



Economic Analysis Of Sand Mining In Bharathapuzha River, Kerala, India

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Abstract

Globalisation of the developing countries like India demands for the more natural resources product for rapid development. The rapid infrastructure development and urbanisation leads to the mismatch in the demand and supply. The scarcity of resources leads to the illegal activity and degradation of the environment. This paper addresses the issues relating to sand mining in the Bharathapuzha River in Kerala India, its economic analysis and its consequences. Finally attempts to bring the attention of the international community for sustainable growth.

Index terms: Sand mining, economic analysis, sustainable growth

Introduction

The Bharathapuzha river in the Indian state known to be the Nila of Kerala. The Bharathapuzha River covers 155 KM in Kerala. The details course of the river has been shown in the figure no. 1. During of its course it covers the areas like South Chittur, kannadi Bridge, kalpathiPuzha, Mankara, Cheerakuzhi, Pattambi, thrithala, ThuthaPuzha, Kuttipuram and Ponnani sea level etc. In its upper course River carries large size rocks at high velocity due to higher steep. However, this inclination decreases from Pattambi to Kuttipuram Region where sand is deposited by the river. Sand mining is primarily carried out in this region. The river has over dammed in its course, mainly its water used for the irrigation purpose.

The rapid globalisation and development leads to the scarcity of the natural resources like sand. As sand are the primary integrands for the construction projects. Sand is mostly natural and now a days vitrified sands are also available. Still the demand for the natural sand is always more. The source of the natural sands is mainly the river basins. Sand mining in India is a legal activity up to the controlled limits. More demand for the sand gives rises to the illegal or uncontrolled



sand mining and unsustainable environment. Over exploitation of the river and its basin affects the overall ecosystem in the surroundings. Due to over dams the fish population is in extinction, more sand mining resulting into the change in the climate and narrowing up the river course. The pattern in the rainfall changes as result forest ecosystem and neighbouring animal ecosystem also get disturbed.

