

Chapter 6

Blind spots

The work of understanding water stewardship is a long identification of blind spots. This chapter reveals a few additional blind spots.

THE INEFFICIENCY OF ‘THE POLLUTER PAYS’-PRINCIPLE

‘The polluter pays’ was a revolutionary idea when it came up. However, today, we can see that the changed mindset it signifies is insufficiently radical. Nature takes neither cash nor credit cards. Besides, in the current state of social, economic inequality, there is nothing inherently equitable in the richer being allowed to pollute and destroy, while the poorer should be more careful with their actions and effects. ‘Pollution is not allowed’ ought to be the mantra just like you are not allowed to, for example, steal from other people.

In any field of knowledge there is a hard core of basic assumptions with a protecting layer around that protects the hard core from being questioned, so that the people in that field can continue their work undisturbed. In economy, the basic assumptions have to do with who or rather what generates value. There is a strong orientation towards seeing the entrepreneur as the creator and therefore also seeing the entrepreneur as the main benefactor and decision-maker around the generated wealth. But it makes it hard to see that no entrepreneur creates wealth on his own. The key helpers include society and its infrastructure to help protect his property, roads to transport raw material and goods, electric and water utilities to provide easily available resources. The involved employees are another

crucial element. And not only them but all the things behind them, ensuring they can meet at work in the morning, well-rested, well-fed, educated and with their kid's taken care of. And it requires nature providing all the natural resources going into the production on a myriad of levels.

Similarly, we should investigate the basic protected assumptions of water and wastewater utilities. First of all, it is elemental to understand that the raw material of water that utilities sell are not paid for. The water is taken out of nature's resource bank for free. The utility's contribution to the value chain is extraction, treatment, distribution and administration. Similarly, on the wastewater part, the load of the effluent is 'paid' by nature, for which there is, of course, no compensation. This fundamental system is administered by authorities by means of permits to extract or to pollute.

These core premises easily hide from our view. We do not experience that we are consuming while externalising the negative consequences. By their payment, water consumers feel free of the inner sense of externalised consequences. They have paid for their water and wastewater and as such are free of guilt and debt of conscience – they are simply not aware that they only paid for the utility's processes.

We must be alert to this process of blind externalisation of consequences. For example, when we work with the sustainable development goals, it may soothe such feelings of guilt. But a closer study (Independent Group of Scientists appointed by the Secretary-General, 2019) reveals that several indicators are moving in the wrong direction, and others are moving too slowly to reach their destination in time (2030). The report reveals that no country is currently able to meet basic human needs within the biophysical boundaries. Those who are able to meet basic needs have the greatest trespassing of biophysical needs and vice versa – some are neither able to meet needs or stay within boundaries.

We may be unwilling to scrutinize these things out of fear of having to sacrifice various comforts. However, when we look closer, we see that we are already sacrificing a lot of things, but they are mostly invisible to us. In his poem 'Questionnaire', Wendel Berry tries to make the suffering of our actions visible. He asks: how much poison are you willing to eat for the sustaining the current system? How much evil are you willing to do? The questions continue when it comes to water. When working with water, we are in the frontlines of these questions, as we answer them on behalf of everybody using our products – which often is most of the community in which we operate. Thinking only in terms of whether a thing is legal or not or whether it is common practice or not, may not suffice moving forward. We have to also find that our actions and production methods are in harmony with our inner sense of water stewardship. Detecting these incongruencies may take time, finding new solutions take time, hence perseverance and patience is required. However, never have so many people shared a joint vision of sustainability than now – and inspiration is everywhere to be found – hence it is in many cases a question of taking up the mantle.

Your reflections: What practices do you see that you wish to change? Where do you take up the mantle of improving water practices?

THE HYDROLOGICAL CYCLE IS MORE COMPLEX THAN WE IMAGINE

In 2018, Professor Malin Falkenmark of Stockholm Resiliency Institute won the Blue Planet Prize for her work in hydrology (Falkenmark, 2018). Falkenmark calls the hydrological cycle the bloodstream of the biosphere or the life support system. We often, in our thoughts, simplify the water cycle into a simple round water circle. But, as Falkenmark points out, reality is a bit more complicated (Falkenmark *et al.*, 2019) as can be seen in Figure 22.

