Design of 'Worm-drum' Using Pectin and Activated Carbon Filter

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In developing countries, people walk long distances carrying heavy water drums. However, carried water is contaminated by bacteria, organic material, heavy metal and etc. The goal of this project is to solve these problems by designing a new device. The device is called "Worm-drum", and it easily carries and filters water. Worm-drum has wrinkles which makes it seem like a worm. It has a cylindrical body and there is a filter attached to the cover. Activated carbon and pectin are applied to the filter. Pectin can be easily obtained in developing countries because peel of potato can be used to extract pectin. The water is carried by rolling. Afterwards, putting pressure to the drum will make the water go through the filter. After filtering contaminated water with Worm-drum, heavy metal, bacteria, organic matter concentration and COD are reduced, and the contaminated water is changed to drinking water. In conclusion Worm-drum is able to move water easily by rolling as well as filter it into drinking water. Worm-drum could be a potential solution for the developing countries' water supply problems.

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