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Integrating water resource management and land-use planning at the rural–urban interface: Insights from a political economy approach ☆



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ABSTRACT

Institutional obstacles to integrated water management at the river basin scale have been discussed in detail in the water governance literature, but there has been less attention to the development of analytical framework for understanding local government cooperation. In this study, a median voter model was developed to describe the political processes by which municipalities lend their support to land-use control in river basin management planning. Relative income, population growth, and land cover data – as measured at municipality level - are advanced to be the main determinants of municipalities' positioning on additional environmental zoning. The consultation process for the SAGE (planning and water management scheme) for the Gironde estuary and associated areas was used as a case study. Spatial logit estimation of the determinants of the results of voting in this consultation process suggests that municipalities' decisions are strongly influenced by the landscape preferences of the median voter. Acceptance of the SAGE project is an increasing function of relative income and population growth, as measured at municipality level. Furthermore, the municipalities that reject it are mainly those with the largest agricultural areas. The results confirm the existence of a very strong political component in the process by which a municipality decides whether or not to support a river basin plan. This decision can be linked to the preservation of natural landscape amenities in peripheral areas, while elsewhere it is connected to the protection of farming. Theoretical and empirical

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developments of political economy analysis provide an alternative framework by which to understand institutional fits and interplay in water resource management.

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1. Introduction

In the early 2000s, the implementation of the European Union Water Framework Directive (WFD) introduced the principles of river basin management planning (RBMP), to ensure that the objectives of good status of all water bodies across Europe could be achieved by 2015. However, an assessment of the first generation of RBMP [1] highlighted that there was still room for improvement in the field of water management. This same assessment recommended that further efforts were to be made to manage water resources in a more "integrated" fashion. Many scholars have argued that the integration of water resource management is first and foremost a problem of institutional fit and interplay [2–6]. Furthermore, the notion of "integration" covers two very different definitions in terms of water governance [7]. It can refer to the joint management of water issues under the umbrella of a single body (the river basin authority) or the collaborative management of water by different parallel sectors with the help of more flexible institutional arrangements to allow greater involvement of stakeholders and social learning [8,9]. Thus, the implementation of more integrated management of water resources in the European context will require well-defined coordination structures to be effective, regardless of which RBM concept is under concern.

The WFD calls for the use of a RBM approach in cases where political or administrative boundaries may constitute obstacles to good water governance. From a normative standpoint, the RBM approach would appear to be the logical institutional answer to longstanding externality and coordination problems between local governments [10] in water resource management. It is designed to tackle the problem of spatial misfit between the territorial units of political decision-making and boundaries of biophysical processes [11]. This incompatibility exists notably in the coordination of upstream and downstream uses of rivers [12,13], the protection of surface and ground water quality [5] and the integration of water issues with land-use planning for flood control and wetland protection [14]. The implementation of river basin management planning has therefore taken precedence over existing political and administrative competencies [1] and [15]. However, questions remain as to the institutional barriers to effective river basin management plan. In practice, this has meant that successful implementation of RBMP has often been impeded by local opposition to the centralised principles of river basin planning [16].

With regard to the integration of land-use planning and water management, the advantage of planning on a river basin basis is that it may be most beneficial to the stream as a whole. Municipalities are thus given specific responsibilities within institutional arrangements for RBM, since they often hold the local monopoly on planning [17–19]. In real terms, this monopoly means that they have the power to define, develop and implement policies regulating land use. However, their involvement in the planning process for water resource management has fallen short of expectations, since they still give priority to their own political interests, with decisions still heavily influenced by local economic and social issues [20,21]. As a result, land-use planning based around water resource management principles may not fully achieve its potential benefits, due to incompatibility between the goals of river basin management and the political interests of the local governments.

This study provides evidence consistent with this explanation. Indeed, there is some temptation to argue that because watersheds or river basins are generally not aligned with conventional electoral boundaries, the usual pathways of political accountability do not necessarily apply. However, in the current era of decentralisation and increasing demands from the general public for accountability in local policy decision-making, locally elected officials who are called upon to participate in river basin management initiatives remain responsible for, and accountable to, the jurisdictions in which they

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