

WATER FOR LIFE: TESTING THE LIFESTRAW

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**PHOTO FEATURE:
PENANG'S HIDDEN
JUNGLE PATH**

**FICTION:
THE JUNGLE BOY**

**WALK ON
THE WILD SIDE:
TRAILBLAZER**



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Water is Life: LifeStraw

With the exception of air, clean water is the most important substance on our planet.

TEXT & IMAGES: ASHLEIGH SEOW

INCOMPETENT DEVELOPMENTAL POLICIES

and man-made disasters such as war have caused many of the world's water sources to become saline, polluted by silt, solid and chemical waste to the detriment of the poorest and least enfranchised peoples.

Thirty years ago we did not buy bottled water; it arrived from the tap ready to drink. Even in the developed world some places now have questionable water quality. The New York Times reports that 19 million Americans are taken ill each year due to bacteria, virus and parasites in drinking water. In developing countries like Indonesia, where I now live, drinking tap water can be hazardous; four of my neighbours in our expat compound had amoebic dysentery last month. Analysis of the water in Jakarta shows E.coli, other bacteria and chemicals. The middle classes opt for bottled water while the poor boil what comes out of the taps and rivers.

The problem for nature enthusiasts is whether to buy into the water-as-a-commodity mind-set and bring bottled water into the wilderness or take what is found naturally and boil or purify it. Boiling kills all pathogens but cannot improve the taste, treating water with chemicals like chlorine or iodine kills most

parasites but makes the taste worse. Drinking it straight tastes good but there are risks. Unfortunately many who seek pristine nature also discard their bottles and create eyesores in the natural landscape.

Some years ago Vestergaard-Frandsen, a Swiss-based textile company, was asked by the (President Jimmy) Carter Center to develop a filter for the Guinea worm parasite found in sub-Saharan Africa. That effort has almost eradicated guinea worm. The company moved into humanitarian textile products. One of these was the LifeStraw, based on a filter that would remove 99.99% of bacteria, viruses and parasites. They are made for disaster-relief and aid agencies and are not generally available commercially as production is directed for the neediest users.

Recently, some MNS members were able to test these filters in Borneo. MNS Nature Guides had arranged a trip down the Baram River in Sarawak to, among other things, find out the views of the local Dayaks who would be affected by the building of the planned Baram Dam and the deterioration of water quality and water flow there. This seemed like a good place to start.

The Life Straws were surplus Indonesian disaster relief stock and were obtained via V-F's Asia Pacific

Lifestraw on log.



office. They were purchased with individual funds and the company did not know they were intended for testing.

We were not testing the specification claims since this is already a well-known humanitarian relief item which has been tested before and doubted that a flawed product would continue to be used. Our test was to find out whether they can be used easily when you are on the move and have to drink what you can find. We also looked at the psychological acceptance – at what point do you stop trusting it to filter out the water that you find?

The tests started with 'better' water in the Heart of Borneo from jungle streams to rivers that service logging and mining towns and advanced on to African wells and animal waterholes that were practically cess pits.

The first "wet-run" started in Brunei at a popular waterfall. If you do not want to enter the water you need a container. I used a discarded water bottle and cut off the top with a knife.

The LS has a strap so you don't lose it. This proved to be a very good idea. The filter end has a cap. It shuts well and stays tight but the plastic hinge does not look strong. Time will tell if it lasts. At the drinking end, the cap fits well and the keeper strap is more robust than the one at the filter end.

Initially, there is considerable resistance when you suck. This is reassuring. If it was too easy I would wonder about the filter. It goes through some chambers and it becomes easier after the 5th or



Pasu and Ille using LifeStraw at Baram river, Sarawak.

6th attempt. Not as easy as a drinking straw but manageable. After you finish you need to backwash the filter by blowing vigorously to empty it.

In Sarawak, Hani, Elsie Tay and I started in a stream near the Bario plateau. The water tasted better than many brands of RO water available in shops.

Pasu, JC and Ille Gebeshuber joined in at the upper reaches of the Baram River. Ille was a good choice as she is a materials physicist and used to dealing with things at the molecular level. She felt confident enough to drink from a small stream 25m downstream from a longhouse toilet!

We continued drinking all the way to the grimy and dirty towns of middle Baram and drank from the jetties where big Express ferries pull up and moor. In



No argument
Elephants drink first.



Drinking water from the Nye
Nye pan Kalahari Desert.

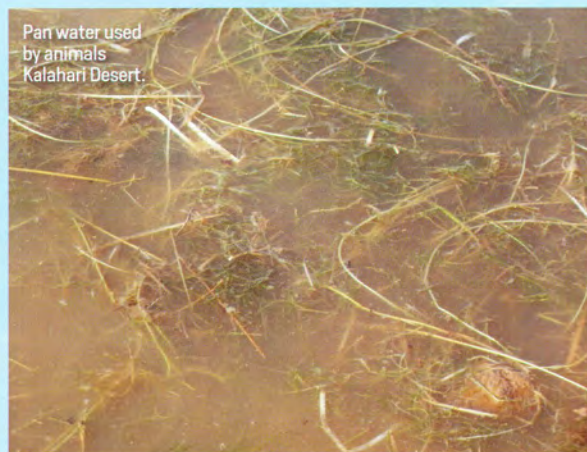
towns like this some of the liquid waste ends up in the river. The water still tasted fine. We did not use them on the lower Baram as we had no opportunity to stop and the filter life would be shortened if used in salt water.

The test then moved to the Kalahari Desert in north-eastern Namibia (Africa) where we drank water from underground aquifers, native bored wells and at waterholes shared with wildlife. Namibia has many infectious waterborne diseases such as leptospirosis, bacterial diarrhoea, hepatitis A, hepatitis E, typhoid, Schistosomiasis and Cholera so this was a real test.

The filtered well water tasted good so we moved on into the Kalahari proper to try the ultimate test - the pans. Pans are seasonal depressions where water accumulates. During the rainy season they can be very wide but as they are shallow they evaporate quickly and usually disappear in summer. They provide water for wildlife and are full of thousands of birds which, more than mammals, pollute the water with tons of bird droppings. As the pan water evaporates the concentration of faeces increases and the stench is extremely strong.

The taste remained neutral but since I could not shut my nose the smell of the green algae and guano-laden pan water was so strong that it got in anyway. Drinking while lying face down also made me realise how vulnerable animals are at water holes and I waited till the animals had their fill.

Participants drank from the Life Straw for periods of a few days to one and a half months in my case. No one came down with any sign of illness and no one



Pan water used
by animals
Kalahari Desert.

had diarrhoea in Asia or Africa.

This is a cheap minimal impact device designed to perform in the harshest environments and it can put up with rough treatment for extended periods. There is no need to increase your carbon footprint with a fire to boil water. The life of the Personal LifeStraw is 1000 litres (or approx. three litres every day for a year). Its shelf life is five years.

There is a slightly larger version called Life Straw Family which can provide 5 years of use and can supply the needs of several people on camping trips with the added benefit that you do not need to drink at the river and can bring the water to the campsite.

If you are concerned about quality water, environmental impact and in reducing the weight of your backpack then this filter or similar commercial filters may appeal to you. 🐼

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