



Chatjo Water Pollution of Tirap District, Arunachal Pradesh

Dr. Doli Tesia

Assistant Professor, Department of Geography, Wangcha Rajkumar Govt. College, Deomali Arunachal Pradesh

DOI: <https://doi.org/10.51584/IJRIAS.2026.11060306>

Received: 03 July 2026; Accepted: 08 July 2026; Published: 20 July 2026

ABSTRACT

Pollution has become a very common problem everywhere. water in fact is the elixir of life, neither plants nor animals can survive without it. However, it is seen that almost all the sources of water like river, pond, tank, well sea and ocean are polluted in some way or other by human beings. in this paper water pollution of Chatjo river of Tirap has been taken which is one of the major rivers of Tirap and is a tributary to Brahmaputra river. It happens to be the main source of drinking water, fishing, irrigation and electricity generation etc. of many Noctes and Tutsa villages settling along the banks. The river flow throughout the year and is originated from a hilly area nearby a village called 'Longbu'. flow from south to north direction, its latitude and longitude extension is from 27 °N to 27 °10 N latitude and 95 °30 E to 95° 40 E longitude. Hence an attempt has been made through this paper to find out the different sources of water pollution of the Chatjo river and to find out the possible means by which pollution of this river can be prevented in a sustainable way. the study is purely based on toposheet, field observation and personnel enquiries.

INTRODUCTION

Water is an essential element that makes life on earth possible Though 71% of the earth surface is covered with water bodies, but only a tiny fraction of this water i.e.0.003% is suitable for drinking, irrigation purposes which make water very precious resources and in present day context water pollution has made more problems in water scarcity all over the world.

Water pollution means alteration of physicals, chemical and biological characteristics of water which cause harmful effects on human and aquatic life. (Report 1965, Restoring the Quality of Our Environment, President's Science Advisory Committee, Washington, USA.)

WHO defines water pollution as 'any foreign material either from natural or other sources that may contaminate the water supply and makes it harmful to life, causes their toxicity, leads to reduction of normal oxygen level of water, causes aesthetically unpalatable effects and spread epidemic diseases.'

Thus, water pollution is the contamination of water bodies such as lakes, oceans, rivers and ground water due to any external material or introduction of something to natural water which renders it unsuitable for human consumption.

Generally, water is mainly polluted by two sources: -

- (i) Natural sources of water pollution which includes soil erosion, landslides, coastal and cliff erosion, volcanic eruption and decay and decomposition of plants and animals.
- (ii) Anthropogenic sources which include industrial waste, urban sources, agricultural activities, cultural sources etc.

Out of these two sources, anthropogenic sources are real sources of water pollution all over the world.

Under anthropogenic sources also water pollution sources are not same, it differs from place to place according to the level of development and economic activities of the people etc. take for example; in this paper Chatjo river pollution is not due to industrial waste or agricultural activities. The main sources of water pollution are domestic waste, fishing etc. Which is discussed in detail later on.

Study Area

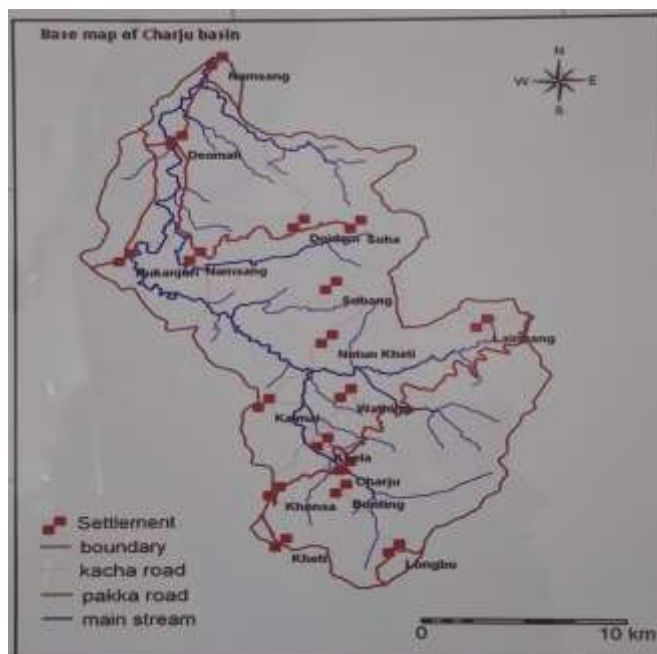
Chatjo/Charju river is a major river of Tirap district, it originated from a high hilly region called '*Ja-hea-kuh*' near the Nocte village '*Longbu*' the latitudinal and longitudinal extension of the river is from 27°N to 27°10N and 95.30°E to 95.40°E respectively. It is tributary to river Brahmaputra and flow from south to north direction following the slope gradient.