Via her accounting of how the bloodstream flows she has identified two water streams circles, the blue water stream, which is the part of precipitation that ends up in rivers, lakes and groundwater and eventually flows via surface run off to the ocean. This constitutes, on average, 40% of the precipitated water. The other is the green water which via complicated routes through the root zones and biomass ends up in the atmosphere again. The two types of water together have eight main functions; the green water functions are:

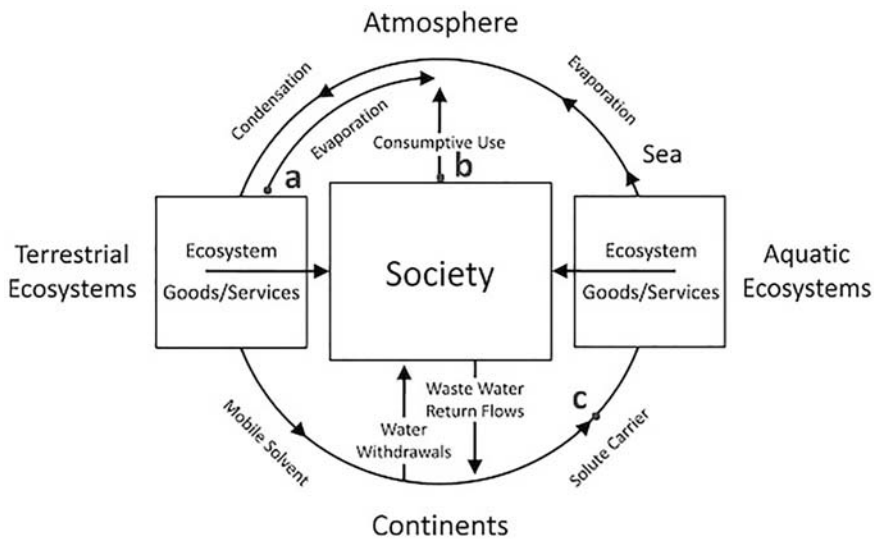


Figure 22 The hydrological water cycle according to Malin Falkenmark. (Source: Rockström *et al.*, 2012)

- (1) Generation of air moisture which works as a green-house gas – the most potent greenhouse gas in the atmosphere, responsible for 20–25% of global warming. Without water, the planet would have been 30°C colder than it is.
- (2) Biomass production, where plants collect water from different levels of the root zone in the soil.
- (3) Moisture feedback to the atmosphere, where water is recycled over land.

The blue water has five functions:

- (1) Supplying society with water for its various needs.
- (2) Carrier of nutrients and pollutants throughout the system. Flushing pollutants from land to the ocean.
- (3) Upholding the aquatic state in rivers and lakes and thus working as water storage.
- (4) Production for agriculture in the form of irrigation.
- (5) Aquatic biomass growth.

Falkenmark points out that human interaction with the hydrological cycle disturbs it, not only by the extracted water for urban, industrial and irrigation uses but also from land use. It is disturbed in terms of flows and in terms of water quality as pollution is led to the environment, but it is also disturbed through the eco-systems that are performing ‘eco-system services’. Green water degradation includes desertification, savannization and salinization, while blue water degradation includes basin closure, aquifer depletion, eutrophication and aquatic systems collapse.

‘The water-resource challenge of the future is more complex than previously portrayed – it is not only a question of water allocation among irrigation, industry, and municipalities but involves difficult decisions for balancing green and blue water for food, nature, and society. It will change the role of water-resource planners and managers. Water resources planning and management will have to incorporate land-use activities consuming green water and its interaction with blue water, generating surface runoff and groundwater recharge.’

Falkenmark and Rockström (2006)

Your reflections: What are the dangers of simplification?

THE SUSTAINABILITY CRISIS IS ALREADY HERE

For decades, I have feared ‘The Sustainability Crisis of the Future’. There was a sense of emergency and alarm, the need to act to avoid a future catastrophe. But today, the reality is that the catastrophe is already here – moving forward in its silent pace. Animal species have gone extinct and will never come back, and the

green-house effect already has devastating effects in the Arctic and Antarctic regions where glaciers melt away and this year (2019) in Australia where bush fires reached new records. The biodiversity of insects has been reduced substantially. The only native forest in Europe lies at the border between Poland and Belarus; all other old forests are gone. Temperature and rainfall patterns are changing, nutrient overload in the oceans are changing the living conditions of the ocean. The sound of nature's silence is broken in so many places on a permanent basis above and below sea level. Residual medical substances are changing life in the oceans. Islands of plastics the size of continents are floating in the oceans. Whales with their stomachs full of plastics wash-up on the shores. Megacities around the world experience major water supply emergency situations.

To acknowledge that the sustainability crisis is already here is ignition to action. The crisis is not a hypothetical threat out there in the future. It is unfolding with slow but great strength right now. Reaching the SDGs is not the end of the crises, it is the beginning of a turning of the tide. And even when the tide starts turning it still holds great momentum for further destruction.

To me, to acknowledge the sustainability crisis is happening now releases tensions and provides energy and determination.

Your reflections: Where do you see signs of the sustainability crisis being here already? How can you see it in your local area? Can you see it in yourself?