

Perspectives in Integrated Water management

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Abstract

For developing robust and flexible water management strategies, better insight in perspectives and perspective change is required. As part of the BSIK 'Leven met water' program, in the project 'Perspectives in Integrated water management' a method for mapping dominant social perspectives, undercurrents and perspective change is developed. We identified drivers for perspective change (e.g. surprises and failure of reproduction mechanisms) and hypotheses about the direction of change. Based on a flood, we show that an event can result in different, plausible futures, depending on undercurrents, other events, the context, and the spirit of the time.

Introduction

A perspective is 'a coherent and consistent description of the perceptual screen through which people interpret the world (..), and which guides them in acting' (van Asselt, 2000, pp. 115). We approach policy according to our individual perspective how the uncertain future will look like and what we find important. However, in water research the attention paid to changes in social perspectives, and its influence on environment and policy, is very limited. In order to get more insight in social dynamics related to water issues, we assessed:

1. How can uncertainties and values be interpreted and mapped? Starting point is that a dominant perspective is most influential in society and supported by the majority of people. An undercurrent consists of people advocating an alternative point of view.
2. Why, how and in which direction can perspectives change over time? This includes brainstorming about events and developments that may weaken the dominant perspective and enforce the undercurrents.
3. Describe possible, plausible, and future perspective changes in scenarios. The dominant perspective might be reinforced ('backlash') or change towards present undercurrents.

Mapping perspectives

Different possible futures can be envisaged, depending on the perspective people may have. Different perspectives in turn will lead to the adoption of different water management strategies. According to Cultural Theory, three stereotype perspectives can be distinguished: the hierarchical (hie), egalitarian (ega) and individualist (ind) perspective (Fig. 1).

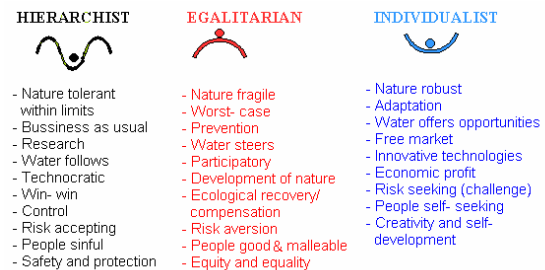


Figure 1. Overview of perspectives (van Asselt, 2000; Valkering et al., 2007) derived from Cultural Theory (Thompson et al., 1990).

A real-life perspective can be mapped by analyzing the interpretations of a specific set of beliefs along the hie, ega, or ind perspective. The set includes core beliefs (i.e. how people interpret the world and how they act upon it in general, see Fig. 1), strategic policy beliefs (water related policy principles) and operational aspects (the implementation of water policy). By scoring the number of hie, ega, or ind interpretations one obtains an aggregated index of the perspective, generally showing a mix of the stereotype perspectives considered. The aggregated index is plotted on a triangular 'perspective space' to visualize perspectives and perspective changes, see Fig. 2.

Perspective change

Perspectives can change by influence of surprises and reproduction mechanisms. Surprises are defined as developments and events which cause a mismatch between one's world view (expectations) and the observed reality (Thompson et al., 1990). Typical surprises in the water management domain would be 'a collapse of the water market' (for the individualist), 'climate change being a complete

hoax' (for the egalitarian), and 'breaching of a dike' (for a hierarchist). Similarly, the failure of reproduction mechanisms (those observations that support one's perspective right) contribute to change (Valkering et al., 2007). However, perspectives are inherently robust to change. Therefore, an accumulation of surprises and failure of reproduction mechanisms is needed to force individuals to adopt perspectives that are better suited to the reality around them (Thompson et al., 1990).

Historical perspective changes

Insight in perspective change was obtained from 4 workshops on the management of the River Meuse. The first two focused on perspectives in the past and present. Three main shifts were identified for the time span 1800 – 1995 (Fig. 2) in response to various developments (e.g. industrialization, growing environmental awareness) and events (e.g. the Sandoz incident, 93/95 floods). The present perspective was classified as hie, with individualistic and egalitarian undercurrents.

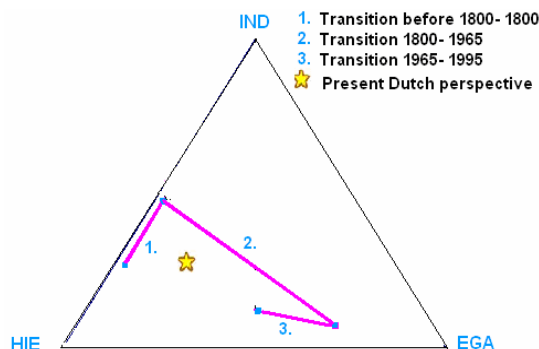


Figure 2. Visualization of historical perspective changes regarding the Meuse. The dominant perspective changed from hie, towards a combination between hie (controlling water) and ind (navigation interests and economy guides). Then the perspective moved towards ega (attention to quality of nature and water) and hie (protection against floods as guiding principle). For a detailed overview of drivers and consequences of these changes, see Valkering et al. (2007).

Future perspective change

So, how could perspectives change further towards the future? As an illustrative case we describe three possible reactions to a big flood in the nearby future. One scenario would be a reinforcement of the current hierarchical perspective (backlash). The flood is considered unacceptable. Obviously, the current 'ecological' water management approach was unsuccessful and needs to be reversed. A strong, responsible and knowledgeable government is needed to

implement the necessary dike reinforcements. A second scenario could be strengthening of the egalitarian undercurrent. The flood is then interpreted as an inevitable consequence of climate change. Under influence of further dike-breaches in the flood aftermath, trust in the strategy of 'control' through dikes diminishes. People collectively decide that it is better to abandon the low-lying part of the Netherlands to make space for water for real. Decreasing population trends, and a strong sense of 'community' and 'sustainability' within the EU make relocation – also outside NL - quite feasible. A third scenario would be a strengthening of the individualist undercurrent. The flood is then considered an opportunity to finally implement innovative and creative ways to tackle water related problems. Plans for floating houses and a polder in sea are developed. Continuing spatial developments make land prices rise, so that land reclamation is quite profitable. Due to a number of successful pilot projects trust in technology remains high. The concern for environmental change diminishes as environmental problems stay away.

Conclusions

Robust, flexible water management strategies anticipate on 'foreseeable' possible future changes in physical and social environments. Social uncertainties and developments can be analysed by classifying the variety of values, prioritizations and interpretations in perspectives. Perspectives can change by influence of surprises and the failing occurrence of reproduction mechanism. One event can lead to different futures, depending on for instance present undercurrents, the context, and the (non)occurrence of other events. Analysis of possible transition paths of changing perspectives, allows for developing integrated, consistent story lines about how the future of water management may look like.. This, for its part, allows policy makers to be better prepared to future developments.

References

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