

Lha's Clean Water Survey Report 2014

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Figure 3: Demay is showing how to clean storage tanks properly



Figure 5: Demay Tsering (EHO) in Lha's

Lha has been installing water filtration systems since 2010 to provide clean water in an effort to combat the problem of poor quality drinking water which causes serious health issues. Sixteen units have been installed in:

11 Tibetan schools, two Indian schools, one nunnery, Lha's soup kitchen, and one old people's home. 7,080 people have benefited directly from the systems, which use a Reverse Osmosis/Carbon/UV process to eliminate all contaminants.

Lha undertakes regular surveys to monitor the installations and their effectiveness and has just completed the latest survey which showed that the filters are well accepted, have a positive impact on health and class attendance and that the installation of the filters has raised health and hygiene awareness.

First Survey, 2013

In 2013 a survey was carried out in 8 schools using Lha filtration systems. The results showed both a drop in water-borne diseases, and an improvement in students' general health and class attendance, as well as hygiene awareness. Fast access to clean water and less wasted energy from boiling water are further benefits. Maintenance of the filters was shown to have improved, and Lha has continued to install their systems as a result.

Clean Water Project 2014

In 2014 the new post of Environment and Health Office (EHO) for Lha was created and Demay Tsering was appointed. He runs HIV and Environment Protection awareness campaigns, and, with a volunteer with a scientific background, has set up a filter maintenance programme.

He also manages health and hygiene education in schools and monasteries, liaising with the local administration and health department of the Central Tibetan Administration (CTA). All the schools in the scheme have expressed an interest in inviting the EHO as a guest lecturer.

Achievements in 2014:

- Each installation now has an appointed person who oversees the daily operation of the filtration systems.
- Production of an easy-to-understand maintenance guideline for the systems.
- Effective records for the systems, their maintenance and replacement of parts.
- Interviews with all school principals.

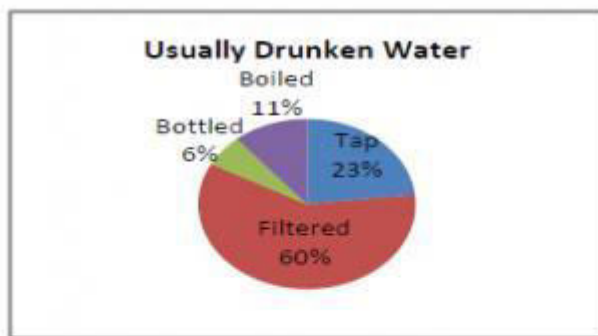


Figure 7: Water Consumption

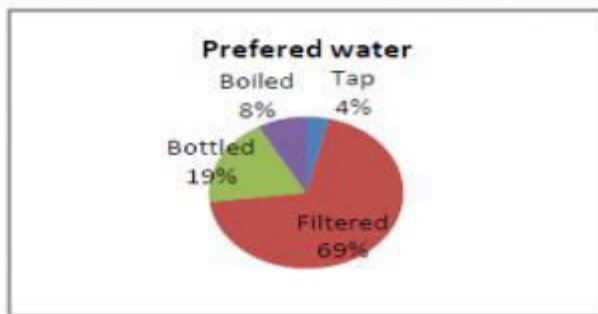


Figure 8: Preference of Water

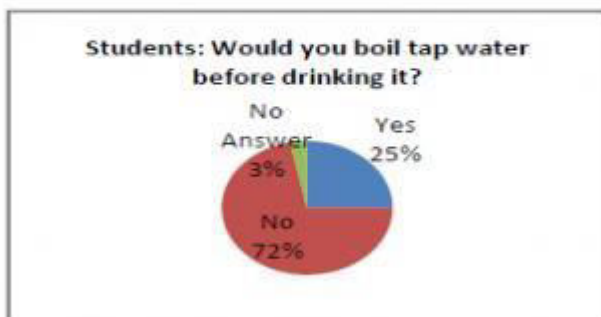


Figure 9: Boiling Water

- Cleaning and disinfection of all storage tanks for filtered water.
- Direct communication with the company supplying the filters to strengthen collaboration.
- Preparation of a health and hygiene awareness programme.
- Establishment of a small laboratory at Lha’s Ahimsa House.

Water Testing in 2014

The filtered water was tested at 33 different sites in Himachal Pradesh, Uttarakhand and Delhi, and compared with the tap water which was also tested, to assess the functioning of the filtration systems and to choose the most suitable system for new sites on basis of water quality. Tests were carried out to determine the levels of: Coliforms; E.coli; pH; water hardness; nitrites and free chlorine.

The test results for tap water showed alarmingly high levels of Coliforms and E.coli, and low pH, ie acidity. It was found that the filter systems, in combination with chlorination, provide safe drinking water, and that maintaining clean storage tanks is important. Monitoring can be carried out on filtered water with a TDS-appliance (Total

Dissolved Solids) and bacterial test kits.

Second Survey, 2014

In the autumn of 2014 users were asked about their usage of water; acceptance of filtration systems; the impact on health; usage and maintenance problems and hygiene awareness. The survey showed that the filters are widely accepted and three quarters of users believe that health and class

attendance have improved as a result, as well as awareness and understanding of the importance of healthy drinking water.

Most people were aware that water is a source of bacteria and pathogens, many referring directly to unclean water as a cause of the stomach problems that afflict so many people. However the survey also showed that more education is needed on how to ensure drinking water is safe.

The survey has shown that proper maintenance is essential for the water filter units to continue providing high quality drinking water. Lha continues to monitor the systems, and is installing more filters when funds are available. It is hoped in the long-term schools will find ways to bear the maintenance expenses for their filtration systems themselves.

Each new filtration system costs US\$ 3,000, including maintenance costs for five years. Lha is dependent on the generous support of donors all over the world to continue this exciting and rewarding project.



This survey report has been done by Johanna Gartner (Scientific Advisor/Researcher) and a long time volunteer at Lha. We thank Johanna for the help and contribution.