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Role of packaging in raising the safety net for potable water consumption

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The year 2022 is just around the corner and the dream of a 'Healthy India' needs changes at its grassroots. Even after more than 70 years of Independence, 13,972 rural habitations in the country receive heavy metal contaminated water supply. The result is that even in 2018, water-borne diseases like acute diarrhea affected more than 1.3 million people and claimed the lives of over 1,450 people. While the government has released INR 1,000 crore to provide technical assistance to states for setting up purification plants, the real question is if the storage, transportation, and distribution of water will be done it a manner that it doesn't get contaminated.

While, the economically stronger sections of our society can rely on 20 liters PET jars or Reverse Osmosis (RO) water purifiers to meet their demand for safe potable water. But, the rural population and economically weaker sections are dependent on local civic bodies to provide access to safe drinking water.

PET packaging material is tough, rigid and lightweight hence it perfectly suited to meet the demands of urban/semi-urban population. It is a preferred choice of packaged drinking water companies, since it provides ease in transportation, compared to much heavier metal or easily breakable glass containers. Also, it is an inert material and provide excellent barrier properties against external pollutants, hence it is trusted and endorsed by leading health and food authorities such as World Health Organization, U. S. Food & Drug Administration, Health Canada, the EU's European Food Safety Authority etc. to package and water amongst other products. In a nutshell, PET not only keep the contents unadulterated, but it also enhances the logistical reach of essential commodities. Currently, PET bottles/jars are used in most nations to ensure the delivery of safe potable water and other products.

While, PET packaging is the most viable option to ensure availability of safe drinking water in urban regions, considering the current cost of packaged drinking water, it is not a practical option for masses to quench their thirst, especially in rural areas. As the government continues to set up mechanisms to put together water purification plants in rural areas, there are some innovative ways to provide access to safe drinking water to the masses.

One such innovative system is SODIS (solar water disinfection), which is used by over 2 million people, across 28 developing countries to meet their daily drinking water requirements. The process is quite simple and efficient.

- A PET bottle/jar is filled with the existing supply of contaminated water and left exposed to the sun's ultraviolet (UV) rays for several hours to a few days
- The heat and UV rays wipe out harmful pathogens leaving water suitable for drinking
- The process is not only economically affordable but also eliminates the harmful aftereffects of water treating chemicals

This method is cheaper and more environment-friendly compared to boiling water using coal/wood or LPG. India is one of the blessed countries in terms of annual solar energy received. Hence, the government should also move their focus toward employing effective solar water disinfection measures to ensure the provision of safe drinking water for millions of its citizens.

Additionally, PET is 100 percent recyclable and therefore has a minimal carbon footprint. PET is the most recycled plastic worldwide. Currently, the rate of PET recycling stands at 80% in India, which is far higher than developed countries like USA, Japan etc. Backed by the Food Safety and Standards Authority of India (FSSAI) for being a suitable packaging material for Water, Milk & Milk products, Oils, Fruits & Vegetables, Sweets, Cereals, Meat products, Fish products, Spices, and other beverages, PET raises the safety net for consumers. With over three decades of extensive studies, regulatory approvals and scientific testing, PET packaging has become the epitome of trust and confidence.