

## THOUBAL RIVER POLLUTION AND ITS IMPACT ON HEALTH

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### ABSTRACT

Rivers play a vital role in integrating and organizing the landscape, they are the prime factors of controlling the global water cycle. Five elements the earth, water, air, fire and space constitute the universe. Every day we face pollution in one form or another in the food we eat, the water we drink and the air we breathe. Out of two third of earth surface covered with water only 0.3% is accessible for the human consumption. Water pollution drastically affects aquatic life, food chain, can contract diseases and affect the ecosystem. Dirt is the cause of pollution in river and streams. The paper attempt to highlight the importance of Thoubal river, how it is contaminated, effect, measures to control and some recommendation are also highlighted.

**Keywords:** Pollution, Aquatic Life, Food Chain, Contaminated, Universe.

### I. INTRODUCTION

Rivers play a major role in integrating and organizing the landscape, they are the prime factors of controlling the global water cycle. Five elements the earth, water, air, fire and space constitute the universe. These life sustaining elements are today subjected to pollution by humans in the name of development. River water serves as the source of water supply for domestic and agriculture, fisheries and power development. Water pollution is a major global problem. Water pollution is the leading worldwide cause of death and diseases ( W. LARY, 2006 ). India is a country with high level of water pollution. An estimated 580 people in India die of water related illness. Trash and garbage like paper, plastic, food, waste are discarded and developed in the rivers accidentally or intentionally which eventually creates water pollution. The freshwater ecosystems of the world comprise only about 0.5% of the earth surface and have a volume of 2.84X 10<sup>5</sup> km<sup>3</sup>. Rivers constitute an insignificant amount 0.1% of the land surface. Only 0.01% of the water of the earth occurs in river channels. In spite of these low quantities, running waters are of enormous significance ( Wetzels, 2001). Our country supports about 1/6<sup>th</sup> of world population, 1/50<sup>th</sup> of worlds and 1/25<sup>th</sup> of the world water resources ( W.MF, 2003 ), the importance of water for sustenance of life cannot be overemphasized. Whether it is in use of running water in our homes, growing crops or in industry, remain immeasurable. These has been a great increase in demand for freshwater due to rapid growth of population and industrialization (Rama Krishnaiah, 2009 ) most of the river in Manipur are polluted due to sewerage, washing, solid waste, sand dredging.

### II. OBJECTIVE

An initiative towards creating awareness among the people about the importance of Thoubal river and how the people are affected by various modes of pollutants to discuss the causes, effects, and control and some recommendations.

### III. METHODOLOGY

#### THOUBAL DISTRICT PROFILE

Thoubal district is one of the sixteen district of Manipur. Thoubal district is bounded by Senapati district on the North, Ukhrul and Chandel district on the East, Churhandpur and Bishnupur district on the south, Imphal west and Imphal East district on the West. The population according to 2011 is census is 422, 168 ( Register General Census), 2011). Thoubal district lies between 23<sup>o</sup>45' -24<sup>o</sup>45', North Latitude and 93<sup>o</sup>45' -94<sup>o</sup>15' East Longitude. Thoubal district has a moderate climate with relatively abundant and widespread rainfall. Agricultural is the main sources of livelihood of the district. More than 70% of the people are directly or indirectly are engaged in agriculture. For administrative purpose Thoubal district is divided into 2 sub division namely, Thoubal and

Lilong , main river of the district are Imphal river and Thoubal river. Thoubal river originates from the hill ranges of Ukhrul and is an important tributary of the Imphal river, some of the important rivers of Thoubal district are Wangjing river , The Arong and the Sekmai. These all river originate from Ukhrul.

#### **MAIN RIVER OF MANIPUR**

Barak River a 900 km long river flowing through states of Manipur , Nagaland , Mizoram, and Assam and into Bay of Bengal. Iril River originate from Takhamai village through Nganju village. It is one of the head streams of the Manipur river (S.Sengupta, 2006) Khuga river is a tributary of Manipur river.

Manipur river is a river of two countries India and Myanmar. Manipur river a tributary of the Chindwin river in Myanmar (Sutapa, 2006). Nambul one of the most polluted river in the state flows through heart of the Imphal city. Tuivai river is a tributary of the Barak river. It forms a part of the boundary between India and Myanmar and part of the boundary between Indian states and of Manipur and Mizoram (Dikshit, Jutta 2014). Surma-Megnariver rises from Manipur hills a total of 946 km of which 669 km are within Bangladesh to the Bay of Bengal. Tian river or Tio river is 159 km long river which forms on international boundary between India and Myanmar (R. Pachuan 2009) Tuitha river of Manipur, It join Imphal river to form Manipur river.

