Nadi Baithak
Gumti River, Tripura, India
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The river Gumti rises from the range connecting Longtharai and Atharamura. At the source Raimacherra flows from the confluence of Kalyansingh and Malyansingh near Kanti Charan Para in the eastern part of Amarpur subdivision till it meets the Surmanadi near Duchaibari at the altitude of 86.87 m. After this point the river assumed the name of Gumti and flows down through deep gorges upto Dumbur falls. The Gumti takes a westerly turn at this point and flows down for about 10 km, where it turns northward upto Amarpur and again flows westwards and enters into the plains near Maharani. After entering into the plains the river generally flows in west and south-west direction and it enters into the Bangladdesh territory at Sonamura. The total length of the river from origin to Indo-Bangladesh border is 167.4 km. The river then flows through plains of Bangladesh and meets the Meghna river system near Daudkandi. The length in this reach is about 77 km. Its (Gumti) tributaries are Kanchi Gang, Pitra Gang, San Gang, Mailak Chhara and Surma Chhara (right bank tributary) and Ek Chhari, Maharani Chhara, Ganga (left bank tributary).

Various activities of inhabitants on the river, like;

- Agricultural activities along the bank of the river,
- Sand extraction from the river bed, iii) Water extraction for the cultivation,
- drinking and for many other purposes,
- Fishing,
- Uses of the water of the river for washing (cloth, utensil, car, animals etc.) which directly effects on the water
- Garbage disposal (household, solid waste-plastic,) in the river directly or indirectly

Key Issues and Challenges:

- **Rural Aspects:** The people of Amarpur in upper catchment, people of Udaipur in the middle catchment and people of Sonamura in lower catchment of the Gumti river are engaged in agricultural practice and for this they are collecting water from the river by using pump. The river is also used in regular intervals for domestic purposes of washing clothes, utensils etc. Furthermore, fishing is one of the most important economic activities in the river Gumti. Due to the deterioration of water quality as well as the lowering of water level this activity is being threatened to a greater extent.

- **Urban Aspects:** River water is used for construction of one bridge in Rangamati, South Tripura. Wastes from these construction sites were directly going into the river, which supplies extra amount of sediment and contaminants to the river water. Moreover bridge piers affect river bed directly by allowing the sedimentation activity. In most of the case it has found that various bars and shoals are formed within the river bed which enhances the incompetency of the river. Furthermore, people rely on Gomti water for drinking purposes. There are three water treatment pumps – in Udaipur, Sonamura and near

Maharani Barrage – along the channel of the river catering regular drinking needs of the families dwelling there. However, people have uniformly complained about the increasing inadequacies in receiving fresh water from these purification plants. A locality of around 100 families gets drinking water for an hour or two, on a regular basis. This sufficiently justifies the need for more number of treatment plants or increasing the capacities and efficiency of the existing plants for better outcome.

In the whole catchment area of the Gumti basin, it has been noticed that there is a tendency of using the river side as toilet. Various solid wastes are being dumped by the market area and the inhabitants who are living along the channel. Due to the disposal of materials, vast amount of river water utilization and it exceeds the amount of rainfall that is received by the basin area the depth of water has been decrease.

- **Flood -** Flood caused by natural factors such as heavy rainfall and human activities is called as artificial flood or anthropogenic floods. It comes due to construction of Dams across the river and reservoirs behind the dams and its miss management.

- **Pollution -** Through this urbanization, industrialization, water withdrawal, agricultural runoff, religious and social functions the water of the river has been polluted results; Affect aquatic life, decreasing in the volume of water expecting during the monsoon period and containing disease causing bacteria.

- **Soil Erosion and Siltation of the Rudrasagar Lake -** Major soil erosion in catchment area of the lake is one of the main problems leading to decrease of lake area and decrease of lake depth.

- **Impact on Livelihood -** River erosion severely affects livelihood of riparian population with many residents becoming homeless overnight. Many of the erosion- affected people are still living near their already eroded places with a hope of re-emergence of new land. With loss of cultivable lands due to river erosion and no proper assurance from the Government about a possible resettlement, farmers are compelled to change their occupation from farming to daily labour works, which are often less rewarding.

- **Deforestation, filling, draining and degradation of wetland areas -** Clearing and removal of native vegetation for rapid unplanned urbanization, rural or industrial development was observed in the surveys. This not only reduces native vegetal biodiversity, but also reduces fauna biodiversity through the loss of habitat for breeding, nesting, and feeding and increased competition for existing habitat areas. Clearing further fragments remnant bush land and reduces wildlife corridors.

- **Lack of Awareness, knowledge and negligence in protection by law -** Lack of

awareness was observed during the survey among landowners about conserving biodiversity on their land. Many bush land remnants, including many high conservation communities, are on privately owned land, so conserving biodiversity is partly the responsibility of landowners. Every year during November to April, people from different parts of the state as well as from outside, come to visit the place for picnic purpose. It is not surprising to see the solid waste dumped by the picnic parties in the lake shoreline as well as in the lake water itself. Not even a single step has been taken by the concerned authority to protect these polluting activities by the picnic parties. Not even a signboard or banner has been put up in this area to prevent the lake from contamination by these anthropogenic activities.

Key Entry Points towards Sustainability:

The river basin is affected by different kind of human interventions. The effects were profound in the areas where settlements are more. From its origin in Dumbur upto Sonamura towards downstream, human intervention has been observed in Amarpur, Udaipur and Sonamura subdivisions. In all these places, the river is experiencing a big water crisis due to the lack of supply of water upstream and immense extraction of water from the river as part of drinking and other purposes.

In the Amarpur subdivision it has been found that the land is fertile and the alluvium type of soil provides more production to the local people in agriculture. So there is more cultivable land in this subdivision and water is mostly needed for boro paddy cultivation during the dry winters. From the locals, it has been found that there are about 200 irrigation pumps on the river at Amarpur subdivision.

In the Udaipur subdivision, the water is more polluted near the town where the disposal of wastes makes the river water unhealthy. Along the whole channel of the Gumti, the river health is more disturbed at Udaipur than other areas.

Towards downstream of the Gumti at Sonamura, the river is not so much affected by human intervention in comparison to the other segments. Apart from this, many other activities are performed by the common people, such as, the construction of barrage, run off of many chemicals and pesticides from the agricultural fields cause harm to the river ecosystem. As a result the river is moving towards its dying phase.

To save the lifeline of the towns nearer to the river bank, some measures should be taken mainly from the administrative side. Some possible measure follows:

- Deforestation should be stopped in the catchment of the river to sustain the supply of water and to control excess of sediment supply to the river.
- Lifting of uncontrolled and excess amount of water from the river should be stopped to sustain the regular supply of water in the river. Illegal lifting should totally be banned.

- Unscientific collection of sediment from the river bed should be stopped to maintain the natural grading of the long profile of the river. Scientific dredging should be implemented to maintain such grading.
- Excavation of sediment from the valley side areas as well from surrounding flood plains should be controlled to regulate the unnatural shifting of the river course.
- Brick fields from the river side should be shifted to at least 1km away from the river course. Flood plain should be free from any sort of hindrance. Flood plains can be used for any type of commercial farming.
- Settlements from the valley side areas and other concreted structures, motor stands, market place should be shifted from the river valley to other safe areas.
- Waste treatment plants should be constructed in different places to monitor waste water before releasing into the river.
- Dumping of solid waste; use chemical fertilizers and pesticides in the agricultural fields along the river course; dispose of toxic substances into the river should be stopped and immense afforestation should be practiced throughout the river course.
- Last but not the least, mass awareness programme should be organized to aware the common people about the pros and corns of the life and importance of a river.