

An Indian miracle plant seed can purify water



While numerous people from across the globe are unable to have access to pure and safe drinking water, scientists have found an easy way to get clean drinking water for all.

According to the scientists, proteins from the *Moringa oleifera* plant, which happens to be a tree belonging to the Indian sub-continent and growing in tropical and subtropical climates, can be used to effectively purify water at a low cost in developing nations. More popularly the plant is known by the name of drumstick tree and is cultivated as a means for food and natural oils with its seeds already being used for basic level water purification. But this elementary water purification technique has its own limitations as it leaves high amounts of dissolved organic carbon (DOC) behind it from the seeds due to which bacteria re-grows in the purified water just after the next 24 hours. This provides with very less time for water to remain in a drinkable form.

In order to overcome this limitation of the plant seeds, the researchers from Carnegie Mellon University in the US used sand and plant materials to create a low-cost and efficient water filtration medium, which they termed as 'f-sand'. The researchers created F-sand by extracting the seed proteins from the *Moringa oleifera* plant and sticking them with the surface of silica particles which is the principle component of sand. The researchers found that F-sand is able to kill microorganisms and reduce turbidity, adhering to particulate and organic matter. These undesirable contaminants and DOC can later be washed away, which can leave water clean for a longer period of time, and f-sand can also be reused.

According to information of the United Nations, globally as many as 2.1 billion people are devoid of access to safely managed drinking water services, out of which the majority live in developing nations. In such an adverse living condition, this new method can certainly prove to be a blessing in disguise for the unfortunate people devoid of clean drinking water in the developing nations.