



fishermen. The industries discharge effluents into the river affecting breeding and also leading to fish kill in 75 plus villages. Fishermen opined that in summer with less water flow, 25 per cent of the fish population die. Documentations indicate composition of fish species is getting reduced /extinct over time. 47 per cent of fishermen indicated that water was polluted and fish kills had negative impacts on health and reduced income (Sekhar, 2008).

**Blasting** - At some stretches of the river some miscreants illegally blast dynamite to catch fish at one go (20-30 kgs). Dynamite blast kills all the fish and occurs 2-3 times in a week in 10 locations in TBSB. Only partial fish is collected in the process, remaining fish decomposes giving bad stench and pollute the river and ecosystems. Although there have been many conflicts between the fishermen cooperative societies and these illegal groups besides complaints given by the fishermen to the department, the problem remains.

**Governance** - Allotting fishing rights through open tenders is practiced only in the Tungabhadra Reservoir, since 2000. The Tungabhadra Board, autonomous body responsible for inviting tenders as an initiative taken to cut down on illegal users and monitoring is an issue. This resulted in empowering middlemen to influence fishing activities at all levels. The middlemen provide advance loans to fishermen who in turn are expected to sell their fish to the middlemen. The prices are decided by the middlemen and often lower than the market price. Although the system benefits the Board, it has led to disadvantages to the fishing community. Irrespective of the harvest, the fishing groups have to pay the department, which adds to their grievances.

**Water sharing** - Conflicts were prominent among the farmers' requirement of water for agricultural activities and the fishing communities for retaining water in the irrigation tanks in villages. Similarly, conflicts are caused about fishing rights given to different fishing communities across specific stretches of the river. Although the Department of Fisheries has streamlined specific areas, conflicts among the fishermen cooperative societies for maintaining river stretches remain. For instance, the Tekalakote society, had asked certain stretch of river between Siruguppa to Achachanahalli for maintenance, but the Kampli Fishermen Cooperative Society (FCS) disagrees. This resulted in filing a case against Kampli FCS in High court but lost the case. The Kampli FCS, refuses to give their responsibilities to any other societies as they indicated that majority of the members of Takalkote society were traders and would increase the license fee if given management rights affecting fishermen livelihoods.

## Current Status

Problems caused due to pollution are still a matter of concern in the TBSB. The issues remain active at varied levels across the sources of pollution. Pollution caused by Industries is more under control with involvement of non-governmental organisations (NGOs) and fishing communities due to their frequent protests. However, this is restricted to certain parts of the basin. Fish kills do occur during the summer due to pollution caused from various sources.

To combat pollution from industries, there have been efforts, though fragmented, have been necessitated mostly by the consistent agitations and protests by the people in the basin spearheaded by Samaj Parivarthan Samudya (SPS), Dharwad. Tungabhadra Parisara Samiti was formed to fight pollution related issues. Most of the agitations have been against Harihara Polyfibres and Grasm industries, according to S. R. Hiremath, of SPS, who led the movement through protests besides undertaking scientific studies and submitted them to Karnataka State Pollution Control Board (KSPCB). A case was registered in the Karnataka High Court and based on the conditions of fisheries and occupational health, the Court asked the industries to clean up the river. A local watchdog committee was also formed to monitor the pollution control measures of KSPCB. However these struggles have not been effective in giving compensation on time. For instance, a study by National Environmental Engineering Research Institute, Nagpur, in response to the 1994 fish kill indicates that, 'the Tungabhadra Parisara Samiti, an NGO, held regular protests, wrote letters to senior politicians, and district administration but was ineffective. Hence, 62 members of Guttooru FCS, Harihar filed a

case against the industry asking for medical aid and a compensation of Rs. 18,000 per person. The industry agreed to give Rs. 2,000 as compensation after 8 years in April 2002 (Stefano, Antonio, 2009). In protest, the fisher folk society filed an application with the additional civil judge, Harihar and the free legal aid cell, for their mediation. However, so far it has not been effective and few members are now ready to settle with whatever compensation the industry is ready to offer.

With respect to *blasting*, although the Fisheries Acts places a ban, the issue remains. The Mysore Game and Fish Preservation Regulation 1901 applicable to old Mysore districts empowers the government to prohibit poisoning or use of explosives in any stream or lake and declare closed seasons. The regulation also prohibits the use of dynamite or deleterious substances and the use of nets having mesh of less than two inches in perennial streams (Gadgil, 2001).



