

Clean Water Bore with cast iron pump. Cost AU\$350

Clean water and good sanitation are the cornerstones of a healthy community.

There is no need so basic as having clean water to drink, but over half the population of Cambodian does not have access to clean water. In the countryside, most people rely on water from rivers, streams and ponds. This water is often polluted and is a major cause of health issues in children. Also, the lack of sanitary toilets exacerbates the water problems.

Our installation of a clean water bore includes a cased bore pipe, cast iron pump and a concrete slab which provides an hygienic platform for the family to use when cleaning and washing.

There is also a 'food trap' to catch any waste, so that it does not contaminate the run off water.



We discuss the family's situation and then 'site' where a bore should go. The drilling is done manually. Water is pumped down the centre of the drill-rods, emerging as a jet. It then returns up the borehole bringing with it cuttings and debris. The washing and cutting of the formation is helped by rotation and the up-and-down motion of the hand auger.

When the hole is drilled the casing is then lowered into the bore hole. Around Siem Reap, the casing pipe is about 25 metres in the ground. The casing isolates poor water zones and allows the development of higher quality ground water in deeper formations. The slots in the casing allow the water to enter.

A drop pipe is then lowered inside the casing pipe to about a metre above the slotted screen and is connected to the above-ground pump. Water is drawn through the drop pipe when the manual pump is operated.

The bore pipe has a tee junction under the pump with a pipe added that can be connected to a future electric pump.

A concrete slab is built around the pump and provides an hygienic platform for the family to use when cleaning and washing. We also build a 'food trap' using a stainless steel colander, to catch any waste, so that it does not contaminate the run off water.

Drilling a Clean Water Bore



and installing a Pump

Samples of bore water are regularly taken and analysed at a professional Water Testing Laboratory in Siem Reap. The analysis is comprehensive and includes results for iron, arsenic and pathogens. The water around Siem Reap is arsenic free, contains little iron and our bore water has consistently been free of pathogens such as eColi.

Maintenance: *The plunger inside the pump is the only moving part. The bolts holding the plunger need monthly checking. The family is provided with a spanner to regularly check and tighten these bolts.*

Sustainability: *Clean water from the bore will continue indefinitely. The aquifers are replenished each wet season.*

