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Policy implementation of catchment-scale flood risk management: Learning from Scotland and England

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ABSTRACT

Recent years have seen a gradual adoption of a “catchment-scale” approach to flood risk management into European policy-making which, amongst other objectives, promotes rural land use change to reduce flood risk. While some exploratory studies of land managers’ attitudes exist, research is lacking on how public policies can be mobilised locally to implement these ideas. Two local initiatives were analysed in the transboundary River Tweed basin in Scotland and England during which public authorities negotiated with land managers. A combination of documents ($N = 21$) and interviews ($N = 63$) forms the basis of the data analysed. The results showed that implementation is highly dependent on the local policy framework, the activities of implementers, and land managers’ responses to (combination of) policy instruments. Several factors were identified influencing implementation such as devolution arrangements (i.e. from national to regional/local), the level of local interest on flood risk, local attitudes to compromise and collaboration, available policy instruments, and the existence of participatory catchment organisations. With limited scope for stand-alone regulatory action or funding in the short term, synergies and measures promoting co-benefits in flood risk management should be further sought in the Water Framework Directive River Basin Management Plans, as well as in cross-compliance and the new agri-environment-climate strategies of the common agricultural policy.

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1. Introduction

Flood risk management (FRM) is undergoing a paradigmatic change towards more integrative and ecosystem-based approaches (Werritty, 2006; Shrubsole, 2007; Everard et al., 2009). In particular, in recent years there has been growing support for a “catchment-scale” approach to FRM in legislation

and policy that broadens flood management from a narrow urban focus to include rural areas. In this shift, changing rural landscapes, through measures such as the restoration and creation of wetlands, removal of flood and river embankments, or changing farm and forestry practices, has become popular amongst policy-makers to simultaneously improve water quality, increase biodiversity, and reduce flood risk (Wilby et al., 2008; Parrott et al., 2009; Spray et al., 2010). The EU Floods

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Directive (2007/60/EC), for example, highlights the role of natural water retention in rural areas and requires consideration of its potential in the preparation of FRM Plans by 2015. The EU Water Framework Directive (2000/60/EC) (WFD) and the more recent Blueprint to Safeguard Europe's Water Resources (European Commission, 2012) also recognise the potential for rural land use change for supporting water management objectives, and seek to identify synergies with reducing flood risk.

The new policy objectives for catchment-scale FRM, in particular the opportunities to reduce urban flood risk through rural land use change, raise questions about designing appropriate actions to achieve those objectives. Attempts have been made to better understand attitudes of land managers, in particular farmers, to specific rural land use change (e.g. Posthumus et al., 2008; Holstead et al., 2015) and also to assess how national policy frameworks could incentivise uptake of such changes (e.g. Kenyon et al., 2008; Parrott and Burningham, 2008; Posthumus and Morris, 2010). While these assessments are useful to inform the development of an effective catchment FRM policy framework, they do not take into account the specific challenges faced in implementing catchment FRM locally. Potentially significant factors for the successful implementation of catchment FRM may therefore be overlooked.

To address this gap this research examined local initiatives in the transboundary Tweed river basin in Scotland and England in which public authorities, non-governmental organisations and academics raised awareness and negotiated with land managers on changes in rural land management with the aim of reducing flood risk. It focuses on how local actors took advantage of, or were constrained by, the national and local policy framework, so as to identify policy characteristics, and combinations of policies, conducive to rural land use change for flood risk reduction. The research first draws on the literature on policy implementation to develop three key research questions. The methods used for data collection and analysis are presented, then the main results. Finally, their implications for the implementation of rural land management measures are discussed.

2. Policy implementation of catchment FRM

The policy process is often divided between “stages” that lead to the formation of new policies and those that lead to their implementation. In reality, it is widely acknowledged that policy formation and implementation are difficult to distinguish since policy can be substantially modified, elaborated or negated as it is being implemented (O'Toole, 2004). Implementation research itself is commonly divided into two schools of thoughts that conceptualise differently the purposes and processes of policy implementation, namely top-down and bottom-up.

The top-down school is based on the premise that elected officials are the central source of accountability in the policy process (Hill and Hupe, 2009). Thus implementation should strive to meet policy goals set at the top. Top-down scholars therefore tend to assess policy performance against policy goals, and search for rules and mechanisms to ensure that

implementers achieve them. Policy performance may be improved by reducing ambiguities in what the policy aims to achieve, and by clearly steering the work of policy implementers (Hudson and Lowe, 2004). The bottom-up school, through studies of the behaviour of implementers, has challenged the view that policy performance can be increased through central control (Hill and Hupe, 2009). The key observation made by bottom-up scholars is that hierarchy and formal processes rarely achieve the intended action. Instead, it is more valuable to understand local constraints, and search for mechanisms that help implementers cope with the needs and demands they face locally. In this perspective, accountability does not only stem from elected officials, but also arises if implementers have the discretion to adapt policy goals to the concerns of those affected by the policy (Barrett, 2004).

Overall, the top-down/bottom-up dichotomy shows that one of the key issues in policy implementation research is how to balance responsibilities, powers, and flexibility between political and administrative layers in order to foster individual and collective action locally. These raise three main research questions relating to the implementation of catchment FRM.

First, *how do public policies aim to implement a catchment approach to FRM locally?* Policies can be characterised through three main criteria: how they frame the problem, what objectives they aim for, and what regulatory, economic or information-based modes of action they set. Several policy fields are relevant for catchment FRM, in particular flood, water, agricultural, rural development, forestry, and biodiversity policies (Rouillard et al., 2013). In the context of the current research, the focus was on the conceptual linkages in these policies between rural land use change and flood risk reduction, and what objectives, administrative procedures and policy instruments (i.e. the “tools of government”, such as regulations, market mechanisms, and information provision, see Dovers and Hezri, 2010) were used to foster changes in rural land use for flood risk reduction.

Second, *how do implementers promote catchment FRM in the local context?* National policies will be activated by policy implementers locally to incentivise changes in the behaviour of the target population. Hill and Hupe (2009) suggest examining the roles and resources of different acting authorities, including local implementers, relating to policy objectives and their perspectives on opportunities and constraints. In addition, they suggest examining attitudes to collaboration between implementers and mechanisms for fostering inter-agency collaboration such as partnership agreements and projects. A large and complex set of actors is involved in flood, water and rural land management, in particular public agency representatives and land managers (Fish et al., 2009). Particular attention should be given to the implementers' attitudes, behaviours, capacities and collaborative approaches in fostering rural land use change for benefiting FRM.

Third, *how does the target population respond to policy instruments and the activities of implementers of catchment FRM?* The responses of target populations to policy instruments and their relationship with policy implementers are important but often neglected dimensions in implementation research (Hill and Hupe, 2009). Theoretically, instruments of a regulatory nature aim to force target populations to adopt new practices.

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