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WATER, WATER EVERYWHERE AND NOT A DROP TO DRINK ...

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Why are we talking about water? Because just as peak oil and climate change mean we have to learn to be more frugal with our resources and more resilient to change, so the same applies to water – **peak water**. Just as we have assumed there will always be cheap and plentiful oil, so we think the same about **water – it's cheap** and there's an infinite supply.

Rachel Carson, a marine biologist, said as long ago as 1960s: *"In an age when man has forgotten his origins and is blind to his most essential needs for survival, water along with other resources, has become the victim of his indifference."*

Water and its increasing scarcity is now a daunting global challenge and one that could lead to problems of security in the not so distant future. **Nearly half of the world's 6 billion population lives in water-stressed areas** already – and that 6.8 billion is set to reach **9 billion by 2040**.

Ironically, **food production**, without which the ballooning world population cannot survive, is one of the **fiercest competitors for water**. Agriculture consumes **70% of fresh water** and in **India, 20% of freshwater** is being extracted from non-renewable aquifers. The **global grain** crop will **reduce by 1/3** for the lack of water, and many of you will know that **parts of Australia** have already given up their citrus fruit production for the same reason. Major rivers such as the Colorado and Murray Darling **no longer flow into the sea**, and some rivers are ruined by **pollution**. In **China** that is true of over 50% of their rivers!

Water shortages have less to do with climate change and more to do with **population growth, industrialisation, intensive agriculture and greed, or profligacy**. Perhaps because the supply of water has always seemed so infinite, we have not counted its **cost in terms of food** production. It takes

2,000- 5,000 litres of water to grow 1 kg of rice.

1,000 litres of water to grow 1 kg wheat

2,000 – 11,000 litres to grow enough feed to produce enough meat for 1 lb beef burger.

2,000 – 4,000 litres for that same cow to fill its udders with **JUST 1 litre of milk!**

22nd March was the **6th annual World Water Day**, designated by the UN as part of its International Decade for Action on Water.

It is said that by **2025, 1.8 billion people** will live in regions classed as **water scarce**.

Water **shortages already exist in 80 countries** and the World Bank estimates that our **demand is doubling every 21 years**. Already, **30 countries get more than 1/3** of their water

□ **The Sustainability Trust** is a non-profit charitable foundation and a Global Rotary Club Project supported by 11 Founding Member Rotary Clubs in the USA, Australia, India, South Africa, Canada, UK.
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from outside their borders. Apparently, even some UK water authorities have already considered the practicalities of **importing tankers of fresh water** from Nordic fjords.

And this is the human side of water scarcity:

- Every 15 seconds a child dies from water-related diseases – **6,000 a day**.
- That's because **80% of infectious diseases** are water-borne.
- But clean water and good hygiene can reduce death from **diarrhoea by 65%**.
- But because of the lack of clean water, in the poorest countries of the world, **2/3 children die before the age of 5**.

In the **poorest countries it is the women and the children** who spend all their days carrying water, with little time for education or anything else worthwhile. In **Bolivia**, for instance, women carry **20 kg of water an average of 5 km (3 miles) many times a day**. 20 kg – (44 lbs or 3 stone) is 20 litres of water. **20 litres in one 6 mile return journey**. 20 litres – and yet in the UK, we use 10 litres just to flush the toilet.

But none of this really **affects us here in the West**, does it? After all, in Christchurch we have 2 rivers, one either side of us! But consider this:

- The UK has less available water per annum than Spain.
- The South East of England has less available water per person than Morocco.
- London has a lower annual rainfall than Rome or Naples.

Envirowise research found that 70% of UK sustainability experts believe dwindling water resources to be as big a threat as carbon emissions, while over half of them believe there will be a **global water crisis before a global oil crisis**. Ground water sources are not easily replenished and need a steady seasonal rainfall, but heavy unseasonal deluges tend to be lost to the sea as the catchment systems can't cope. Processing water from heating, pumping, chemical treatment and treating sewerage requires huge amounts of energy and **carries a carbon burden equivalent to that of air transport**.

