Going off the Water Grid / Beating the Water Blues

Nikki Kohly, 13 March 2017

It started with one rainwater tank, and then two. Every time there was a drenching downpour, I would see the tanks overflowing into the garden. Not a problem really, but it got me thinking. This part of the country is really lucky to get rain throughout the year, so why not make better use of it? Issues with water cuts and quality concerns added to the incentive to switch over to a dedicated rainwater supply.

Not easy at first. Various artisans at the time shook their heads and hinted that my plan was a bit crazy. So I hunted further afield, and struck gold when I found PE-based Frans van der Merwe, the 'Green Overall' man – and winner of a WWF Green Trust Award for Water Conservation.

For every 10mm of rainfall on a surface area of $100m^2$, you should get 1000 litres of rain water. Frans advised me to aim for at least 20,000 litres rainwater collection capacity. Then we discussed the pros and cons of different systems for getting the water into the house.

I decided to have my rainwater piped, using solar power, to a header tank at least 6 metres higher than the house. (If your property is flat, get a tank stand.) The water is then gravity-fed into the household water reticulation system. The solar pumping operation is controlled by a float switch, and has run smoothly for more than seven years.

I am glad I chose not to rely on electricity to pump the water directly into the household water pipes – because this would have meant no water whenever there was a power cut.

Pros and Cons

I view the low pressure of my system as a benefit, as it helps me to avoid excessive water use. Obviously I no longer take water for granted, and am mindful of how I use it – whether it is washing myself, my dishes, or my car.

I have an eco-efficient washing machine, and a Water Rhapsody 'Second Movement' (another excellent system installed by Frans van der Merwe) re-uses the grey water for flushing toilets. The loos are fitted with a water-saving multi-flush system. Other grey water is directed into the garden – which helps to further reduce the pressure on our overloaded waste water treatment works! I also have an eco-friendly waterless toilet from Enviro Options.

My supply is always reliably clean (thanks to a nifty pre-filter system), which takes the headaches out of clothes washing. And the quality is great – it tastes like sweet mountain stream water, and my hair and skin health have never been better. I do use a 'Water Well' layered filter system with ceramic dome, carbon filter and mineral stones, to purify and add essential minerals to my drinking water. By the way, there are almost no accounts of illness associated with rainwater consumption.

Harvesting rainwater off the roof also means less runoff along paved areas – which causes localised flooding. My garden benefits too, especially when the tanks overflow after good rain. I still have at least 20% unused roof capacity, so I could probably increase my storage capacity to 60,000 litres or more. I imagine swimming pool owners would be delighted with significantly lower water costs.

Keep it clean

It is important to filter the roof water before it enters the tank. This helps keep the tank free of debris, mosquitoes, rats and other unwanted items that will decompose and pollute the water. I developed a simple, dome-shaped "pre-filter" installed about 12cm below each downpipe. I prefer this to a first flush diverter, because it hardly needs any maintenance – the dome shape means that most debris simply slips off. Details at www.ru.ac.za/environment/resources/water/rainwater

I do a visual check from time to time, especially after rain. If I see any debris on the dome, I sweep it off lightly with a soft broom.

Conclusion

Ok, this system did cost me a bit, but still far less than a mid-range car. In the long run, the personal lifestyle, health and environmental benefits have been well worth it.

I have retained my connection to the Muni water system, just in case. But I feel water secure regardless – even if Grahamstown were to face ongoing water shortages.

Would I do it again? Oh yes!! In 7 years, not a day without water.

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DIAGRAMMATIC REPRESENTATION showing how my rainwater system is connected to the house.

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