#### **WATER AND RIVER POLLUTION**

Water is considered polluted if some substance or condition is present to such a degree that the water cannot be used for a specific purpose. Human exposure to pollution is believed to be more in tense now than at any other time in human existence (Schell et al. 2006). Pollution can be made by human activities and by natural forces as well. (Freidounet al.2007). water pollution can be defined to be the presence of excessive amount of a hazard or pollutants in water in such a way that it is no longer suitable for drinking, bathing, cooking or other uses. (Olaniran,1995). Pollution is the introduction of contamination into the environment (Webster. Com. 2010) water pollution affects the health and quality of soils and vegetation (Carter, 1985). Some water pollution effect are recognized immediately where else other do not show up for years. Polluted water creates health hazard and death of human beings, aquatic life and disturb the production of crops. Moreover water pollution affect lakes, rivers and drinking water not only for the state but it's a global concern. Water pollution is a distortion of the aquatic ecosystem. Hence water pollution is such a changes which "adversely affect the aquatic ecosystem in term of the living organism content, the presence of toxins and so on (K. Thakur, 2005).River pollution is the contamination of a river which negatively affects its uses. It is often contaminated by chemicals or microorganisms, rivers are polluted all around the world , major sources of pollution are industrial waste, agriculture, domestic waste, agricultural activities have been concentrated near rivers. Water pollution can be defined as any undesired material, mostly toxic chemicals, heavy metals pollutant, organic/inorganic matter, and harmful microorganisms mixed into natural water bodies such as lake river, pond and sea (Schwarzeubach et, al, 2010).

#### **CAUSES OF THOUBAL RIVER POLLUTION**

Thoubal river is the source of water for Assembly constituency namely Thoubal, Wangkhem, Lilong and Andro. Thoubal river plays a sources of water foe domestic, agriculture, drinking, industries propose for the people living in these constituencies. The pollution of Thoubal river is indeed by the people or in other words man made.

- 1) The main causes of pollution of Thoubal river are weed and silt washed into the stream because of land cultivation, demolition and mining of sand or dredging and quarry.
- 2) Domestic waste, agriculture runoff.
- 3) Flooding during rainy season which carries waste deposit into the river
- 4) Constructing lavatories beside the river beds.
- 5) Biological pollution causing disease like cholera, typhoid and other water borne diseases.
- 6) Sewage discharging or open defecation discharge into the river or washed by rain water to the river may cause common water borne disease like, polio, hepatitis A and Rota virus.
- 7) High growth rate of population and there is increase in use of the river in terms bathing, washing etc.
- 8) Pesticides includes, insecticides, herbicides and fungicides as these is change of trend in living style use of such different types of chemicals are increasingly used the control of diseases like mosquitoes.

- 9) Social and religious practices, people dump religious waste materials into the river as they believe the river to be scared.
- 10) Littering, failing septic tanks, animal waste house hold waste.
- 11) Dumping bleaching powder (calcium hypo chloride) for fishing. High cementation of calcium hypo chloride can burnt the mucous membrane of aquatic animals and plants. Small fish and aquatic young crabs, shrimp may die instantly and affecting the whole water ecosystem.
- 12) The trouble of sewage into the river which is known as algal bloom or red tide it can run into muddy water because it removes oxygen from the water and kills other form of life, leading to as dead zones.
- 13) Washing of vehicles into the river.
- 14) Plastics and relative products, these materials are most common materials used for making virtually ever kind of manufactured objects from clothing to automobiles parts, plastic is light and floats easily so it can travel enormous distance in the course of the river.
- 15) Materials which cause impact on amenity, old clothes, shopping bags, boots and household materials.
- 16) Fishing by electrocution and chemicals

#### **EFFECTS**

- 1) Thoubal river is the source of livelihood for drinking, agriculture and other allied occupations. Poor quality of water may affect livestock by causing death.
- 2) Contaminated water has health problems for those who swim and bath. They may become ill if the water is contaminated with fecal materials which could cause eye and skin illness.
- 3) Most important of pollution is the dredge ring of sand by use of heavy machines like excavators etc. which causes the river polluted, makes the water dirty and unfit for use. This makes the water muddy have odour and colour change. Ultimately the ecological balance of the body of water is altered. The number of people who depend on the river water are far larger than the no of workers who mine sand for livelihood. Manual sand mining and no use of heavy machines.
- 4) Detergents from washing domestic uses wash down into the water causing serious affects on plants.

