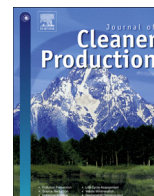




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The value of reflection on the evolving individual and collective practice of public policy innovation in water management: An action science approach

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ABSTRACT

This article examines the impacts of reflection on the practice of public policy innovation for water management. The reflection is provided for a specific community of practitioners, the professionals involved in an innovation program of the Dutch ministry of Public Works and Water Management. Innovation is perceived necessary for developing and promoting new solutions for the challenges in water management, induced by climate change. Instead of blocking water through technical solutions grounded in civil and hydraulic engineering, alternative approaches such as spatial accommodation of water, building with nature and multi-layered safety must become equally feasible. The community agreed that regular reflection was needed to learn from their experiences. Learning could guide them in changing, and if possible, improving their innovation practice. Action science delivers knowledge based on which intervention can be designed to promote change in a community of practitioners, thus enhancing the community's capacity to learn. Here, the theory of action assumes that reflection will inform change in innovation practice, if perceived necessary by the community of practitioners involved. Reflection was provided during a period of two and a half years. Its impacts were evaluated through in-depth interviews with the participating professionals. The needs for reflection were assessed in an ex ante evaluation. The impacts of reflection provided were assessed in two ex durante evaluations and an ex post evaluation. The ex post evaluation indicates an important impact on separate aspects of the individual innovation practice of the professionals involved. The impact on the development of a collective innovation practice is limited but important: the realignment of the program's substantive focus during its implementation. Interpreting the impacts of reflection made clear that reflection helps to identify the possibilities for improvement and guides their targeted implementation in practice.

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1. Introduction

It is generally recognized that climate change will lead to more frequent unsafe situations in estuary-situated countries, such as The Netherlands. Higher temperatures will lead to melting glaciers and polar ice and to expansion of ocean water, causing rising sea levels. The impacts of climate change must be mitigated by targeted water managing policies and measures. The traditional approach of heightening and strengthening the protective system of dikes, dams and levees will, in the long run, not suffice in dealing with the

estimated sea level rise, the expected increased force of the waves, the reservation of fresh water for dry periods and the larger discharge of the river system. To maintain the necessary protection in vulnerable areas, water systems must be provided with more space to run freely, instead of being contained. As a consequence, the water managing authorities have to develop alternative approaches that are better adjusted to the changing characteristics of the comprehensive water system in the Dutch delta. The new adage for these alternative approaches to water management is expressed in the strategy of retaining, storing, and discharging water. This means that water managing authorities have to change the existing engineering approaches, aimed at normalization of the water system (cf. Woud, 2006) to a different, more spatially oriented way of dealing with water challenges. New concepts and measures are

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needed for accommodating this, and deliberate public policy innovation must see to its development and implementation.

The objective of the Innovation Program for Water Management (hereafter abbreviated to IPWM) of the Dutch ministry of Public Works and Water Management, is the promotion of durable and novel solutions for the challenges in water management, for which the Ministry is responsible. The professionals who 'inhabit' the innovation program anticipated that reaching the program's objective would be no easy task. They expected that changing the current practices, grounded in hydraulic engineering, hydrology and construction, would put their efforts under much strain. They agreed that regular reflection was needed to learn from their experiences and to guide them in changing and improving their innovation practice (IPWM internal memo, 2004):

"We need reflection on our experiences. And because the group [of professionals] must be able to learn [from this reflection] immediately, we need [this] feedback. For this we need one or more external parties who can take on this auditing role. Theme leaders and program management have indicated that this [reflection] cannot be done at the cost of the primary process and, therefore, cannot take too much time. [The method for reflection] must become a best-practice method for the transfer of generated knowledge and experiences within the IPWM program. Sharing knowledge is the central objective and an open mind is essential to do so."

As such, reflection on the evolving practice of innovation should be considered as an integrated and continuous activity in IPWM, based on the premises that reflection has added value for evolving practices.

Therefore the research question addressed is how the development of new practices for organizing water management innovation might benefit from structured and structural reflection. The added value is explored through theoretical concepts public policy innovation (Brandesen, 2004; Howlett, 2014; Kiparsky et al., 2013; Duijn, 2009), practice (Lave, 1988; Giddens, 1984; Shove et al., 2007; Reckwitz, 2002) and reflection (Preskill and Torres, 1999; Mink et al., 1993; Schön, 1983; Biggs, 1999).

