

Visit report 18/10/2016: Pacific Institute

By: Alex Bos

In the morning of Tuesday, the 18th of October, the study tour participants visited the Pacific Institute for development, environment and security - in short the Pacific Institute. The ex-president of this non-profit research and policy organization, Peter Gleick, welcomed us in Oakland in a room full of letters of recommendations given to the Institute on multiple water-related topics, such as environment, water resources management and human rights. The goal of the Institute is to create and advance solutions to the world's most pressing water challenges. In his presentation Peter Gleick informed us about the Pacific Institute, worldwide water-related problems and solutions to these problems. Since Peter Gleick stated that the most effective way of reducing water problems is to reduce the water demand and since an interesting visit of 2,5 hours provided the participants with a too large amount of information and inspiration for one report, this report focusses only on reducing water demands in the State of California.

Drought is the main cause for water demand issues in California. The definition of drought, according to Peter Gleick, is "not having enough water to do what you like". California faces a drought since 2012 and of the last eleven hydrological years – from October 1st to September 30th – nine years were defined as drought year. The drought is caused by many factors: the changing (arid) climate, uneven allocation of surface water outtake, overtapping of groundwater, population growth and slow political response for implementing innovative ideas.

The changing (arid) climate causes more evaporation and less precipitation in California. The consequence is that less water is available for human purposes. Also more extreme rainfall events – defined as the heaviest 1% of all rainfall events – will occur. Water systems do not have the sufficient capacity to discharge the water, which causes overflow of the sewers and therefor worsening of the water quality.

To provide all citizens of California and their industries with water, the Colorado River and other water sources are drained. The allocation of surface water was enacted by law a long time ago and, simply said, owners are given a portion through heritage or buying off the heritage. This creates an uneven distribution of surface water.

The overtapping of groundwater is caused by cultural habits. Up to two years ago, although surface water was allocated by law, no regulation was present for groundwater. This caused farmers whom could not receive enough water for their production, to start drilling for groundwater. Due to an increased number of dry periods and water demand, the aquifers are overpumped. The population growth is a direct cause of the growing water demand. More people means more water needed.

The slow political response for implementing innovative ideas is causing the water demand related problems to worsen. Although scientific support of many ideas are proved and even proved to work in practice, idea initiators often face resistance from governmental organizations.

All these problems related to drought and too high water demands cause researchers to think about solutions. These solutions must see to it that water demand is becoming less and climate change is slowed down to a stop. Although many systems, such as centralized infrastructures and efficient irrigation systems, are helpful in keeping spillage of water and water demands low, this is not enough to create a sustainable future for water usage.

The so called “Soft path measures” are ways of creating a sustainable future for water use. Improving the productivity of water – for example growing more food with less water or using less water to wash clothes – is one of the measures. Other measures are to work on integrated decision-making to capture multiple benefits and services and to actively work with local communities to change the perception of using water, such as giving education on water footprint.

A few solutions have already been implemented and, as Peter Gleick pointed out, despite the growing population (40% increase), water withdrawals in the United States - in which California has one of the leading roles - have decreased by about 15 to 20 percent to 1300 million liters per day. Although the decrease is partly due to water intensive industries moving away from the United States, most of the decrease is thanks to a decrease in water demands for local functions.

Many more solutions, such as water supply increasing desalinization and creating political frameworks, have been discussed. But in the end we can conclude that California, as well as the world, has to wake up and that, according to Peter Gleick quoting Albert Einstein, “we can’t solve problems by using the same kind of thinking we used when we created them”.

All in all, the participants very much enjoyed the morning at the Pacific Institute and learned many lessons on today’s - not only water demand related, but all - water-related problems. Since water is related to almost all things, problems will keep appearing and solution will be continuously needed. To quote Peter Gleick one last time after his inspirational stories: “There is always something new in the water sector, it’s never boring”.