How do we use water in the UK? Well think of those poor Bolivian women tramping 6 miles for just 20 litres of water while I tell you this:

95 x 7 = 565 L
& 2 x ½ loads
more than 1 full
load
About 3.79
liters make one
US gallon
**One liter =
approx ¼ of a
US gallon**

- A hosepipe uses **18 litres of water a minute** – in 1 hour it uses more water than the average family of 4 uses in a **whole day, ie 1,000 litres**.
- Cleaning **teeth** under running water uses **9 litres a minute**, while a **power shower** can use more water than a bath in **less than 5 minutes**.
- The average washing machine **uses 95 litres** - we all know of families where it goes on every day of the week.
- In the UK each person uses an average of **150 litres a day**.
- In the average house, flushing the **toilet accounts for 28%** of water used, and an indoor **tap accounts for 23%**. **Showers account for 60%** of the world's hot water usage!

We can all do more to reduce our water consumption. In the UK, water has historically cost us nothing because it was priced as a % of the council rates. Those of you with a water meter – and in my opinion everyone should have one, in order to make you more conscious of an invaluable resource and more conscientious about paying for it – will already have started to monitor how and why you use water.

Did you know that **if you collected all your rainwater**, it would amount to **85,000 litres a year**. (Now if only we could convert that into electricity!)

Here are a few small changes to make in order to conserve water:

- ✓ **Fit tap inserts.** They can reduce usage without affecting flow, **by 70%**.
- ✓ An **'A' efficiency rated washing machine** is also the most economical on water as well as on energy.
- ✓ An old-style cistern uses **9 – 10 litres each flush**. **Insert a hippo bag** if nothing else!

- ✓ Fit a Save-a-Flush device in your cistern, available from the water board or DEAC? If you reduce your usage by just 12 litres a day (ie by installing a save- a- flush) that can save you £8 a year. Not much money is it? Is that why we're so profligate with water, because essentially it's so cheap? Are we only motivated by money these days?
12 litres a day – 4380 litres a year
 - ✓ Get a **timer for the shower**. Who showers for longer than 5 minutes in your house? **Power showers** are particularly extravagant on water, and what's more they empty your immersion tank which has to be re-heated, unlike an electric shower which heats water as it flows.
 - ✓ Fit an eco shower head (low flow) – see BWHW website for details of where to buy and other water saving devices and tips. From there you can also download their **audit form** to see just how much water your household is using (I've brought a **couple of copies** for anyone without access to the internet.)
- 2 thousand,
275 million
litres
- ✓ In 2006 in the UK we drank a staggering **2.275 billion litres of bottled water!** And it takes 2 litres of fresh water to produce 1 litre of bottled, (**4.5 billion**). AND there is then the 2.275 billion plastic bottles going into the **environment**, taking centuries to degrade, Plus, **5000 times MORE** carbon emissions to produce 1 litre of bottled water than tap water. Please don't buy bottled water!
 - ✓ If you run off a **jug of tap water**, cover with a napkin and place in the fridge, the chlorine will evaporate and the water will taste lovely. It will also save water being wasted every time **you run the tap** to get a glass of cold water.

So when any 2 of you rush indoors after this event, and **use the toilet, flush it twice, wash 2 sets** of hands under running water, run the tap to **clear the pipes** in order to **fill the kettle** to the brim for 2 cups of coffee, before taking a **long soak in a hot bath**, just think of this:

In the **developing world**, an average person uses **10 litres a day**. 10 litres in this country, is what each of us uses per day **just for drinking and hand washing**. It is calculated that **our daily use is 150 litres each** and should be reduced to 80 litres. Sounds impossible? Well,

- **In 10 years 70%** of the world's population may not have not enough water.
- Only 3% of all the water in the world is fresh, and of this, only 10% (ie 1/3 of 1% of all water!) is available for human use!
- 12% of the world's population currently uses 85% of the total available drinking water.

So just as **Transitioners are trying to save food miles**, grow our own food, reduce our energy dependence and generally consume **less of everything** as in the film, The Story of Stuff.... so we should be seriously attempting to conserve our use of water, and ensure that it too is **preserved for future generations**.

If all these facts and figures **have only one impact** on you, I hope it will be to make you go home and **think of at least one way** you can start to save water. For myself, because it takes so long for the hot water to come though in the bathroom, I run off the **cold water into a bucket** and use it for flushing the toilet. **I wash the dishes by hand once a day** and use the washing **machine only once a week**, but I still consume an average **110 litres a day**. I'm not sure how I am going to reduce it further but I'm going to have a go. So even if you don't have any questions to ask, please do let us have your comments and suggestions on ways we can all save water.

Remember: Save water, save life!