



Case Study

Rainwater First-Flush Pipes

Enquirer: Malawi Trade School Appeal
Country: Malawi

In the wet season in Malawi, **river water is highly contaminated** with materials such as sediment, and chemical fertilisers.

Rainwater is clean and can be caught in roof gutters, **but the first few gallons are dirty** due to dust and dirt on the roof and in the gutters.

EngineerAid was contacted to **design a mechanical system** which **avoided** the need to **manually move a heavy oil drum** underneath the pipe after this first (foul) flush has finished.

Got a technical problem on an International Development Project?
Request our services by emailing contact@engineeraid.com



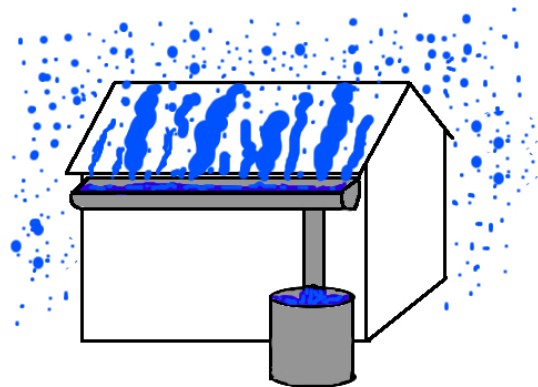
Rotating piping allows the rainwater to be channelled to the receptacle only when you want it.

“Once again many thanks..... I get the impression that your contributors found this to be an interesting exercise!”

– Ian Walker,
Malawi Trade School Appeal

Could **you** help on a project like this one?

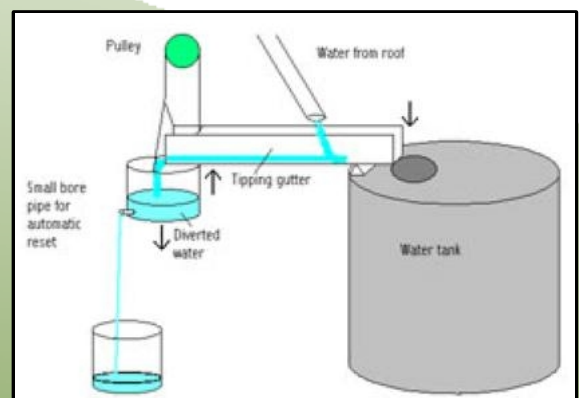
To **volunteer** or make a **donation** please email contact@engineeraid.com or visit our website at www.engineeraid.com



The first 5 minutes or so of runoff gives dirty water and the oil drum is too heavy to move during this time.

EngineerAid provided **several free solutions** of varying complexity:

- Manually **moving the downpipe** rather than the oil drum – by means of a **rubber hose** on the end, or a **swivelling pipe**.
- Tipping Gutter** and **Floating Ball** systems, which **automatically switch** to the main tank when a smaller waste bucket is full.



The tipping gutter system. Clean drinking water is essential, and systems such as this allow can make it freely available

<http://www.engineeraid.com>