TREATING BOREHOLE WATER FOR HUMAN CONSUMPTION

Boreholes may appear to be an economic alternative when considering access to potable water. However there are several factors to consider when assessing boreholes as an option.

Quality

Except in a few very rare cases, all borehole water contains high levels of total dissolved solids (TDS). This TDS is generally made up of gravel, micro-organisms and chemical contaminants, and needs to be treated before the water is fit for human consumption.

Gravel may not be too harmful to people, but it leaves a bad taste in one's mouth. Micro-organisms such as Vibrio cholerae and e-coli and on the other hand, are responsible for most water-borne diseases such as cholera and dysentery, and Heavy-metal and chemical contaminants such as Lead, Mercury, Arsenic etc. are also a risk from boreholes. The risk of these contaminants in borehole water increases significantly when human settlements and industrial areas are upstream of the boreholes.

The only effective way to prevent such infections is by a series of filters, then Reverse Osmosis (RO), then chemically treating the water. As a safeguard, ultra-violet light treatment is also recommended. When added up, the effort and costs of such treatment put the viability of boreholes into question.

Sustainability

The sustainability of boreholes has been proven to be a myth. Boreholes are even less sustainable than pumping water from a river. As water is drawn from a borehole, so the water table drops, depriving the surrounding environment of the water that has sustained it for millennia. Vegetation starts to dry up, leading to erosion and an even higher demand for water. As a result, new boreholes need to be dug at ever-increasing depths, and at ever increasing costs. Not only that, neighbours start to put down their own boreholes, thus depriving you of water.

Reverse Osmosis may rid water of undesirable contents, but those contents are still left behind after the water is cleared, and disposed of somehow. These contents are in the form of sludge (there is only a 30% yield of clean water from RO), which is generally pumped onto the earth, only to be reabsorbed into the ground-water!

Costs

As can be seen above, boreholes appear to be cost-effective to install, but to ensure there is a sustainable supply of water at a high-enough quality to drink, the costs build very fast.

Atmospheric Water Generation – A Viable Alternative

Cirrus Water Management provides equipment that produces an unlimited supply of high-quality drinking water, where it is needed, that has an extremely low impact on the environment whilst being cost effective, as an alternative to any other source of water. The equipment achieves this by extracting water out of the atmosphere where there is always a supply of humidity.

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