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How consumer expectations will change water purifiers in future

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Home water purifiers are witnessing strong growth in India. And the reason is simple — even today, 400 million people don't have access to safe drinking water in India. That's almost 100 million households. According to the 11th Five-Year Plan report, there are about 2.17 lakh quality-affected habitations in the country, and about 66 million people are at risk due to excess fluoride in 200 districts of 17 states.

With rising awareness about waterborne diseases and the associated health and economic burden, it is no surprise that this industry has been witnessing a strong double digit growth for the last few years. It will continue to grow at similar pace for the next few years.

Technology behind water purifiers is witnessing a change in India. The Indian market is inundated with water purifiers, with each making some claim or the other about protection from bacteria, viruses and associated waterborne diseases. Unfortunately, most of the claims are exaggerated, making it very difficult for the consumer to gauge the efficacy of the purifier, in terms of removing the microbiological hazards associated with drinking water.

This is especially true for low-cost offerings in the price range of ₹500-2,000. One reason for this is the absence of any performance standards for point-of-use (POU) water purifiers in the country. These standards are currently being deliberated. Once in force, they will result in significant improvement in the microbiological performance of low-cost purifiers.

Stand-alone candle filters, technologies based on micro-filtration membranes which do not remove viruses, and simple carbon filters will need to upgrade performance based on proven international bacteria, virus and parasite removal standards.

Purifiers with lower plastic and carbon weight, purifiers making use of recyclable plastics and purifiers that do not consume too much or any electrical energy will become popular

There is another environmental reality that will have a major impact on the water purifier industry in India. Fresh water resources are becoming scarce, leading to an increasing utilisation of ground water. As a result, the water table in most parts of the country has receded, directly resulting in the increase in the level of dissolved solids in water. The level of total dissolved solids (TDS) in water influences the taste of water and it is widely recognised that water with TDS levels of 50-200 ppm (parts per million) has the most acceptable taste.

The reality is that TDS levels in ground water across several parts of India exceed 500 ppm with some areas having ground water with TDS in excess of 1,000 ppm and 1,500 ppm. The taste of this type of water is not palatable and therefore Reverse Osmosis (RO) membrane-based water purifiers are becoming extremely popular because of their ability to remove TDS by 90-95%.

These devices require a high pressure pump to drive water through the RO membranes, making these devices expensive. In the higher socio-economic classes in urban India, however, prevalence of RO devices will continue to increase for the next few years.

There are two limitations of RO as a technology. The first is that for every litre of input water, only a fourth or fifth goes through the membrane while the remaining water largely goes down the drain. The second has to do with the use of electricity which is required to power the high pressure pump.

Certain technology trends in water purifiers will be dictated by the lifestyle and beliefs of the young middle and higher income consumers in India. The first is the desire for simple and convenient designs. Consumer expectations on ease of installation of water purifiers, and the ease of replacing the consumable components, have already increased several fold due to busier lifestyles. Another feature that has gained relevance is convenience. Purifiers which don't require consumer's intervention for start-up or stop have gained prominence, particularly with premium consumers.

The second technology trend will be driven by consumers who are far more conscious about the environment and who are starting to demand that natural resources be used in a responsible and sustainable manner. In fact, it is entirely possible that in the near future, such consumers will make their choice for a water purifier based on environmental impact.

Water purifiers are inherently superior with respect to boiling water and bottled water because of far lower contribution to green house gases. Purifiers with lower plastic and carbon weight, purifiers making use of recyclable plastics and purifiers that do not consume too much or any electrical energy, however, will become more popular than others (everything else being equal; that is, the guarantee of safe drinking water).

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