#### **CONTROL OF POLLUTION OF THOUBAL RIVER**

- 1) Control the Dredge ring of sand from the course of the river.
- 2) Avoid using of heavy machines for quarrying and sand mining.
- 3) Search for a alternative means of livelihood for the people dependent on the river.
- 4) Open up the dam doors whenever necessary.
- 5) Governmental intervention.
- 6) There should be ban in washing cloths and laundry over the river.
- 7) All the Assembly constituencies should command to municipal council or small town comity to clean up and arrange awareness programme.
- 8) Improper use of chemicals should be stopped.
- 9) Religious practices that pollute the river water should be stopped

#### **IV. RECOMMENDATION**

- 1) Rain water harvesting should be encouraged.
- 2) Making awareness of the problem in the first step to prevent pollution of the river.
- 3) The importance of the river and pollution prevention measures should be a part of awareness and education programme.
- 4) Pollution pays principal should be adopted so that the paying will be the first people to suffer by way of paying the cost of the pollution.
- 5) Steps like riparian vegetation should be encouraged in making the river water clean.
- 6) Lay down annual consultation meetings of the municipals and town committees for the standard of the river.
- 7) Execute annual or half yearly clean programme.
- 8) Carry out investigation and research related to problems of pollution, prevention and control of the river.
- 9) Timely intervention of the government.
- 10) Policy makers need to design program, research and set standard and to take actions to mitigate health effects of the pollution.

- 11) Environment education is of immense importance and should have a place in school curriculum.
- 12) Installation of concrete Garbage bins.
- 13) A forestation programs, and stop illegal mining.
- 14) Regulate proper clearance certificate for sand mining and other related activities.
- 15) Regulate water of the river timely as per situation.

#### V. CONCLUSION

Pollution of environment in any form is an global issue and rising population also spares no area of life it impacts everyone. Pollution in any form is man-made and it is we who have to change for better environment. Urgent need of the hour is to check pollution and stringent environment safety rules are enforced strictly with timely intervention by the government. Environment education is of immense importance and state government should give proper guidelines to agencies to monitor our environment so that it is kept clean and free from pollution. The pollution pays principle will be of great help check pollution. The principle means whoever causes pollution should have to pay to clean it up one way or another. So let us stop pollution before it is likely to worsen further.

#### VI. REFERENCES

- [1] "An overviews of diarrhoea, symptoms, diagnosis and cost of morbidity (PDF) CHNRI2010. Archive from the Original (PDF) on May 12,2013
- [2] Dikshit, K.R Dikshit, Jutta K, (2014) North East Indian People and Economy Dordrecht: Springer P.136.ISBN 978-94-007-7054. Retrained 8 Nov. 2017
- [3] Ramakrishnaiah, CR. Sadashialah, C and Rangamma G (2009) Assesment of water Quality index for Grondwvala in Tenkur Taluk, Karnataka state, Indian J. Cham 6.PP. 523-530.
- [4] Ranking of district by Population singi 2001 and 2011 the registrar General and census commissioner, India New Delhi – 110011, 2010-2011, Retrieved 18<sup>th</sup> sept.2011.
- [5] Sharma, S.C Chatunvedi, Rachna. B (1990) utilization of waste land for sustainable development India proceeding of the National seminar on utilization of waste land for sustainable development in India 1987, M.L.K. (P.G. College Balraupur Pub.cop362.ISBN978-81-7022-279-8. Retrained 27 March 2011.
- [6] Sutapa Sengupta (2006) " Rivers and Rivenuie Landscapes in North East India. Concept publishing company. P. 19 ISBN 978-82-8069-276-5.
- [7] West, Larry, (March 26,2006) " World water Days" a billion people worldwide lack of safe drinking water".
- [8] Wltzel, G.W. (2001) Limnology; lake and rivers. Ecosystem academic press, new York pp 15-42.
- [9] W.W.F. (2003) water management forum, Inter Basin transfer of water in India prospects and problems the institute of Engineers( India ), New Delhi.