

Invisible menace

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Increasing pollution in the drinking water has become a major public health issue in the Kathmandu Valley. The level of contamination of the valley's water supply is way above the acceptable levels set by the World Health Organisation. The contaminants include, but are not limited to, faecal matter, coli forms, nitrates, ammonia, iron and manganese. The improper disposal of untreated domestic sewage, leaking septic tanks, extravagant use of chemical pesticides, fertilisers and disposal of untreated industrial effluents are polluting the shallow ground water aquifer in the valley.

Experts have labelled the water quality unsuitable for drinking purposes. The quality of the water being consumed in the valley is not considered acceptable for even other uses in the Western world. Researchers from the Japan International Cooperation Agency have reported that the underground water supply contains chemicals like ammonium, iron and magnetic and organic materials. The amount of ammonia in the underground water is quite high. The water supplied in the valley has an ammonia content of 120 to 130 mg per litre, while the recommended parameter is 1 decimal to 5 mg per litre.

Over the years, the quality of the drinking water in the valley has deteriorated because of the inadequacy of treatment plants, direct discharge of untreated sewage into rivers and inefficient management of the piped water distribution system. Bacterial contamination, specifically *Escherichia coli*, of water has become very common. Studies have time and again revealed that the bacterial and chemical contamination levels in the shallow ground water aquifer are very high. Not all underground water boring equipment installed in the valley are able to filter chemicals found in the water. Plus, suppliers of drinking water do not have the required technical capability to remove the contaminants in the water. In the Kathmandu Valley, out of 14 water suppliers, only four have the technical capability to remove the ammonia content in the water. The rest supply water after chlorine treatment. Iron and ammonia, for example, whose concentration increases with depth, do not get treated.

Strangely, the drinking water currently supplied by the Kathmandu Upatyaka Khanepani Limited (KUKL), which is a public company registered under the Company Act and whose job is to undertake and manage the water supply and sanitation system of the valley operated by the NWSC and provide quantitative, qualitative and reliable service to consumers to their full satisfaction at affordable price, has been reported to be tainted with dangerous levels of chemicals, viruses and bacteria. As a result of the incompetence of organisations responsible for providing safe drinking water, only about 27 percent of the population of the Kathmandu Valley has access to safe drinking water.

That percentage is expected to drop further in the coming years and decades because of the rapid influx of migrants and increase in population. With the influx of migrants due to growing insecurity in the rural hinterlands, the problem, too, is expected to grow. One of the factors behind an unsatisfactory water supply system in the valley is its high population growth. As the population grows, water contamination increases due to open sewage. Increased water demands lead to both increased contamination and increased ground water usage. In other words, there would be multiplication in the number of people affected by unsafe drinking water.

Despite consistent evidence of the deteriorating water quality, nothing substantial has been done to correct the problem. Looking at the subsequent governments' attitude towards this problem, one thing that has become abundantly clear over the years is that the deteriorating water quality is yet to be considered a public health problem.

Providing water, no matter how inferior in quality it may be, is what the government considers its duty. And as long as it does a decent job on that front, it thinks it has executed its duty. What a medieval sense of duty, isn't it?

Health problems caused by unsafe drinking water are a serious matter because the people that are directly impacted are those that cannot afford to have sophisticated water filter systems installed at their home or purchase purified bottled water. In a country where there is no universal healthcare system, and where approximately half of the population survives on less than a dollar a day, letting the drinking water problem persist will have severe consequences on the health and wellbeing of the people.

As of now, morbidity and mortality rates from water borne diseases are reported high particularly among children below the age of five; but in the longer run, continued usage of unsafe drinking water would increase the prevalence of chronic diseases in the older population. This would have a direct impact on the productivity and development of the nation. Hence, the question that arises now is this: Can an impoverished nation like Nepal afford to remain unperturbed by health problems posed by contaminated drinking water?

Besides that, the threat posed by unsafe drinking water is not merely a public health issue but also an issue of social justice. The government's inability to provide safe drinking water will have an adverse effect on the poor that cannot afford to purchase safe drinking water and avail themselves of quality healthcare services. Letting the poor suffer by the government, which is meant to uplift their status and ensure their wellbeing, is not only immoral, but also inhumane!

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