This article is structured as follows. First the theoretical framework is discussed. Next, the methodology, the central research question and research design are described. Third, the organizational context of the case study, the Innovation Program for Water Management (IPWM) is elaborated. Fourth the added value of reflection for the evolving practice of water management innovation is assessed, on the individual as well as on the collective level. The article is completed by a discussion of the impacts of reflection on both levels of abstraction and by drawing conclusions.

2. Theoretical framework

2.1. Public policy innovation

The first question is what innovation means in a largely public policy domain as Dutch water management. How can actors in the public domain 'introduce something new?' And more importantly, how can we recognize public policy innovation? How does it differentiate from 'normal' policy-making? It must be emphasized that public policy innovation is not the same as innovation policy. Innovation policy can be understood as the efforts that public policy actors can undertake to improve the innovation system (cf. Hekkert et al., 2006) that is composed of private sector firms, knowledge institutes and technology developers within a certain institutional context. Public policy innovation addresses the renewal of the characteristics and artefacts in the public policy domain, such as

policy objectives and measures, instruments and resources, alliances and institutions. Brandesen (2004: 39) defines innovation in the public policy domain as "the deliberate effort to replace old routines in order to be successful in a new policy regime". He advocates using the term innovation to emphasize "that switching routines is not a mechanical process, but a costly and uncertain quest for new knowledge" (Ibid.).

It is proposed here to speak of public policy innovation when the development of a new policy regime (Kemp, 1994) is deliberately pursued in an attempt to operationalize a shift of the existing policy paradigm. Burke (1979: 34) claims that a paradigm is "a cluster of assumptions, beliefs, theories, methods, and applications which taken together make up an interdependent network of commitments". A paradigm "helps delineate and justify existing roles, organizations, skills, and technologies" (Ibid.). A policy paradigm is composed of the existing values and standards on which authoritative relations, rules, and routines are grounded (cf. Alink, 2006). Policy paradigms are then interdependent networks of commitments to guide policy processes in a specific public policy domain (cf. Burke, 1979). Public policy innovation refers to an extraordinary type of policy-making, directed at substantiating a new policy paradigm through an alternative policy regime. Analogous to Kuhn (1962) distinction between normal science and revolutionary science, 'normal policy making' should be perceived as 'thinking inside the box' of the existing policy regime, whereas public policy innovation – to paraphrase Kuhn, revolutionary policy making – refers to the desire to 'think outside the box'.

Hall (1993: 284) describes a policy paradigm shift as "a radical shift in the hierarchy of goals and sets of instruments employed to guide policy". It is commonly accepted that water management in the Netherlands is undergoing a 'paradigm shift', encompassing the change from a purely technical approach to a more spatial orientation for sustainable management of future water-related problems. This calls for a sustainability transition (Markard et al., 2012) of Dutch water management, often referred to as paradigm shift, anticipating a fundamental and lasting change in the existing policy regime. The existing policy paradigm is often undergoing change inspired by expected or experienced changes in society, driven by new emerging values and expressing new social preferences (Foote, 1992). Changing social preferences put the effectiveness and efficiency of existing policy regimes under pressure, eventually inducing public policy actors to change their network of commitments. For example, the changed societal preference to act on the expected impacts of climate change encourage public policy actors to review the effectiveness of the existing policy regime in Dutch water management. Water managing authorities concluded that an alternative way of dealing with water had become necessary, resulting in the need to initiate a new policy regime. Thus, a shift in the policy paradigm leads to the need for change of the existing policy regime for water management. Policy regimes are the expression of clusters of policy objectives, measures, resources, institutional arrangements, and power distributions that both characterize and shape a specific policy domain. The deliberate effort to change the existing policy regime making way for a new one, is defined here as public policy innovation. Therefore, innovation that is deliberately initiated by a public policy actor, through a program of public policy innovation should then be directed at actively developing the new regime elements (Howlett, 2014). In other words, public policy innovation must be aimed at thinking outside the box of the existing policy regime. If the existing policy regime stays intact, then we should speak of normal policy-making (cf. Howlett, 2014; Van der Duin and Hermeler, 2014). Christensen (1997) makes a distinction to sustaining and disruptive innovations, also indicated as the difference between incremental and radical innovation (Dewar and Dutton, 1986; Kiparsky et al.,

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