

ABSTRACT

Though there are some organized industrial sites in Pakistan, the industrial growth in Pakistan, in most cases, has been haphazard. The concept of industrial effluents has been totally neglected. Resultantly, untreated industrial effluents are being discharged into stream, canals and rivers and ultimately dumped into the coastal waters.

In first place these untreated industrial effluents are drastically polluting water in their recipient water bodies. In second place, due to their indiscriminate use in irrigation, contamination of vegetables and crops and slow build up of heavy and toxic metals is another point to ponder from health point of view in the context of food chain pollution. Similarly the aquatic life, especially fish, is being contaminated on account of the untreated industrial effluents discharged into the water bodies. This contaminated fish, on account of pollutants in its body, on its consumption by the human beings is responsible to trigger a host of diseases among its end users. And last but not the least, Pakistan-being among top ten water-short countries in the world, is deteriorating her fresh water with these effluents. Thus further wasting this useful resource.

Gujranwala has made tremendous progress in light as well as heavy industry. There are large number of industrial units of chemicals, food products, textile and engineering. On the whole, there has been a mushroom growth of industry. Proper planning and management is totally lacking, none of the industries individually or collectively has any waste treatment plant. The industries discharge their untreated effluents directly into the municipal sewerage which is carried along the water channels like nullahs and drains. The water from these drains and nullahs is used by farmers for irrigation purposes.

Like most of the country, Gujranwala has never been subjected to study from pollutional point of view. So there is no data whatsoever available on these lines.

Accordingly it becomes important to have a clear cut first hand data about the pollutional load of these water channels carrying industrial waste from various industrial sites in Gujrawala. In this research water samples of Industrial Estates of Gujranwala were collected and characterized.

Some variation in all indices were found as some lower values because of dilution factor involved due to heavy rainfall in the moon soon season.

Various parameters were checked using procedures approved and recommended by American Public Health Association and the results were compared with National Environmental Quality Standards (NEQS) of Pakistan.

The value of average temperature, pH, TDS and chlorides was in harmony with NEQS. Whereas the values of the other parameters like TSS, BOD₅, Copper, Chromium, nickel and iron were above the NEQS limits devised for effluents.

The overall objective of the research was to assess the pollutional load in the drain and distributaries passing through and receiving industrial effluents of Gujranwala City. The violation of the parameters from NEQS suggest that it is high time to take steps to check the discharge of untreated effluents into these drains and distributaries so that the environment could be protected from the damage and a healthy environment is ensured for future generations.