

Troubled Water, Broken Pipes

I saw the book “Troubled Waters” that Anita Roddick published recently. Well done Anita for raising the world-wide water issue. Unfortunately the writing hits the wrong targets because of some common misperceptions.

The factor that seems to be missing from the book is the real cost of women’s labour. Once we take that into account it is easy to show that the real cost of water in typical developing countries can be 30 times the cost in industrialised countries. Poor families simply cannot afford the water they need. Yet there is no drinking water shortage, at least in Pakistan where I have done my research. Nor are there any multinationals running privatised water utilities. The reason for the high costs can be traced to broken water distribution systems and a failure to comprehend just how high the real costs are, even in countries like Pakistan.

I have worked for more than 10 years on landmine problems in Afghanistan, Pakistan, Cambodia and many other countries. This brought me face to face with water costs: a much bigger but less obvious issue than landmines.

I am a researcher. For a long time I was looking for answers to some nagging questions that came up all the time I was in poor countries. Cities and remote village communities share the same problems: disease, grinding poverty, water shortages and skill shortages.

The problem I discovered is that poor countries face higher costs than we in the industrialised countries, in real dollar terms. Energy, transport, even food, when we take the total costs into account for equivalent quality, the costs are often higher.

There is no multinational company distributing privatised piped water in Pakistan, just a series of failed water distribution systems. There is no water shortage. Yet when you turn on a tap, as often as not, air rushes into the pipe rather than water coming out. That’s when you have to queue at the depot and pay a bribe to get the water truck to come to your home. Whether the water comes from a well, a cart, a truck or a pipe, it has to be filtered and boiled to make it safe to drink.

Sufficient water for the most basic healthy lifestyle (about 10 litres per day per person in summer) can typically cost about 50% more than a typical poor family income in a Pakistan city or village. Most of this is represented by the labour of women, priced at the lowest possible earning rate. Of course, no poor family can afford this: they need food as well. The result is they don’t wash their hands or food: they can’t afford the water. And then they get sick much of the time. You know the rest of the story well enough.

The World Bank defines poverty by income, less than US\$1 per day. That figure assumes that costs are roughly equivalent which is not the case. This definition falls apart if water costs as much as I have observed.

Good engineering can solve this problem. Industrialised countries can deliver water and other essential commodities so cheaply because these countries have ruthlessly

competed with each other to be more efficient. This race has left poor countries far behind. Yet this also promises solutions for poor countries if only we correctly understand the problems and how to solve them.

I think we need to start by correcting some misperceptions, most importantly in poor countries. People in Pakistan have trouble believing me when I tell them their water is so expensive. They also find it hard to believe their labour is expensive.....mainly because they think it is cheap labour. It is cheap by the hour, of course, but when you see how little real value is produced you can then see that it is expensive labour by world standards. Until you realise labour is expensive you don't think of better ways to use it...better tools, education and training etc, better organization.

If you would like to read more, please refer to the following articles and our research project on the nature of engineering work:

[The cost of drinking water in Pakistan](#)

[Why Engineering is Expensive in Pakistan](#)

[Research on the Nature of Engineering Work](#)

[James Trevelyan](#)

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