



Designing monitoring arrangements for collaborative learning about adaptation pathways



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ABSTRACT

Adaptation pathways approaches support long-term planning under uncertainty. The use of adaptation pathways implies a systematic monitoring effort to inform future adaptation decisions. Such monitoring should feed into a long-term collaborative learning process between multiple actors at various levels. This raises questions about who should monitor what, when and for whom. We formulate an approach that helps to address these questions, developed around the conceptual core offered by adaptive policy pathways methods and their notion of signposts and triggers. This is embedded in a wider approach that revisits the critical assumptions in underlying basic policies, looks forward to future adaptation decisions, and incorporates reciprocity in the organization of monitoring and evaluation. The usefulness and practical feasibility of the approach is studied for a case of the Delta Programme in the Netherlands, which incorporated adaptation pathways in its planning approach called adaptive delta management. The case results suggest that our approach adds value to existing monitoring practices. They further show that different types of signposts exist. Technical signposts, in particular, need to be distinguished from political ones, and require different learning processes with different types of actors.

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1. Introduction

Adaptation pathways has emerged in recent years as a planning approach to deal with climate change adaptation and societal transformation. Adaptation pathways stresses the notion that, at various points in time, different decisions are possible, whereby path-dependence links different decisions in a longer-term pathway (Haasnoot et al., 2013; Reeder and Ranger, 2010; Stafford Smith et al., 2011). Visually representing these policy decisions as a dynamic sequence of several smaller decisions over time enables decision-makers to overcome some of the barriers associated with making long-term climate adaptation decisions (Stafford Smith et al., 2011; cf. Wise et al., 2014). Pathways approaches and principles have been used to support for instance the Thames estuary flood risk management planning (Reeder and Ranger, 2010; Stafford Smith et al., 2011), the Dutch Delta Programme for water security and safety in the Netherlands (Haasnoot et al., 2013; Delta Programme, 2015), conservation planning for forests in Australia (Colloff et al., 2016), and a dialogue about adaptive capacity in Indonesia (Butler et al., 2016).

Pathways approaches imply an important role for monitoring and evaluation, to track progress in implementation and to inform timely sequential decision-making (e.g. Stafford Smith et al., 2011; Haasnoot et al., 2013; Butler et al., 2016). Adaptation pathways plans typically deal with uncertain dynamic settings and involve and affect multiple actors, which means that monitoring needs to feed into a process of collaborative learning and reflection (Kallis et al., 2009; Wise et al., 2014). In these settings, well-planned monitoring frameworks, with carefully devised indicators, can provide important support for collaborative learning, offering guidance for management and external communication (e.g. De Bruijn, 2007).

Despite the recognition of the importance of monitoring and evaluation in adaptation, to date few studies have focused on the monitoring process in relation to adaptation pathways approaches. The design of functional monitoring and evaluation arrangements is difficult, as is apparent from the debate on the gap between policy evaluations and their use for real world policy making (Weiss, 1999; Levine and Savedoff, 2006). Furthermore, pathways approaches are different from more conventional planning approaches, as they include different alternative adaptation options over time, which are triggered by pre-specified conditions. This forward-looking flexible character of adaptation pathways

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plans needs to be included in the monitoring and evaluation arrangements, meaning that those need to be different from the conventional policy and plan evaluation arrangements.

In this paper, we address the question of how to design monitoring and evaluation arrangements for adaptation pathways that can support collaborative learning for policy making. We do so by first reviewing the characteristics of adaptation pathways approaches and the challenges these pose for monitoring and evaluation. In response to these challenges, we formulate an approach to design monitoring arrangements for adaptation pathways. This approach is explored for its usefulness and practical feasibility in a case of adaptation pathway planning in the Delta Programme in the Netherlands. This results in a further discussion and sharpening of the approach, with which the paper concludes.

