

Subarnarekha River - Lower Basin Environmental Challenges and Opportunities

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Abstract—The golden streak of India Subarnarekha River originating from Piska Nagri from Ranchi and complete its journey into the Bay of Bengal. the lower basin of this river plays an important role in supporting agriculture, fishing and local communities. This study is about the lower basin of Subarnarekha River its pros and cons as well as its impact on environment. The lower basin of Subarnarekha River faces many challenges of high sediment deposition as well as river bank erosion and flood. Effective polices or strategies should be made to protect this basin from getting polluted and degraded.

Keywords— Lower Basin, Golden streak, Erosion, Mining, Flora, Fauna.

I. INTRODUCTION

The word Subarnarekha river means lining of Gold or golden streak. Rivers are very important part of ecosystem. Subarnarekha riveris very important and plays a significant role in the life of many people.

The importance of Subarnarekha River are

- 1. This river has historical and cultural importance.
- 2. This river serves as a habitat for diverse flora and fauna.
- 3. This river support fishing, agriculture, mining activities.
- 4. This river serves as a vital source of water for irrigation, drinking, Industries etc.

5. This river has environmental significance as river health Affects surrounding.



Image of Subarnarekha River

Important Facts About Subarnarekha River.

Length	Approximately 395 km	
Number of Tributaries	Kanchi, Kharkai,Karkari,Raru,Garru,Dulung .	
Origin of the river	Nagri Village in Ranchi District	
End point of the river	At kirtania port joins Bay of Bengal	
Latitude	21.550N	
Longitude	85.183330E	
Major Cities	Ranchi,Jamshedpur,Ghatshila,Gopiballavpur	
Industries	Hindustan Copper ltd ,uraniumCorportion of India,Tata steel of India.	
Parts of River	Upper stream, middle stream, lower stream	
Major Falls	Hundru	
Major Dam	Chandil	
Major Barrage	Galudih	



The above pie chart shows the section of river Subarnarekha River showing that the major part is covered by middle stream. Study Area -

Lower Basin of Subarnarekha river -

The lower Basin of Subarnarekha River which complete its journey in Bay of Bengal.

When this river approaches the coast, it suffers from tidal influence which not only affects water level but also affects flow patterns.

Lower basin of Subarnarekha River is commonly known for its sediment deposition, sand mining, high sedimentation and siltation which mainly comes from the upper stream of the river. As the land is very fertile so it supports agriculture. Lower course is near Gobiballavpur near West Bengal, Its boundaries are in the south west side Brahmani and Burhabalang while in its south east Kansai River while to its south Bay of Bengal The Subarnarekha River is restricted in this areas.



This river covers mainly District like Jhargram, Paschim Medinipur, District of west Bengal and Balasore of Orissa.

It has been found that there are 3 level of terraces in the areas of Subarnarekha River which are close to Baharagora, jamsola these elevations are 74,61, and 49m above sea level the maximum width of the terrace is about 2.5 km wide with alluvial cover and laterite basement.

The soil found in this regions are Alluvial soils, Red soils, and infertile soils, this river also plays an important role in the socio –economic conditions of the people like the water is used mainly for irrigation, drinking purpose as well as for generating hydroelectric power, mostly the land is used for agriculture and natural forests.

There are various multipurpose project for water supply, flood control, and generation of power.

In the lower course of this river sand, slit and gravel mining takes place in-spite of important role in the ecosystem this river faces so much of challenges -

Pros and Cons of lower basin Subarnarekha River.

Pros	Cons
Fertile land very good for agriculture	Water pollution
Attract Tourism	Erosion Of Coastal area
Biodiversity	Livilihoof Impact
Thriving Fisheries sectors .	Health Hazards
Economic Opportunities	Infrastructure Damage

Impacts of lower Basin of Subarnarekha River - Anthropogenic and Natural impacts –

Due to flood loss of life, submerge of household soil degradation, agricultural damage, ecological disaster.

Bank erosion is mainly found in the lower bank of the river which is mainly caused by rills gully erosion this increases the width of the river there is high turbidity and sediments depositions near the river basin during flood.

Industrial agricultural, and domestic waste cause water pollution and cause environmental issues.

Erosion as well as pollution affects the livelihood, fishing and because of these various water borne diseases will spread.

So, during the pre monsoon season the lower course of this river turns in to stagnant water body due to shortage and discontinuous flow of water.

So the river faces two types of erosion.

Lotic Ecosystem – Which is characterized by running water during monsoon season. In this time maximum amount of water flows river carries a large number of sediments from upper course and as a result the water of the river turns muddy or yellowish.

II. CONCLUSION

Subarnarekha River is vital for people living in its bank in west Bengal and Odisha, it helps people in agriculture as well in fishing but uncontrolled mining, and industrial effects, Deforestation results in river basin erosion Management of the lower basin is challenging. Effective Management are essential for protection of loer basin of subarnarekha river.

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