

Oswal Shikshan & Rahat Sangh Sanchalit
SHREE HALARI VISA OSWAL COLLEGE OF COMMERCE
Affiliated to Mumbai University and NAAC Accredited with 'B' grade

Date: 25/10/2018

Venue: Arjuli, Near Padgha,
Taluka Bhiwandi

During last meeting held on 10/10/2018, Panchayat Samiti Sabhapati Mrs. Ravina Jadhav assured complete co-ordination and collaboration regarding improving the condition of water bodies in Bhiwandi. With respect to last meeting, a collaborative effort was initiated with B.D.O. Mr. Ashok Sontakke, Panchayat Samiti Sabhapati Mrs. Ravina Jadhav and Jalnayak, Social reformer Dr. (Mrs.) Snehal Donde. A case of *Tabela* (Cattle Stable) waste water being released into Arjuli water stream in Arjuli village near Padgha, Bhiwandi was identified for corrective measures. For this visit, Sabhapati Ravina Jadhav, Arjuli Sarpanch Mahesh Raut, Gram Sevak Mr. Aaher and Dr. Patil were present along with Dr. (Mrs.) Snehal Donde.



Officials along with Dr.(Mrs.) Snehal Donde inspecting the Arjuli Ohala

The Arjuli water stream (*Ohala*) which further connects to Pise Dam, is severely contaminated by release of effluents of tabelas adjacent to the stream. The contamination has led to speeding eutrophication process leading to drop in DO of water. The surface of stream is covered with algae and low penetration of sunlight is observed.



Eutrophication of Arjuli Ohala

Cattle manure and cattle urine contains Nitrogen (N), Phosphorous (P), Potassium (K) Magnesium(Mg), Calcium (Ca), Sodium (Na), Chloride (Cl⁻), Sulphate SO₄²⁻, Nitrite (NO²⁻), Phosphorous pentoxide (P₂O₅). These elements have nutritional effect on the living organism and leads to Eutrophication of the water body.

Eutrophication is an enrichment of water by nutrient salts that causes structural changes to the ecosystem such as: increased production of algae and aquatic plants, depletion of fish species, general deterioration of water quality and other effects that reduce and preclude use. Consistent and predictable eutrophication-caused increase in cyanobacterial dominance of phytoplankton has been reported worldwide for natural lakes, and similar trends are reported here both for phytoplankton in turbid reservoirs, and for suspended algae in a large river. A remarkable unity is evident in the global response of algal biomass to nitrogen and phosphorus availability in lakes and reservoirs; wetlands; streams and rivers; and coastal marine waters. Abundance of organic substances gives the water disagreeable odours or tastes, barely masked by chlorination in the case of drinking water. These substances, moreover, form complex chemical compounds that prevent normal purification processes and are deposited on the walls of the water purifier inlet tubes, accelerating corrosion and limiting the flow rate. The water acquires disagreeable odours or tastes (of earth, of rotten fish, of cloves, of watermelon, etc.) due to the presence of particular algae. It is seen that there is reduction in aquatic biodiversity such as fishes and other aquatic and amphibian organisms due to increasing hypoxia and increase in fungal and cyanobacterial growth.

The locals stated that during March- May, there is increase in temperature of water which leads to cause bubbling in water stream. Similar phenomenon was observed in Bangalore, where river was on fire due to over-pollution. (Global1 News Network <https://www.youtube.com/watch?v=ZxLmfxBRg2E>)



River in Bangalore caught fire due to pollution

The locals also stated that due to release of these cattle sewage of tabela into water stream, whole village is suffering from foul stench due to this contamination and cattle dung. Also the ground water has been affected and causing the contamination and stench in this bore well ground water too.

To examine the cause of problems, we visited the two tabelas viz. Bharmal tabela and Karnale tabela. These tabelas are located adjacent, on the banks of Arjuli stream/ *ohala*. Bharmal tabela is 25 year old tabela with 600-700 buffaloes reared in it. There was no waste water treatment plant or unit installed in this tabela. The manure from tabela is sent to Nashik and used in grape yards as fertilizers. As the tabela didn't installed waste water treatment plant, untreated Cattle urine and sewage from tabela are disposed directly into the stream. There seems to be no hygiene as the amount of houseflies near the milk cooling unit was too

high. The tabela also manufactures and supplies the *kulfi* from the milk. The *kulfi* making area was also questionable in the matters of hygiene.



Bharmal Tabela, Arjuli



Unhygienic Kulfi making units and Milk cooling units

Unhygienic conditions were not only restricted to one part but whole tabela was a breeding ground for water borne diseases such malaria, dengue, cholera, etc. these conditions are affecting the employees as well as cattle along with the nearby residents. Due to improper drainage, there is accumulation of waste water in front of tabela, which is adding up to the hygiene problem.



Unhygienic conditions in inside and outside the tabela



Later, Dr. Snehal Donde visited and examined the Karnaleabela. During the visit, we were able to reach owner of Karnaleabela, Mr. Usman. Thisabela too shared the same practice of releasing their untreated cattle waste water into water stream. During the conversation withabela owner, Dr. Snehal Donde realized that the problems of Arjuli stream are not unilateral but multi-dimensional. To resolve the issue and rejuvenate the stream, there is urgent need to sensitize theabela owners of the region as well as creating awareness them regarding the problems and solutions too. With respect to this, gram Sevak and Sarpanch of Arjuli village were told to arrange a meeting with allabela owners of the region.



Dr.(Mrs.) Snehal Donde advising and interacting with all government and gram panchayat officials

To tackle this issue completely, there is need to monitor the chain of officials like Sarpanch, gram Sevak, Sadasya, Sabhapati and BDO. If all this officials maintain a strict monitoring and perform their role effectively then it is possible to resolve this issue in short period of time.