2. Challenges in the design of monitoring arrangements for adaptation pathways

2.1. A short introduction to adaptation pathways planning

Adaptation pathways provide an analytical framework that helps position short- and medium-term policy decisions within longer-term strategic ambitions. Typically, several long-term pathways are considered, each of which may support the realization of long-term ambitions under different conditions. Fig. 1 shows the adaptation pathways approach as used in Dynamic Adaptive Policy Pathways (Haasnoot et al., 2013). Several pathways are shown, starting at the left with the path that starts from the current situation, indicating current policy actions. After a certain time, current policy actions are expected to be no longer effective. An adaptation tipping point is reached, which necessitates a transfer to a new policy action. In a well-planned adaptation process, the decisions about the preferred new policy actions are taken before adaptation tipping points are reached. Adaptation signals will help to anticipate upcoming adaptation decisions. These adaptation signals are based on predefined variables, which are called signposts (Haasnoot et al., 2013; Walker et al., 2013). Signpost indicators help to see if the conditions that are critical to policy success are still being met, if the underlying analysis remains valid, and if policy implementation proceeds according to

schedule. Triggers are the values associated with signpost variables that signal a need for reconsideration or adaptive action (Haasnoot et al., 2013; Walker et al., 2013). The time at which adaptation tipping points are reached is not yet known, but depends on the dynamics in future developments. Different future scenarios are used to provide an idea of the bandwidth of time within which adaptation decisions might be expected.

Adaptation pathways plans suggest policy actions for the short to medium term, within a longer-term pathway. These immediate policy actions are assembled in what is called a basic policy (Walker et al., 2013). In the pathways map shown in Fig. 1, this basic policy corresponds to the “Current situation”, which provides the first path in an adaptation pathways plan. Monitoring may trigger a new decision, depicted as a decision node, which is to select and prepare for the appropriate ‘transfer station’ to a new policy action on the pathways map. Under different scenarios and for different time horizons, costs and benefits may be estimated for different sequences of policy actions.

As simple as these analytic principles sound, various complications emerge for monitoring.

2.2. The presumed implementation and effectiveness of adaptation pathways

The call for monitoring and evaluation of adaptation pathways stems first and foremost from the expectation that adaptation pathways are being implemented and that the developed plans help identify the variables that need to be monitored. However, Wise et al. (2014) suggest that adaptation plans are often not implemented and, if they are, it is only the smaller incremental measures within those plans. Van der Brugge and Roosjen (2015) explain how this might be due to the changes in institutional and socio-cultural structures required for the implementation of adaptation strategies. This implementation problem is not unique to adaptation pathways. For instance, Waldner (2009) showed that local government units do not necessarily implement their own spatially restrictive land use policies. Implementation would have to be done through the local development departments and especially when alternative sites for development were scarce, spatial restrictions were easily forgotten (Waldner, 2009). Earlier,

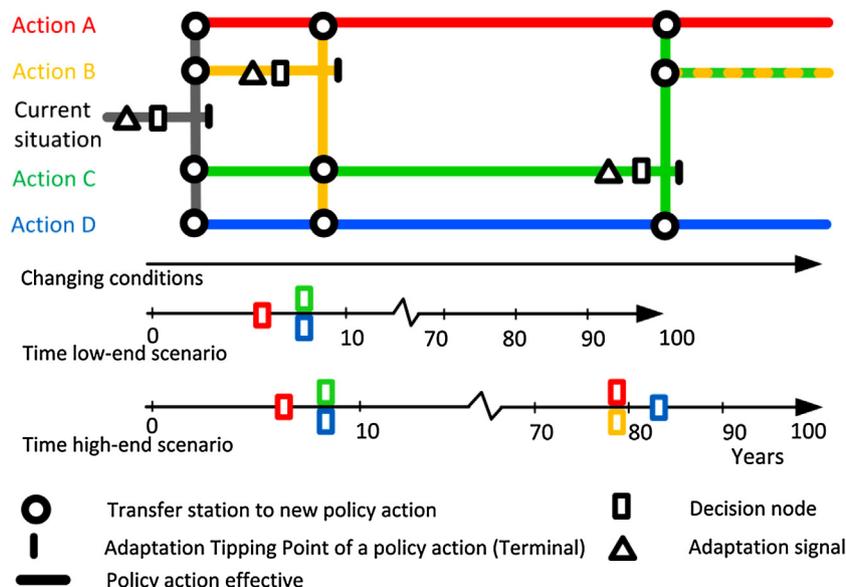


Fig. 1. Key concepts in adaptation pathways approaches – Dynamic Adaptive Policy Pathways example. (source: Haasnoot et al., 2015a,b, Fig. 2.1).

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