



Degrowth aided by decentralised water supply

A new study from Spain has explored economic degrowth (the scaling back of economic models based on growth) in the water sector and indicates that rainwater harvesting and reclaimed water use are most aligned to degrowth principles.

The focus on escalating production and consumption has led to the unsustainable use of natural resources, especially water. This has been addressed from the supply side with infrastructures, such as dams, rather than attempting to limit water extraction, i.e. a degrowth approach. However, alternative supplies of water, such as recycled water, can reduce demands on natural water resources.

Discussions around 'degrowth' tend to be at a general and theoretical level. This study focuses on a concrete example, alternative forms of water supply. It compared the possible use of four non-conventional water sources in the Metropolitan Region of Barcelona, Spain: desalinated seawater, reclaimed water (i.e. wastewater that is treated to a high degree in a wastewater treatment plant and reused), greywater and harvested rainwater. Compared to the centralised techniques of desalination and reclaimed water use, rainwater harvesting and greywater reuse tend to be managed at a decentralised or localised level.

The researchers evaluated the four water sources using a variety of economic, environmental and social factors, including: financial, e.g. capital and maintenance costs; social, e.g. health risk and acceptability; environmental, e.g. energy consumption; and technological, e.g. reliability and simplicity.

The performance of the water sources was considered against these criteria under two economic scenarios – growth ('business-as-usual') and degrowth. The growth scenario placed more importance on the economic criteria, whereas social and environmental factors had more emphasis in the degrowth scenario.

The analysis indicated that, under the growth scenario, water reuse would be the preferred alternative source of water, followed by desalination, rainwater harvesting and greywater use. Lower volumes of water per system are generated by rainwater and greywater use, so the operational and maintenance costs of these systems are greater per unit of water produced. The seawater desalination plant in the Llobregat river basin has the capacity to produce 60 million cubic metres of water per year compared to only 41 cubic metres for a standard rainwater harvesting system of the area.

For the degrowth scenario, the most preferred alternative is rainwater harvesting, followed by reclaimed water use, then greywater and desalination. Desalination does not score well on environmental criteria and technological simplicity, which are both important to degrowth.

From a degrowth perspective, it appears that rainwater harvesting would be the preferred alternative water source mainly because of its low environmental impacts, its technological simplicity and its promotion of self-sufficiency. From a growth or business-as-usual perspective, reclaimed water use or desalination are preferred. These two are also gaining more prominence in Barcelona, which suggests that decision making in this area is growth driven.

However, a stakeholder survey conducted as part of the study found that most stakeholder groups questioned preferred the other water sources over desalted seawater, indicating that, in reality, it is difficult to challenge the influences of companies with vested interests.

This survey captured the views on these sources of water from eight different social groups, including local decision makers, environmental campaigners and scientists. It indicated that rainwater harvesting was one of the most appreciated alternatives by stakeholders, apart from water supply companies who feel it would reduce their control over the water cycle. Greywater use had more support from local managers and local decision makers, whilst water supply companies give more support to wastewater reuse. The regional water agency is the strongest supporter of desalination.

Source: Domènech, L., March, H. & Saurí, D. (2011) Degrowth initiatives in the urban water sector? A social multi-criteria evaluation of non-conventional water alternatives in Metropolitan Barcelona. *Journal of Cleaner Production*. 1-12. DOI:10.1016/j.jclepro.2011.09.020.

Contact: domenech.laia@gmail.com **Theme(s):** Resource efficiency, water, sustainable consumption and production

The contents and views included in Science for Environment Policy are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "[Science for Environment Policy](#)"; European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.