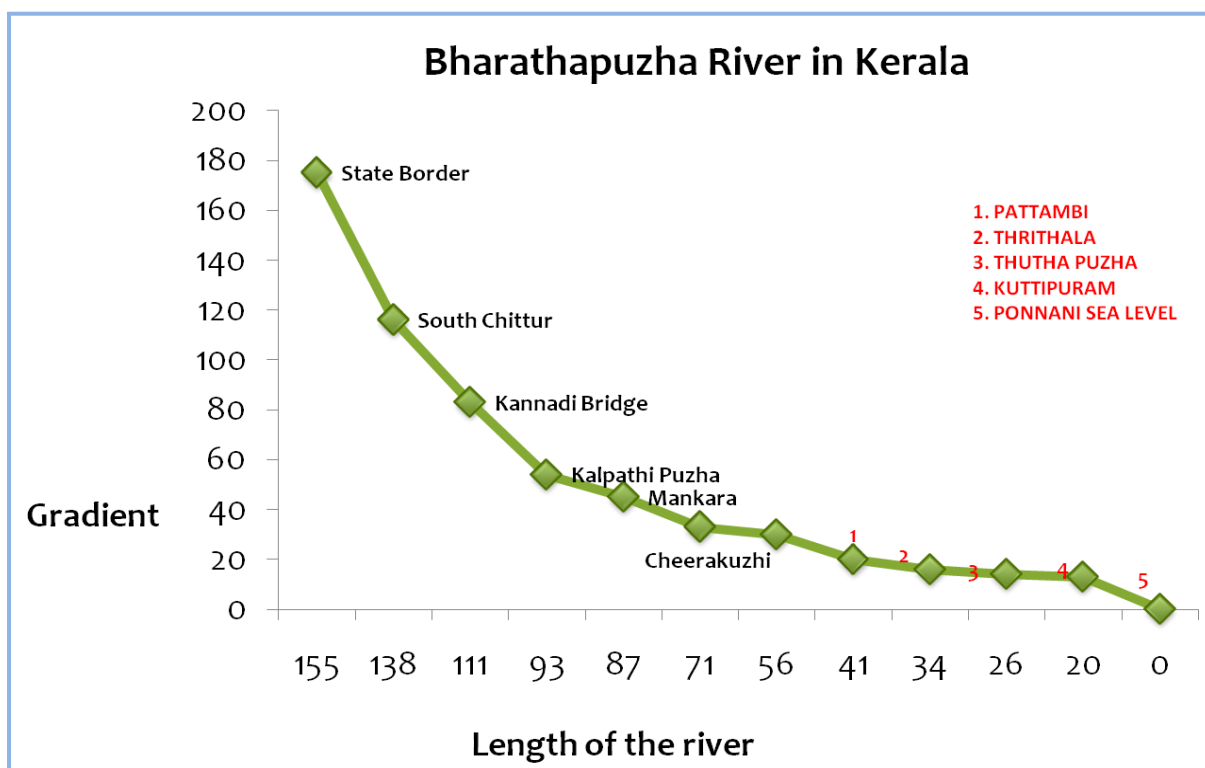


Figure 1: Bharathapuzha River course in Kerala State

Result And Discussions

Demand For The Sand

Sand in a River Basin is **Non Metalliferous** in nature as it gets replenished by the sand carried by the river from the upper stream once it is mined at downstream. Demand for Sand has grown exponentially in Kerala due to various factors:



- Growth in construction and infrastructure projects in last five years as NRIs of Kerala in gulf are investing their money in these projects. Real estate boom is supported by increasing number of nuclear families in Palakkad District.
- Brick building industry in Kerala has huge requirement of Alluvial Sand from Bharathapuzha River owing to its high silicone content.

Economic Analysis Of The Sand Mining

In Bharathapuzha River, Sand mining is made legal by the government through Auctioning and Permit System. Auctioning is done at 48 Kadavus by village panchayats and permit is given by 10 Government Centers. Average legal mining allowed through auctioning at 48 Kadavus is 33, 570 loads. However, it is done 10 times of its permitted level. Data collected at from Permit Centre reflects average allowed loads as 1, 32,000 and illegal mining as 1, 09,500 loads.

Hence, Average Sand mining done through both legal and illegal system is 2, 88,000 loads which is equivalent to RS 13 Cr. However, illegal mining amounts for RS 8 Cr. as this information pertains to stark reality of 2001; currently it must be amounting to 10-15 times which is equivalent to RS 200 Cr government revenue.

Sand mining is legal in Bharathapuzha River as it has high prospects for government revenue and is a source of employment for local people. Sand mining is allowed within some prescribed zones with time limits and within selective period of the year. However, Sand Mining is done indiscriminately and legal allowance is exploited. It has become a day and night activity along the down course of the river. As a result, replacement rate of Sand in the River Basin is lower than the rate of sand mining.

Consequences Of Illegal Sand Mining

Exploitation of Sand Mining in the River Basin has following repercussions on the living standards of the locals, ecosystem, and water resource:



- Sand in the River Basin holds the water in the River. Due to illegal sand mining, sand level has decreased considerably in the downstream of the river from Pattambi to Kuttipuram. As a result, velocity of water flow to the sea has increased significantly during last five years. A river which used to dry in April is getting dried up in February month reinforces this fact. This has resulted in severe droughts in Palakkad District in last five years as water table has depleted.
- Fishermen in local region derive their livelihood from fishing Fresh Water fishes from Bharathapuzha River. However, due to sand mining, river has become turbulent resulting in seepage of sea water in River. Due to entry of saline water, ecosystem of River has got destroyed. Fresh water fishes are no longer breeding and birds like storks and egrets have become endangered.
- River bank has got eroded due to high velocity of river leading to turbulence during monsoon season. Increase in depth due to sand mining has resulted in frequent whirlpools leading to deaths of fishermen in recent times.
- Entry of Saline water has impacted irrigated cultivation severely
- Due to sand mining River bank has got exposed to encroachment in “Kalpathy”.

Conclusion

Bharatapuzha River in the Kerala India is the favourable place for the sand mining. The rapid globalisation and development leads to the more demand of the sand. The more demand of sand and greedy nature of the human mankind leads to the uncontrolled sand mining and illegal activities. This uncontrolled and illegal sand mining leads to the degradation of the environment. Sand mining is affecting the overall ecosystem of the nearby places. Along with the sand mining construction of the more dams in the course of the river leading to the extinction of the fish populations and narrowing of the river area. Due to all of this human activities leads into the manmade disasters reflecting into the environmental imbalances. In this situation a suitable legal and governmental interventions are needed to check all of this illegal activities and for protecting the environment. Only sustainable growth can promote development.



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