The name '*Chatjo*' is a local term used by Nocte '*chon*' means fishing and '*jo*' water which means river for fishing. Since early days this river has being using for fishing by the people. It is a main source of drinking water, fishing, irrigation, generating electricity; salt springs etc. for many of the villages settling on its banks (location map). The villages and town settling on its eastern bank are Longbu, Buting, Charju, Khela, Wathin, Notun Kheti, Laibang, Subang, Doidam, Soha and on its western side Kheti, Khonsa town, Khonsa village, Kaimai, Hukanjuri, Deomali town and Namsang village.



The main objectives behind to study of Chatjo river pollution is to find out the different sources of water pollution presently people are facing in the region and at the same time attempt has been made the possible ways to prevent the existing river pollution in a sustainable way.

The study is based on toposheet, field study and personal enquires.

**MAP NO.1.2****Sources of pollution**

There was no water scarcity or water pollution in the study area it is very recent one.

The reasons may be due to increase in population, development in the transport and communication, modern life style etc. the following are the sources of water pollution which the author had tried to identify: -

- 1.Domestic waste garbage etc.
- 2.Bathing, washing clothes
- 3.Washing vehicles
- 4.Fishing by generator, blasting, using chemicals etc.
- 5.Collecting of gravels, pebbles and stones from river bed and running of dumpers and trucks to collect these materials
- 6.Picnic spot etc.
7. Highway cutting

Chatjo river is not far from the district headquarter Khonsa(6km) where water problem is very severe especially during winter seasons. Water pollution due to domestic waste and garbage are maximum found in the upstream side near Khonsa town and downstream side in Deomali area.it was seen that many of the household's drains and toilet are directly connected to the river. Water is polluted due to bathing, washing clothes and washing vehicles.

The major source of Chatjo river in recent time is due to modern techniques of fishing. In early days the villages used to follow eco-friendly method i.e. they used to do fishing by using handmade basket, net, typical type of plants roots, barks and leaves etc. which has less harmful for water, other aquatic life and environment as a whole. But now especially the youngster of the villages with the help of modern equipment like generator boom for blasting, chemical like lime, bleaching power etc. are use for fishing. In this type of fishing along with big fishes many of the small fishes and other water animals even plants are killed and destroyed unnecessary over that water is also polluted.



Sometime due to blasting soil erosion takes place near the bank which increases water pollution. Another effect is that people are not getting more fishes compare to early days and if the process continue like this in near future no fish will be found in the river.

Other than all this sources river is polluted due to highway cuttings especially in the upstream side where mini hydel power is located i.e. khela village where wet rice cultivation is practiced for the available of plain land nearby this river. It was told by the villager that due to highway cutting the river has change its course as a result of that many of their fields are getting difficulty in water supply and on the other side the water is full of mud, unfit for drinking, washing etc.

Another recent sources for water pollution in the study area is due to continuous collecting of gravels, pebbles and stones from the river bed and running of dumpers and trucks to collect these materials for constructions purposes especially during winter season causing not only water pollution also reduction in fish population, other plants and animals as river beds are left only with sediments so where and how aquatic life will survive?

During the winter season, the river bank are used for picnic spot, being a lone perennial river in the district both in Khonsa town, other nearby villages come for picnic and same case in the downstream of the river is polluted by Deomali township area, other nearby villages and even people Assam come for picnic.

Besides these sources water is polluted due to cultural sources like throwing or dumping of idol of God and Goddesses during Ganesh Chatruthi, Durga puja and other religious and festive occasions. It was observed that due to chemical fertilizer and pesticides used in tea garden in nearby river sources in Deomali township area river water is polluted. So, it is high time to check Chatjo river pollution in a proper way for healthy life of the people.

Control Measures

Control of water pollution of Chatjo river requires several remedial measures involving individual, community, village and government at district levels. First and for most things is that individual must be educated enough to understand the nature of water pollution and its adverse effects on human health and wealth. There must be mass awareness and right perception at village level about the various aspects of water pollution.

People must retrain themselves especially Khonsa and Deomali town people from throwing human and animal excreta and garbage into the river.

Use of generator, blasting, chemical for fishing must be discouraged instead use net and traditional method of fishing should be encouraged and fine can be imposed to those who practice modern techniques of fishing. To look after this activity in each village active role can be played by the village youth.

River bank polluted due to picnic, car wash etc. Can be taken care by implementing rules and imposed fine by the village people to those who make spot dirty. This will not only keep the place and water clean and save also the villager can be benefited by getting some income.

Car wash should be done in car wash Centre, located far away from the river sources so that at least there is no direct discharge of toxic materials to the river. Frequent running of dumpers, trucks etc. for collecting gravels, pebbles and stones etc. should be checked.

Besides the above possible preventive measures the district administration should take steps for proper utilization of this river water as district headquarter Khonsa town is situated near by it and water crisis is very common there. so the river water can be harnessed or stored during rainy season and can be used during dry season.

CONCLUSION

Keeping in view the ecological and other effects of pollution the people of the study area have to pay immediate attention. It was observed that the rate at which water pollution is occurring, if continues for a long time the



study area will face more water shortage and suffer from different ailments. So, it is high time people have to come together to save the problem of water pollution of Chatjo river.

‘Save water, save life’

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