, but rather an eyesore. The Disang flows through the heart of Dibrugarh and has the potential to be of considerable aesthetic and economic value to the community. By improving the water quality of the river, removing the solid waste, providing adequate resources and collection points for waste deposit, removing the legacy contamination within the river and restoring the flow, the Disang has the potential to attract both commercial and residential developments. Time is running out but everything has not lost yet. We should try to convince those who reside along its banks and others who reside away from it that a healthy Disang is a must for all. Also, we should respect the Disang river as naturally flowing tributary and never as drains and we should give up our bad habits of dumping garbage in the river. There are many ways through which we can protect our Disang river from polluting further. Some immediate ways to control pollution are:-

(i) channelization including diversion of sewage generated from households to sewer lines of all the drains presently carrying sewage along with treatment and disposal of septage and controlling open defecation.

(ii) Roadside hotels and restaurants should not be allowed to dispose untreated sewage and solid waste into the nearby drains or rivers. Street food selling vendors, laundry etc should not be allowed to dispose any solid, liquid or semi-liquid wastes directly into the drains or sewers.

- (iii) Discharged wastes from the drains must be trapped using strainers before falling into river.
- (iv) In-situ treatment of sewage by Bioremediation.
- (v) Religious practices that pollute the river should be stopped.
- (vi) Frequent river surface cleaning by removal of debris, plastics, solid wastes, etc. Also, prohibition of disposal of municipal, biomedical and other wastes in the polluted stretch of the river bank.
- (vii) Use of pesticides for agricultural activity should be minimised. And since the river can be of good use for irrigation practices, it should be carried out by the farmers.
- (viii) Analyzation of groundwater for periodic assessment of iron, Fluoride, etc and also surveys should be conducted to identify the critical areas in the river stretches with respect to ground water extraction ~~on~~ at least once in a year.
- (ix) Rainwater harvesting should be encouraged for industrials, commercial or households to minimise the over exploitation of the river.
- (x) Regulating activities in flood plain zone such as demarcation and erection of pathway of the river banks.

(xi) Raising plantation along the river bank to control the flow of run off water directly into the river. Bamboo species should be raised as it is a good soil binder thereby stabilizing the banks of the river from erosion. We should plant vitiver grass all along the river course and especially near the water's edge. In order to maintain the biodiversity of the river environment, there should be green areas along both ~~to~~ sides of the river banks. The much polluted banks of the river will be greatly benefitted from the vitiver's ability to remove oils, fuels and heavy metals accumulated over years. Walkways can be constructed that will attract several citizens each day.

(xii) Awareness programmes to highlight the issues related with the direct discharge of waste into the river. In addition to this, distribution of literature on the causes and ill effects of river pollution and promoting public communities participation in local river cleaning up.

Going through all the experiences I have been through, I could personally feel the future of the River Disang in the upcoming years if efficient steps are not taken immediately because of the evergrowing pollution of the river. Once, I visited the Mahomora village in Upper Assam which is completely under threat due to bank erosion in the Disang river and the villagers are really in danger as their houses might get washed away due to the devastating floods and bank

erosion. The No. 1 Keseruguri village under Borbham Panchayat in Tingkhong under Dibrugarh district is under threat since years due to the erosion in the river. Many I see that many agricultural lands have been breached in the erosion which continues every year during the monsoon season. If necessary steps are not taken by the Government as well as the citizens of the districts against controlling the pollution and overexploitation of the river, the village will be breached away in the erosion of the Disang river.

I also went to visit Disangmukh where the mighty Brahmaputra and Disang join together. The place is one of the famous tourist spots for a perfect holiday. It becomes quite exotic experience of picnic at Disang Sapor by flowing water of the Disang river. But such recreational activity such as picnicking has put immense pressure on the river water. I have seen that the picnickers use the water for varieties of activities such as washing food, cooking, washing the utensils and worst of all, they leave all the wastes which are biodegradable and non-biodegradable too such as plastics, food wrappers, leftover food, etc. on the picnic site and throw on the river too. It has been seen now that Disangmukh also has been attacked by major to minor bank erosion.

So, it is advisable to understand the effects of the river pollution and take necessary measures by all of us for the revival of the Disang

river. Let's save Disang and be the mantra for the
denizens of Dibrugarh and Sivasagar as well as Assam.

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