WATER & WASTE BRAZIL

Are water reuse and desalination systems a good option?

By Daniel Bland - Tuesday, June 30, 2015

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With the population of Latin American countries growing by some 12% in the last decade, having enough water for the region's citizens is an ever growing concern.

In this second part of our two-part Q&A with water economist David Zetland, we discuss various investment possibilities, such as the installation of water reuse and desalination systems to improve water supply in the region.

BNamericas: One way to help maintain water supplies is by building water reuse systems. What should be considered when developing such a system?

Zetland: Before building one for potable water, the first work should be on meeting "low quality demand" such as for farms and parks. It's cheaper to implement systems with larger pipelines that distribute semi-clean water.

BNamericas: Speaking of reusing water for drinking purposes, what's your opinion of the Janicki OmniProcessor?

Zetland: On the plus side, it's self sufficient in terms of energy and doesn't create a lot of pollution. However, at US$1.5mn, it has a high Capex.

The system is capable of providing 1,000 people with a very basic 10 liters per day of water, equivalent to US$1,500 per person. Depending on how much is charged for the service, a return on investment would take about two years and, if we take maintenance and operating costs into account, three years.

Therefore, the system is more ideal for small-scale water supply operations in the case of emergencies such as natural disasters or a government collapse. A desalination system could actually be a cheaper option.

BNamericas: But desalination is still quite expensive, isn't it?

Zetland: Using desalination is an option to consider but it really depends on the alternatives available. In Israel, where the climate is quite harsh, they use desalination to supply farmers and this increases the overall security of the country.

When considering desalination, it's important to focus on watershed management or, in other words, environmental and agricultural water use.

BNamericas: Repairing leaking pipes can be quite costly. Is it worth it?

Zetland: Conserving water is something we should all try our best to do. However, when determining whether or not investing in repairs will pay for the financial losses of leaking water, there seems to be a breakeven point.

According to the ELL/SELL, or economic level of leakage, water utilities should try to reduce their water loss rates to 10%. Anything less than this may not pay off, financially speaking.

However, in some countries, like Holland where I live, loss rates are lower than 10%.

BNamericas: Who should be responsible for basic water and sewerage services, the federal, state or municipal governments, or the private sector?

Zetland: Towns and cities should be responsible since the provision of these services is local. States should do their part by managing water basins and the federal government could contribute by subsidizing the poor so that water is affordable.

As for the private sector companies, they could fit into the puzzle by competing for water supply and other related service contracts.

BNamericas: Is there a specific country or region that could be highlighted as an ideal example of sustainable water and wastewater use?

Zetland: Singapore is ideal but it's quite small. In terms of Latin America, we can turn our eyes to Chile. Despite issues such as the under-trading of [water] rights, or hydropower hoarding, I'd say that Chile is a good example of quality services. It's way ahead of its Latin American counterparts.

About David Zetland

David Zetland is currently an assistant professor at Leiden University College in the Netherlands, where he teaches various classes on economics.

With a PhD in Agricultural and Resource Economics from UC Davis, he blogs and give talks on water, economics and politics. He has also written two books, namely "Living with Water Scarcity" and "The End of Abundance: economic solutions to water scarcity".

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