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Scientists at City lab in drinking water breakthrough

National Chemical Laboratory uses membrane as filter to provide cheap, clean water; the device does not depend on electricity

PALLAVA BAGLA

NEW DELHI, JUNE 30

SCIENTISTS at a Pune lab have found a way of producing cheap and clean drinking water from contaminated water by using a membrane as filter. The device does not depend on electricity as most other water filters do and can thus be used in remote rural areas as well as disaster zones where safe drinking water is at a premium.

The breakthrough was made at the National Chemical Laboratory's polymer division and the new technology was granted a US patent earlier this year. NCL then transferred the knowhow on a royalty basis to Pune-based entrepreneur Subhash Devi, who has marketed the water filter. It is now available under the brand name Purion.

The man behind the breakthrough is polymer scientist R.A. Mashelkar, director-general of the Council of Scientific and Industrial Research. He describes



NCL in Pune: Making high technology work for the poorest of the poor in India

the breakthrough as "making high technology work for the poorest of the poor in India."

Tiny viruses which can cause diseases like jaundice are the hardest to remove from drinking water but the NCL says its acrylic membrane filter can produce crystal clear water from a drain.

A team recently demonstrated to *The Indian Express* on the banks of the Yamuna here how blackish water could be made drinkable. A team member then proceeded to drink the water to prove it

was safe for consumption.

A test was carried out at the National Institute of Virology (NIV), Pune using water which contained high amounts of the Hepatitis A virus. Expressing satisfaction over the outcome, V.A. Arankalle, deputy director and head of the NIV's hepatitis division, said: "The water filtered from the membrane-based filter and purifier was free from the virus."

The water filter does not look very
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different from the others in the market. Water is filtered in five stages, the last being the ultra-filtration done by the acrylic membrane which also filters tiny viruses.

The easy-to-deploy rural version of the filter weighs 18 kg and can be fitted in 10 minutes using any easily available water source for supply. The water enters the filter using a small hand-operated mechanical pump and within minutes clear, ready-to-drink water flows out.

Entrepreneur Devi says the rural model, which costs around Rs. 8,000, can deliver up to 2.5 litres of clean water per minute. He says the ultra-filtration membrane does not need to be replaced for at least four years.

Devi claims water filtered would cost around Rs. 5 a litre, much cheaper than the one-litre mineral water bottles available.

The entrepreneur says Finance Minister P. Chidambaram wants the filters to be used on a pilot scale in his Sivaganga constituency in Tamil Nadu.

Kapil Sibal has ordered that his Ministry for Science, Technology and Ocean Development keep 2,000 such filters ready so that they can be flown to disaster zones in future.

Termining the filters a "fantastic Indian achievement," Sibal said he wanted every government school to be given the device under the Sarva Shiksha Abhiyan.