*Fish Processing near TB Dam*

## Highest and Lowest Points

Fishermen opined that during such discharges, particularly in summer when the water flow is less, 25 per cent of the fish population die. Instances of fish kill were prominent at different stretches of the river. The industries discharge effluents into the river led to fish kills during the following years which were the highest points of conflict. Uncontrolled discharge of industrial effluents into the river in 1984 in the downstream of the Birla industries led to protests by the fishing community resulting in stoppage of discharge. Similarly in March 1994 in the river downstream of Harihar polyfibres, there were protests by the fishing communities from villages that were located along the stretch of up to 30 kms (Nandiharalahalli, Airani, Hirebedare and Guttur villages). In another instance, fishermen located in the downstream of Harihar Poly Fibres (HHP) filed a complaint in 2003 but opined that their protests did not lead to any positive change. In Hale Ayodhya, in 2004, fish kill was very intense, where the fishing communities were unable to fish for the whole year. The fishermen protested and got a meagre compensation (Rs. 3000 per fishermen) from the industry.

The lowest points were situations when the pollution did not lead to large scale fish kill, non-point sources of pollution, but fishermen were not empowered to point out or act against them. Similarly, protests have been ineffective when blasting is taken up by some illegal miscreants as there is less scope for monitoring and control mechanisms.

## The Opposing Stands

**Fishing communities-** The fishing communities along the basin complain about *pollution* and effluents discharge that lead to frequent fish kills and decline in fish catch. Fish kills and decline in fish production affects the livelihoods of fishermen, particularly the small fishermen. The fishermen are not convinced that the effluents are treated regularly.

With respect to *Tenders*, all categories, small/large-scale fishermen and small-scale traders, were against the tendering system. As perceived by this entire group, tender system made it profitable for the department and few middlemen. Large-scale fishermen were insecure to protest or give up on fishing irrespective of the amount to be paid due to the fear of elimination from bidding in consecutive years. Apart from this, fishermen have no other skills to bank upon. Tender system has led to creation of more societies, dependency on middlemen, debt traps and conflicts.

**Industries-** The industries argue that they have installed effluent treatment plants and water quality check is done on a regular basis by the Pollution Control Board besides in-house monitoring to ensure quality control.



*Fish Counters at TBSB*

## Impacts

**Ecology** - One of the important indicators of water quality is the impact on fish and other aquatic life. However there are contradictory evidences in this regard. Impacts are due to both pollution and changes in fishing practices often leading to over exploitation. Besides fish kills, Department of Fisheries officials indicated that there has been decline in fish species “there were nearly 120 species of fishes in the river, among them 28 species are threatened due to over exploitation and pollution”. According to him the fish yield decreased by 50 percent over 10 years – fish catch decreased from about 1200 tonnes to 650 tonnes in a year. Changes in species composition of fish were also prominent. Blasting leads to deterioration in the water quality and river ecology.

**Economy** - The issue of water quality and the availability of fish directly affect the livelihoods of fishing communities who constitute about 10,000 fishermen families.

**Society** - Fisheries in TBSB supported the livelihoods of a significant percent of population and stand

second to farmers. Protecting this marginalised sector is important.

## Scope for Dialogue

Competition to access water has resulted in controversies. The challenge has been to make rational use through sharing and better management of water. It is important to understand the various types and situations in which conflicts have emerged. In the TBSB, there has been no water regulatory authority, not clear or enforceable water entitlements and water rights for the Tungabhadra Basin as a whole. Discussions center on intersectoral allocation of water, agricultural and industrial pollution, livelihoods of fishing families, the problems of downstream flows.

Identification of specific issues in perspective of conflicts across sectors is important as they are interlinked. Current monitoring practices are not sufficient to bring in accountability and needs to be strengthened. Participative monitoring should be promoted throughout the basin to improve the situation in the basin. Various departments work in isolation and there is no integration and holistic approach in resolving issues in the basin. In this context, it is important to have a separate River Basin Board to address various issues. What is needed is an integrated framework where the relevant polices; departments (state and local agencies) and programs can be pulled together to facilitate the stakeholders besides working out processes. A number of measures can be initiated at the local level, for example, improving the water bodies, developing local co-operative insurance schemes, legitimizing community networks, increasing training programs etc. Security of tenure is an important issue and fishermen are concerned about the rights to access and use common waters. The contexts of the poor are diverse and need to be addressed in a holistic and systems approach in future fisheries development programs.

## Key Institutions and People

Shobha Karajgi, Chairman, Tungabhadra River Environment Management Committee  
S.R. Hiremath, Founder, Samaj Parivartan Samudaya  
Nagothu Udaya Sekhar, Bioforsk  
K.V. Raju, ISEC

## Publications and Websites

[www.striver.no](http://www.striver.no)

<http://www.youtube.com/watch?v=DdosfsjL-jw>

[http://wn.com/Shobha Karajgi, on the watchdog committee that monitors pollution from Harihar Polyfibres](http://wn.com/Shobha%20Karajgi,%20on%20the%20watchdog%20committee%20that%20monitors%20pollution%20from%20Harihar%20Polyfibres)

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